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Research Article

The Underpinning Mechanism between Patience and Academic Procrastination: The Mediating Role of Self-Regulated Learning among Undergraduate Students

Hariz Enggar Wijaya[1*], Latifatul Laili[1], Adam Anshori[2]

[1]*Department of Psychology, Faculty of Psychology and Socio-Cultural Sciences, Islamic University of Indonesia, Yogyakarta, Indonesia*
[2]*Department of English Language Education, Faculty of Psychology and Socio-Cultural Sciences, Islamic University of Indonesia, Yogyakarta, Indonesia*

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***Correspondence**
hariz.wijaya@uii.ac.id

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ABSTRACT

Procrastination is a prevalent phenomenon in academic contexts. During online learning, the problem of postponing may become more prone to occur. Previous studies have shown that self-regulated learning has a robust effect on procrastination. However, researchers rarely consider the link between patience, self-regulated learning, and procrastination. This study investigated the role of patience and self-regulated learning on academic procrastination. We propose a mediation model that self-regulation would mediate the relationship between patience and procrastination. A total of 290 undergraduate students from a private university in Yogyakarta, Indonesia, enrolled in this study. There were 103 males and 187 females aged 17-24 (M=19.5 years). We collected the data by administering patience, self-regulated learning, and academic procrastination questionnaires. The result showed that patience, self-regulated learning, and procrastination were correlated significantly. Bivariate correlation showed patience positively and significantly associated with all self-regulated learning subscales: goal-setting, environmental structuring, time-management, help-seeking, self-evaluation, and task strategies. Furthermore, mediation analysis gives evidence that patience indirectly affects procrastination via student self-regulated learning. Only goal setting and time management could mediate the relationship between patience and academic procrastination at the specific indirect level. These findings highlight the role of patience in strengthening self-regulation and explain the underpinning mechanism between patience and procrastination.

1. INTRODUCTION

Procrastination is "the voluntary delay of an intended and necessary and or [personally] important activity, despite expecting potential negative consequences that outweigh the positive consequences of the delay" (Klingsieck, 2013), p. 26]. Procrastination could occur in academic contexts (Kim & Seo, 2015), in-office work (He et al., 2021), as well as in daily activities (Hen & Goroshit, 2018). In addition, studies have shown that procrastination is prevalent in many countries, regardless of cultural differences (Ferrari et al., 2007; Klassen et al., 2009). In the academic context, procrastination has a detrimental effect on academic performance (K. R. Kim & Seo, 2015; Westgate et al., 2017).

Procrastination was observed in traditional classes with face-to-face learning and in an online setting (Goda et al., 2014; Hong et al., 2021; Pelikan et al., 2021a). Levy and Ramim (Levy & Ramim, 2012) found that 58% of students procrastinate during online learning. In line with that, Goda et al. (Goda et al., 2014) have reported that students in Japan procrastinate pretty high (69.16%) during online learning. The prevalence of procrastination is similar both in traditional classes and online classes. However, the magnitude of the correlation between procrastination and academic performance looks to be higher for the online class (Elvers et al., 2003).

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Despite the advantage of online learning, Pelikan et al. (Pelikan et al., 2021b) have reported some issues due to distance learning during the COVID-19 crisis. Students have reported facing challenges 71.98%, and 55.56% needed support. They also have reported a lack of social support. The procrastinating student has more motivation challenges than the non-procrastinator in online learning (Melgaard et al., 2022). A survey from 22 universities in Indonesia revealed five main issues concerning emergency remote learning: simplicity, accessibility, affordability, flexibility, and empathy (Cahyadi et al., 2021). The most challenging problem was how the learning material was delivered (simplicity) and how the student could access or use the internet (accessibility).

Since learning occurs remotely at home with less structure than in schools or colleges, students are prone to distractions. Consequently, the student who lacks self-regulation would procrastinate on their task or assignment. Cheng and Xie (Cheng & Xie, 2021) showed that students procrastinate in an online learning setting, where course structure such as interaction with friends, the relevance of the material, and the use of technology are related to procrastination behavior during online learning. On the other hand, according to Michinov (Michinov et al., 2011), highly procrastinating students are more likely to fail the written reports because of their low level of participation during the discussion forum.

According to Lemay, Bazelais, and Doleck (Lemay et al., 2021), students feel more stressed and anxious when learning shifts from face-to-face to online. Several studies indicated that procrastination in face-to-face and online learning were different (Cerezo et al., 2017; Elvers et al., 2003). A recent study found that although students view online learning positively, their academic performance is better in face-to-face learning than in online mode (Spencer & Temple, 2021).

A relatively new psychological construct that potentially affects academic procrastination is patience. Schnitker has formulated this construct by integrating theology and philosophy with psychology (Schnitker et al., 2017). She defined it as a tendency to hold on calmy when encountering a complex or challenging situation (Schnitker & Westbrook, 2014). In line with that, Deng and Li (Deng & Li, 2017) have developed a patience questionnaire stemming from Buddhism. They state that patience corresponds to enduring suffering, keeping calm when facing an unfair situation, and being aware of lacking knowledge and learning. From an Islamic perspective, Subhan El Hafiz, Mundzir, Rozi, and Pratiwi (Hafiz et al., 2015) underlined the ability to restrain as the essence of patience. Accordingly, the critical feature of patience is to actively respond at the first strike by restraining emotion, cognition, words, and behavior that obey the rules for good purposes. This response is driven by optimism, persistence, enthusiasm for seeking information to find alternative solutions, being consistent, forgiving, and never complaining when encountering problems. It means that patient students commit to attaining the goals by restraining any distractions.

To sum up all previous arguments, they share a similar construct of patience: the ability to encounter unease situations, emotionally and behaviorally. Instead of acting rashly, a patient student would act calmly. Given that argument, we argue that patience is viewed as the opposite of impulsivity. Some researchers have outlined that disinhibition may play a pivotal role in impulsivity (Sharma et al., 2014; Wilbertz et al., 2014). Those abilities to withstand inappropriate behavior, that is, inhibition, have shared a common content on patience construct but in the opposite direction. The impatient student will easily get distracted when doing assignments. They are tempted to do more pleasant things such as playing games, watching YouTube, and checking social media, which results in delayed or even unfinished assignments.

Since impulsivity plays a pivotal role in procrastination (Steel, 2007; Wypych et al., 2018), students pursue immediate rewards and ignore the future outcome. Therefore, they cannot wait to gain short-term pleasant. A longitudinal study by Reuben, Sapienza, and Zingales (Reuben et al., 2015), of 284 students showed that impatient students were more likely to delay assignments than patient students. It indicates that patience negatively correlates with procrastination. Patience would lower procrastination by helping students to pursue their goals (e.g., assignment deadline), mainly when facing difficulties (Schnitker, 2012). For that reason, patience has a promising role in reducing procrastination. Based on that argument, we predict:

Hypothesis 1: patience will be associated negatively with academic procrastination.

Patience relates to delaying behavior and has also been linked with goal pursuit and satisfaction (Schnitker, 2012). Patient individuals are more willing to pursue higher goals and efforts. Following that, Yeh et al. (Yeh et al., 2019) have reported that the different levels of achieving goal orientation resulted in different learning outcomes. It directly affects how to adopt Self-Regulated Learning (SRL) strategies and supportive online learning behaviors. Moreover, patience is also positively correlated with daily self-regulation, cognitive reappraisal (Schnitker, 2012), and self-control (Khormaei et al., 2017). A recent study found the interconnection between patience and self-regulatory competencies (Shubert et al., 2022). Accordingly, patience has a positive correlation with emotion regulation and

self-control. In terms of SRL strategies, self-control could predict student use of SRL strategies (Zhu et al., 2016). These findings give the argument that patience would be associated with SRL. Thus, we propose:

Hypothesis 2: patience will be correlated positively with SRL.

Self-regulated learning (SRL) is the ability to direct one's thoughts, feelings, and actions to achieve one goal (Zimmerman, 2002). In online learning, self-regulation plays a vital role in dealing with unstructured learning environments and the lack of the lecturer's control. This ability to regulate one's cognition, emotion, and action is closely related to patience.

Since the relationship between patience, SRL, and procrastination has not been investigated before. It is unclear what the position of patience is in that relationship. Some may propose that patience acts as the mediator between SRL and procrastination. For instance, Schnitker's experiment (Schnitker, 2012) has shown that training programs incorporating self-control could increase trait patience. It may conclude that self-regulation would indirectly affect procrastination via patience. However, other studies give a different direction; patience predicts self-control (Khormaei et al., 2017). Consequently, it may render a different model where self-regulation is placed as a mediator between patience and procrastination.

We argue that self-regulation is more likely to serve as a mediator because it is affected by how student manage their emotion (Webster & Hadwin, 2014) and self-control (Stiller et al., 2018). Both capabilities to manage feeling and control behavior is similar to the patience construct. Schnitker et al. (Schnitker & Emmons, 2017) has shown that patience could predict regulatory behavior. A recent study has suggested that the general ability to wait calmly could promote self-control and emotion regulation (Shubert et al., 2022). Patient students could override the temptation to pursue one goal and manage uneasy feelings during the learning process. How students regulate their emotions affects self-evaluation and goal attainment (Webster & Hadwin, 2014). The previous experiment has indicated that impatient students relate to time inconsistency. The student may commit in the beginning to do something but without taking any actual action at the end (Yoon, 2020). Impatient students are more likely to fail in attaining a long-term goal. The above shows that patience may predict online SRL.

Moreover, the latest research has indicated that high online SRL could predict low academic procrastination (Ma et al., 2022a). Student procrastination during online courses is directly related to motivational beliefs and how students perceive course structure (Cheng & Xie, 2021). Many studies have underlined that procrastination is a form of self-regulation failure (Cheng & Xie, 2021; de Palo et al., 2017; Limone et al., 2020a; Rebetez et al., 2018). Accordingly, procrastination is seen as one's inability to manage cognition, emotion, and behavior in starting or completing academic tasks. Considering the previous hypothesis that links patience with procrastination and SRL, we posit that patience would be indirectly related to procrastination via SRL. Therefore, we propose:

Hypothesis 3: the relationship between patience and academic procrastination will be mediated by SRL.

In summary, we want to examine the relationship between patience, academic procrastination, and SRL. Prior studies have documented the impact of SRL on student procrastination well (Abdi Zarrin, S & Gracia, 2020; Limone et al., 2020b; Ma et al., 2022b; Wolters et al., 2017). However, very few studies have explored the effect of patience in academic contexts, particularly in online learning. Patience is known as a character strength and has a potential role in reducing procrastination. Examining the mediation model of self-regulated learning between patience and academic procrastination will provide a novel framework for the unique interplay between those variables. Furthermore, while existing studies are mainly conducted in Western cultural backgrounds (Tao et al., 2021; Yan & Zhang, 2022), this research offers a different context. Within Asian and religious cultural values, we believe that it will add a novel contribution.

2. RESEARCH METHODS

2.1 Participants

A total of 300 participants enrolled in this study, with an age range of 17 – 24 years (M=19.5 years). We use a convenience sample in this study. The inclusion criteria for this study were active students during the 2021 academic year and taking subjects entirely online. All participants were recruited from a private university in Yogyakarta, Indonesia. Of 300 participants, ten were excluded from the analysis since they did not purely take the online course but either blended, hybrid, or face-to-face learning. The final data were 290 students, consisting of 103 males (36%) and 187 females (64%). They were from eight faculties, namely the Faculty of Psychology and Socio-Cultural Sciences

(49.7%), Faculty of Medicine (6.6%), Faculty of Industrial Technology (13.4%), Faculty of Law (5.9%), Faculty of Civil Engineering and Planning (4.8%), Faculty of Business and Economics (8.6%), Faculty of Islamic Studies (6.6%), and Faculty of Mathematics and Natural Sciences (4.5%). The informed consent was given to all participants before they continued to fill out the questionnaire. This study has been reviewed and approved by the Faculty of Psychology and Socio-Cultural Sciences ethics committee, number 2986/Dek/70/Sekdek/X/2021.

2.2 Measures

The data was collected using an online questionnaire via a Google form. We distributed it through personal contacts, e-mail, and social media groups like WhatsApp, Line, Instagram, or Facebook. There are three questionnaires used in this study. First, the Online Self-Regulated Learning Questionnaire (OSLQ) was developed by Barnard, Lan, To, Paton, and Lai (Barnard et al., 2009). It consists of 24 items with five Likert responses, ranging from "1 = strongly disagree" to "5 = strongly agree". OSLQ has six subscales: five items measure goal setting (e.g., "I set standards for my assignments in online courses"), four items measure environmental structuring (e.g., "I find a comfortable place to study"), four items measure task strategies (e.g., "I prepare my questions before joining in the chat room and discussion"), three items measure time management (e.g., "I allocate extra studying time for my online courses because I know it is time-demanding"), four items measure help-seeking (e.g., "If needed, I try to meet my classmates face-to-face"), four items measure and self-evaluation (e.g., "I ask myself many questions about the course material when studying for an online course"). The translated version in Indonesian had moderate and good internal reliability: goal setting (α = 0.82), environmental structuring (α = 0.77), task strategies (α = 0.64), time management (α = 0.77), help-seeking (α = 0.66), self-evaluation (α = 0.67). To improve the model fit, we dropped three items (one item task strategies and two items self-evaluation) with loadings lower than 0.4 or cross-loading on other factors. The confirmatory factor analysis indicates an adequate model fit ($\chi 2/df$ = 1.73, RMSEA = 0.05, SRMR = 0.05, CFI = 0.93, TLI = 0.92).

The second is the Patience scale. It was developed by El Hafiz, Rozi, Mundzir, and Pratiwi (El Hafiz et al., 2003) and derived from content analysis based on Islamic text. The internal reliability was good (α = 0.73). It consists of 20 items, where four items were not calculated because it was a distraction. The rest items (16) measured six dimensions of patience with four Likert responses, ranging from "1 = strongly disagree" to "4 = strongly agree". The dimensions are two items measuring optimism (e.g., "I feel like a failure"), three items measuring persistence (e.g., "I did not try again"), five items measuring enthusiasm for seeking information to find alternative solutions (e.g., "I ask the things that need to be fixed"), two items measuring being consistent (e.g., "Make another plan to achieve the same goal"), two items measuring forgiving (e.g., "I will leave those failed results"), and two items measuring not complaining when encountering problems (e.g., "I regret the effort I have done"). Patience scores were gained with a total sum of all dimensions (Rozi & Prasasti, 2021).

The third is the Academic Procrastination Scale-Short Form developed by Yockey (Yockey, 2016). It has five items (e.g., "I put off projects until the last minute") with five Likert responses, ranging from "1 = agree" to "5 = disagree". The translated version into Indonesian had a good internal reliability (α = 0.87) and the confirmatory factor analysis indicate an acceptable model fit (χ^2/df = 2.91, RMSEA = 0.08, SRMR = 0.03, CFI = 0.98, TLI = 0.96).

2.2 Analysis

We used IBM SPSS Statistics for Windows version 26.0 to analyze the data. By deploying bivariate correlation, we examine the correlation between the variables. In addition, Macro PROCESS version 4.0 was used to test the mediation role of SRL with 5000 bootstrapped samples. Multicollinearity between independent variables was checked with VIF and tolerance.

Previous studies have found that gender and age had an impact on procrastination. Males were likely more procrastinating than females, and the younger ones were more prone to procrastinate than the older ones (Balkis & Duru, 2017; Beutel et al., 2016; Lu et al., 2022; Steel & Ferrari, 2012). We consider gender and age as covariate variables in the data analysis following that issue

3. RESULTS AND DISCUSSIONS

We check the normality before analyzing data by using skewness and kurtosis. The procrastination, environmental structuring, and help-seeking variables did not meet the normal assumptions since the z value was above 3.29 points (H.-Y. Kim, 2013). Consequently, we use Spearman's Rho to investigate correlation. However, according to Preacher and Hayes (Preacher & Hayes, 2008), mediation analysis with bootstrapping does not necessarily need normal assumptions.

Based on Table 1, the correlation analysis showed that patience negatively and significantly correlated with academic procrastination (r = -0.21, p < 001). This finding confirmed hypothesis 1; patience negatively correlates with procrastination. The magnitude of the correlation was weak (Cohen, 1992).

It also found that patience positively and significantly correlated with all subscales of SRL. Patience correlated with goal setting (r = 0.30, p < 001), environmental structuring (r = 0.33, p < 001), task strategies (r = 0.14, p < 01), time management (r = 0.22, p < 001), help-seeking (r = 0.19, p < 01), and self-evaluation (r = 0.15, p < 05). These findings support hypothesis 2; patience positively correlates with SRL. The magnitude of the correlation between patience and goal-setting or environmental structuring was moderate. The correlation between patience and task strategies, time management, help-seeking, and self-evaluation was weak (Cohen, 1992). The association between patience, SRL, and procrastination remained significant even when we controlled gender and age.

In addition, the results showed that SRL was negatively and significantly correlated with academic procrastination (see Table 1). All SRL subscales correlated with procrastination, except help-seeking. It was not significant (r = -0.11, p > 0.05). The association between goal setting, time management, and procrastination was moderate. The correlation between task strategies, environmental structuring, self-evaluation, and procrastination was weak (Cohen, 1992).

Table 1. Correlation of patience, SRL, and procrastination

Variable	M (SD)	1	2	3	4	5	6	7	8
1. procrastination	11.83 (4.41)	—							
2. goal setting	15.54 (2.92)	-0.35 ***	—						
3. environmental structuring	16.89 (2.89)	-0.14 *	0.39 ***	—					
4. task strategies	8.83 (2.47)	-0.28 ***	0.43 ***	0.15 *	—				
5. time management	10.23 (2.54)	-0.32 ***	0.53 ***	0.28 ***	0.48 ***	—			
6. help-seeking	14.52 (3.43)	-0.11	0.28 ***	0.27 ***	0.30 ***	0.26 ***	—		
7. self-evaluation	7.18 (2.00)	-0.14 *	0.28 ***	0.20 ***	0.31 ***	0.25 ***	0.46 ***	—	
8. Patience	50.64 (5.72)	-0.21 ***	0.30 ***	0.33 ***	0.14 *	0.22 ***	0.19 **	0.15 *	—

* p < .05, ** p < .01, *** p < .001

A parallel mediation analysis was conducted to examine the mediation role of SRL when mediating the relationship between patience and procrastination. There was no multicollinearity between independent variables since the VIF score was less than ten and the Tolerance score was above 0.10. According to Table 2, the result indicates that of six SRL's subscales, only two subscales could predict procrastination: goal setting (β = -0.32, t = -2.93, p < 0.01) and time management (β = -0.29, t = -2.50, p < 0.05). Other subscales could not predict procrastination.

According to Preacher and Hayes (Preacher & Hayes, 2008), mediation occurs when both paths (a) and (b) are significant. Likewise, the indirect effect of patience on academic procrastination via SRL does not contain zero. For that reason, the total indirect effect of six SRL subscales could mediate the relationship between patience and procrastination. The total indirect effect does not contain zero (B = -0.07, 95% CI = [-0.14, -0.02]).

At the specific indirect effect, the result showed that only goal setting (B = -0.05, 95% CI = [-0.10, -0.02]) and time management (B = -0.03, 95% CI = [-0.06, -0.001]) could mediate the relationship between patience and procrastination (see Table 2). It can be concluded that SRL could mediate the relationship between patience and academic procrastination. This model can explain the 17% variance of academic procrastination. Furthermore, only goal setting and time management could mediate the relationship between patience and academic procrastination at the specific indirect effect level. Since the direct effect of patience on procrastination after controlling SRL was not significant, it can be concluded that the mediation is full mediation.

Table 2. Summary of the mediation model.

Testing Path	*B*	*SE*	*T*	95% *CL*
Pat → GS (a1)	0.18***	0.03	6.30	[0.16, 0.32]
Pat → ES (a2)	0.19***	0.03	6.80	[0.18, 0.34]
Pat → TS (a3)	0.06*	0.03	2.40	[0.03, 0,17]
Pat → TM (a4)	0.09***	0.03	3.63	[0.07, 0.21]
Pat → HS (a5)	0.11**	0.03	3.13	[0.06, 0.26]
Pat → SE (a6)	0.06**	0.02	3.01	[0.03, 0.15]
GS → Procr (b1)	-0.32**	0.11	-2.93	[-0.51, -0.09]
ES → Procr (b2)	0.10	0.10	1.03	[-0.11, 0.27]
TS → Procr (b3)	-0.13	0.12	-1.15	[-0.36, 0.09]
TM → Procr (b4)	-0.29*	0.12	-2.50	[-0.50, -0.04]

Testing Path	*B*	*SE*	*T*	95% *CL*
HS → Procr (b5)	0.01	0.08	0.18	[-0.15, 0.17]
SE → Procr (b6)	-0.06	0.14	-0.42	[-0.33, 0.23]
Pat → Procr (total)	-0.16***	0.06	-3.93	[-0.37, -0.12]
Pat → Procr (direct)	-0.08	0.05	-1.72	[-0.18, 0.01]
Indirect effect (total)	-0.07*	0.03		[-0.14, -0.02]
Indirect effect GS	-0.05*	0.02		[-0.10, -0.02]
Indirect effect ES	0.02	0.02		[-0.02, 0.07]
Indirect effect TS	-0.001	0.01		[-0.04, 0.01]
Indirect effect TM	-0.03*	0.01		[-0.06, -0.00]
Indirect effect HS	0.001	0.01		[-0.02, 0.02]
Indirect effect SE	-0.001	0.01		[-0.03, 0.02]
F = 7.15				
R^2 = 0.17				

*Pat = Patience, GS = Goal setting, ES = Environmental structuring, TS = task strategies, TM = time management, HS = help-seeking, SE = self-evaluation. *** p < 0.001, ** p < 0.01, * p < 0.05.*

Research on patience is limited, particularly in the education and psychology context. A few studies on patience focus more on mental health and religious issues (Schnitker et al., 2017; Schnitker & Emmons, 2017; Valikhani et al., 2017). This research extends those findings in an academic context. We found that patience could strengthen SRL and indirectly lower academic procrastination during online learning.

This finding confirmed a previous study that impatient individuals tend to have high levels of procrastination (Reuben et al., 2015). Since procrastination closely relates to impulsivity (Wypych et al., 2018), procrastinators tend to choose short-term rewards over long-term ones. In other words, procrastinating students are susceptible to immediate temptation (Steel et al., 2018). Students prefer to take immediate attractive activities, even less important. For example, the student may perceive that the assignment deadline is still far away. They postpone doing the assignment and wait until the last moment by switching to other more pleasurable activities. As patience has internal (emotion regulation) and external (delay gratification) components (Schnitker & Westbrook, 2014), it would lower temptation and impulsivity. It is also plausible that patient students are more likely to encounter distractions during learning. To attain a goal, they are restrained emotionally, behaviorally, and cognitively (Hafiz et al., 2015). Mainly, when students stick to the goal (consistently) and keep persistent, although there are many disturbances, they still can resolve it in calm and not impulsive.

Furthermore, we also found that the underlying mechanism that may explain the relationship between patience and procrastination was SRL. Specifically, when considering all constructs of SRL, only goal setting and time management could lower the prediction of patience over and above environmental structuring, task strategies, help-seeking, and self-evaluation. This result supports the previous study that procrastination is a form of intention-action gap (Steel et al., 2018). However, these findings do not necessarily mean that environmental structuring, task strategies, help-seeking, and self-evaluation do not affect procrastination. Correlation analysis (Table 1) has shown that almost all subscales of SRL had a negative and significant relationship with procrastination. It means SRL affects procrastination. Only help-seeking did not correlate with procrastination.

We found that patience correlates positively with all SRL subscales. As Schnitker (Schnitker, 2012) has argued, patient students tend to be more patient and willing to achieve their goals than impatient students. This study corroborates these findings. Students who have a high level of patience would increase their ability to pursue their goals and indirectly lower their academic procrastination. This finding suggests that patience could lower academic procrastination by strengthening students' SRL.

Another finding highlights the role of SRL in procrastination. The evidence that SRL negatively correlates with student procrastination (Cheng & Xie, 2021; de Palo et al., 2017) has been confirmed. Lecturers have less control over their students' behavior during online learning since the class is held remotely from home. Students need to direct themselves again without any distractions from their circumstances. For that reason, self-regulation is more demanding in online learning. Students with poor SRL would be risky to procrastinate.

This study has practical implications for online learning. Although patience is more likely viewed as a trait, a previous study has indicated that patience is malleable. A patience training program with a packet of self-emotion awareness exercises, emotion regulation, coping stress, reappraisal, and meditation could increase patience (Schnitker, 2012). In addition, academic institutions can also develop preventive programs that strengthen students' self-regulation abilities before the semester starts (Stephen & Rockinson-Szapkiw, 2021). Furthermore, learning institutions may design self-study aid kits to improve course material understanding, such as distributed practice activities and online practice testing (Bitonto et al., 2010; Poorthuis & Dijk, 2020).

We believe this study is among the first to investigate patience in an academic setting. This study mainly tries to deepen our understanding of the psychological mechanisms linking patience with academic procrastination during online learning. We found that mediation analysis results can explain the procrastination variance moderately (17%). However, this study has some limitations that should be noted. Firstly, causality inference cannot be applied because this data is concurrent. Experimental research or a longitudinal study is needed to further research. Secondly, the participants involved in this study were limited to only one private university in Indonesia. In addition, the composition of female participants is more dominant (64%) than males. Therefore, careful generalizations should take into account.

4. CONCLUSION

This study investigates the relationship between patience, SRL, and academic procrastination among students. The results showed that the three variables were significantly correlated. Overall, SRL could mediate the relationship between patience and procrastination, notably goal setting and time management. This study supports the procrastination model as a form of self-regulation failure, particularly in online learning. Patience matters in facing life hardship (Schnitker, 2012) or inhibiting negative affect (Shubert et al., 2020) and could promote self-regulation and protect against procrastination. Patience has an indirect effect on academic procrastination. It is also worth strengthening patience as a virtue and a coping strategy to keep our mental health and, at the same time, maintain academic productivity. Further research should use a broader sample involving various universities to advance our understanding of procrastination in online learning. This study deepens our understanding of the psychological mechanism underpinning patience and academic procrastination. Furthermore, this study corroborates the importance of cultivating patience as a potential factor in reducing procrastination.

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