

Back on Track: Why and How College Students Terminate Academic Procrastination

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This paper investigated why and how college students terminate academic procrastination and materialize the idea of terminating procrastination. Three separate studies were conducted. The first research is a pilot study that adopted the questionnaire survey approach to collect data from 123 participants who have enrolled in college degree programs. Results show that almost all of the respondents have the experience of terminating academic procrastination. The reasons include “There is not much time left,” “I could not be in such a slump,” “Continued procrastination would have led to unfavorable results in the future,” “The expectations of significant others regarding my performance” and “Reflections on past procrastination experiences.” The second research took a qualitative approach. It used the possible reasons for terminating procrastination from the first research to conduct focus interviews with 16 individuals. After comparing the procrastination phase and the termination of procrastination phase, it is demonstrated that: at the termination of the procrastination phase, interviewees showed more self-awareness, including introspection of their motivations to take action and becoming concerned about significant others’ opinion of themselves. In terms of their perspective on time, the interviewees shifted away from present hedonism to future time perspective. With regard to their state of mind, they shifted away from fixed mindset to growth mindset. Also, interviewees indicated that they were able to inhibit distractions, and concepts such as hard work would lead to fruitful ends or to strive as much as one is able could help them transform notions of terminating procrastination into real action. In the third research, a quasi-experiment was conducted, targeting 627 participants who have enrolled in college degree programs. They were assigned short essay readings. Results show that the sense of the public self-consciousness, present hedonism, and fixed mindset cannot terminate procrastination, but the sense of private self-consciousness, future time perspective, and growth mindset can terminate procrastination. When an individual’s sense of private self-consciousness, future time perspective, and growth mindset increases, the likelihood to inhibit distraction, and concepts such as hard work would lead to fruitful ends or maximum dedication tend to take shape, leading to the likelihood of the individual to take real action.

Keywords: *future time perspective, growth mindset, private self-consciousness, public self-consciousness, terminate procrastination*

Extended Abstract

Procrastination is a common experience, and college students are one of the groups that suffer from it most (Ellis & Knaus, 1977; Solomon & Rothblum, 1984). Procrastinators are more likely to experience negative emotions than non-procrastinators (Burka & Yuen, 1983; Rothblum et al., 1986; Saddler & Sacks, 1993). Research on procrastination has blossomed in the past decade; however, this research has mostly used quantitative

methods to explore its causes and effects. Very few studies have examined how to reduce procrastination, and most of those that have explored procrastination reduction have focused on specific strategies or interventions. In contrast, this series of studies uses a combination of quantitative and qualitative methods to capture how college students can break free from procrastination. We examine procrastination from a stage perspective, arguing that the

ultimate goal is an end state in which procrastination is eliminated completely, rather than simply reduced. This paper focuses on the responses of college students before and after they have successfully stopped procrastinating. We explore the following research questions: (1) Does procrastination continue after college students catch themselves procrastinating? (2) If they manage to stop procrastinating, how do they achieve this? (3) After they stop procrastinating, how can they prevent procrastination in the future?

Study 1

Study 1 was a pilot study with two main purposes: to gain a broad understanding of college students' experiences with procrastination and to provide a clear direction for the qualitative interviews. The study was conducted using an online questionnaire that was completed by 123 participants, 59 male (48%) and 64 female (52%), with a mean age of 21.3 years. The participants were recruited from six universities in Taiwan, and the data were analyzed using SPSS version 25.0. When asked "In the past, have any of these situations prompted you to stop procrastinating?", 98.4% of the students answered "yes," with only 1.6% answering "no."

The participants then assessed the reasons that they had stopped procrastinating by responding to items on a

scale of -3 to 3 . We then performed a t -test to compare the mean for each of the items with 0 . The results (shown in Table 1) indicated that the following situations prompted students to stop procrastinating: "There was not much time left" ($t(122) = 25.17, p < .01$), "Continued procrastination would have led to unfavorable results in the future" ($t(122) = 21.26, p < .01$), and "I could not be in such a slump" ($t(122) = 14.18, p < .01$). In contrast, "Someone came to help me with my work" ($t(122) = -0.62, p < .01$) and "I was a better mood" ($t(122) = -0.15, p = .35$) did not prompt the students to stop procrastinating.

We then combined "My sense of obligation as a student" and "The expectations of significant others regarding my performance" and labeled this set of reasons "public self-awareness reasons." We also combined "I could not be in such a slump" and "Continued procrastination would have led to unfavorable results in the future" and labeled this set of reasons "private self-awareness reasons." A paired-sample t -test indicated that the effects of private self-awareness reasons were stronger than those of public self-awareness reasons ($t(122) = 10.68, p = .00$).

Study 2

For Study 2, we conducted in-depth interviews with college students to better understand the cognitive shift

Table 1

Termination of procrastination reason and t difference test ($N = 123$)

Reason	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
My sense of obligation as a student	0.11	1.82	0.69	.49
There was not much time left	2.31	1.02	25.17	.00
I could not be in such a slump	1.67	1.30	14.18	.00
Someone came to help me with my work	-0.62	1.79	-3.83	.00
I was in a better mood	-0.15	1.74	-0.93	.35
I was in a good spirit	0.41	1.77	2.59	.01
Continued procrastination would have led to unfavorable results in the future	2.11	1.10	21.26	.00
The expectations of significant others regarding my performance	0.89	1.73	5.75	.00
Reflections on past procrastination experiences	0.85	1.63	5.80	.00

that occurs when individuals stop procrastinating. This study involved 16 participants (8 female and 8 male), all of whom had completed some college. The group had an average age of 21.7 years. We compared the procrastination stage with the stage in which individuals stopped procrastinating and found that procrastinators experienced several cognitive shifts. The first shift was toward increased self-awareness, including both private self-awareness, which leads people to inquire about their own motivations for doing things, and public self-awareness, which leads people to think about their social roles (e.g., student, son or daughter). For some people, the expectations of parents and teachers created pressure, which caused them to continue procrastinating. The difference between these two types of people springs from their sense of self-efficacy. People with a high level of self-efficacy believe that they are able to improve, so they stop procrastinating (Bandura, 1977). People with a low level of self-efficacy are afraid of social pressure, which means that it is difficult for them to stop procrastinating.

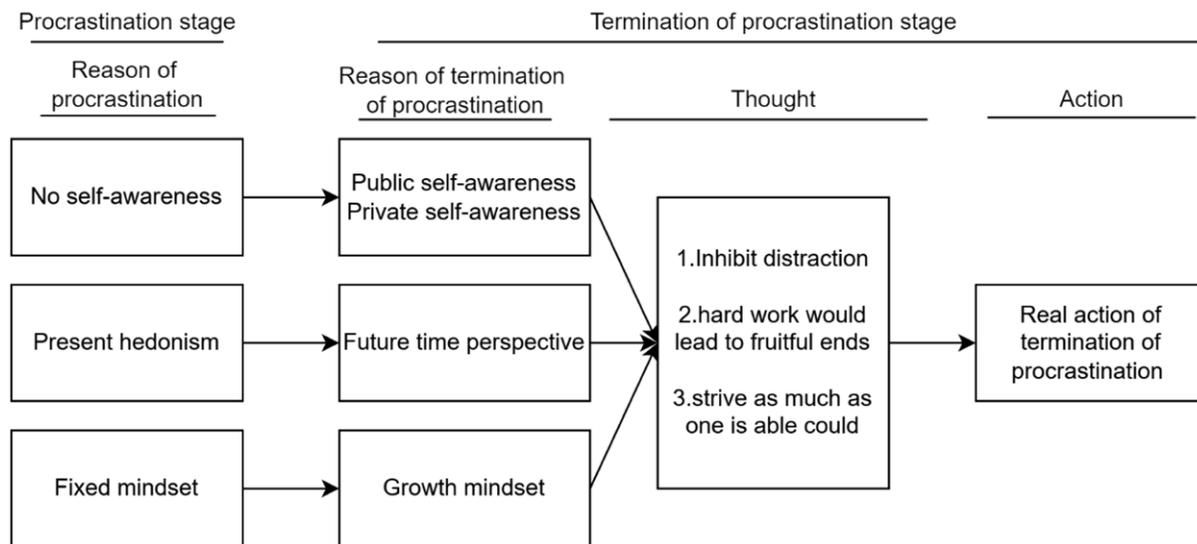
We also found changes in our participants' perspectives regarding time. We found that when the procrastinators stopped procrastinating, they shifted from a state of present hedonism to future time perspective and began to pay more attention to the possible future effects

of their current behavior. They also changed from a fixed mindset to a growth mindset, beginning to recognize the value of hard work and believing that they could change their current situation through their own efforts (Dweck, 2007). Our participants also reported three beliefs that helped them to continue working without procrastinating: they believed that distractions should be inhibited, that hard work would eventually be fruitful, and that they should try as hard as they could in their studies. The overall results of the study are shown in Figure 1.

Study 3

The aim of Study 3 was to replicate the most important findings of the qualitative research. Study 3 was a mixed-design quasi-experiment in which the participants read short essays. Six essays were created based on different values of the three variables identified in Studies 1 and 2: self-awareness (public/private), time perspective (present hedonism/ future time perspective), and mindset (fixed/growth). The questionnaire was divided into two versions, A and B. The six short essays were assigned to versions A and B according to whether they prompted individuals to stop procrastinating. The participants were from universities in Taiwan. The

Figure 1
Process of termination of procrastination



number of participants who completed version A was 315. This group included 156 males (49.5%) and 159 females (50.5%) with an average age of 21.3 years. Version B was completed by 312 people. This group included 154 males (49.4%) and 158 females (50.6%) with an average age of 21.6 years.

Before the data were analyzed, the samples that were not successfully manipulated in each essay were removed based on a manipulation check. SPSS version 25.0 was then used to test the main effect of terminating procrastination, and process 3.2 (Hayes, 2017) and model 4 with 5,000 bootstrap samples were used to test whether the mediation effect was significant. The results showed that public self-awareness, present hedonism, and a fixed mindset did not prompt people to stop procrastinating, whereas private self-awareness, future time perspective, and a growth mindset did (see Table 2). The mediating effects of the three beliefs were all significant, which means that when individuals have private self-awareness, future time perspective, and a growth mindset, they are more likely to believe that they should inhibit distracting thoughts, that hard work will eventually be fruitful, and that they should try as hard as they can. The overall results of the study are shown in Figure 2.

Summary and Discussion

Our pilot study (Study 1) provided a direction for the interviews conducted in Study 2. This qualitative research deepened our understanding of the topic, and the subsequent quantitative research (Study 3) validated

the effects of the variables obtained from the qualitative research. Overall, our results showed that private self-awareness, future time perspective, and a growth mindset can help college students to stop procrastinating. We also found that certain beliefs (i.e., that distractions should be inhibited, that hard work will eventually be fruitful, and that one should try as hard as one can) mediated the relationship between the three types of cognitive shifts and the action of terminating to procrastinate.

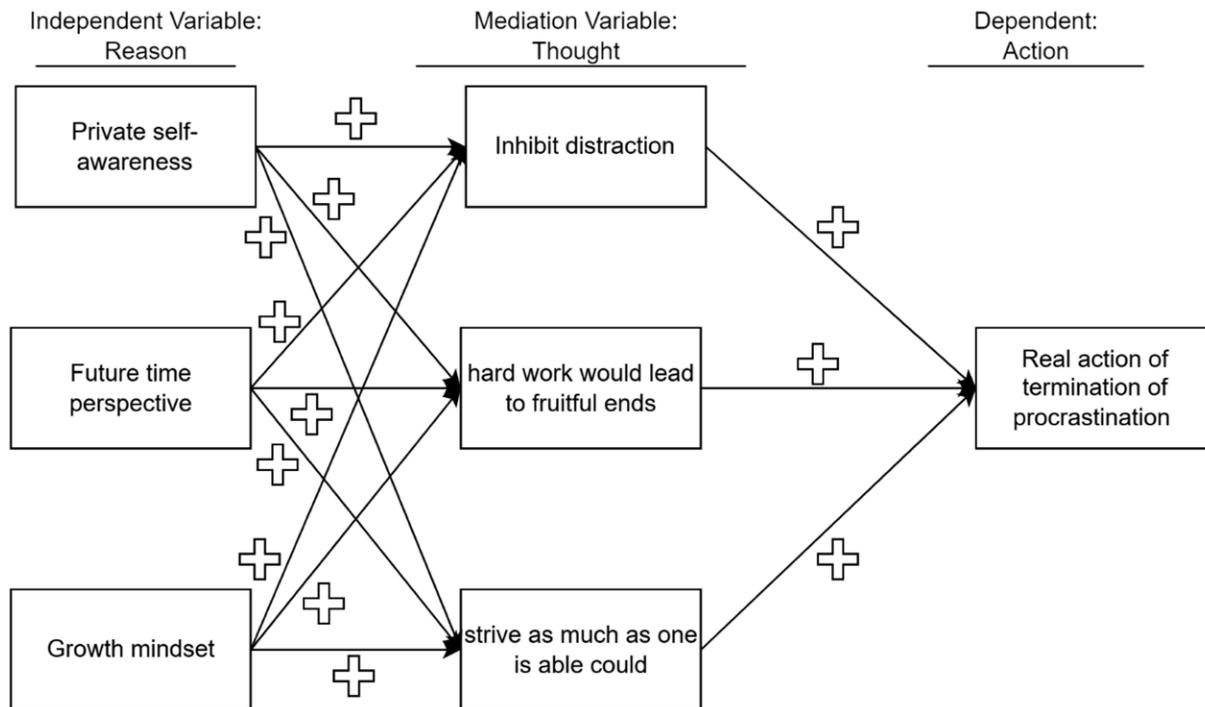
The three studies described here explored the relationships between self-awareness, time perspective, and mindset and the action of terminating to procrastinate. The results regarding time perspective and mindset are consistent with the findings of previous studies that have examined the relationships between these two concepts and procrastination (Howell & Buro, 2009; Sirois, 2014). The qualitative interviews allowed us to pinpoint some of Chinese college students' culture-specific reasons for terminating to procrastinate. We found that self-awareness, for example, helped our participants to stop procrastinating. As these students live in a Chinese society, their behavior and choices are profoundly shaped by their relationships. This suggests that in academic situations, Chinese procrastinators will inevitably consider their roles as sons and daughters or students, think about the obligations of these roles and the expectations of their relationship partners and will stop procrastinating based on this awareness.

Taken together, the findings of these three studies suggest possible strategies that both school counselors and the wider population can use to assist people in

Table 2
Research variable and 0 difference test

Variable	<i>N</i>	<i>M</i>	<i>SD</i>	<i>t</i>	<i>p</i>
Public self-awareness	256	-.23	1.65	-2.27	.02
Private self-awareness	275	.35	1.58	3.67	.00
Present hedonism	263	-1.20	1.75	-11.11	.00
Future time perspective	293	.46	1.81	4.39	.00
Fixed mindset	218	-.96	1.62	-8.81	.00
Growth mindset	278	1.13	1.38	13.68	.00

Figure 2
Mediation Model of Termination of Procrastination



overcoming procrastination. For example, mindfulness exercises can increase self-awareness (Kabat-Zinn, 1994), while mental imagery practice can increase future self-continuity (Blouin-Hudon & Pychyl, 2017). Individuals can also focus on building their self-efficacy by breaking down complex and difficult tasks into smaller and easier-to-solve tasks.

The Study 1 data indicate that people believe that the expectations of significant others can help people to stop procrastinating, while the results of Study 3 suggest that public self-awareness does not help people to stop procrastinating. These results appear to be inconsistent. Based on the qualitative research (Study 2), we know that public self-awareness helps some people to stop procrastinating. These people do not want to disappoint their teachers and parents and are motivated to perform

well for their sake. However, some people become overwhelmed by these expectations, which leads them to procrastinate because they fear failure. The difference between these two types of people comes from their sense of self-efficacy: people in the first group believe that they can achieve the goals they set, while people in the latter group believe that they cannot. Self-efficacy is an important factor in procrastination research; however, Studies 1 and 3 did not take self-efficacy into account, which may be the reason that public self-awareness was not found to be effective in our quantitative research. In the future, researchers could use self-efficacy as a moderating variable to explore whether self-efficacy influences the effects of self-awareness on prompting people to stop procrastinating.