

Chapter 12

The Structural Model of Perceived Parenting Style as Antecedent on Achievement Emotion, Self-regulated Learning and Academic Procrastination of Undergraduates in Hong Kong

Ka-Yu Yip and Man-Tak Leung

Abstract The present study is conducted to investigate the impact of perceived parenting style on self-regulated learning and academic procrastination with mediating effect of achievement emotion. The sample of this study consisted of 218 undergraduates through convenient sampling from universities in Hong Kong. Parenting Authority Questionnaire, Academic Emotion Questionnaire, Motivated Strategies for Learning Questionnaire, and Procrastination Scale were used to collect the data. To analyze the data, reliability was investigated by Cronbach's alpha. Correlation, path analysis, and structural equation modeling were also conducted. Result found that perceived parenting style is significantly associated with achievement emotion. And achievement emotion is significantly associated with self-regulated learning and academic procrastination. Result of the structural equation modeling also found that perceived authoritative parenting style show an impact on positive achievement emotion (enjoyment, hope and pride) and in succession affect the self-regulated learning and academic procrastination. The present study concerns mainly on the complex relationship among perceived parenting style, achievement emotion, self-regulated learning, and academic procrastination. It may bring the practical significance to Hong Kong parent to aware the effect of their parenting style on children's learning strategies and procrastination style. It may also bring some insight on enhancing student's self-regulated learning behaviors and reduce student's academic procrastination.

K.-Y. Yip · M.-T. Leung (✉)
Department of Counselling and Psychology, Hong Kong Shue Yan University,
North Point, Hong Kong
e-mail: mtleung@hksyu.edu
URL: <http://www.hksyu.edu>

Keywords Perceived parenting style • Academic procrastination • Achievement emotion • Self-regulated learning

12.1 Introduction

Academic procrastination is commonly appearing among students, either in Western countries or in Asia. From several Western studies published had stated that over 60–70 % of the college students would procrastinate in study (Steel 2007; Vahedi et al. 2009; Rabin et al. 2011; Zakeri et al. 2013), and over half of the college students present constant academic procrastination (Steel 2007; Vahedi et al. 2009; Soysa and Weiss 2014). This showed academic procrastination a continuous and common problem in college setting in Western.

Not only in Western culture, procrastination among college students also occurred in Asia. In Mainland China, several news had reported that over 40 % of the college students in Mainland would habitually procrastinate which result in increasing stress and nervous feeling (“Around 40 % of college student,” 2015). The situation in Hong Kong seemed more serious. News (“65 % students”, 2006) and survey conducted by Oriental Daily (2014) had found that nearly 65 % of college students had tried to be late in school or skip classes. The above data showed the seriousness of procrastination among Hong Kong college students. Study of the factors causing procrastination is valued in improving the situation.

Academic procrastination had been proved to be linked with students’ learning strategies, self-regulated learning and their performance (Steel 2007; Klassen et al. 2008; Senecal et al. 1995). However, there is an uncertainty whether academic procrastination would be affected by perceived parenting style under the raising concern of “Hong Kong Child” and the overly caring Hong Kong parenting style. This research aimed to investigate how perceived parenting style affect the achievement emotion, and in turn affect self-regulated learning and academic procrastination of undergraduates in Hong Kong.

12.2 Literature Review

12.2.1 *Academic Procrastination*

Researcher studying procrastination suggested that procrastination is related to several aspects (Popoola 2005). Several definitions had been given to it.

From behavioral aspect, Solomon and Rothblum (1984) had defined procrastination as a kind of unnecessary delay until the individual feels uneasy or discomfort. Ellis and Knaus (1977) described procrastination as avoiding doing something and being blame by making reasonable excuse. Noran (2000) described procrastination as the behavior of avoiding finishing work that should have been

finished. Ferrari et al. (1995) suggested that procrastination is behavior result from failure in effective time management. There are also some other researcher agreed that procrastination is the behavior to complete the work late or postpone making decision (Milgram et al. 1998; Haycock et al. 1998; Kachgal et al. 2001). In general, procrastination seemed to be an intentional behavior.

For emotional aspect, some researchers described procrastination as the way to release from anxiety (Tice et al. 2001; Popoola 2005), and a result from low confidence of self-competence (Ferrari and Emmons 1995), which may also referred to low self-esteem (Effert and Ferrari 1989).

For cognitive aspect, some researcher suggested that procrastination is the failure of or low level of self-regulation (Steel 2007; Klassen et al. 2008; Senecal et al. 1995). Wolters (2003) found that metacognitive self-regulation was one of the strongest predictor of procrastination.

Other than the above, Lay (1986) defined procrastination is one' motive or character to avoid the fear of failure or success. Blatt and Quinlan (1967) and McCown et al. (1987) describe procrastination of students is the behavior against their parents who are either too demanding or conniving, or a denial to the anxiety.

Among different type of procrastination, academic procrastination is highly prevailing among college students for long time. It was defined by current study as a kind of intention to delay or postpone starting or completing academic activities, even with the awareness of a lower grading in academic performance (Senecal et al. 1995; Brownlow and Reasinger 2000; Klassen et al. 2008; Rabin et al. 2011; Azar 2013; Zakeri et al. 2013). For example, delay in doing and finishing the assignments or task, or delay in studying for the test.

12.2.2 Perceived Parenting Style

Parenting style refers to the attitude or teaching style of parents given or showing to their children, involving verbal language, nonverbal behaviors, or emotions climate created by parents (Zakeri et al. 2013). Baumrind (1967) was the first one who had conceptualized the parenting style into three categories, including authoritarian, authoritative, and permissive style. Parents with authoritarian style were usually highly controlling and demanding (Baumrind 1967; Gonzalez and Wolters 2006). Parents with authoritative style were less demanding and controlling, but they were more supportive and communicative to their children (Baumrind 1967; Gonzalez and Wolters 2006) and would provide warmth family climate to their children as well. In the relation with learning, Nyarko (2011) pointed that authoritative style had positive relationship with children's academic result. Parents with permissive style were totally not demanding and controlling, but were given high autonomy to their children. (Baumrind 1967; Gonzalez and Wolters 2006). They do not concern much on children's rules and obedience, but highly accepted to children's behaviors and decision. In learning, permissive parents usually being less directive to children compared with other two kinds of parenting.

12.2.3 Perceived Parenting Style and Academic Procrastination

The direct relationship between perceived parenting style and academic procrastination was still not very clear. But still, some studies had indicated the correlation and causal relationship between them.

Ferrari and Emmons in two of their studies published in 1993 and 1994 provided evidence for the linking between parental influence and procrastination. The studies implied that high parental expectation may have indirect positive relationship with procrastination, parenting with low flexibility and high control was also correlated to decisional procrastination. But these results were only from female. Flett et al. (1995) suggested that procrastination was students' response to the expectation of harsh and controlling parenting style. Ferrari et al. (1999) examined the relationship between procrastinator and their parents, and significant relationship was found between procrastination and conflictive parents-child relationship.

From recent study, Pychyl et al. study in 2002 examine the relationship between parenting style, procrastination, and self-worth among adolescences. The study indicated that only authoritative and authoritarian styles were found to have significant relationship with procrastination. Maternal-authoritative parenting was significantly negatively related to procrastination for both male and female adolescences. Paternal authoritative parenting was significantly negatively related to procrastination for only female adolescences. Also, paternal authoritarian parenting was significantly positively related to procrastination.

Vahedi et al. study in 2009 found that supportive parenting style predicting lower level of procrastination, while harsh or unsupportive parenting style predicting higher level of procrastination.

Zakeri et al. study in 2013 found that parenting style was a significant predictor of academic procrastination. In the research, "behavioral strictness-supervision," "acceptance-involvement," and "psychological autonomy-granting" styles were examined. Behavioral strictness-supervision style referred to overcontrolling parenting style that similar to authoritarian style. Acceptance-involvement style referred to a warm and involved parenting that similar authoritative style. Psychological autonomy-granting style referred to the democratic parenting style that similar to permissive style. The result of the study found that "behavioral strictness-supervision" style was significantly positively correlated with academic procrastination. Also, "acceptance-involvement" and "psychological autonomy-granting" style can significantly negatively predicting academic procrastination.

Also, Hong et al. study in 2014 examined the relationship among helicopter parenting, self-regulated learning, and procrastination. The study defined helicopter parenting as highly involving, supportive with low autonomy, which is similar to the authoritative or authoritarian parenting. The result found that perceived helicopter parenting was a positive predictor of procrastination. Soysa and Weiss (2014) also indicated that academic procrastination was a mediator between

perceived authoritarian parenting style and test anxiety in vocational high school students.

From the above article, there is evidence that perceived parenting style is significantly related to academic procrastination.

12.2.4 Achievement Emotions and Academic Procrastination

The relationship between achievement emotions and academic procrastination was still largely uninvestigated. No Western study had found the direct relationship between them. However, from other study, indirect relationship between them can be predicted. Also, some Chinese articles had examined the direct relationship between them.

For Western study, study of Pekrun related to achievement emotions (Pekrun et al. 2002, 2011) had mentioned that positive achievement emotions had positive relationship with self-regulation of learning and academic result. In converse, negative achievement emotions had negative relationship with self-regulation of learning and academic result. As mentioned, self-regulated learning was proved to be strong negative predictor of procrastination. It may predict an indirect relationship between achievement emotions and academic procrastination.

For Chinese study, Li (2012) had examined the relationship between achievement emotion and academic procrastination. The result indicated that positive achievement emotions showed negative relationship with academic procrastination, while negative achievement emotions showed positive relationship with academic procrastination. Study by Zhang et al. (2012) also indicated significant founding on relationship between achievement emotion and academic procrastination. Also, it indicated a mediating effect of achievement motivation on relationship between achievement emotion and academic procrastination.

12.2.5 Self-regulated Learning, Academic Procrastination, and Academic Performance

For the relationship between self-regulated learning and academic procrastination, a lot of study had been done which give strong evidence to prove that self-regulated learning had strong relationship with academic performance.

As mentioned, some studies had defined academic procrastination as the result of failure of or low level of self-regulated learning (Steel 2007; Klassen et al. 2008; Senecal et al. 1995). These studies gave a consistent finding that self-regulated learning was negatively predicting academic procrastination. It implied that self-regulated learning was a significant predictor of academic procrastination.

12.3 Research Hypotheses

Referred to the literature review, two hypotheses are formed in this study, hypothesis are listed below.

- (1) Perceived parenting style is significantly associated with academic procrastination mediated by achievement emotion.
- (2) Perceived parenting style is significantly associated with self-regulated learning mediated by achievement emotion.

12.4 Methodology

12.4.1 *Participants and Sampling Method*

Two hundreds and eighteen students (63 males, 155 females) studying in universities in Hong Kong aging from 17 to 24 were invited to participate in this research study. Convenient sampling had been used to select the participants. A consent form would be distributed to them first, followed with a set of self-reported questionnaire. They needed to finish the set of questionnaire following the instructions given after the consent form was signed. A simple debriefing was given to them after the questionnaire was finished.

12.4.2 *Measures*

12.4.2.1 Parenting Authority Questionnaire (PAQ)

The Parenting Authority Questionnaire (PAQ) was proposed by Buri (1991). The PAQ had reported high test–retest reliability varied from .77 to .92, and high-internal consistency reliability varied from .74 to .87. PAQ consisted of two forms, one each for investigating the maternal and paternal parenting style. It composed of three subscales of 10 items each with a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree).

12.4.2.2 Self-regulated Learning Scale

The self-regulated learning of students was assessed by using MSLQ. Part three related to learning strategies of MSLQ was used. This part contained five parts in total 31 items, including rehearsal (4 items), elaboration (6 items), organization (4 items), critical thinking (5 items), and metacognitive self-regulation (12 items). It was a 7-point Likert scale ranging from 1 (not at all true of me) to 7 (very true of me). This part of questionnaire reported a satisfied reliability varied from .74 to .83.

12.4.2.3 Achievement Emotions Scale

The Academic Emotions Scale proposed by Huang (2010) was used. This scale was translated and adjusted based on the Achievement Emotions Questionnaire (AEQ) developed by Pekrun in 2005.

This scale had reported a high reliability varied from .85 to .94 and satisfied validity for both the positive academic emotions, RMSEA = .07, NFI = .98, NNFI = .98, CFI = .98, IFI = .98, GFI = .99, and AGFI = .98, and the negative academic emotions, RMSEA = .00, NFI = .96, NNFI = 1.01, CFI = 1.00, IFI = 1.01, GFI = .82, and AGFI = .79.

This scale contains eight types of academic emotions, in total 46 items in a 5-point Likert scale from 1 (strongly disagree) to 5 (strongly agree). The eight type of academic emotions including enjoyment (6 items), pride (6 items), hope (5 items), anger (6 items), anxiety (6 items), hopelessness (6 items), boredom (6 items), and shame (5 items).

As the scale is originally used to measure the academic emotions of students in English lesson, so the scale was modified to measure the general academic emotions in this research. And the adjusted questionnaire found high reliability in pilot test varied from .865 to .925.

12.4.2.4 Academic Procrastination Scale

The academic procrastination scale was proposed by Lay (1986). This scale reported a high reliability of .82. This scale was originally consisted of 20 items in a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). However, five of the items that are unrelated to academic setting were canceled and only 15-items related to academic setting left to measure student's academic procrastination.

12.5 Results

12.5.1 Reliability Analysis

The reliabilities of all the variables in this research were shown in Table 12.1. For the perceived parenting style, the scale had been divided into two set, one each for maternal and paternal parenting style. And each parenting style consisted of three types, including permissive, authoritative, and authoritarian. For maternal parenting style, the internal consistency was .64, which is an acceptable reliability. The three subscales also report satisfactory reliabilities ranging from .65 to .86. Among the three subscales, the permissive maternal parenting style reported the lowest reliability, $\alpha = .65$, and the authoritative style report the highest reliability, $\alpha = .86$. For paternal parenting style, the internal consistency was .69, which is

Table 12.1 Reliability analysis ($N = 218$)

Scales	Means	Cronbach's alpha (α)
Perceived parenting style (mother)	3.134	.641
Permissive	3.037	.652
Authoritarian	3.106	.808
Authoritative	3.267	.858
Perceived parenting style (father)	3.153	.691
Permissive	3.219	.626
Authoritarian	3.040	.834
Authoritative	3.180	.866
Self-regulated learning	4.245	.923
Rehearsal	4.553	.776
Elaboration	4.448	.825
Organization	4.531	.731
Critical thinking	4.245	.733
Metacognitive self-regulation	4.201	.775
Achievement emotions	2.767	.874
Enjoyment	2.973	.838
Hope	3.282	.804
Pride	3.296	.816
Anger	2.255	.831
Anxiety	2.644	.782
Shame	2.721	.785
Hopelessness	2.216	.835
Boredom	2.890	.870
Academic procrastination	3.158	.778

satisfactory. The three subscales also report satisfactory reliabilities ranging from .63 to .87. Among the three subscales, the permissive style reported the lowest but acceptable reliability, $\alpha = .63$, while the authoritative style report the highest reliability, $\alpha = .87$.

For the self-regulated learning, the reliability of the whole scale was .92, which indicated a high-internal consistency among the five subscales. For the five subscales of self-regulated learning, all of them reported a good reliability ranging from .73 to .83. Elaboration report the highest reliability, $\alpha = .83$.

For the achievement emotion scale, the reliability of it was .87, which indicated a high-internal consistency among the eight subscales. For the eight subscales, all of them report good reliability ranging from .78 to .87.

For academic procrastination scale, the reliability of it was .78, which indicated a good reliability.

12.5.2 Correlation Analysis

The mean, standard deviations and correlations of perceived parenting style, achievement emotion, self-regulated learning, and academic procrastination are indicated in Table 12.2 shown below. There are total 20 variables, 95 out of 190 correlations were found significant.

In general, some perceived parenting style is positively associated with some achievement emotions, and negatively associated with academic procrastination. For self-regulated learning, it had moderate positive association with positive achievement emotions, and moderate negative association with negative association with academic procrastination. For achievement emotion, positive shown negative association with academic procrastination, while negative achievement emotions shown the opposite association.

12.5.3 Path Analysis

12.5.3.1 Perceived Parenting Style, Achievement Emotions, and Academic Procrastination

In Fig. 12.1 shown below, a multiple regression was considered predicting the academic procrastination by perceived maternal and paternal parenting style mediated by achievement emotions. From the figure, paternal permissive style, paternal authoritative style, and maternal-authoritative style, were significant predictors of hope, $F(6, 191) = 3.34, p < .01, R^2 = .095$. Paternal authoritarian style was a significant predictor of shame, $F(6, 190) = 2.75, p < .05, R^2 = .080$. Maternal permissive style and maternal authoritarian style were a significant predictors of hopelessness, $F(6, 190) = 3.31, p < .01, R^2 = .095$. However, compared the paternal and maternal parenting style, perceived maternal parenting style was stronger predictors than perceived paternal parenting style.

Also, both hope, $\beta = -.22, t(206) = -2.31, p < .05$, and hopelessness, $\beta = -.23, t(206) = -2.38, p < .05$, were significant negative predictors of academic procrastination, while shame was significant positive predictors of academic procrastination, $\beta = -.23, t(206) = -2.60, p = .01$.

From the result, it can found that the perceived parenting style from both mother and father were significant predictors of academic procrastination mediated by some achievement emotions, including hope, hopelessness, and shame. This result supports the hypothesis (1).

However, there is a conflict that both hope and hopelessness were negative predictors of academic procrastination, which violate with the information from the literature. Detailed may discussed in the discussion part.

Table 12.2 Correlation analysis ($N = 218$)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Mpermiss	1																			
Mautarian	-.484**	1																		
Mautative	.416**	-.294**	1																	
Fpermiss	.310**	-.082	.169*	1																
Fautarian	-.107	.506**	-.003	-.396**	1															
Fautative	.233**	-.094	.451**	.370**	-.179**	1														
Rehearsal	-.087	-.019	.124	-.043	.020	.067	1													
Elabora	-.058	.022	.089	-.011	.030	.073	.693**	1												
Organ	.030	.039	.113	.021	.094	.119	.683**	.630**	1											
Critthink	.123	.033	.138*	.150*	.051	.139*	.431**	.582**	.447**	1										
Metacog	.011	.030	.064	.008	.090	.137*	.631**	.709**	.657**	.550**	1									
Enjoy	-.018	.113	.055	-.060	.156*	.136*	.361**	.311**	.358**	.243**	.481**	1								
Hope	.035	.015	.215**	-.118	.108	.171*	.403**	.447**	.370**	.411**	.579**	.638**	1							
Pride	.001	.069	.130	.033	.114	.050	.311**	.348**	.271**	.310**	.408**	.566**	.633**	1						
Anger	.032	.105	-.096	.076	.045	-.158*	-.284**	-.202**	-.153*	-.025	-.192**	-.294**	-.291**	-.098	1					
Anxiety	.037	.182**	-.055	-.058	.192**	-.024	.080	.058	.147*	.009	.116	.168*	-.016	.223**	.425**	1				
Shame	-.038	.192**	-.108	-.110	.241**	-.117	.048	.002	.131	-.084	-.001	.120	-.055	.264**	.344**	.650**	1			
Hopeless	.188**	.115	.032	.026	.101	.021	-.205**	-.211**	-.149*	-.061	-.243**	-.284**	-.352**	-.258**	.603**	.439**	.324**	1		
Boredom	.062	.055	.089	.026	.044	-.037	-.151*	-.114	-.176**	-.055	-.332**	-.434**	-.335**	-.130	.519**	.257**	.338**	.590**	1	
Aprocast	-.025	.018	-.088	.006	.059	-.231**	-.184**	-.150*	-.181**	-.169*	-.384**	-.196**	-.264**	-.101	.133	.010	.196**	.085	.332**	1

* $p < .05$, ** $p < .01$

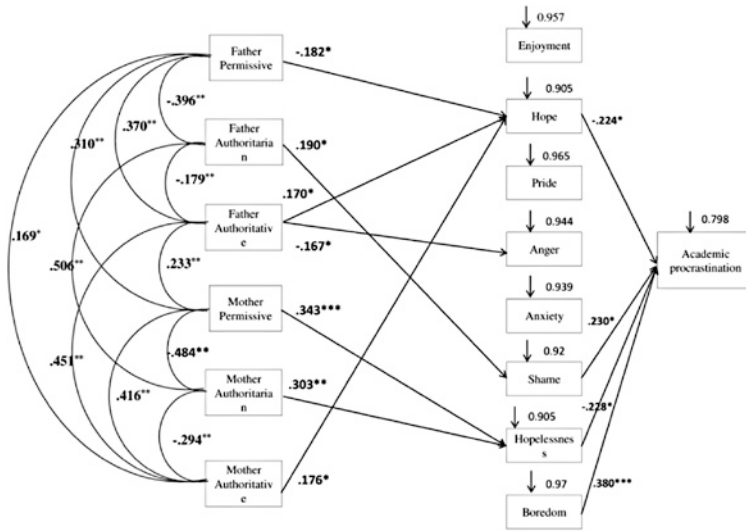


Fig. 12.1 Path analysis of the relationship among perceived parenting style, achievement emotions, and academic procrastination. * $p < .05$, ** $p < .01$, *** $p < .001$

12.5.3.2 Perceived Parenting Style, Achievement Emotions, and Self-regulated Learning

In Fig. 12.2, Hope was significant positive predictors of rehearsal, $\beta = .27$, $t(199) = 2.75$, $p < .01$, while anger was significant negative predictors of rehearsal, $\beta = -.29$, $t(199) = -3.40$, $p = .001$. Hope was also strong significant positive predictors of elaboration ($\beta = .36$, $t(204) = 3.77$, $p = .00$), organization ($\beta = .29$, $t(205) = 2.99$, $p < .01$), critical thinking ($\beta = .36$, $t(206) = 3.79$, $p = .00$), and metacognitive self-regulation ($\beta = .44$, $t(203) = 5.29$, $p = .00$). Shame was significant negative predictors of critical thinking, $\beta = -.20$, $t(206) = -2.29$, $p < .05$. Anxiety was significant positive predictors of metacognitive self-regulation, $\beta = .202$, $t(203) = 2.47$, $p < .05$.

From the result, it can found that the perceived parenting style from both mother and father were significant predictors of self-regulated learning mediated by some achievement emotions, including hope, anger, anxiety, and shame. This result supports the hypothesis (2).

12.5.4 Confirmatory Factor Analysis (CFA)

A confirmatory factor analysis (CFA) was conducted using LISREL to examine the validity of several scales. Before conducting the CFA, exploratory

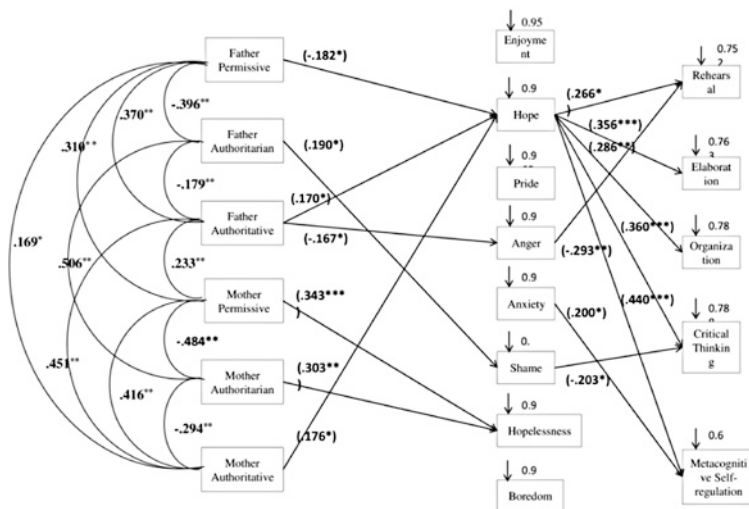


Fig. 12.2 Path analysis of the relationship among perceived parenting style, achievement emotions, and self-regulated learning. * $p < .05$, ** $p < .01$, *** $p < .001$

factor analyses (EFA) was also conducted using SPSS for items parceling and deletion. For the scale of procrastination, it CFA result was $\chi^2(20) = 71.519$, RMSEA = .11, NNFI = .89, CFI = .92, GFI = .91. All factors loadings were significant, and the average loading was .54. For the self-efficacy scale, the CFA result of it was $\chi^2(20) = 92.36$, RMSEA = .13, NNFI = .94, CFI = .96, GFI = .92. All factors loadings were significant, and the average loading was .73.

12.5.5 Structural Equation Modeling (SEM)

12.5.5.1 Perceived Paternal Parenting Style, Positive Achievement Emotions and Self-regulated Learning

The model of perceived paternal parenting style, positive achievement emotions, and self-regulated learning was examined conducted by structural equation modeling using LISREL. Results from LISREL revealed that the model fit the data, $\chi^2(26) = 47.931$, $\chi^2/df = 1.84$, RMSEA = .0663, CFI = .98, NNFI = .98, GFI = .95. The SEM model was shown in Fig. 12.3.

In this SEM model, authoritative was the only indicator of the perceived paternal parenting style that fit the model. It was significantly positively associated with positive achievement emotions ($\beta = .19$, $p < .05$). The other two types of perceived paternal parenting style, including permissive and authoritarian had also been tried to add into the SEM model. However, the model failed to fit the data.

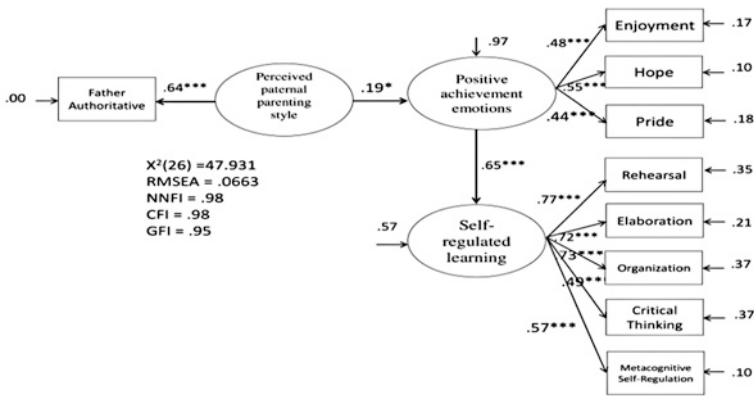


Fig. 12.3 The structural equation modeling of interrelationships among perceived paternal parenting style, positive achievement emotions, and self-regulated learning. *Note* RMSEA Root mean square error of approximation, NNFI Non-normed fit index, CFI Comparative fit index, GFI Goodness of fit index. * $p < .05$, ** $p < .01$, *** $p < .001$

It could imply that authoritative was the strongest predictor of perceived paternal parenting style on positive achievement emotions.

Moreover, it was also found that positive achievement emotions was significantly positively associated with self-regulated learning ($\beta = .65, p < .001$). In positive achievement emotions, all the three indicators were positively associated with it, including enjoyment ($\beta = .48, p < .001$), hope ($\beta = .55, p < .001$) and pride ($\beta = .44, p < .001$). In self-regulated learning, all the five indicators were also positively associated with it, including rehearsal ($\beta = .77, p < .001$), elaboration ($\beta = .72, p < .001$), organization ($\beta = .73, p < .001$), critical thinking ($\beta = .49, p < .001$) and metacognitive self-regulation ($\beta = .57, p < .001$). Also, rehearsal, elaboration and organization were the stronger indicators of self-regulated learning among the five indicators.

In addition, the SEM model revealed that the perceived paternal parenting style was an indirect positive predictor of self-regulated learning ($\beta = .12, p < .05$) with positive achievement emotions as the mediator.

12.5.5.2 Perceived Maternal Parenting Style, Positive Achievement Emotions, and Self-regulated Learning

The model of perceived maternal parenting style, positive achievement emotions, and self-regulated learning was examined conducted by structural equation modeling using LISREL. Results from LISREL revealed that the model fit the data, $\chi^2(26) = 51.059, \chi^2/df = 1.96, RMSEA = .0701, CFI = .98, NNFI = .98, GFI = .94$. The SEM model was shown in Fig. 12.4.

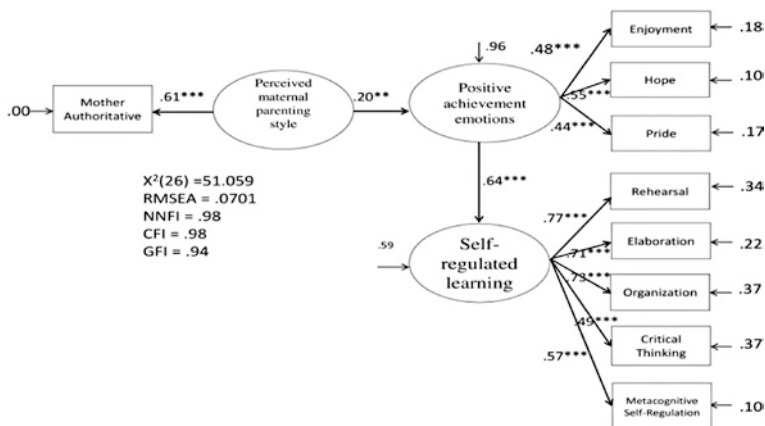


Fig. 12.4 The structural equation modeling of interrelationships among perceived maternal parenting style, positive achievement emotions, and self-regulated learning. *Note* RMSEA Root mean square error of approximation, NNFI Non-normed fit index, CFI Comparative fit index, GFI Goodness of fit index. * $p < .05$, ** $p < .01$, *** $p < .001$

In this SEM model, authoritative was the only indicator of the perceived maternal parenting style that fit the model. It was significantly positively associated with positive achievement emotions ($\beta = .19, p < .05$). It could imply that authoritative was a moderate predictor of perceived maternal parenting style on positive achievement emotions.

Moreover, it was also found that positive achievement emotions was significantly positively associated with self-regulated learning ($\beta = .64, p < .001$). In positive achievement emotions, all the three indicators were positively associated with it, including enjoyment ($\beta = .48, p < .001$), hope ($\beta = .55, p < .001$) and pride ($\beta = .44, p < .001$). In self-regulated learning, all the five indicators were also positively associated with it, including rehearsal ($\beta = .77, p < .001$), elaboration ($\beta = .71, p < .001$), organization ($\beta = .73, p < .001$), critical thinking ($\beta = .49, p < .001$), and metacognitive self-regulation ($\beta = .57, p < .001$). Also, rehearsal, elaboration, and organization were the stronger indicators of self-regulated learning among the five indicators.

In addition, the SEM model revealed that the perceived maternal parenting style was an indirect positive predictor of self-regulated learning ($\beta = .13, p < .05$) with positive achievement emotions act as the mediator.

12.5.5.3 Perceived Paternal Parenting Style, Positive Achievement Emotions, and Academic Procrastination

The model of perceived paternal parenting style, positive achievement emotions, and academic procrastination was examined conducted by structural equation modeling using LISREL. Results from LISREL revealed that the model fit

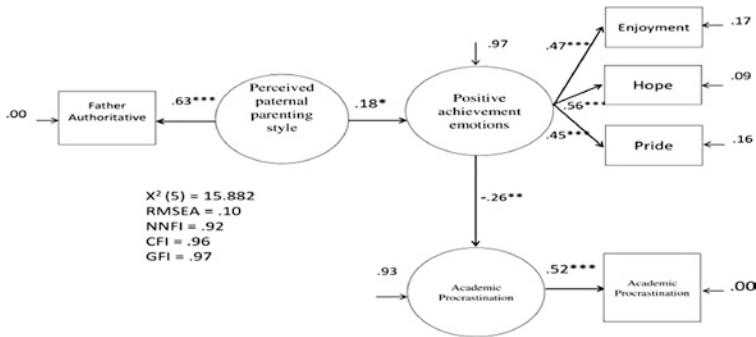


Fig. 12.5 The structural equation modeling of interrelationships among perceived paternal parenting style, positive achievement emotions, and academic procrastination. *Note* RMSEA Root mean square error of approximation, NNFI Non-normed fit index, CFI Comparative fit index, GFI Goodness of fit index. * $p < .05$, ** $p < .01$, *** $p < .001$

the data, $\chi^2(5) = 15.882$, $\chi^2/df = 3.18$, RMSEA = .10, CFI = .92, NNFI = .96, GFI = .97. The SEM model was shown in Fig. 12.5.

In this SEM model, authoritative was the only indicator of the perceived paternal parenting style that fit the model. It was significantly positively associated with positive achievement emotions ($\beta = .18$, $p < .05$). The other two types of perceived paternal parenting style, including permissive and authoritarian had also been tried to add into the SEM model. However, the model failed to fit the data. It implied that authoritative was the strongest predictor of perceived paternal parenting style on positive achievement emotions.

Moreover, it was also found that positive achievement emotions was significantly negatively associated with academic procrastination ($\beta = -.26$, $p < .01$). The result implied that positive achievement emotions were strong negative predictors on academic procrastination. Also, in positive achievement emotions, all the three indicators were positively associated with it, including enjoyment ($\beta = .47$, $p < .001$), hope ($\beta = .56$, $p < .001$) and pride ($\beta = .45$, $p < .001$).

In addition, the SEM model revealed that the perceived paternal parenting style was an indirect negative predictor on academic procrastination ($\beta = -.046$, $p < .05$) with positive achievement emotions act as the mediator.

12.5.5.4 Perceived Maternal Parenting Style, Positive Achievement Emotions, and Academic Procrastination

The model of perceived maternal parenting style, positive achievement emotions, and academic procrastination was examined conducted by structural equation modeling using LISREL. Results from LISREL revealed that the model fit the data, $\chi^2(5) = 11.08$, $\chi^2/df = 2.22$, RMSEA = .076, CFI = .96, NNFI = .98, GFI = .98. The SEM model was shown in Fig. 12.6.

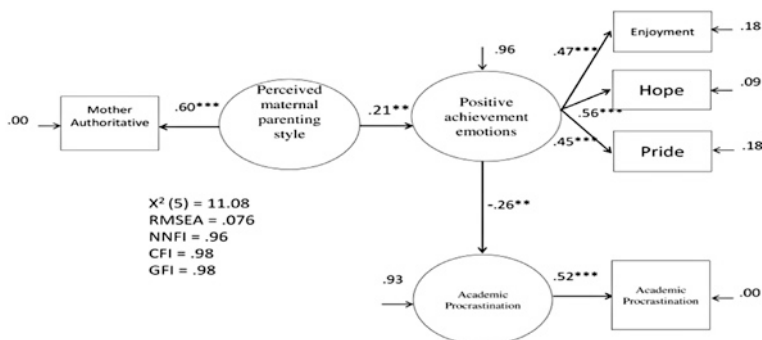


Fig. 12.6 The structural equation modeling of interrelationships among perceived maternal parenting style, positive achievement emotions and academic procrastination. *Note* RMSEA Root mean square error of approximation, NNFI Non-normed fit index, CFI Comparative fit index, GFI Goodness of fit index. * $p < .05$, ** $p < .01$, *** $p < .001$

In this SEM model, authoritative was the only indicator of the perceived maternal parenting style that fit the model. It was significantly positively associated with positive achievement emotions ($\beta = .21, p < .01$). It could imply that authoritative was a moderate predictor of perceived maternal parenting style on positive achievement emotions.

Moreover, it was also found that positive achievement emotions was significantly positively associated with academic procrastination ($\beta = -.26, p < .01$). The result implied that positive achievement emotions were negative predictor of academic procrastination. Also, in positive achievement emotions, all the three indicators were positively associated with it, including enjoyment ($\beta = .47, p < .001$), hope ($\beta = .56, p < .001$), and pride ($\beta = .45, p < .001$). All the three subscales were strong indicators of positive achievement emotions.

In addition, the SEM model revealed that the perceived maternal parenting style was an indirect negative predictor of academic procrastination ($\beta = -.05, p < .05$) with positive achievement emotions act as the mediator.

12.6 Discussion

12.6.1 Mediating Effect of Positive Achievement Emotions Between Perceived Parenting Style and Academic Procrastination

Referred to the path model (Fig. 12.4), it was found that all types of maternal and paternal parenting style were correlated with academic procrastination. However, referred to the structural equation model (Figs. 12.5, 12.6), it was found that only perceived parental authoritative style was found to be negatively significantly

associated with academic procrastination. The result implied that among the three types of parenting style, including authoritarian, authoritative and permissive parenting style, the perceived authoritative style was the only and the strongest predictor of academic procrastination. However, some researches mentioned in the above part had suggested that both permissive style and authoritarian style should also be the predictor of academic procrastination (Vahedi et al. 2009; Pychyl et al. 2002; Zakeri et al. 2013), where as permissive parenting style was negative predictor of academic procrastination and authoritarian style was positive predictor of academic procrastination. So, discrepancy found between the result of the present study and the previous findings.

To evaluate, the discrepancy may be the difference between Western parenting style and the Chinese parenting style. In Western culture, authoritarian was defined as a cold and distant parenting style. In other word, authoritarian parenting style was labeled in a negative way. Among the three parenting styles, Western parent may prefer more on authoritarian style. However, in Chinese culture, authoritarian parenting style was not viewed as negative as Western culture. Also, Chinese parenting style seemed much more complex than Western view of point.

Traditionally, Chinese parenting style was described by study or Western parents as overcontrolling, demanding, and authoritarian, in which they set high goals and rules to children. However, according to Chao's study (1994, 1996), it pointed out that authoritative and authoritarian were not appropriate in describing Chinese parenting style, as Chinese parents were high controlling at the same time with high involvement in direct parent-child interaction and high physical proximity. Chao described it as the notion of "guan." Chinese parenting style was not as cold and distant as mentioned. Rather, they would show their closeness and warmth to the children even though they had high expectation on children. They would also emphasize children's effort on work and achievement (Stevenson and Lee 1990). Also, in view of Chinese children, they would not felt distanced by parents as Western studies predict, but they also felt connected with parents (Chao 2001). So, Chinese parents had close connection with their children even with high control. This may be the reason why the linkage between authoritarian style and academic procrastination fail to be shown.

12.6.2 Achievement Emotion and Academic Procrastination

Referred to the path model (Fig. 12.4), it was found that both hope and hopelessness reported negative relationship with academic procrastination, whereas hope was defined as positive emotion and hopelessness was defined as negative emotion. Conflict found as previous studies indicated that positive emotion should be negatively related to academic procrastination, while negative emotion should be positively related to academic procrastination (Li 2012a, b; Zhang et al. 2012). The conflict can be explained as followed.

First, the conflict may be because of the unclear definition of academic procrastination. According to Chu and Choi (2005) study, academic procrastination can be further divided into two categories, active and passive procrastination. Passive procrastination referred to the traditional type of procrastination, which the tendency of procrastination may increase when hope decrease. Active procrastinator referred to those who make deliberate decision on procrastination, so there may be increase in the tendency of procrastination when they feel hopelessness. However, the scale used in this research is adjusted from a general scale of procrastination, no subscale were used to divide academic procrastination into these two categories. Therefore, the conflict result occurred.

Secondly, the conflict may due to the different in academic attitude of the participants. Flett et al. (1995) indicated that students who have perfectionism may actively procrastinate because of the needs of perfection of their performance on work. Also, the study pointed that perfectionism can produce work inhibition and is one of the factors to the lack of striving for achievement. In this study, the result may affected by two types of student, those who have perfectionism and those who have not. So, conflict occurred.

12.7 Conclusion

This research study had examined the relationship between perceived parenting style, self-efficacy, achievement emotion, self-regulated learning, and academic procrastination. The result from the correlation and path analysis found that self-efficacy is a stringer predictor in predicting both the self-regulated learning and academic procrastination mediated mainly by hope. In addition, both perceived maternal and paternal parenting style are weak to moderate predictors of self-regulated learning and academic procrastination mediated hope, anger, and shame.

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