

Time Management Disposition Mediates the Influence of Childhood Psychological Maltreatment on Undergraduates' Procrastination

Helin Ma¹, Liang Chen²

¹School of Marxism, Southeast University, Nan Jing, 211189, People's Republic of China; ²School of Marxism, University of Science and Technology Liaoning, Anshan, 114051, People's Republic of China

Correspondence: Helin Ma; Liang Chen, Email 124186748@qq.com; chenlfly@126.com

Objective: The present study explores the relationship between childhood psychological maltreatment and procrastination among college students and the mediating effect of time management disposition.

Materials and Methods: The present study surveyed 682 college students from two universities with the Children's Psychological Maltreatment Scale, Aitken Procrastination Questionnaire, and Adolescence Time Management Disposition Scale.

Results: There are significant positive correlations between childhood psychological maltreatment and undergraduates' procrastination ($r = 0.197, p < 0.01$), namely, individuals with more severe childhood psychological maltreatment are more likely to procrastinate. Time management disposition negatively correlates with childhood psychological maltreatment ($r = -0.136, p < 0.01$) and procrastination ($r = -0.573, p < 0.01$). The mediating roles of the time management disposition in the association between childhood psychological maltreatment and undergraduates' procrastination are significant.

Conclusion: Time management disposition plays a mediating role in the relationship between childhood psychological maltreatment and college students' procrastination behavior.

Keywords: childhood psychological maltreatment, time management, procrastination, college students, mediating role

Introduction

"Time is the space for human development".¹ Determining how to grasp sufficient free time rationally is the way to promote an individual's overall development. Studies show that more than 75% of students experience academic procrastination,²⁻⁴ and some even have long-term behavioral disordered procrastination.⁵ Procrastination adversely affects students' emotions, academic performance, and social achievements; reduces their subjective well-being; and can even harm their physical and mental health.⁶ This study predominantly investigates college students' procrastination behavior and its influencing mechanism to provide reasonable suggestions to address this issue.

Childhood Psychological Maltreatment and Procrastination in Childhood

Childhood psychological maltreatment refers to the repeated series of inappropriate treatments that occur when raising a child, including terrorizing, ignoring, belittling, intermeddling, and corrupting.⁷ Childhood psychological maltreatment significantly impacts children's cognitive attribution, emotional regulation, personality development, and social adaptation, presenting more serious negative consequences in adolescence and early adulthood.⁸ Research suggests that procrastination may be a response to a parenting style that is harsh and authoritarian.⁹ Furthermore, procrastination in adulthood is a symbolic expression of this experience. In addition, apathetic or highly controlling parenting can positively predict procrastination.¹⁰

The Mediating Role of Time Management Disposition

Time management tendency refers to individuals' psychological and behavioral characteristics in monitoring and evaluating the relationship between activities and time based on recognizing the value and meaning of time.¹¹ Time management disposition not only consists of an individual's cognitive characteristics, such as attitude, planning, and use of time, but also an individual's values and behavior tendency towards time.¹¹ According to self-regulation learning theory (SRL), time management is a positive form of self-regulation. Additionally, procrastination reflects a state of self-regulation failure.¹² Studies have found that those with weak time management skills have worse academic performance and more serious academic procrastination tendencies.¹³ Zheng et al found that time management disposition has a significant negative predictive effect on individual academic procrastination, indicating that the higher the individual's time management ability, the lower the degree of academic procrastination.¹⁴

Although SRL is often viewed as an individual process, social and environmental factors can partly facilitate or constrain the manifestation of the process over time.¹⁵ Consistent with their social cognitive roots, SRL models posit that the social contexts in which individuals are situated can exert an important influence on students' SRL, specifically, their academic time management and procrastination.¹⁵ Zheng et al suggested that negative parenting can keep individuals from forming good time management tendencies and increase their academic procrastination to a certain extent.¹⁴ Wang and Yuan found that the time management ability of individuals from authoritarian parenting styles is worse than those from authoritative parenting styles.¹⁶ Studies also found that childhood psychological maltreatment is negatively correlated with the time management disposition of college students,¹⁷ which can weaken their self-management ability.¹⁸

This study hypothesizes that 1) college students' procrastination is positively correlated with childhood psychological maltreatment and 2) time management disposition plays a mediating role in the relationship between childhood psychological maltreatment and college students' procrastination.

Materials and Methods

Participants

A total of 720 college students were selected from two universities by the cluster sampling method, of which 682 were valid samples. The age range was from 17 to 23 years old, with an average age of 19.91 years old ($SD = 1.367$). There were 373 male students (54.7%) and 309 female students (45.3%). Informed consent was obtained from all participants. The study complies with the Declaration of Helsinki, and the Research Ethics Committee approved the protocol of Southeast University (China).

Measures

Children's Psychological Maltreatment Scale

Pan et al revised the Children's Psychological Maltreatment Scale (CPMS) to contain 23 items,⁷ including the five dimensions of terrorizing (including 7 items), ignoring (including 6 items), belittling (including 4 items), intermeddling (including 4 items), and corrupting (including 2 items). The scale is scored from 0 (no such case) to 4 (always). The higher the score, the higher the degree of psychological maltreatment experienced by the individual. In this study, the Cronbach's α value of the total scale of childhood psychological maltreatment was 0.897.

Aitken Procrastination Questionnaire

The Aitken Procrastination Questionnaire (APQ) is a self-rating scale that Aitken developed in 1982 to evaluate college students' long-term and persistent procrastination behavior. Chen et al later revised it.¹⁹ The Chinese version of the APQ is a single-dimension self-rating scale consisting of 19 items. Using the 5-point scoring method, "completely inconsistent" is scored as 1 point, and "completely consistent" is scored as 5 points. In this study, the Cronbach's α value was 0.847.

Time Management Disposition Scale (TMDS)

Huang and Zhang developed the Time Management Disposition Scale (TMDS), which is suitable for college and middle school students.¹¹ There are 44 items on the scale, including the sense of time value subscale, the sense of time control subscale, and the sense of time efficacy subscale. A 5-point scale was used to assign 1 to 5 points from "completely inconsistent" to "completely consistent." In this study, the Cronbach's α value of TMDS was 0.884.

Data Analysis

Mplus 8.1²⁰ and SPSS 23.0 0 (IBM Corporation, New York, USA) statistical software collated and analyzed the data. Considering that the procrastination scale contains many items, 19 questions of the procrastination behavior scale are packaged following item parceling strategies to simplify the structure of the measurement part of the model.²¹ Firstly, a single-dimension confirmatory factor analysis was conducted for the procrastination scale. According to the factor load of each item, the items were packed according to the principle of the factor load balance of each item in each package. Then, the average score of the items contained in each package was calculated. The procrastination behavior scale was accordingly packaged into three-item packages as the observation indicators of procrastination. Several goodness-of-fit indices were used in the Analysis of mediating effects, including the chi-squared goodness-of-fit statistic, the Tucker–Lewis Index (TLI), the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardized root mean square residual (SRMR). The TLI and CFI values less than 0.90 indicate an acceptable fit, whereas an RMSEA and SRMR less than 0.08 imply a moderate fit.^{22,23}

Results

Common Method Bias Test

Harman's single-factor test method was used to conduct an exploratory factor analysis and confirmatory factor analysis on 86 items on three scales.²⁴ A total of 20 factors with characteristic roots greater than one was extracted, and the explanatory power of the first factor was only 12.816%, which was less than 40% of the judgment criterion. A confirmatory factor analysis of the single-factor model was used, but the fitting indexes were poor ($\chi^2/df = 4.41^{***}$, CFI = 0.373, TLI = 0.358, SRMR = 0.104, RMSEA = 0.090), with both the CFI and TLI considerably below 0.90 and the SRMR above 0.08. Therefore, no common method bias was detected in the present study.

Correlation Analysis Among the Variables

Descriptive statistics and Pearson correlation analysis were performed for childhood psychological maltreatment, time management, and procrastination, as exhibited in Table 1. The results show that psychological maltreatment was negatively correlated with time management disposition and positively correlated with procrastination. Time management disposition is negatively correlated with procrastination.

Analysis of Mediating Effects

First, a model of the total effect of childhood psychological maltreatment on college students' procrastination was established (Model 1) to test the total effect and its significance. The results show that the total impact of childhood psychological maltreatment on college students' procrastination was 0.229 ($p < 0.001$), and all fitting indexes were generally good (see Table 2).

Then, the mediation model (Model 2) was constructed by taking childhood psychological maltreatment as the independent variable, time management disposition as the mediating variable, and procrastination as the dependent variable (see Figure 1). The significance of each path coefficient was tested in turn. The analysis shows that the fitting index of the model is good (see Table 2). The deviation correction non-parametric percentile bootstrap method was used to test the mediating effect of the latent variable model. All variables were standardized, and repeated samples were taken 1000 times to obtain a 95% confidence interval. The results showed that the standardized indirect effect of childhood psychological

Table 1 Mean Value, Standard Deviation and Correlation Coefficient of Each Variable

| Variable | M | sd | 1 | 2 | 3 |
|-------------------|-------|-------|---------|---------|---|
| 1.CPA | 0.855 | 0.550 | 1 | | |
| 2.TMD | 3.365 | 0.456 | 0.136** | 1 | |
| 3.Procrastination | 2.575 | 0.555 | 0.197** | 0.573** | 1 |

Note: ** $p < 0.01$.

Abbreviations: CPA, childhood psychological maltreatment; TMD, time management disposition.

Table 2 Model Fitting Indexes

| Model | χ^2 | df | TLI | CFI | RMSEA | SRMR |
|---------|------------|----|-------|-------|-------|-------|
| Model 1 | 46.036*** | 19 | 0.984 | 0.976 | 0.046 | 0.038 |
| Model 2 | 126.534*** | 41 | 0.970 | 0.960 | 0.056 | 0.041 |

Note: ***p < 0.001.

Abbreviations: TLI, Tucker-Lewis index; CFI, comparative fit index; RMSEA, root-mean-square error of approximation; SRMR, standardized root-mean-square residual.

maltreatment → time management disposition → college students' procrastination had a 95% confidence interval (0.021, 0.149), excluding 0. The standardized indirect effect estimation was 0.089, accounting for 38.678% of the total effect.

Discussion

The Relationship Between Childhood Psychological Maltreatment and Procrastination

This study finds that childhood psychological maltreatment can positively predict procrastination, which is consistent with previous studies.¹⁰ Procrastination is an action signal sent by the subjective consciousness of college students. Therefore, procrastination is the external manifestation of the psychological activities of college students. This psychological activity is not only the external environmental factors surrounding college students' actions during childhood but, more importantly, the characteristics college students accumulate in their developmental stages. Mao (1991) holds that "the fundamental cause of the development of a thing is not external, but internal".²⁵ The growing environment of childhood is essential for the psychological growth of students. The "growing environment" identified here is not a family environment with material needs in the pure sense, but instead a healthy and harmonious psychological environment. Many parents will give conflicting instructions to their children throughout their development, such as requiring them to accept responsibilities, having high or unattainable expectations, and so on, which can be classified as psychological maltreatment. Because direct resistance might be too risky for children who are often psychologically maltreated, children may be more inclined to indirectly disobey their parents by procrastinating to avoid severe punishment or using denial to protect themselves.

The Mediating Role of Time Management Disposition

The results show that time management disposition partially mediates the relationship between childhood psychological maltreatment and procrastination. This result is consistent with previous studies. Li et al found that the planning factor of time management disposition plays a partially mediating role in the relationship between a mother's preference in parenting style and college students' academic procrastination.²⁶ Zheng also found that time monitoring and efficacy

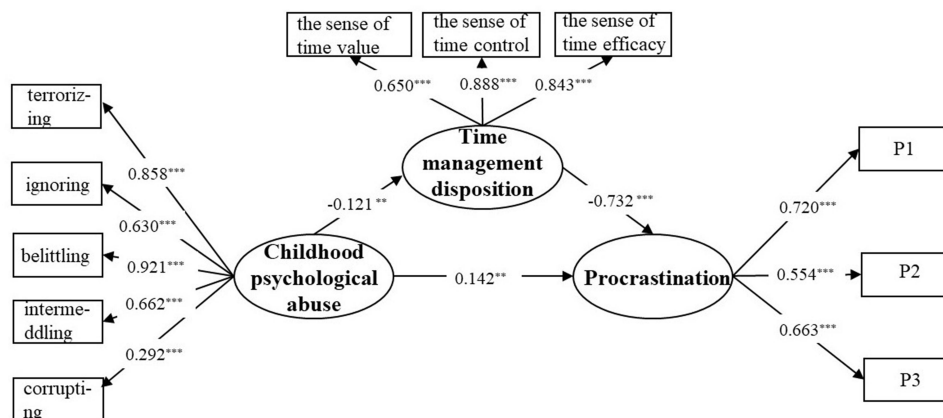


Figure 1 A mediating model of the association between childhood psychological maltreatment and procrastination.

Note: **p<0.01, ***p<0.001.

played a completely mediating role in the relationship between high-grade pupils' parenting styles and academic procrastination.¹⁴ According to self-regulation learning theory, negative parenting styles prevent their children from acquiring experiences that can ultimately boost children's self-efficacy beliefs.^{12,15} For instance, parents' refusal to deny and excessively interfering will cause children to have a rebellious psychological state and sense of inferiority, thus prompting children to hate, resist, and lose confidence in their studies and life. Children who feel no meaning in family life have no confidence in organizing their own lives. Such children often have poor interpersonal relationships, poor academic performance, and cannot form good time management disposition. Thus, it is likely that harmful parenting practices prevent individuals from becoming constructive and active learners who can regulate time-related behaviors. The relationship between time management disposition and procrastination in this study shows a significant negative correlation, consistent with the results of previous studies.²⁷ Chen found that time management disposition had a significant adverse effect on academic procrastination.²⁸ Lay and Schouwenburg found that the perceived control of time was highly negatively related to trait procrastination.²⁹ Students with higher time management disposition scores can complete plans, set goals, allocate time, and exhibit a series of time management behaviors.³⁰ Their ability to govern and manage time is more confident, thereby reducing the occurrence of academic procrastination.

Research Deficiencies and Future Prospects

This study has the following deficiencies that need improvement in future research. Firstly, it is difficult to accurately investigate the specific procrastination behaviors (eg, academic procrastination) using the APQ. Furthermore, situational assessment is not considered. As a more comprehensive analysis, the simulation of a task can be implemented to study the mechanism of procrastination. Secondly, the subjects may not be thorough enough in recalling the parenting style, so self-reported subjective reports from parents can be included in future examinations. Finally, the students included in the sample all came from two comprehensive universities which may affect the research results. To address this deficiency, future studies should expand the sample area and sample size within specialist institutions.

Conclusions

Our study demonstrates that childhood psychological maltreatment, time management disposition, and procrastination are correlated with each other. Childhood psychological maltreatment events positively predicted procrastination in college students, and time management disposition played a mediating role between them. Procrastination is one of the main factors hindering college students' studies and personal development. Procrastination can impact college students in that they may fail to complete academic tasks on time, exhibit poor subjective initiative, or suffer from long-term negative moods. As a key factor of procrastination, time management disposition can negatively predict procrastination in college students. "All savings are ultimately time savings".¹ College students can intervene in their procrastination behavior by improving their time management ability. Marx believed that "time is the scale of human life," and college students with high levels of time management disposition can take advantage of their subjective initiative by rationally allocating time to create more value through a clear understanding of the validity of time, which is also a necessary measure to promote the development of college students.

Acknowledgments

We would like to thank the editor and the anonymous reviewers for their useful comments on earlier drafts.

Disclosure

All authors declare that they have no conflicts of interest in this work.

References

1. Marx K, Engels F. Complete works of Marx and Engels. People's Publishing House. 1979;47:532.
2. Chu Q, Xiao R, Lin Q. Research on the procrastination behavior and characteristics of university students. *Chin J Sch Health*. 2010;18:970–972. doi:10.13342/j.cnki.cjhp.2010.08.044

3. Wang Q, Xin Z, Zhang H, Du J, Wang M. The effect of the supervisor–student relationship on academic procrastination: the chain-mediating role of academic self-efficacy and learning adaptation. *Int J Environ Res Public Health*. 2022;19:2621. doi:10.3390/ijerph19052621
4. Ren K, Liu X, Feng Y, Li C, Sun D, Qiu K. The relationship between physical activity and academic procrastination in Chinese College students: the mediating role of self-efficacy. *Int J Environ Res Public Health*. 2021;18:11468. doi:10.3390/ijerph182111468
5. Solomon LJ, Rothblum ED. Academic procrastination: frequency and cognitive-behavioral correlates. *J Couns Psychol*. 1984;31:503–509. doi:10.1037/0022-0167.31.4.503
6. Stead R, Shanahan MJ, Neufeld RWJ. “I’ll go to therapy, eventually”: procrastination, stress and mental health. *Pes Indiv Differ*. 2010;49:175–180. doi:10.1016/j.paid.2010.03.028
7. Pan C, Deng YL, Guan BQ, Luo XR. Reliability and validity of child psychological maltreatment scale. *Chin J Clin Psychol*. 2010;18:463–465. doi:10.16128/j.cnki.1005-3611.2010.05.026
8. Liu W, Liu F, Chen L. The mediating role of personality traits between childhood psychological maltreatment and maladaptive cognitive emotion regulation strategies. *J Psychol Sci*. 2018;41:64–70. doi:10.16719/j.cnki.1671-6981.20180110
9. Flett GL, Blankstein KR, Martin TR. Procrastination, negative self-evaluation, and stress in depression and anxiety. *Procrast Task Avoid*. 1995;1995:137–167.
10. Ma XY, Ling H, Zhang JR, Xiong L, Li XL. Related study on procrastination and parental rearing patterns in college students. *Chin J Clin Psychol*. 2011;19:675–680. doi:10.16128/j.cnki.1005-3611.2011.05.025
11. Huang XT, Zhang ZJ. The compiling of adolescence time management disposition inventory. *Acta Psychologica Sinica*. 2001;33:338–343.
12. Pintrich PR. A conceptual framework for assessing motivation and self-regulated learning in college students. *Educ Psychol Rev*. 2004;16:385–407. doi:10.1007/s10648-004-0006-x
13. Lei JP, Lu Y, Pu M, Cao DS. Academic procrastination and time management disposition among adolescent. *Chin J Sch Health*. 2014;64–66. doi:10.16835/j.cnki.1000-9817.2014.01.024
14. Zheng ZG, Liu JP, Dong SH, Jiang Y, Liao H. The relationship between high grade pupils’ parenting styles and academic procrastination: the mediating effect of time management disposition. *Studies Psychol Behav*. 2018;16:786–792.
15. Won S, Yu SL. Relations of perceived parental autonomy support and control with adolescents’ academic time management and procrastination. *Learn Individ Differ*. 2018;61:205–215. doi:10.1016/j.lindif.2017.12.001
16. Wang T, Yuan J. College students’ time management disposition and parenting styles. *Chin Mental Health J*. 2008;06:429–432+454. doi:10.3321/j.issn:1000-6729.2008.06.011
17. Li L, Huang YP, Liu JP. Effect of college student’s family education style on time management disposition. *Chin J Health Psychol*. 2007;15:50–51. doi:10.13342/j.cnki.cjhp.2007.01.020
18. Lay CH. At last, my research article on procrastination. *J Res Pers*. 1986;20:474–495. doi:10.1016/0092-6566(86)90127-3
19. Chen XL, Dai XY, Dong Q. A research of Aitken procrastination inventory applied to Chinese college students. *Chin J Clin Psychol*. 2008;16:22–23+76. doi:10.16128/j.cnki.1005-3611.2008.01.009
20. Muthén LK, Muthén BO. *Mplus User’s Guide*. Seventh ed. Muthén & Muthén; 2013.
21. Wu Y, Wen ZL. Item parceling strategies in structural equation modeling. *Adv Psychol Sci*. 2011;12:1859–1867. doi:10.3724/SPJ.1042.2011.01859
22. Bentler PM. Comparative fit indexes in structural models. *Psychol Bull*. 1990;107:238–246. doi:10.1037/0033-2909.107.2.238
23. Dou G, Xiang Y, Sun X, Chen L. Link between cyberbullying victimization and perpetration among undergraduates: mediating effects of trait anger and moral disengagement. *Psychol Res Behav MA*. 2020;13:1269–1276. doi:10.2147/PRBM.S286543
24. Zhou H, Long LR. Statistical remedies for common method biases. *Adv Psychol Sci*. 2004;6:942–950. doi:10.1007/BF02911031
25. Mao ZD. *Selected Works of Mao Zedong*. Beijing: People’s Publishing House; 1991.
26. Li N, Yan CP, Li QQ, Yang SC. Intermediary effect of time management disposition between the college student’ parental rearing style and academic procrastination. *J Xinxiang Med Univ*. 2014;31(11):931–933. doi:10.7683/xyxyxb.2014.11.019
27. Tian Q, Deng SC. The different mediating roles of locus of control in the relationship between time management disposition and the procrastination of arousal and avoidance. *J Psychol Sci*. 2011;02:348–353. doi:10.16719/j.cnki.1671-6981.2011.02.002
28. Chen PS, Li J, Seung-Yong K. Structural relationship among mobile phone dependence, self-efficacy, time management disposition, and academic procrastination in college students. *Iran J Public Health*. 2021;11:2263–2273. doi:10.18502/ijph.v50i11.7582
29. Lay CH, Schouwenburg HC. Trait procrastination, time management, and academic behavior. *J Soc Behav Pers*. 1993;8:647–662. doi:10.1007/BF01068157
30. Zhou YH, Lv CF, Yang YC. Time management disposition and academic procrastination: sense of self-efficiency as a moderator. *Chin J Clin Psychol*. 2014;22:533–536. doi:10.16128/j.cnki.1005-3611.2014.03.082

Psychology Research and Behavior Management

Dovepress

Publish your work in this journal

Psychology Research and Behavior Management is an international, peer-reviewed, open access journal focusing on the science of psychology and its application in behavior management to develop improved outcomes in the clinical, educational, sports and business arenas. Specific topics covered in the journal include: Neuroscience, memory and decision making; Behavior modification and management; Clinical applications; Business and sports performance management; Social and developmental studies; Animal studies. The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/psychology-research-and-behavior-management-journal>