

PERFECTIONISM AND ACADEMIC PROCRASTINATION AMONG MALAYSIAN UNDERGRADUATES: COPING STRATEGY AS A MEDIATOR

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ABSTRACT

Many undergraduates face the problems of academic procrastination. Therefore, it is necessary to determine the factors associated with academic procrastination so that strategies can be planned to tackle the issue. This study uses the transactional model of stress and coping theory and personality-coping-outcomes theory as a framework. We use this framework to examine whether perfectionism is associated with academic procrastination. Besides, we use this framework to examine whether coping strategy mediated perfectionism's effects on academic procrastination. The purposive sampling method was used to recruit 229 undergraduates in Malaysia to complete a survey. A partial least structural equation model was used to analyze the data. The results showed that perfectionism is associated with academic procrastination. Besides, coping strategies are statistical mediators for the effects of perfectionism on academic procrastination. The findings support the generalization of the theoretical models to understand the mechanism of academic procrastination. Workshops and training can be provided to undergraduates to be aware of the relationships between personality and academic procrastination and the importance of using appropriate coping strategies.

Keywords: Self-oriented perfectionism, socially prescribed perfectionism, personality-coping-outcomes theory, dysfunctional coping strategy, problem-focused coping strategy

Introduction

Procrastination is defined as voluntarily delaying or escaping from tasks that should be prioritized over less urgent tasks (Steel, 2007). Procrastination is a phenomenon that is widespread among society (Uzun Ozer et al., 2014). Ferrari et al. (2005) estimated that about 20% of men and women in the United States had practiced procrastination in daily life.

In academic settings, it is estimated that over 75% of college students are academic procrastinators who usually do assignments, paper writing, or exam preparation when deadlines are close (Steel, 2007). Ferrari et al. (2005) also stated that 75% to 95% of students from the US, Australia, and the UK have academic procrastination problems.

Different negative consequences of academic procrastination on academic performance and psychological health have been reported. Aziz and Tariq (2013) surveyed 201 Pakistan adolescents and indicated that procrastination is negatively associated with life satisfaction among Pakistan students. Hairston and Shpitalni (2016) conducted an online survey among 598 US participants aged 18-37, and they reported that procrastination is positively associated with lower academic performance and sleep disturbance. Andangsari et al. (2018) surveyed 320 undergraduate students in Indonesia, and they reported that academic procrastination is positively correlated with emotional and social loneliness.

Besides, studies also found associations between academic procrastination and substance abuse. Westgate et al. (2017) stated that 1106 undergraduates from the United States reported a significant association between academic procrastination and higher alcohol craving levels and consumption. Melaku et al. (2015) also reported that 329 medical undergraduates in Ethiopia who experienced a higher level of academic stress due to procrastination have accounted for a higher percentage of substance abuse and consumption of alcohol.

Even though academic procrastination is one of the most prevalent practices adopted by undergraduates, yet research on underlying causes of academic stress is still unclear (Ratsameemonthon, 2015). Based on the transactional model of stress and coping and the theory of personality-coping-outcomes, personality and coping strategies can be associated with academic procrastination. Accordingly, we use these two theories to examine the associations between personality and academic procrastination. Besides, we use these two theories to examine whether the coping strategy is a mediating factor for the effects of personality on academic procrastination.

Theoretical Framework

The transactional model of stress and coping theory states that before an individual decides on which coping strategies to utilize, the individual will appraise the stress level brought on by a situation they are facing (Lazarus & Folkman, 1984). According to Folkman (2013), appraisal is a continuous process of evaluation. Primary appraisal asks the question, "Am I okay?" The secondary appraisal asks the question, "What can I do?". Different coping strategies will be adopted in the secondary appraisal based on primary appraisal results (Folkman, 2013).

Coping is defined as continually changing thoughts and behaviors to manage specific external and internal demands that are appraised as stressful (Folkman & Moskowitz, 2004). The coping method can be categorized into adaptive and maladaptive forms (O'Connor & O'Connor, 2003). Adaptive coping aids in protecting an individual's psychological well-being, such as problem-focused coping, consisting of planning to tackle the problems. Maladaptive coping can lead to a decline in an individual's psychological well-being, such as dysfunctional coping that consists of self-blaming and denial (Holton et al., 2016).

Suppose the individual perceived the stressful situation as an acceptable challenge, having the resources and capabilities to overcome the challenge. The individual is more likely to utilize strategies that focus on problem-solving such as actively searching for solutions. However, if the individual appraises the event as highly stressful, the individual is more likely to choose strategies that avoid or delay the task to temporarily reduce the stress (Sirois & Kitner, 2015).

Nonetheless, the transactional model of stress and coping theory does not consider the possible effects of personality. The personality-coping-outcome theory is, therefore, can be regarded as an extension of this theory. The personality-coping-outcome theory proposes that personality influences the adoption of coping strategies differently when encounters stressful situations, which further affects the adjustment (Gallagher, 1996).

Personality and academic procrastination

Studies have reported the association between personality and academic procrastination. Popoola (2005) suggested that procrastination can be regarded as a failure of self-regulation, as it is a person's habit of putting their responsibilities off to the last minute. Zhang et al. (2018) recruited 1184 undergraduate students in China and found a negative association between self-regulation and academic procrastination. Prihadi et al. (2018) recruited 60 college students in the Penang state of Malaysia. They found that students who possessed a higher internal locus of control are less likely to have academic procrastination problems. Siah et al. (2018, 2019, 2020) recruited Malaysian undergraduate students for a survey and found that grit personality is negatively associated with academic procrastination, academic adjustment, and academic performance.

Besides, perfectionism has also been found to be associated with academic procrastination. Perfectionism is a multidimensional personality trait that refers to extremely high standards that

an individual imposes on oneself (Frost et al., 1990). Perfectionists continuously strive to achieve flawless performance, are concerned about others' judgment towards them, and have low tolerance towards failure and imperfection. They may also impose their standards onto others for others to achieve their ideal ways of perfection.

Hewitt and Flett (1991) further conceptualized perfectionism into three forms: Self-oriented perfectionism, other-oriented perfectionism, and socially prescribed perfectionism. Self-oriented perfectionism puts a high standard for personal perfection. It motivated them to strive for personal perfection, and they are highly self-critical if they fail to meet these expectations. Other-oriented perfectionism puts a high standard of perfection for others and perceives others should strive for their perfection. They are highly critical of others who fail to meet these expectations. Socially prescribed perfectionism believe that others expect them to be perfect and that others will be highly critical of them if they fail to meet these expectations, so they also put a high standard for personal perfection and motivate to strive for personal perfection (Hewitt & Flett, 1991; Stoeber, 2014).

Kurtovic et al. (2019) suggested that self-oriented perfectionism is considered adaptive. Other-oriented and socially prescribed perfectionism is considered maladaptive. Therefore, it is expected that self-oriented perfectionism is negatively associated with academic procrastination. Besides, other-oriented and socially prescribed perfectionisms are positively associated with academic procrastination. However, according to a meta-analysis conducted by Xie et al. (2018), the associations between perfectionism and procrastination are inconsistent. Hashemi and Latifian (2014) surveyed 480 undergraduates from a university in Iran. Their findings showed that self-oriented perfectionism is negatively associated with academic procrastination. However, socially prescribed perfectionism is positively associated with academic procrastination. Bong et al. (2014) surveyed 306 seventh graders from South Korea. They found that self-oriented perfectionism is negatively associated with academic procrastination. However, no significant association was found between socially prescribed perfectionism and academic procrastination. Ghosh and Rosh (2017) surveyed 150 undergraduates and postgraduate students in India, but they found that all three types of perfectionism are positively associated with academic procrastination.

Perfectionism and Coping Strategies

From the transactional model of coping and stress theory and the personality-coping-outcomes theory, the inconsistent results of the associations between perfectionism and academic procrastination can be related to coping strategies. Some studies have found different coping strategies adopted by different types of perfectionism. Hill et al. (2010) surveyed 206 British athletes. They reported that self-oriented perfectionism is more likely to practice problem-focused coping and thus more likely to achieve their goal. However, socially prescribed perfectionism is more likely to use avoidance-focused coping and thus more likely to experience burnout. Gnilka et al. (2012) also surveyed 329 undergraduate students in the United States.

Those with maladaptive perfectionism tend to adopt disruptive coping strategies such as escaping instead of those adaptive perfectionists. Park et al. (2010) surveyed 508 undergraduates from universities in South Korea. They reported that men with perfectionistic concerns are more likely to use maladaptive coping strategies.

Some studies also reported the associations between different coping strategies and procrastination. Sirois and Kitner (2015) conducted a meta-analysis of five published papers, three theses, and seven unpublished data. The results revealed that maladaptive coping is positively associated with procrastination. However, adaptive coping is negatively associated with procrastination. Burns et al. (2000) survey 157 undergraduates from the United States and found significant correlations between vigilance coping strategies and perfectionism, between avoidance coping strategy and perfectionism, and between avoidance coping strategy and procrastination. Lowinger et al. (2016) surveyed 255 Asian international college students who studied in six different universities in the United States. They also reported that collective and engagement coping strategies are negatively associated with procrastination. However, avoidance coping strategy is positively associated with procrastination.

Some studies have reported the mediating effect of coping strategies on the relationships between perfectionism and different outcomes. Ashby and Gnilka (2017) surveyed 329 undergraduate students from the United States. They reported that distraction and emotion-focused coping mediates the effects of maladaptive perfectionism on stress, and problem-focused coping strategy mediates the effects of adaptive perfectionism on stress. Gnilka et al. (2012) also survey 329 undergraduates from an urban south-eastern university in the United States. Their results also found that coping strategies mediate the effect of maladaptive perfectionism on anxiety. Noble et al. (2014) survey 405 United States undergraduate students from an urban south-eastern university. Their findings also found that coping strategies mediate the effect of perfectionism on depression.

Perfectionism, Coping Strategies, and Academic Procrastination

However, to our knowledge, no study has been conducted to examine the relationships among perfectionism, coping strategies, and academic procrastination and the mechanism that links these three factors together. Athulya et al. (2016) did explore the relationship between procrastination, perfectionism, and coping strategies among 192 undergraduates and postgraduates in Bengaluru. They did find significant correlations between perfectionism and coping strategy, but they did not find significant correlations between procrastination and coping strategies. Besides, they did not further examine the mechanism that links the three variables. Burn et al. (2000) also find correlations between perfectionism with some coping strategies and procrastination, but they also did not further examine the mechanism that links the three variables.

Aims of the study

Research Framework

Accordingly, this study aims to use the transactional model of stress and coping theory and personality-coping-outcomes theory as a framework to examine whether perfectionism is associated with academic procrastination. Besides, we also use this framework to examine whether coping strategies mediate the effects of perfectionism on academic procrastination. We did not include other-oriented perfectionism in this study since other-oriented perfectionism is usually excluded from undergraduates' studies. It is suggested that other-oriented perfectionism is more relevant to children or adolescents (Bong et al., 2014; Hashemi & Latifian, 2014).

The conceptual framework, research questions, and hypotheses are as follows:

Research Questions:

1. Whether perfectionism is a significant predictor of academic procrastination?
2. Does coping strategy mediate the effects of perfectionism on academic procrastination?

Hypotheses:

H1a: self-oriented perfectionism is negatively associated with academic procrastination.

H1b: socially prescribed perfectionism is positively associated with academic procrastination.

H2a: problem-focused coping strategies are a statistical mediator for the effect of self-oriented perfectionism on academic procrastination.

H2b: problem-focused coping strategies are not a statistical mediator for the effect of socially prescribed perfectionism on academic procrastination.

H2c: dysfunctional coping strategy is not a statistical mediator for the effect of self-oriented perfectionism on academic procrastination.

H2d: dysfunctional coping strategy is a statistical mediator for the effect of socially prescribed on academic procrastination

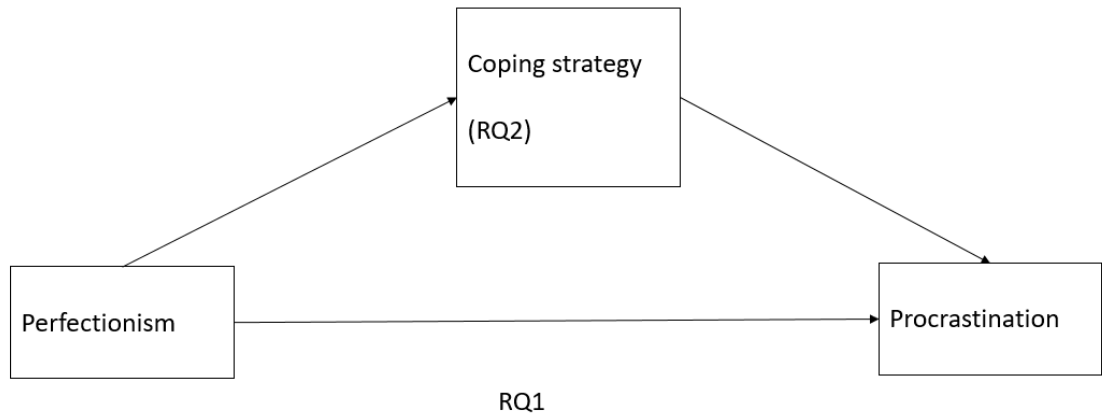


Figure 1: Conceptual Framework

Methodology

Participants

The age group for undergraduate students is 19-25. The participants recruited were 266 undergraduate students from a university. However, 37 incomplete responses were removed from this study. The valid number of participants in the study is 229. The sample size was larger than the 98 minimum sample size determined using the G*Power program calculation. The mean of ages is 22.19 (SD = 1.67). Among them, 57.2% were female, and 42.8% were male.

Measurements

The online survey was used to collect data. There are four sections in the Google online survey form: Demographic information, the short form of multidimensional perfectionism scale, Brief COPE, and short-form of academic procrastination scale.

Demographic information: Participants were asked to fill in their ages and gender in this section.

Short Form of Multidimensional Perfectionism Scale (MPS-H): Ten items from the short-form version of the multidimensional perfectionism scale (Hewitt et al., 2008) were used to assesses two types of perfectionism: self-oriented perfectionism and socially prescribed perfectionism. There are five items in each type of perfectionism. Participants were required to rate on a seven-point Likert scale (1= “disagree” and 7 = “agree”). A sample of self-oriented perfectionism is “One of my goals is to be perfect in everything I do”, and a sample of socially prescribed perfectionism is “The better I do, the better I am expected to do”. The scale's internal

consistency is found to be from .70 to .86 (Stoeber, 2018). A higher mean score indicates that participants are more likely to have the type of perfectionism.

Brief COPE: The Brief COPE was developed by Carver (1997). The scale consists of 28 items. Participants need to answer from a four-point Likert scale (1 = "I haven't been doing this at all", 4= "I've been doing this a lot"). The problem-focused subscale consists of six items that include active coping, instrumental support, and planning. A sample item in the problem-focused subscale is "I've been taking action to try to make the situation better". The dysfunctional coping strategies subscale consists of 12 items that included behavioral disengagement, denial, self-distraction, self-blame, substance use, and venting. A sample item in the dysfunctional coping subscale is "I've been using alcohol or other drugs to help me get through it". The problem-focused subscale's internal consistency is .84, and the dysfunctional coping subscale is .75 (Cooper et al., 2008). A higher mean score indicates that the participants are more frequently adopt a particular coping strategy.

Short Form of Academic Procrastination Scale (APS-S): There are five items on this scale. Participants were requested to give their agreement on each item by using a 5-point Likert scale (1 = "disagree". 5 = "agree"). A sample item is "I put off projects until the last minute". A higher mean score indicates a greater tendency to procrastinate on academic tasks. The internal consistency reliability for this scale is .87 (Yockey, 2016).

Research Procedures

After getting approval from the university's Scientific and Ethical Review Committee (U/SERC/236/2019) the purposive sampling method was used to recruit participants that only those who are undergraduates were invited. Purposive sampling is a non-probability sampling method where the sample selection is based on the sample's fit for the study with special inclusion and exclusion criteria (Daniel, 2011). The online survey form was used to collect data. The hyperlink of the online google survey form was shared on social media such as Whatsapp, Facebook, and Instagram to undergraduates in the university. Participants need to read the first page of the survey form that included the study's information, such as the research and confidentiality objective. Only those who click the box to indicate they have read the information and agree to continue the study are then proceeding to the three scales that aim to measure their perfectionism, coping strategies, and procrastination. All the responses of participants were then recorded for data analysis.

Data Processing and Analysis

The data was keyed in an excel file. Partial Least Square Structural Equation Modelling was used to analyze the data by using the SmartPLS program. The measurement model assessment was conducted at the first stage to examine the scales' reliability and validity and the structural model to examine the hypotheses.

Results

Measurement Model

Construct reliability and discriminate validity: As shown in table 1, since the composite reliabilities are equal to or above the recommended values of .7 (Hair Jr et al., 2016), the findings suggested that all measurements' latent constructs are acceptable. The results also show that the measurements' discriminant validity is acceptable, as the Heterotrait-Monotrait ratios of all scales are below the critical values of .85 (Henseler et al., 2015).

Table 1: Construct Reliabilities and Discriminate Validities of All Measurements

	Composite Reliability	1	2	3	4	5
1. Dysfunctional	.81	.53				
2. Problem-focused	.81	.15	.66			
3. Academic procrastination	.91	.30	-.19	.82		
4. Self-oriented perfectionism	.83	-.01	.35	-.13	.74	
5. Socially prescribed perfectionism	.74	.30	.09	-.03	.30	.66

Coefficient of Determination, Effect Size, and Collinearity Statistics of Measurements: The analyses' results were shown in Table 2. The variance inflation factor of all scales was also below 5, indicating no collinearity issue was found (Hadi et al., 2016). Besides, the results of r^2 reveal a medium effect size of the predictors on academic procrastination, problem-focused, and dysfunctional coping strategies (Cohen, 1992). However, the results of f^2 indicate that each predictor has a small effect size on dependent variables (Hair Jr et al., 2016).

Table 2: Coefficient of Determination (r^2), Effect Size (f^2) and Collinearity Statistics (VIF) of Measurements

Dependent variables	Predictors	r^2	f^2	VIF
Problem-focused	Self-oriented perfectionism	.12	.13	1.09
	Socially prescribed perfectionism		.01	1.09
Dysfunctional	Self-oriented perfectionism	.11	.01	1.09
	Socially prescribed perfectionism		.12	1.09
Procrastination	Problem-focused	.20	.06	1.01
	Dysfunctional		.14	1.16
	Self-oriented perfectionism		.01	1.28
	Socially prescribed perfectionism		.02	1.23

Structural Model

As shown in Table 3, we control gender as some studies have reported that gender is associated with procrastination (Khan et al., 2014; Xie et al., 2018). The results showed that no significant association was found between perfectionism and procrastination, $p > .05$. Self-oriented perfectionism is positively associated with problem-focused coping strategy, $p < .001$, and problem-focused coping strategy is negatively associated with procrastination, $p = .001$. Socially prescribed perfectionism is positively associated with dysfunctional coping strategy, $p < .001$, and dysfunctional coping strategy is positively associated with procrastination, $p < .001$.

Table 3: Results of the Partial Least Structural Equation Modelling

	Beta	Std Error	T value	P Values
<u>Perfectionism → Procrastination</u>				
Self-oriented perfectionism → Procrastination	-.02	.08	.22	.827
Socially prescribed perfectionism → Procrastination	-.12	.08	1.44	.150
<u>Perfectionism → Coping</u>				
Self-oriented perfectionism → Problem-focused	.35	.06	6.02	< .001
Self-oriented perfectionism → Dysfunctional	-.11	.11	1.03	.305
Socially prescribed perfectionism → Problem-focused	-.01	.08	.16	.872
Socially prescribed perfectionism → Dysfunctional	.34	.08	4.27	< .001
<u>Coping → Procrastination</u>				
Problem-focused → Procrastination	-.24	.07	3.28	.001
Dysfunctional → Procrastination	.36	.08	4.63	< .001
Gender	-.21	.06	3.52	< .001

Mediating Effect

As shown in Table 4, the specific indirect effect indicated that problem-focused coping strategy is the statistical mediator for the effect of self-oriented perfectionism on procrastination, $p = .007$. Following the decision tree from Zhao et al. (2010), the results indicate an indirect-only mediation as the direct effect of self-oriented perfectionism on procrastination is not significant, $p = .827$. The results also showed that dysfunctional coping strategy is an indirect-only mediation as the direct effect of socially prescribed perfectionism on procrastination is not significant, $p = .150$.

Table 4: Results of Mediating Effects

	Beta	Std Error	T value	P Values*
<u>Mediating Effect</u>				
Self-oriented perfectionism → Problem-focused → Procrastination	-.08	.03	2.70	.007
Socially prescribed perfectionism → Problem-focused → Procrastination	.01	.02	.16	.872
Self-oriented perfectionism → Dysfunctional → Procrastination	-.04	.04	1.06	.288
Socially prescribed perfectionism → Dysfunctional → Procrastination	.12	.04	3.15	.002

Discussion

Academic procrastination is a common problem experienced by undergraduates. Studies revealed that academic procrastination negatively affects academic performance and psychological health and increases their substance abuse. Therefore, it is necessary to determine the factors associated with academic procrastination. Based on the findings, strategies can be implemented to assist undergraduates in reducing their academic procrastination. This study adopts the transactional model of stress and coping theory and personality-coping-outcome theory as a framework to examine whether perfectionism is associated with academic procrastination. Besides, we also use this framework to examine whether coping strategies mediate the effects of perfectionism on academic procrastination.

For the first research question, our results showed that both self-oriented perfectionism and socially prescribed perfectionism are not associated with academic procrastination. These results are not consistent with the findings of Hashemi and Latifian (2014) and Bong et al. (2014), who reported that socially prescribed perfectionism is positively associated with academic procrastination. Nonetheless, Xie et al. (2018) conducted a meta-analysis. They reported that the associations between perfectionism and procrastination are inconsistent, and they suggested examining other factors that mediate or moderate the relationships.

Accordingly, in the second research question, we adopted the personality-coping-outcome theory and the transactional model of stress and coping theory as a research framework to examine the mediating effects of coping strategy on perfectionism's effects on academic procrastination. As expected, the results showed significant indirect effects that indicated significant mediating effects of coping strategy. Based on the mediating results, since self-oriented perfectionism is more likely to adopt the problem-focus coping strategy that consists of planning to tackle the problems, they are less likely to have academic procrastination. In contrast, since socially prescribed perfectionism is more likely to adopt the dysfunctional coping strategy that consists of self-blaming and denial, they are more likely to have academic procrastination.

Implications and recommendation

In terms of theoretical contribution, this study's findings indicate that the personality-coping-outcome theory can be applied to understand the mechanism that affects academic procrastination among undergraduates. Therefore, this framework will help plan strategies to reduce academic procrastination among undergraduates with socially prescribed perfectionism. In terms of practical contribution, the findings suggested that using appropriate coping strategies would reduce their academic procrastination. Workshops to bring awareness of different types of perfectionism and coping strategies and their relationships to academic procrastination may help undergraduates adapt better in their academic study.

Limitation

However, the interpretation of the findings should be cautious. As the sample is recruited from a university in Malaysia, the results may not generalize to undergraduates in other institutions. Future studies may need to recruit more samples from diverse settings, demographics, and academic backgrounds to examine the robustness of the findings. Besides, as the data is collected using a cross-sectional design that only a statistical mediator can be proposed, future studies may need to use a longitudinal study to examine the cause-effect explanation and the mediating effect.

Conclusion

In conclusion, the results are consistent with the prediction of the personality-coping-outcome theory. Perfectionism indirectly affects academic procrastination through the coping strategy they used. In other words, it is not the perfectionism that makes them procrastinate in their study, but the coping methods they adopted. If a proper coping strategy is adopted, socially prescribed perfectionism is also can reduce their academic procrastination.

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