

Meta-analysis on the Relationship Between Academic Procrastination and Parenting Style

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ABSTRACT

Procrastination is a universal behavior. It means delaying unfinished work in an unnecessary condition. People who procrastinate finish their work hastily, with no time to consider its quality. Similarly, students who have the habit of procrastination are always dissatisfied with their academic performance, because they could have done better. There are many factors that lead to academic procrastination. Other than self-regulation, perfectionism and self-esteem, researchers also found the way parents rearing their children may affect children's procrastination behavior in school. Previous studies on the relationship between academic procrastination and parenting styles have not reached an agreement yet. So this meta-analysis was conducted to find out how the different parenting style influence academic procrastination explore other factors that may affect their relationship. After searching and selecting, 8 studies, a total of 2166 participants were included. The author found that academic procrastination was positively related to the authoritarian style and permissive style, and negatively related to authoritative style, and negatively related to the authoritative style. Age may also influence the impact of parenting style on students' procrastination behavior.

Keywords: Academic procrastination, Parenting style, Self-report, Meta-analysis, PAQ

1. INTRODUCTION

Procrastination is a popular behaviour existing in all countries and ages. When people procrastinate, he or she always put off the issues that need to be done, while concerning about those things that relatively less important or urgent. During this time, people who procrastinate may not be in a state of well-being because of negative emotions such as anxiety and passion. Comparing to other people, students are easier to procrastinate. Therefore, academic procrastination has attracted intensive interest in the field of psychology and education. Studies had shown that the way parents offspring their children had a significant correlation with children's frequency of procrastination behaviors, and strict parenting type has a higher possibility to lead to students' academic procrastination (e.g. Milgram) [1]. So far, there are few meta-analysis describing the relationship between parenting style and academic procrastination. Therefore, this study used meta-analysis to explore the correlation between the two various. Other factors, which may affect their relationship, such as age and geographical region, would also be discussed.

2. THE STUDIES OF PROCRASTINATION AND PARENTING STYLE

2.1. Procrastination

According to Steel, procrastination means the needless delay of things one intends to do, which is also a phenomenon of humans that can date back to Cicero [2]. Except for "needless delay", procrastination can also be distinguished by "subjective discomfort" [3]. Solomon and Rothblum discovered that almost 65.0% of university students in America reported they wanted or definitely wanted to reduce their procrastination when writing a term paper, 62.2% wanted to reduce it when studying for exams [4]. For students, high academic procrastination is significantly related to lower self-efficacy, lower self-regulation, lower self-esteem and poorer academic performance [5]. Some studies also showed the correlation between academic procrastination and negative emotions such as depression and anxiety: some researchers held the view that they have a correlation (e.g. van Eerde, W.) [6], while others revealed weaker relation (e.g. Laura A. Rabin, Joshua Fogel, & Katherine E. Nutter-Upham) [7].

While exploring the effect of individuals' factors such as cognitive and affective factors of academic procrastination, more researchers became interested in how the way students are raised affects their academic procrastination. Mahasneh found that harsh and unkind parenting styles increase students' level of procrastination [8]. Zakeria's study also showed that the parents who kept appropriate acceptance and involvement levels encouraged students to develop independence and undertake the responsibility, who had less procrastination behaviour [9].

2.2. Parenting style

Baumrind categorized parenting by responsiveness/demandingness dimension: authoritarian parenting (low responsiveness and high demandingness), authoritative parenting (high responsiveness and high demandingness), permissive parenting (high responsiveness and low demandingness) and uninvolved parenting (low responsiveness and low demandingness)[10]. Among the four kinds, only authoritative parenting is considered to be a positive style, which gives children appropriate attention and warmth. Authoritarian parenting style means strict and serious parents who highly control their children without concerning about kids' willingness; permissive parenting is opposite to authoritarian parenting, it means parents spoil their children with much love and less limit; uninvolved parenting means an indifferent rearing style--parents neither pay attention to children's life, nor

try to control children's behavior.

This kind of classification is reflected in Buri's Parental Authority Questionnaire [11], which contains 30 items to evaluate 3 dimensions: permissive, authoritarian and authoritative (10 items for each). The meta-analysis mainly included studies that adopted PAQ as a measuring instrument.

3. METHODS

3.1. Sample

After searching through electronic data basis on the key words (academic procrastination and parenting or child rearing), retrieved studies are initially selected according to the following three criteria, (1) Reported measures on academic procrastination and parenting style; (2) Reported complete statistical associations between academic procrastination and parenting style; and (3) Written in Chinese or English.

There were various measuring instruments for parenting style in selected studies. To make the study more convenient, studies did not apply Parental Authority Questionnaire (PAQ) were excluded in the meta-analysis. The studies adopted other similar division can also be included in the study, otherwise they would be excluded. Finally, 8 studies were selected based on a total of 2166 participants. Table 1 summarized the study included in the analysis.

Table 1. The studies selected in this meta-analysis

| NO | Author (year) | Sample | N | Procrastination scale | Parenting style measurement |
|----|---|-----------------------------------|-----|-----------------------|-----------------------------|
| 1 | Ahmad M. Mahasneh , Omar T. Bataineh and Zohair H. Al-Zoubi(2016) | Jordanian, undergraduate students | 685 | APQ | PAQ |
| 2 | Champika K. Soysa, Andrea Weiss (2014) | USA, undergraduate students | 206 | Tuckman | PAQ |
| 3 | Dhea Rahdadella and Melly Latifah (2020) | Indonesia, undergraduate students | 120 | PASS | PAQ |
| 4 | Fasya Sulaiman, Mohammad Mujaheed Hassan (2019) | Malaysia, university students | 148 | PASS | PAQ |
| 5 | John Paul Reynolds (2015) | USA, undergraduate students | 61 | PASS | PAQ |
| 6 | Mecmack A. Nartea (2020) | USA, undergraduate students | 366 | PASS | PAQ |
| 7 | Niloofer Mikaeili , Ali Salmani (2021) | Iran, middle school students | 50 | APQ | Baumrind |
| 8 | Tian wenjiao (2017) | China, high school students | 530 | API | PAQ |

The 8 studies were published between 2014-2021. A total of 2166 students' statistics was included. Most of the students were university students, and others were secondary school students. Some of the study did not give the quantity of different gender, so Table 1 were not able to provide such information.

3.2. Meta-analysis procedures

The first step was coding each study, including sample size, correlation coefficient (r, Beta) for procrastination and parenting styles, the procrastination index used (PASS; APQ; API; Tuckman), the parenting style index used (PAQ, Baumrind), age (secondary school; college; adult), and geographical region (China; America; Southeast Asia; West Asia). When the information was not found in the study, it would be noted "unknown".

The second step was to assess heterogeneity. The studies were divided into 3 types of parenting styles.

Then Stata 16 was used to produce a forest plot and to calculate I^2 and Q , and publication bias was tested by funnel plot.

In addition to these, other statistics such as weighted correlation coefficients (weighted average) and 95% confidence intervals also work out.

To test whether the age and geographical region may affect the observed relationship between academic procrastination and parenting styles, additional analysis were done to estimate the influence of these factors. First of all, the studies were divided into 7 subgroups (3 subgroups for age and 4 for the geographic region). After working out a forest plot and a funnel plot, I^2 (%), Q , weighted correlation coefficients and 95% confidence intervals were calculated for each subgroup.

4. RESULTS

Figure 1 and Figure 2 respectively shows the heterogeneity test results and publication bias of the three subgroups. The I^2 (%) index in the three subgroups were 88.93% (authoritative style), 74.43% (authoritarian style), and 60.18% (permissive style), $P \leq 0.01$, which indicated high heterogeneity, which was also reflected in the funnel plot.

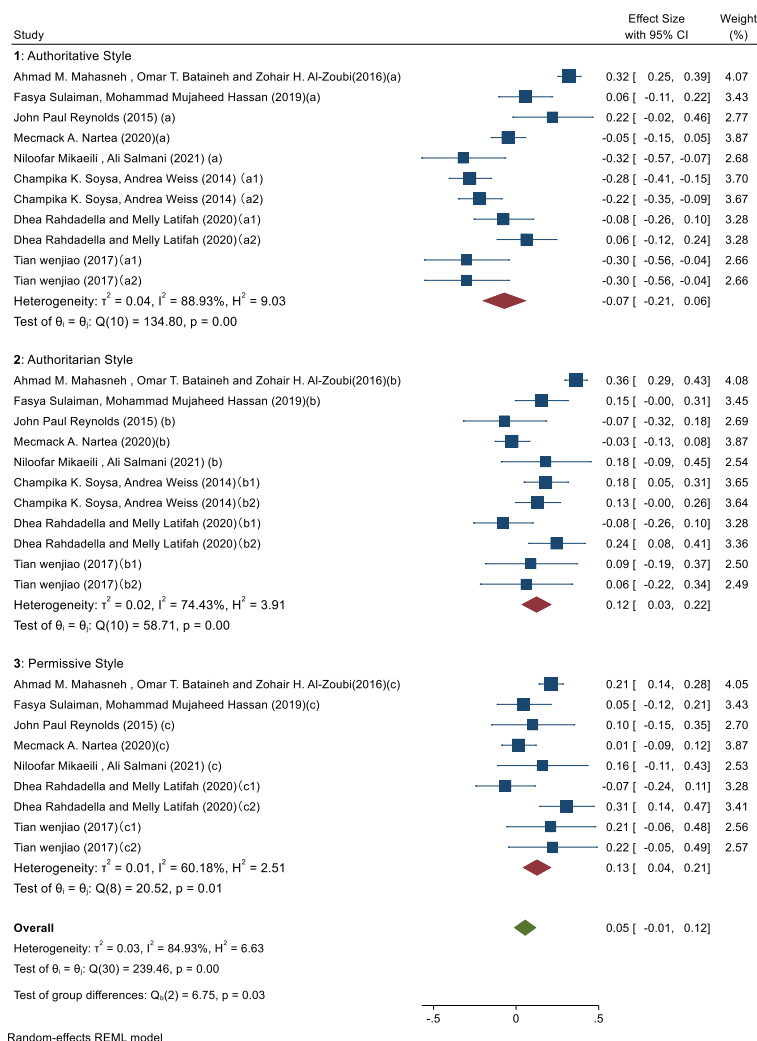


Figure 1. Correlations between parenting style and procrastination

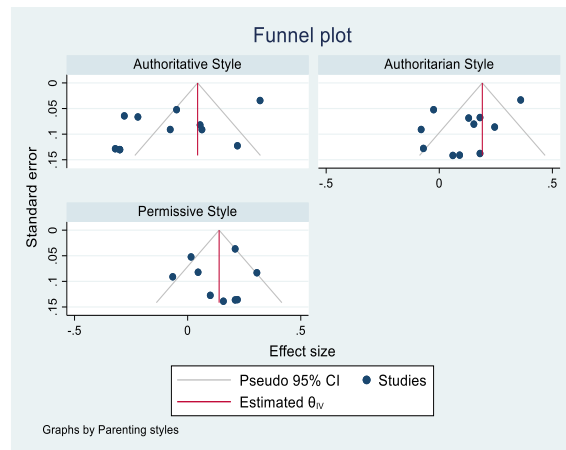


Figure 2. Correlations between parenting style and procrastination

Table 2 lists the results of the correlations between academic procrastination and parenting style; it reports the number of studies (k), sample size (n) weighted average effect size(r), 95% confidence intervals, the heterogeneity of statistics Q and I². Since the result of the heterogeneity test suggested the studies were of high heterogeneity, a random effect size model was used. the weighted mean correlation between procrastination and authoritative style (r=0.12) and permissive style (r=0.13) was significant. Although weighted mean correlation

between procrastination and authoritative style was not significant (r=-0.07), it was significant in China (r=-0.30) and America (r=-0.10) subgroups when it was divided up by geographical reign. Comparing to other subgroups, the studies in China showed a stronger negative correlation between procrastination and authoritative style. Also, the studies in west Asia showed a stronger Correlation between academic procrastination and authoritarian style.

Table 2. Meta-analysis of associations between parenting style and procrastination

| Group | | k | n | Weighted Average r | Confidence Intervals (95%) | Q | % I ² |
|---------------------|---------------------|----|------|--------------------|----------------------------|--------|------------------|
| Authoritative Style | | 11 | 2062 | -0.07 | [-0.21, 0.06] | 134.80 | 88.93 |
| Authoritarian Style | | 11 | 2062 | 0.12 | [0.03, 0.22] | 58.71 | 74.43 |
| Permissive Style | | 9 | 1650 | 0.13 | [0.04, 0.21] | 20.52 | 60.18 |
| China | Authoritative Style | 2 | 100 | -0.30 | [-0.48, -0.12] | 0.00 | 0.00 |
| | Authoritarian Style | 2 | 100 | 0.08 | [-0.12, 0.27] | 0.02 | 0.00 |
| | Permissive Style | 2 | 100 | 0.22 | [0.03, 0.40] | 0.00 | 0.00 |
| USA | Authoritative Style | 4 | 839 | -0.10 | [-0.30, 0.10] | 17.80 | 88.03 |
| | Authoritarian Style | 4 | 839 | 0.07 | [-0.05, 0.18] | 7.87 | 60.54 |
| | Permissive Style | 2 | 427 | 0.03 | [-0.07, 0.12] | 0.38 | 0.01 |
| West Asia | Authoritative Style | 2 | 735 | 0.01 | [-0.61, 0.64] | 23.15 | 95.68 |
| | Authoritarian Style | 2 | 735 | 0.32 | [0.17, 0.47] | 1.61 | 38.01 |
| | Permissive Style | 2 | 735 | 0.21 | [0.14, 0.28] | 0.13 | 0.00 |
| Southeast Asia | Authoritative Style | 3 | 388 | 0.02 | [-0.08, 0.12] | 1.54 | 0.00 |
| | Authoritarian Style | 3 | 388 | 0.11 | [-0.08, 0.29] | 7.10 | 72.76 |
| | Permissive Style | 3 | 388 | 0.10 | [-0.12, 0.31] | 9.89 | 79.90 |
| Secondary school | Authoritative Style | 3 | 150 | -0.31 | [-0.45, -0.16] | 0.02 | 0.00 |
| | Authoritarian Style | 3 | 150 | 0.11 | [-0.05, 0.27] | 0.40 | 0.00 |
| | Permissive Style | 3 | 150 | 0.2 | [0.04, 0.35] | 0.12 | 0.00 |
| College | Authoritative Style | 6 | 1398 | 0.00 | [-0.20, 0.20] | 104.01 | 92.30 |
| | Authoritarian Style | 6 | 1398 | 0.15 | [0.01, 0.28] | 34.50 | 83.65 |
| | Permissive Style | 4 | 986 | 0.15 | [-0.01, 0.30] | 10.63 | 75.87 |

| | | | | | | | |
|--------------------|---------------------|---|-----|------|---------------|------|---|
| Adult (over 22) | Authoritative Style | 1 | 148 | 0.06 | [-0.11, 0.22] | 0.00 | . |
| | Authoritarian Style | 1 | 148 | 0.15 | [-0.00, 0.31] | 0.00 | . |
| | Permissive Style | 1 | 148 | 0.05 | [-0.12, 0.21] | 0.00 | . |

As for the subgroups on age, it should be noticed that the correlations between procrastination and the three parenting styles were less and less when the age increased, which may suggested that the influence of family faded as the students aging. Authoritative parenting was strongly related to procrastination for secondary school students ($r=-0.31$).

5.DISCUSSION

This study analyzed the result of 8 previous studies on the correlation between academic procrastination and parenting style, and also explore other potential various.

The meta-analysis found that academic procrastination was positively related to authoritarian style and permissive style, and negatively related to authoritative style. That is may be because parent's appropriate instruction and permission can give students guide and a chance to regulate themself well.

Other factors that may influence the relationship between academic procrastination and parenting styles is the age of students. The study found that when the students were mature, the influence of parenting styles grew weaker. It can be explained in two ways: when the students grow older, the influence of their parents faded; when the children grow up, they became more self-regulated and therefore decreased the procrastination behavior. Apart from that, the study found in the subgroup about geographical reign, the correlations between the same parenting style and procrastination in each subgroups were inconsistent with each other. That is might be the result of high heterogeneity, or other reasons to be explored.

6.CONCLUSIONS

There are some limitations in the study that should be mentioned. First, the only limited number of studies were available in the study. That is because researchers have different notions about parenting styles and adopted various measuring instruments. To avoid bias, PAQ was set as the standard measuring instrument, which was mostly used among the studies. Second, some of the studies did not provide the correlation between academic procrastination and parenting style on different gender. It is a pity that the test on whether parental rearing style functions differently on boys and girls' academic procrastination was not able to be done.

Despite these limitations, conclusions can be worked out. First, although there are statistically significant correlations between parenting styles and academic

procrastination, their correlation are not significant enough, which means that the way parents treat their children only influences children's procrastination behavior on a limited scale. Second, among the three parenting styles, only authoritative style can negatively predict children's procrastination behavior in the study. Appropriate concern and control can help children develop good learning habits. Third, the effect of parenting style is temporary. When children grow up, the correlations are not so significant as they are in younger children.

Future studies can continue to explore other factors that may influence the relationship between parenting styles and students' procrastination, such as geographical region, gender, and age. They can also test the mediating effects of these factors.

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