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Moderating effect of self-regulation on the relationship between adversity quotient and family social support on academic procrastination in thesis completion

Diya Rofika Rahmawati [1]*, **Dewi Kusuma Wardani** [1], **Leny Noviani** [1], **Riyan Yuliyanto** [1]

[1]Master of Economic Education, Faculty of Teacher Training and Education, Universitas Sebelas Maret, Surakarta – Indonesia

Abstract: Final assignments are part of the strategy to train students' skills, but they often cause feelings of stress and lead to students choosing to postpone them. This research aims to determine how the influence of Adversity Quotient (AQ) and Family Social Support (FSS) on academic procrastination attitudes in completing a bachelor theses is moderated by Self-regulated Learning (SRL). The study was conducted in two state universities in Indonesia on students who had not completed their theses. Data collection was made through a survey, with online questionnaires based on Likert Scales using Google Forms. The instruments used were the Adversity Quotient (AQ) Scale, the Family Social Support (FS) Scale, the Self-regulated Learning (SRL) Scale, and the Academic Procrastination in Completing Bachelor Theses (APCBT) Scale. Data analysis was conducted using moderated regression analysis. The research results show an influence of the adversity quotient (t = -2.165, p < .031) and family social support (t = 5.512, p < .000) on academic procrastination in completing theses. Self-regulated learning is demonstrated to moderate the relationship between adversity quotient and academic procrastination in completing theses (t = -2.126, p < .035), while self-regulated learning moderates the relationship between family social support and academic procrastination in completing theses (t = -4.831, p < .000). The empirical implication of this study is that during the theses preparation process, final-year students may face psychological challenges, so it is not uncommon for them to postpone work by introducing self-regulated learning roles, difficulty intelligence, and family social support can help students in suppressing the problem of academic procrastination in theses completion.

Keywords: academic procrastination; academic goal; completion of thesis; final-year student; suicide case

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*Corresponding Author: Diya Rofika Rahmawati (diyarofika1@student.uns.ac.id), Faculty of Teacher Training and Education, Universitas Sebelas Maret Jl. Ir. Sutami 36 Kentingan, Jebres, Surakarta, Jawa Tengah. Indonesia 57126 – Indonesia.

Introduction

The success of an educational institution can be gauged by its ability to produce students with high quality competencies (Purwanto et al., 2021). Problem-solving abilities (Güleç, 2020), communication skills (Marynchenko et al., 2022), interpersonal prowess (Succi & Canovi, 2020), and technical competence (Önur & Kozikoglu, 2020) are among the skills that can be acquired from such institutions. Higher education strives to create human resources who have superior skills and abilities through academic assignments given to students to measure their abilities but these can cause problems (Yupanqui-Lorenzo et al., 2023). Students can find them difficult (Mohammadi Bytamar et al., 2020); be unable to manage their time; become tired of learning new material; and be afraid of failure (Dinç & Ekşi, 2019). They may resort to cheating, feeling pressurized to complete their academic assignments (Giray et al., 2023), and feeling stressed and exhausted academically, so may prefer to do other more fun activities (Kuftyak, 2022). This situation results in students delaying the completion of academic assignments, a condition known as academic procrastination, which will have a negative impact on students (Sefriani et al., 2022).

Furthermore, the Centers for Disease Control (CDC) (2022) reported that in 2022 nearly 45% of students in the US had experienced feelings of sadness and hopelessness, especially during the COVID pandemic, with as many as 20% having serious thoughts of suicide. A report from the World Health Organization (WHO) regarding suicide cases in Indonesia in 2019 indicated as many as 6,544 incidences (Yusuf, 2023). with one of the causes being the educational environment (Rappler.com, 2016). Utami (2023) states that Indonesia is the third country, with 29% of the population in the age range of 15-24 years reported to have often experienced depression, displaying little interest in doing any activity compared to 21 other countries. Suicidal experts, experts in the field of suicide cases, from a survey conducted on 284 students in Jakarta, it was recorded that 34.5% of students had suicidal thoughts, one of the reasons was academic problems (Adam, 2023). If the impact and pattern of academic procrastination can be established in detail, then interventions can be made to reduce such problems (Zacks & Hen, 2018).

Therefore, this situation is important, because it also affects the students' psychological well-being (Dardara & al-Makhalid, 2022). The sources, causes, and ways of reducing academic procrastination (Svartdal et al., 2020) need to be investigated through programs and curricula designed by universities that reflect the quality of institutions in providing education (Balkis, 2013). This is also aligned with efforts to help students reduce academic procrastination behavior (Peixoto et al., 2021), especially when completing their final theses. Rahimi and Hall (2021) explain some of the causes of academic procrastination in students. These include fear of failing work completed; dislike of the task to be done; lack of confidence in themselves; poor abilities to solve problems or difficulties; weak self-management or self-regulated learning; difficulties in completing academic tasks; lack of support from the environment, including family and peers; and lazy to do academic activities.

The behavioral concept of academic procrastination is inseparable from the academic world (Júnior et al., 2023). At the theoretical level, academic research related to academic procrastination in universities requires further exploration. Like previous studies on academic procrastination, but with different results, research conducted by Touloupis and Campbell (2024) using quantitative field research methods found that students tend to strive to suppress academic procrastination attitudes. In addition, Sepiadou and Metallidou (2023) indicated that the attitude of

academic procrastination in students becomes higher if they feel that their academic tasks are challenging and that there is a high gap between their personal standards and achievement.

Referring to Social Cognitive Theory (SCT) a theory developed by Bandura (1977) emphasizes the role of social and cognitive environmental influences in a person's behavior. In the context of academic procrastination, cognitive aspects such as adversity quotient and environmental aspects such as family social support can play an important role in shaping a person's behavior. Previous research related to adversity quotient factors has found that it has a significant negative relationship with students' academic procrastination attitudes (Akbar et al., 2023). In line with Arahnur and Rinaldi (2022), Ikbar et al. (2022), and Tuasikal et al. (2019), the higher the adversity quotient of a final-year student, the lower their propensity to procrastinate in completing their theses. However, Rachmah et al. (2015) found that the adversity quotient has no direct influence on academic procrastination due to irrational beliefs. Research by Çam and Öğülmüş (2021) demonstrated that social support has a positive impact on the formation of academic procrastination. In another study, it was found that the social support provided by the family was able to have a significantly negative influence on academic procrastination in students (Amani & Arbabi, 2020; Madjid et al., 2021; Muarifah et al., 2022; Sari & Fakhruddiana, 2019; Suwinyattichaiporn & Johnson, 2022).

Academic procrastination is also related to self-regulated learning (Ma et al., 2022). Self-regulated learning is one of the factors that have a strong relationship and is negatively correlated with academic delays (Amani & Arbabi, 2020; de la Fuente et al., 2021; Filiz & Doğar, 2021; San et al., 2016; Zarrin & Gracia, 2020). It contradicts research by Fitriya and Lukmawati (2017), who found that self-regulated learning positively influences academic procrastination.

The phenomenon of academic procrastination in completing bachelor theses (APCBT) is an important topic for research as most studies in this field have been conducted with quantitative and qualitative field methods, focusing on the topic of academic procrastination in general. In addition, previous studies have rarely used self-regulated learning moderation variables and focused on theses completion, even though the role of self-regulated learning can weaken or strengthen influence adversity quotient and self-regulated learning on academic procrastination in thesis completion.

The interest of this research in the APCBT students in both universities in Central Java Province has been motivated by several problems. First, the number of suicide cases among adolescents has recently increased, with one of the contributing factors being academics (Rappler.com, 2016). Furthermore, in Indonesia, in 2023, the highest number of suicide cases on a national scale occurred in Central Java Province (Rizaty, 2023). In addition, the number of students at state universities in Central Java Province is the fourth highest in Indonesia (Ahdiat, 2022). Second, the study duration up to graduation also affects the assessment of the study program (Malelak et al., 2021). Based on the National Standards for Higher Education (SN Dikti) contained in the Regulation of the Minister of Education and Culture Number 3 of 2020 concerning National Standards for Higher Education, the length of study or graduation of students in higher education will affect the status of activities in the higher education database (PD DIKTI). Furthermore, there is a gap in the number of comparisons between students who graduate every year and active students in higher education with a ratio of 1:5 at the bachelor's/diploma level. Third, a longer study period will inevitably involve more time and costs, so is associated with economic opportunity cost. Students who exceed the study period on time will lose several opportunities or

income opportunities because they have to complete their educational obligations first and set aside or leave the opportunity to work to earn income, such as the time that should be used by students to work to earn income but still used to complete education. In addition, students with a longer study period than usual will face higher accumulated education costs than students who graduate on time (Hasibuan et al., 2021), therefore, it is important to investigate this issue.

This is the first study to examine the relationship between adversity quotient (AQ) and family social support (FSS) with academic procrastination, specifically in completing theses, with self-regulated learning (SRL) as a moderating variable in a single model framework that can strengthen or weaken relationships. Although the previous study, Rahmawati et al. (2025) used the APCBT dependent variable, the independent variable studied was the SLR variable, while the AQ variable was mediated. In addition, in several other studies, the independent variables used include internal control locus; social support (Sari & Fakhruddiana, 2019); self control (Ariyanto et al., 2019); self-efficacy; and academic distress (Rijal et al., 2024), and academic procrastination in completing learning tasks in general. The use of adversity quotient and family social support as independent variables has to date only been studied with academic procrastination dependent variables in general (Muarifah et al., 2022). Contribution of this research to the development of related research is two-fold. First, although several studies have examined AP in college students, this research specifically focuses on APCBT in college students. Second, although several previous studies have examined APCBT, this study contributes to the development of the literature in the field by including SRL variables as moderators in order to observe relationships developed into a single model framework. In this way, the gap in the literature is filled.

In line with the discussion above, this study aims to determine how adversity quotient and family social support affect academic procrastination attitudes in students completing a theses, moderated by self-regulated learning (SRL). In addition, the reason for employing SRL as a moderation variable is that it is able to strengthen or weaken the influence of internal factors of AQ and external ones of FSS. This is especially important when undergraduate students face challenges or expectations from the external environment (e.g. family). When FSS is high and accompanied by a high AQ, SRL can help students navigate pressure by ensuring that they remain focused on academic goals per the set strategy. The model and relationship between the variables are illustrated in Figure 1.

In line with the objectives of the study, the following hypotheses were formulated:

H1. Adversity quotient has a significant negative effect on academic procrastination in theses completion.
H2. Family social support has a significant negative effect on academic procrastination in theses completion,
H3. Self-regulated learning plays a role in moderating the relationship between adversity quotient and academic procrastination in completing theses.
H4. Self-regulated learning plays a role in moderating the relationship between family social support and academic procrastination in theses completion.

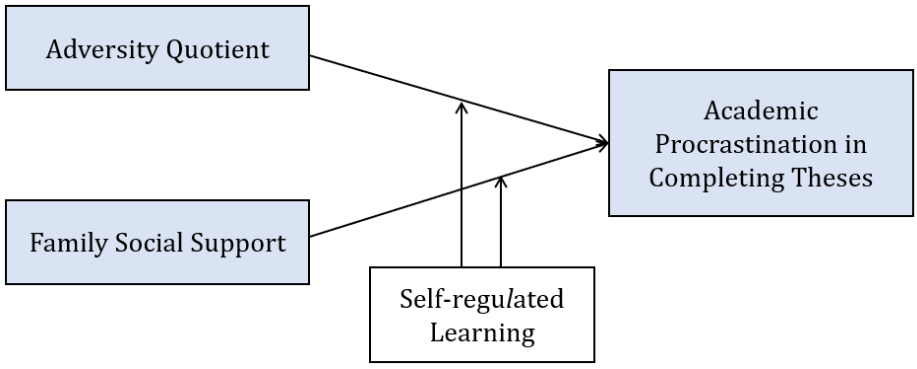
Methods

Research Approach

The study used a quantitative approach with the survey method. It was designed to determine the influence of adversity quotient and family social support on academic procrastination in the completion of the theses, as moderated by self-regulated learning (see Figure 1).

Figure 1

Self-regulated Learning Moderates the Relationship between Adversity Quotient and Family Social Support in relation to Academic Procrastination in Theses Completion



Participants

The respondents were undergraduate students of the class of 2017-2020 who had exceeded the normal study period but had still not completed the final project in the form of a theses. The calculation of the total sample using the Slovin formula resulted in 212 participants, who consisted of final-year students who had not graduated from the Economic Education study program of Universitas Sebelas Maret (UNS) and the Koperasi Economic Education study program of Universitas Negeri Semarang (UNNES), 97 participants were UNS students and 115 from UNNES. The sampling technique used was probability sampling with the proportionate random sampling method. The reason for the research to focus on students from these two universities was based on consideration of university status, accreditation, and suitability in relation to the problem raised in the study. The status of Legal Entity State Universities (PTN-BH) held by the two universities makes them more flexible in managing academic implementation, so they are expected to be able to guarantee better quality in accordance with national education standards, and the study period of students can graduate on time. In addition, the sampling technique is probabilistic with a proportional random sampling method for undergraduate students of the 2017-2020 batch The reason for using the method was it can produce the proportionate samples needed to represent each university.

Data Collection Instruments

Data were collected through Google Forms using score criteria based on a Likert scale: strongly agree (4), agree (3), disagree (2), strongly disagree (1). The research data were obtained using the AQ scale (AQS), the FSS scale (FSSS), the SRL moderating variable scale (SRLS), and the APCBT scale (APCBTS). Details of these tools are given below. Each variable indicator was developed into three statement items that were tailored to the needs of the research. These generated 45 statements. Each instrument was then tested for validity and reliability with IBM SPSS Statistics 25 software, and 41 valid and reliable statements were obtained for the study. The four variables were measured by developing 15 indicators, as detailed below.

Adversity Quotient Scale (AQS)

The AQS adapted four indicators from Wang et al. (2021) and and Stoltz (1999) to measure the

adversity intelligsence possessed by the final-year students in higher education. The "control" scale indicator consisted of three items (items 1, 2, and 3); the "endurance" indicator consisted of two items (items 4 and 6); the "rich" indicator consisted of two items (items 7 and 8); and the "origin and ownership" indicator consisted of three items (items 10, 11, and 12).

Family Social Support Scale (FSSS)

For FSS, four indicators were developed from Desiningrum (2010), Khozanatuha et al. (2023), Procidano and Heller (1983). The "emotional support" scale indicator consisted of three items (items 1, 2, and 3); the "instrumental support" indicator consisted of two items (items 4 and 6); the "appreciative support" indicator consisted of two items (items 7 and 8); and the "informative support" indicator consisted of three items (items 10,11, and 12).

Self-regulated Learning Scale (SRLS)

With regard to SRL two indicators were adapted from Pintrich and De Groot (1990) consisting of six statement items. The "cognitive strategy use" dimension consisted of three items (items 1, 2 and 3), while the "self-regulated" dimension consisted of three statement items (items 4, 5, and 6).

Academic Procrastination in Completing Bachelor Theses Scale (APCBTS)

For the APS, five indicators were adapted from Solomon and Rothblum (1984), which were later developed by Tuckman (1991). These were used to measure the behavior of postponement or procrastination of final students in the academic field of bachelor theses completion obligations. The scale indicator "tendency to delay or put off doing things" consisted of three items (items 1, 2, and 3); the "tendency to experience difficulty doing unpleasant things" indicator consisted of two items (items 5 and 6); the "tendency to blame others for one's own plight" indicator consisted of two items (items 7 and 8); the "fear of failure" indicator consisted of three items (items 10, 11, and 12); and indicators "task accounted" indicator consisted of three items (items 13, 14 and, 15). This variable is a dependent variable of the independent variable of SRL with gender moderation and AQ mediation.

Each indicator was developed and adapted with three statements, resulting in a total of 45 statements. The instruments were then tested for validity with the assistance of IBM SPSS Statistics 25 software, with 41 valid and reliable statements with a high to very high level obtained. Cronbach's alpha scores on the reliability statistics were obtained for each variable - AQS (.690), SRLS (.679), APCBTS (.794) and FSSS (.927) – meaning the 41 instruments could be declared reliable. Subsequently, the answers were measured on a Likert Scale before testing the hypotheses. The scale was then changed to a dummy variable with a value of 1 if the answers were 3-4, and of 0 if the answers were 1-2 (Wei et al., 2021).

Procedure

This procedure consisted of three stages, starting with the search, development and adoption of the measuring instruments from each independent, moderation, and dependent variable. Second, the distribution phase is was conducted twice and lasted for one month in May 2024. The first distribution was conducted to test the validity and reliability of the instrument for students on the UNS Economic Education study program and those on the UNNES *Koperasi* Economic Education study program class of 2017-2020 who had graduated. The second distribution was conducted with the targeted two groups of undergraduate students who had not completed their final project or theses, with the involvement of the head of the study program of each institution and study program lecturers. The third stage was

the data processing. Data on adversity quotient, self-regulated learning, family social support, and academic procrastination in theses completion were processed using IBM SPSS Statistics 25.

Data Analysis

Before conducting the analysis, the data were carried out a classical assumption test, in the form of a multicolinearity test, an autocorrelation test, a heteroscedasticity test, and a normality test. After all the classical assumption tests were met, the overall data of each variable were analyzed using moderated regression analysis (MRA) to describe and determine the interaction between the independent, moderation and dependent variables.

Results

The regression analysis aimed to examine the effect of adversity quotient, family social support, self-regulated learning, and academic procrastination on theses completion. The first analysis, shown in Table 1, shows that adversity quotient can significantly encourage students to procrastinate in theses completion (-0.126). The value of the coefficient is negative, meaning that every 1% increase in student adversity quotient ability (other variables being fixed) has a significant effect on reducing student procras-tination attitudes in completing their theses by -0.126. The acceptance of family social support also affects students' procrastination with regard to their theses, and is positively correlated (0.335). That is, every 1% increase in family social support will have a significant effect on increasing student procrastination attitudes by 0.335.

Stage 2 is shown in Table 2. By incorporating self-regulated learning into the regression analysis process, it was found that it was able to moderate the negative influence of adversity quotient and family social support on academic procrastination in theses completion by -.061. Table 3 shows the results of the moderated regression analysis stage 3 test, in which it was found that self-regulated learning was able to moderate the interaction between adversity quotient and self-regulated learning, and the interaction between family social support and self-regulated learning. All three stages showed that there was little change in the effective contribution of all predictors, from value adjusted R^2 .134 to .179 when moderated by self-regulated learning, and to .299 when interaction variables were included.

In conclusion, self-regulated learning can moderate the relationship between adversity quotient and family social support in relation to students' academic procrastination attitudes in completing their theses.

Table 1
Results of the Regression Analysis of Adversity Quotient and Family Social Support regarding Academic Procrastination in Completing Theses

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Summary			
	B	Std. Error	Beta			R	R^2	Adj.R^2	Std. Error
(Constant)	27.395	2.804		9.769	.000	.377[a]	.142	.134	3.571
AQ	-0.126	.058	-.139	-2.165	.031				
FSS	0.335	.061	.353	5.512	.000				

Table 2

Results of the Regression Analysis of Adversity Quotient, Family Social Support, and the Role of Self-regulated Learning as a Moderator of Academic Procrastination in Completing Theses

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Summary			
	B	Std. Error	Beta			R	R^2	Adj.R^2	Std. Error
(Constant)	28.991	2.768		10.475	.000	.437[a]	.191	.179	3.477
AQ	0.098	.085	.108	1.153	.250				
FSS	0.383	.061	.404	6.309	.000				
SRL	-0.538	.152	-.335	-3.529	.001				

Note: AP transform (AP-0.6*RES_1)

Table 3

*Results of the Moderated Regression Analysis of Adversity Quotient, Family Social Support, Self-regulated Learning, Adversity Quotient*Self-regulated Learning, and Family Social Support*Self-regulated Learning in Academic Procrastination in Completing Theses*

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Summary			
	B	Std. Error	Beta			R	R^2	Adj.R^2	Std. Error
(Constant)	-75.863	17.703		-4.285	.000	.562[a]	.315	.299	3.214
AQ	1.012	.447	1.118	2.261	.025				
FSS	2.473	.431	2.609	5.733	.000				
SRL	5.079	.943	3.165	5.383	.000				
AQ1_SRL	-0.049	.023	-1.873	-2.126	.035				
FSS1_SRL	-0.111	.023	-3.606	-4.831	.000				

Discussion

The complexity of final-year student problems, especially the completion of their theses, makes them vulnerable to pressure (Djamahar et al., 2020). This situation is caused by several factors, including personal abilities or internal factors and external factors (Subashkevych, 2023) which is not supportive. Therefore, an attitude of personal and environmental capability management is needed. Social Cognitive Theory (SCT) explains that individual behavior can be formed from personal and environmental influences The behavior of delaying completion of the final theses project is a problem (Waheed et al., 2021). However, this must be dealt with by intervening to improve personal abilities and the role of the environment in minimizing students' procrastination.

Personal abilities can be represented by adversity quotient variables (Matore et al., 2019), with environmental factors represented by family social support variables (Kessler et al., 1992). These problems must be overcome positively by strengthening the intelligence of difficulties and family social support, which can then be seen in testing whether self-regulated learning variables can moderate (strengthen or weaken) (Dignath, 2021) on the variable of academic procrastination in the completion of theses.

The study results help answer the research hypotheses. The first hypotheses was that there is a significant negative influence of adversity

quotient on students' academic procrastination attitudes in completing their theses. The value of the coefficient in the regression results is negative, indicating that the higher a student's adversity quotient ability, the lower their procrastination behavior in theses completion. This is similar to previous studies, whcih have also showed that the higher the level of adversity quotient, the lower the level of procrastination (Arahnur & Rinaldi, 2022; Ikbar et al., 2022). A higher level of adversity quotient helps students address academic difficulties and minimize academic procrastination behavior (Muarifah et al., 2022).

The findings are in line with the results Tuasikal et al. (2019) which demonstrated that adversity quotient was negatively correlated with students' academic procrastination before the Covid pandemic. AQ plays a major role in students' delaying tactics when starting and completing assignments. Those with a high adversity quotient will have a positive perception of difficulties and turn them into opportunities (Stoltz, 1999). On the other hand, negative perceptions will mean students will tend to delay academic completion (Pollack & Herres, 2020). In addition, the greater the ability of students to manage adversity quotient in the form of finding solutions to any problem encountered when completing their theses, it can influence them to minimize academic procrastination behavior, and tend not to cause other problems (Kljajic & Gaudreau, 2018). A high adversity quotient in students also positively affects the achievement of academic goals (Jumareng & Setiawan, 2021) and it is also positively correlated with higher learning outcomes (Mwivanda & Kingi, 2019). So that through efforts to strengthen the intelligence of difficulties in students, they will make a positive contribution to research problems, namely being able to minimize academic delays in completing the theses. *H1 is therefore accepted.*

The second hypotheses concerned the significant negative influence of family social support on academic procrastination in theses completion. The regression results show that there is a significant influence, indicating that family social support has a high correlation with students' academic procrastination attitudes in theses completion. The value of the coefficient obtained was positive, so the higher the acceptance rate of family social support, the higher the level of academic procrastination amongst students. This finding is in line with Burka and Yuen (2007), who found that the role of the family affects the level of academic procrastination of students positively. This is because some parents or families are demanding and doubt their child's ability to be successful, so students will force themselves excessively and tend to delay the completion of academic work. Ferrari and Olivette (1994), Scher and Osterman (2002), explain that high family expectations and desires will give rise to demands for a sense of perfectionism with socially determined standards and is positively correlated with increasing academic procrastination behavior (Ferrari & Díaz-Morales, 2007; Pychyl et al., 2002)

The role of parents or the family holds an important position in forming habits in students. This is in line with research findings in the early 1990s that showed that parental parenting styles, family expectations, and disapproval of student desires can reduce self-confidence levels, resulting in academic procrastination behavior (Frost et al., 1991). Pychyl et al., (2002) provide evidence that female students who grow up in families with mothers who cultivate self-esteem are better able to minimize academic procrastination than their male counterparts who grow up in families with parenting given by fathers. This is in line with Zakeri et al. (2013), that a positive parenting style involving acceptance and granting of psychological autonomy is significantly negatively correlated with academic procrastination, whereas closely supervised parenting tends to increase academic procrastination attitudes. So it is advisable to overcome this problem; it is expected that the

family will plays an important dynamic role as the closest relative, although indirectly, so this will minimize the occurrence of greater procrastination. *H2 is consequently rejected.*

The third and fourth hypotheses concerned the moderation of self-regulated learning on adversity quotient and family social support. Rosário et al. (2009) argue that moderation variables are needed to determine the role in strengthening or weakening the influence between independent variables, which in this study are self-regulated learning as a moderation variable. The third hypotheses, namely that self-regulated learning moderates the influence of adversity quotient on academic procrastination in theses completion, regression results were obtained that showed that self-regulated learning was able to moderate the relationship between the two variables. This is in line with Yang (2021), who found that self-regulated learning moderates academic procrastination among students in Asia. Cui (2021) also reported that self-regulated learning as a moderation variable can affect students' perception and ease of access or affordability from the challenges and constraints of academic activities that have an impact on learning intentions. Self-regulated learning as been proven to have a significant influence on learning achievement, because students have good abilities in overcoming difficulties to minimize the occurrence of academic procrastination (Hai-Jew, 2023). It can therefore be concluded that self-regulated learning plays a role in moderating between the two variables, namely the influence of adversity quotient and family social support on academic procrastination in theses completion. Consequently, self-regulated learning is vital, as it can strengthen the influence of student adversity quotient to suppress academic procrastination attitudes in theses completion, meaning that student intelligence is needed in overcoming difficulties mediated by self-regulated learning. *Therefore, H3 is accepted.*

The fourth hypotheses proposes that self-regulated learning can moderate the influence of family social support on academic procrastination in theses completion. This is in line with Amani and Arbabi (2020) and García-Ros et al. (2023) that the role of SRL can influence a student's procrastination, his findings show that the role of self-regulated learning can have a strong influence on academic procrastination. The research results Muarifah et al. (2022) show that family social support that is more flexible in the form of paying special attention to the difficulties experienced by students can pressurize students to partake in academic procrastination. Umam and Edwina (2020) report that the receipt of external sources in the form of family social support has a direct influence on the emergence of academic procrastination behavior because it can reduce students' academic fatigue, thereby suppressing behavior to postpone academic activities. The results of the moderated regression provide evidence that the role of self-regulated learning among students can weaken the influence of family social support on students' academic procrastination behavior in theses completion, which can occur in families who practice parenting styles such as disagreement with decisions in their children, strict supervision and excessive expectations and high standards of success. The level of self-regulated learning of the participants of this study is greater when compared to the acceptance of family social support. Initially, a partial test conducted on family social support and academic procrastination in theses completion was positive, because there are some families that provided high standards of success and feelings of doubt to students (Burka & Yuen, 2007). However, when moderation tests were conducted, self-regulated learning was shown to weaken the effect of family social support acceptance on academic procrastination behavior in students' theses completion. *H4 is therefore accepted.*

Final-year students in general are subject to the demands of their academic obligations, so have the potential to experience pressure. This allows the emergence of negative emotions such as academic procrastination (Jannah et al., 2022). All students have different management skills, both personally and externally, for overcoming problems (Frydenberg & Lewis, 1994). That of academic procrastination in completing theses is a form of expression of avoidance caused by various factors (Fuertes et al., 2020). Students with good adversity quotient skills can minimize academic procrastination attitudes (Arahnur & Rinaldi, 2022; Ikbar et al., 2022; Muarifah et al., 2022). The adversity quotient is a form of intelligence possessed by students charactrerized by the ability to face problems through opportunities in the guise of finding solutions to achieve goals. This intelligence helps them analyze strategies, achieve goals, and practice self-management in overcoming difficulties.

In addition, external environmental factors also influence the formation of student behavior, one of which is family social support (Xu, 2021). Supportive environmental conditions for final-year students faced with various obligations and demands will positively affect the development of each process in completing obligations and achieving s goals. The support received from family members as the closest nuclear relatives plays a decisive role in the formation of final-year student behavior (Zakeri et al., 2013). The form of parenting style, family expectations, and support for what is desired are integrated forces which help students achieve their goals and minimize any attitudes that hinder this process (Frost et al., 1991). In this study, family social support has been demonstrated to influence student behavior related to academic procrastination fn theses completion, being positively correlated. This is because it occurs in families who have high demands and expectations, accompanied by doubts about the ability of individual of their children to become successful in the future. This results in students tending to procrastinate. Therefore, the role of self-control in students or self-regulated learning is needed to moderate these influences.

Based on the discussion above, it can be seen that the study provides evidence that self-regulated learning significantly moderates the relationship between adversity quotient and family social support in relation to academic procrastination behavior in theses completion.

The study findings also provide empirical implications that final-year students during the theses preparation process will face challenges psychologically, so that it is not uncommon for them to delay their work, but this can be helped by introducing the role of self-regulated learning, adversity quotient, and family social support. In addition, the findings can help provide insights for final-year students and all parties connected with the phenomenon of academic procrastination in theses completion as a graduation requirement in higher education. This also affects the quality of study programs or universities in general through their accreditation status. Future research could consider involving other factors and grand theories, such as this type of procrastination being caused by depression and suicidal ideation. In addition, a more complex locus of research is needed to explain why final-year students take part in academic procrastination consciously.

The formation of student behavior in the form of academic procrastination according to SCT is influenced by personal and environmental factors. These two factors clearly have various derivatives, so become research variables. The academic procrastination behavior shown by students is influenced by various factors and based on complex reasons; it is generally not influenced by a single factor. Therefore, a limitation of this research is that it only discusses one variable of personal factors, namely adversity quotient, and

one variable of environmental factors, family social support. Three suggestions are made for further research. First, researchers could consider examining other factors that shape the academic procrastination behavior of undergraduate students, or researchers can examine subsequent research by adopting from the grand theory of behavior formation, such as TPB (Ajzen, 1985), or resilience theory (Garmezy, 1985) to expand the study topics of various grand theories regarding the factors that shape academic procrastination behavior in theses completion experienced by final-year students. Second, researchers could include gender moderation variables to establish whether there are differences in academic procrastination behavior between male and female undergraduate students. Third, researchers could expand the research locus, or could compare private and public universities.

Nevertheless, this research contributes to the development of the academic procrastination theory of Solomon and Rothblum (1984) and the social-cognitive theory of Bandura (1977). The social-cognitive theory can be employed in the process of implementing learning to minimize the attitude of procrastination amongst students and in relation to the importance of the role of the external environment in the form of families and institutions related to the completion of academic activities, especially the final project of completing the theses. One important finding of this study is that SRL is able to act as a moderator. Practical advice that can be given to undergraduate students includes setting clear and specific, but realistic, learning goals; always monitoring the progress of the work process and conducting regular evaluations; managing time well; using active learning strategies such as discussions; asking questions when facing obstacles to find solutions; diligently consulting with supervisors; and finding an environment that can support the theses completion process.

Conclusion

This study shows that final students with high difficulty intelligence abilities are able to significantly reduce their academic procrastination attitude when completing the theses, because they are able to analyze strategies, have various efforts to achieve the goals they want to achieve and are able to manage themselves well. In addition, family social support shows that parenting demands and expectations, as well as a high sense of doubt about students' abilities, will result in an increase in students' academic procrastination behavior in their theses completion. Self-regulated learning is also proven to be able to moderate the influence of adversity quotient interactions and that of family social support interactions on academic procrastination, so the role of effective self-regulated learning for students is vital.[]

Author Contribution Statement

Diya Rofika Rahmawati: Conceptualization; Data Curation; Formal Analysis; Funding Acquisition; Investigation; Methodology; Project Administration; Resources; Visualization; Writing Original Draft; Writing, Review & Editing; Proofreading. **Dewi Kusuma Wardani:** Validation; Review; Supervision. **Leny Noviani:** Validation; Review; Supervision. **Riyan Yuliyanto:** Validation; Writing, Review & Editing; Proofreading.

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