

Academic Procrastination by Undergraduate Students

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Abstract Sixteen students participated in a study on reasons for academic procrastination. Sources of the concourse included free-writing by university students, academic literature, magazines, newspapers, web sites, and the researcher's personal experiences. The Q sample of 42 statements was structured around seven elements cited in the literature as influencing academic procrastination: task aversion, perfectionism/fear of failure, decision-making difficulties, self-handicapping strategies, emotions (e.g., defiance), pragmatic concerns, and time management skills. P-set members were undergraduates studying for teacher licensure at a regional campus of a large public university in the United States. They completed Q sorts and wrote explanatory responses to follow-up questions. Thirteen Q sorts became defining sorts in a four-factor solution. Data generated by PQMethod were interpreted in light of students' written comments.

"Procrastinating for Pleasure" included students who were candid about preferring social activities to academic work. "Perfectionism at a Price" included students who wanted to do high-quality academic work but for whom procrastination exacted an emotional toll in anxiety and self-doubt. "Limited by Life" included students whose demanding family and work circumstances restricted their time for academic pursuits. "Delay by Design" included students who deliberately and positively built academic procrastination into their time management strategies.

Interpretations of the data and implications for future research are presented.

Introduction

Procrastination can be understood as delay in the start or completion of a task (Ferrari & Tice, 2000). Academic procrastination among college students has been correlated positively with lower academic performance, higher long-term stress, and more visits to health practitioners (Tice & Baumeister, 1997, in What are the effects of procrastination? [anon] January, 1998). As is evident in the review of the

literature that follows, many studies of academic procrastination have been conducted using survey instruments or controlled studies that detail the percentages of students who exhibit certain kinds of procrastinating characteristics. The author of the present study is a university teacher educator concerned about procrastination as a prevalent practice among students at all levels of schooling. The author sought insight that might inform him and his students (all future teachers themselves) about the phenomenon of academic procrastination and how to address it constructively in his college classroom and in their future classrooms of children and youth. Thus, in order to gain a more nuanced and holistic understanding of the nature of academic procrastination from the subjective perspectives of students, this study was conducted using Q methodology (Brown, 1980; McKeown & Thomas, 1988; Stephenson, 1953), which takes an approach to studying academic procrastination different from those more traditional approaches reviewed below.

Review of the Literature

In their seminal research using their newly developed survey instrument, Solomon and Rothblum (1984) sought to identify the frequency of and reasons for procrastination among 342 undergraduate students. They defined procrastination as “the act of needlessly delaying tasks to the point of experiencing subjective discomfort” (p. 503) and cited their concerns over the negative effects of procrastination on undergraduates, namely, substandard academic performance and an increase in frequency from freshman to senior year. The authors developed a self-report instrument entitled “Procrastination Assessment Scale—Students” (PASS) (Rothblum, 2007a, 2007b) to assess the prevalence of procrastination in six areas of academic functioning: writing a term paper, studying for an exam, keeping up with weekly reading assignments, performing administrative tasks, attending class sessions, and performing academic tasks in general. Salient results indicated that 46% of students procrastinated writing a paper; 27.6%, studying for exams; and 30.1%, weekly reading assignments. When Solomon and Rothblum (1984) conducted factor analysis on participants’ reasons for procrastination, seven were identified: fear of failure leading to anxiety; task aversion/laziness; dependency; risk-taking; lack of assertion; rebellion against control; and difficulty making decisions. The authors concluded that academic procrastination is a complex behavioral, affective, and cognitive phenomenon. Reducing its prevalence requires more than attending to time management skills or study strategies. Interventions addressing anxiety about being evaluated, perfectionism, and low self-esteem need to be applied (Solomon and Rothblum, 1984).

Subsequent researchers utilized PASS in novel settings. Brownlow and Reasinger (2001) correlated PASS and several personality and motivation measures (both intrinsic and extrinsic) in their study of academic procrastination among 96 undergraduates. Of interest to them were perfectionism, locus of control, fear of failure, and negative evaluation. They found that high-level procrastinators made external attributions and attributed their academic successes to context and luck; they tended to be task aversive and had difficulty making decisions. Low-level procrastinators focused on effort.

Prohaska, Morrill, Atilas, and Perez (2000) used PASS to study 386 non-traditional, urban, commuting students of diverse ethnicity, culture and socio-economic status. They found that procrastination was higher regarding regular reading assignments (perhaps because of the busy schedules of adult students with families and jobs), but lower in writing term papers and attendance than in Solomon and Rothblum's 1984 study. Prohaska et al. found lower procrastination levels among older students, women, and students born outside of the United States. They also found a negative correlation between PASS scores (with higher scores reflecting higher levels of procrastination) and cumulative grade point average.

Hess, Sherman, and Goodman (2000) explored the relationship of academic procrastination and a variation in circadian rhythms termed "eveningness." Their goal was to explore whether time preferences of students (morningness and eveningness) and the personality structure of neuroticism would predict academic procrastination. One hundred seven (107) undergraduate students completed questionnaires and scales related to the constructs, including PASS. "Principal findings were that (a) eveningness was associated with academic procrastination; (b) neuroticism had a stronger relationship with procrastination; and (c) neuroticism did partially mediate the relationship between eveningness and academic procrastination." (Hess et al., p. 69). Thus, students who displayed greater eveningness were more likely to procrastinate, particularly because of "tense arousal" that is characteristic of neuroticism, a state in which reactions to dangers or threats (e.g., an upcoming exam) (Hess, et al.).

Onwuegbuzie (2000) utilized PASS to study perfectionism in 135 graduate students. He found that the frequency of procrastination was higher than in the 1984 study of Solomon and Rothblum; 41.7% of his graduate student participants procrastinated writing a term paper; 39.3%, studying for tests; and 60.0%, doing regular reading assignments. Citing Hewitt and Flett (1991), Onwuegbuzie correlated PASS with three types of perfectionism: self-oriented (pursuit of unrealistic standards for themselves), other-oriented (holding unrealistic expectations for others), and socially-prescribed (believing

that others hold unrealistic standards for them). He found that overall academic procrastination correlated positively with socially prescribed perfectionism. Fear of failure correlated positively to self-oriented and socially-prescribed perfectionism. Onwuegbuzie concluded that academic procrastination should be viewed in its social context rather than simply as an intrapersonal phenomenon, emphasizing that academic procrastinators may be concerned as much or more about meeting the standards and expectations of others than with their own expectations for themselves.

Ferrari and Tice (2000) broadened research into academic procrastination by exploring the procrastinating behaviors of two independent groups of 59 and 88 undergraduate students in a laboratory setting, correlating those behaviors with a procrastination survey called the General Procrastination Scale (GP) (Lay, 1986) to establish student levels of procrastination. In Study 1, students came to a lab individually to take a test that they were told would be evaluative of their abilities. While they waited to take the test, they were given 15 minutes in which to engage in fun activities or to practice for the test with sample questions, which, they were told, would improve their scores on the test. Overall, participants in Study 1 spent 9 out of 15 minutes not practicing for the test; instead they procrastinated by engaging for 9 minutes in the fun activities. The scores on the GP were positively correlated with the amount of time each student spent procrastinating in the lab setting. In Study 2, also in the lab setting, half of a different set of students were told that the same "test" was actually a fun game; half were told it was a test of their mental abilities. For the "test" group, the scores on the GP correlated positively with the minutes spent in procrastination. For the "fun" group, there was a near-zero correlation between self-report procrastination scores on the GP and time spent procrastinating or working on practice questions. The authors concluded that "the relationship between self-reported procrastination and behavioral procrastination was apparent only when the task was described in somewhat ego-threatening terms" (Ferrari & Tice, 2000, p. 79). They further concluded that some students used behavioral procrastination as a self-handicapping strategy, meaning they placed obstacles in the way of their success as a way to reduce the threat to their self-images; that is, the cause of failure could be assigned to the obstacle and not to the person's limited ability.

Wolters (2003) explored academic procrastination in light of self-regulating learning behaviors in a two-part study with two sets of undergraduate students (groups of 168 and 152). The research asked two questions: What is the relation between motivational beliefs in self-regulated learning and student tendencies to procrastinate? And, what is the relationship between students' self-reports of procrastination and

their use of cognitive strategies? Using a scaled survey instrument, Wolters, in two separate studies, found that “students characterized as self-regulated learners would engage in procrastination to a lesser extent than other students” (Wolters, 2003, p. 184). In discussing the educational implications of the study, Wolters proposed that college teachers and personnel focus on improving student self-efficacy and the ability to estimate time required to complete a task. In addition, he recommended that students be assisted with improving the planning of their study practices, helping them to set “proximal goals for their academic work” (Wolters, 2003, p. 185) in order to prevent academic tasks from appearing to be overwhelming.

This review of the literature has established that academic procrastination is a multi-faceted, complex phenomenon related, individually and collectively, to perfectionism, fear of failure, difficulty with decision-making and self-assertion, rebellion against authority, limited cognitive and time planning skills, lower self-efficacy and self-regulatory abilities, circadian rhythms (especially eveningness), and self-handicapping strategies related to motivational constructs.

Where the present study differs from earlier studies is in its intent to have key informants (in this case, undergraduate students) represent their integrated and contextual viewpoints about reasons for academic procrastination, utilizing Q methodology. The sorting of 42 statements organized around reasons for academic procrastination was designed to allow each participant to describe his or her unique beliefs and experiences holistically. Instead of force-fitting the views of students into predetermined constructs, Q methodology was utilized in this study to attempt to gain new insights into the complex processes of academic procrastination by seeking the thoughtful reflections of the students themselves.

Methodology

The concourse for the study was derived from a variety of sources: a free-writing exercise on “Why I (or other people) procrastinate academic tasks” administered to a class of graduate students; popular and trade magazines, newspapers, and the Internet that presented ideas on what procrastination is and how to deal with it; scholarly materials such as those cited in the review of the literature above; the researcher’s teaching and advising experiences at a university; and the researcher’s personal experiences.

The Q sample of 42 statements (see Appendix A) was structured around seven categories described as reasons for procrastination within the scholarly literature: task aversion, perfectionism/fear of failure, decision-making difficulties, self-handicapping strategies, emotions (e.g., defiance or exhilaration), pragmatic concerns, and time management

skills. For each category, six statements were provided, three with positive valence and three with negative valence. Statements typical of the concourse (citing for each its category, source, and ranking within each of the four factors) included the following:

14. I worry the professor won't like my work or think it's good enough and I'll get a bad grade (perfectionism; derived from the scholarly literature; -2 +4 +5 -3)

23. Pressure feels good. It makes me feel creative and alive. I like the "rush" of having to finish things at the last minute. (emotions; derived from a student free-writing exercise; -1 -1 +2 +4)

36. I am involved in a lot of activities outside of school to which I have to give immediate attention. I don't have time to work on academic assignments until "later in the game." (time management; derived from a student free-writing exercise; -3 +1 +2 +2)

Participants in the P set were sixteen undergraduate students at a regional campus of a large public university in the United States, where all students are commuters. The 16 students were majoring in programs to prepare them for State licensure to teach students in primary school through Grade 12. All signed consent forms for the university's Human Subjects Review Board. Each completed a Participant Information Form that included a definition of academic procrastination ("delaying the start or completion of an academic task") and asked for relevant information about each student's personal and academic characteristics. Students circled descriptors on a brief survey regarding the extent to which they procrastinated on various academic activities (i.e., papers, tests, and regular reading assignments), whether procrastination on each of those activities was a problem for them, and the extent to which they wished to decrease their procrastinating behaviors on each task (these categories were adapted from PASS; see Rothblum, 2007b). Forty-four percent (44%) indicated they procrastinated "nearly always" or "always" when preparing term papers; 63%, when preparing for tests; and 63%, when preparing weekly reading assignments. These are higher numbers than recorded by Solomon and Rothblum (1984) but similar to Onwuegbuzie's findings (2000). Participants in the current study ranged in class rank from sophomores to seniors. Their ages ranged from 20 to 42. The average age was 24.9; the median age, 22.5; and the modal ages, 20, 21, and 23 (3 participants each). Fourteen were female and two were male, a proportion only slightly more skewed toward female participation than is typical of teacher education classes taught by the researcher.

Each student completed a Q sort of 42 statements. The condition of

instruction was to "Sort the cards according to the extent each statement is characteristic of your experiences and beliefs about academic procrastination." The Q sort array ranged from -5 to +5. Following the Q sorting exercise, each student wrote responses to printed questions by which they described their reasons for constructing their Q sorts as they did, identified reasons for procrastinating that were missing from the study (if any), and reflected on how they as future teachers would respond to procrastinating behaviors by their future students.

The Q sorts were processed using the computer program PQMethod 2.11 (Schmolck & Atkinson, 2002). Factor analysis employing principal components analysis, Varimax rotation, and refinement by judgmental rotation was applied. The written comments of participants were used to enrich the interpretation of statistical data from the factor analysis.

Results

Thirteen Q sorts were identified as defining sorts in a 4-factor solution (see Appendixes B and C). Correlations between factors were as follows:

Factors	1	2	3	4
1	1.00	.34	.28	.49
2		1.00	.36	.29
3			1.00	.38
4				1.00

Factor 1: Procrastinating for Pleasure

Factor 1, "*Procrastinating for Pleasure*," included two students, a senior and a sophomore, both females, two of the youngest of the participants. The Q sorts of these two students correlated at the highest level of any Q sorts in the study (.62), supporting the inclusion of a two-sort factor due to the strong congruence of their viewpoints. One was a "morning" person and one marked "other." The main emphasis for these students was how much they preferred to enjoy themselves socializing with friends and family rather than getting their academic work done:

1. *I'd rather relax or work out or be with friends and family than work on academic projects. (+5)*

27. *Academic tasks are always easier to do when I'm in the mood for them but I usually find it hard to get in the mood. (+5, distinguishing at $P < .05$)*

38. *The less I enjoy something, the longer I put it off. (+4)*

26. *Procrastination saves time for me to do other things I enjoy more. (+4, distinguishing at $P < .05$)*

One factor participant wrote, "I am always finding a way out of homework. If friends ask, I am free." The other commented, "I consider

myself to be a socially driven person. I love to be with family and friends and I get jealous of friends who are not in college with homework to do.”

In the following statements with quite different rankings, the students on this factor readily admit that a lack of time to engage in academic activities is not a primary issue for them:

5. *I seem to waste a lot of time.* (+3)

36. *I am involved in a lot of activities outside of school to which I have to give immediate attention. I don't have time to work on academic assignments until "later in the game."* (-4, distinguishing at $P < .01$)

Indicating that demands on her time were not the cause of her procrastination, one commented, “I am not in a lot of outside activities beside working.”

Their procrastination of academic activities has not hurt them academically.

20. *I've been rewarded for procrastination with good grades.* (+4)

They are pragmatic. One said, “I have had work that was done on time with plenty of planning that has gotten worse grades than ones done 10 minutes before class. So I stick with what works for me.” The other mentioned, “I have gotten A's on many tests and papers that I did at the last minute.”

Consistent with their emphasis on *procrastinating for pleasure*, the two students indicated they do not like the stresses involved with the pressure of last-minute assignments even though they often experience it.

23. *Pressure feels good. It makes me feel creative and alive. I like the "rush" of having to finish things at the last minute.* (-1)

The two women seem willing to accept and continue their current procrastinating approach to academics and to attribute their behaviors, in part, to forces beyond their control:

13. *I am convinced I am a born procrastinator.* (+3)

37. *Circumstances beyond my control usually prevent me from getting started on academic tasks sooner.* (+2)

Socializing, not a shortage of time, has contributed to their procrastinating behaviors that are reinforced by earning high grades. These two students accept responsibility for their decisions about procrastinating academic responsibilities for the pleasures of being with their families and friends. But they also indicated on their Personal Information Forms that they wanted to decrease their procrastinating behaviors “somewhat” or “definitely” in the areas of preparing for papers, tests, and weekly assignments.

Factor 2: Perfectionism at a Price

Factor 2, "*Perfectionism at a Price*," included three students (two seniors and one sophomore), all females, including some of the oldest participants. All three were "evening" people." The main emphasis for these students was that they were self-described perfectionists who worried about whether professors would appreciate their efforts and reward them. Note these highly ranked statements:

18. *I am a perfectionist. I prefer to work on assignments in small chunks well in advance, but I can't seem to do it. (+5, distinguishing at $P < .01$)*

14. *I worry the professor won't like my work or think it's good enough and I'll get a bad grade. (+5)*

One commented, "I am a perfectionist. I always triple-check my work. . . . Also, I always feel guilty when I procrastinate, yet I can't stop." Another wrote, "I have horrible test anxiety. If I put it off until the last minute, I feel I will not have as much anxiety. If I think about it too much in advance, it makes me crazy and stressed. . . . I do try to start projects early because I am a perfectionist, but I just don't always do it."

The students of *Perfectionism at a Price* have busy lives but aren't able to keep the various aspects of their lives in balance:

34. *I don't do a good job of balancing work and play in small doses on a regular basis. I tend to play all-out now and work all-out later. (+4, distinguishing at $P < .05$)*

35. *I delay academic work because there are too many different things going on in my life. (+4)*

One said, "I always choose fun over work and feel guilty about it." Another offered that, "I have children and they want to play. I try to spend time at their games and activities and I end up doing my work late when they're in bed."

Students on the *Perfectionism at a Price* factor are anxious about the quality of their work:

6. *I procrastinate because I don't trust myself to do a good job. (+3, distinguishing at $P < .01$)*

8. *I need to know everything about how to do something before I can get started. (+3, distinguishing at $P < .01$)*

Comments included these: "I have very low confidence in myself and my abilities." "I am worried about my grades and that the professor won't like what I've done. I want to find out all information before I start." These students are not entirely comfortable with the pressure of academic tasks. Note the mid-scale rankings of these statements:

20. *I've been rewarded for procrastination with good grades. (-1, distinguishing at $P < .01$)*

23. *Pressure feels good. It makes me feel creative and alive. I like the "rush" of having to finish things at the last minute. (-1)*

One summed it up this way: "Statement 23 is ridiculous. I hate pressure."

Those on the *Perfectionism at a Price* factor care deeply about their academic work and would like to work on projects in small chunks ahead of schedule, but they just can't seem to do it. The price they pay for their procrastination seems to be ongoing stress in the form of anxiety and worry combined with mixed feelings about their own competence as time managers and as adults capable of following through on their best intentions. They haven't been highly rewarded with good grades, undoubtedly adding to their anxiety. On the Personal Information Form, the students characterized by *Perfectionism at a Price* viewed their academic procrastination as a problem that they "definitely want to decrease" to a much greater degree than their classmates on the other factors.

Factor 3: Limited by Life

Factor 3, "*Limited by Life*," included three students (two females and one male), all seniors. One was a morning person; one, an evening person; and one marked "other."

This group believes their academic procrastination is caused by their hectic life circumstances that limit the amount of time available for academic pursuits.

35. *I delay academic work because there are too many different things going on in my life. (+5)*

37. *Circumstances beyond my control usually prevent me from getting started on academic tasks sooner. (+4, distinguishing at P < .05)*

28. *My friends or family pressure me to do things other than academic work and I give in to them. (+4)*

Their comments included: "Lately, it feels as if everything just piles on top of everything else. Between my job and volunteer activities, I overload myself." "I work one fulltime job and one part-time job. I have a husband and children. Work for class usually gets pushed aside until it's time to turn it in. There are too many things going on with work and family." "I am married, work fulltime and have a daughter with another child on the way. I procrastinate in every class."

Like their counterparts in *Procrastination at a Price*, these students revealed a bit of perfectionism in their approach to academics and confessed some anxiety about their work.

14. *I worry the professor won't like my work or think it's good enough and I'll get a bad grade. (+4)*

18. *I am a perfectionist. I prefer to work on assignments in small chunks well in advance, but I can't seem to do it.* (+2, distinguishing at $P < .05$)

One wrote, "I do not like putting things off because then I feel I am not doing the best work I can." Another commented, "Statement 14 is a huge stress for me! . . . I'm terrified to ask a professor for help. I feel like I might be turned away."

Yet somehow they manage to produce acceptable academic work and earn high grades in spite of their pressure-filled lives.

29. *When I have to be focused because of time, I produce much better work.* (+5)

20. *I've been rewarded for procrastination with good grades.* (+3)

12. *I have confidence I will get high quality work done on time, even though I start late.* (+3)

These comments are indicative of their approach: "In my entire academic career, I have waited until the last minute and received good grades." "When I have to be focused because something is due or a test is the next day, I turn everything else off (family and work) and dedicate my time to academics. Then I produce good work because there are no distractions."

Members of the *Limited by Life* group see themselves as ethical, industrious, and capable people who care about doing well academically. They don't procrastinate simply to avoid learning tasks, to enact personal preferences, or to indulge in pleasurable activities, as indicated by these statements with negative valence ranked as -5, -4, and -3:

11. *By delaying, I know I can get help from a classmate who started earlier.* (-5, distinguishing at $P < .05$)

4. *I just don't care enough to plan ahead for papers and tests.* (-5)

39. *I'm not good at academic things and I don't like doing them. Putting them off keeps me from wasting my time and allows me to focus on things I'm good at.* (-5)

25. *I procrastinate more in courses where I don't like or respect the professor.* (-4, distinguishing at $P < .01$)

Through these statements describing qualities not at all like them, the students *Limited by Life* indicate that their academic procrastination is not a result of their inner dispositions, beliefs or preferences, but is a necessary bi-product of the demands of being a responsible family member, worker, and citizen. One wrote that, "Procrastination is not my way of life. I do care a lot about my assignments." Another said, "I do not procrastinate because of a class or professor. My personal feelings have nothing to do with time constraints or my inability to juggle my time."

The third factor member said, "I love school and learning. I wish I could study every moment, but I don't." According to their Personal Information Forms, the students on the *Limited by Life* factor want very much to decrease their procrastinating behaviors, but the circumstances of their busy lives that are beyond their control continue to impose limits that result in academic procrastination.

Factor 4: Delay by Design

Factor 4, "*Delay by Design*," included five students (four females and one male; four seniors and one junior). There were three "morning" people and two "evening" people.

Statements they ranked +5 and +4 indicated their predilection for working at the last minute, under pressure:

29. *When I have to be focused because of time, I produce much better work. (+5)*

23. *Pressure feels good. It makes me feel creative and alive. I like the "rush" of having to finish things at the last minute. (+4)*

One wrote, "Sometimes I think I would have made a great journalist because I work better under pressure and on a tight or close deadline."

Delay by Design students are confident they will be academically successful in spite of procrastination and the fact there are many demands on their time:

12. *I have confidence I will get high quality work done on time, even though I start late. (+4)*

35. *I delay academic work because there are too many different things going on in my life. (+4)*

One commented, "If something interests me, I usually start the project right away. I work fulltime at my job and have many responsibilities and obligations outside of school. Mix that in with the fact that I might not like a particular course and the priority for school or a particular class goes to the bottom of the pit."

Through several statements with negative rankings, Delay by Design students dismiss ideas that imply their procrastinating behaviors occur because they are uncertain about their goals, are unethical, or can't manage their time well:

40. *I'm not really sure why I'm in college or where I'm headed in a career, so it's hard to dig in early and study in advance on assignments that have little meaning for me. (-5)*

11. *By delaying, I know I can get help from a classmate who started earlier. (-4)*

10. *I'm a lazy person by nature and I doubt if I can change. (-4)*

7. *I find time management a difficult skill to master.* (-3, distinguishing at $P < .01$)

5. *I seem to waste a lot of time.* (-3)

Nor do they procrastinate in all areas of their lives.

31. *Procrastination is almost a way of life for me. It's not just in academics. I show up at the last minute or late to work, social events, and community activities, too.* (-5, distinguishing at $P < .05$)

These students are not vulnerable to many classic reasons for academic procrastination. They are not perfectionists:

18. *I am a perfectionist. I prefer to work on assignments in small chunks well in advance, but I can't seem to do it.* (-3, distinguishing at $P < .05$)

They are not concerned about their professors' reactions to their work

14. *I worry the professor won't like my work or think it's good enough and I'll get a bad grade.* (-3)

They do not view their academic procrastination as inborn and beyond their control:

13. *I am convinced I am a born procrastinator.* (-1, distinguishing at $P < .01$)

It appears *Delay by Design* students intentionally build academic procrastination into their lives. They deliberately choose to delay the start of academic projects because of their demanding schedules. They seem to take responsibility for their actions:

38. *The less I enjoy something, the longer I put it off.* (+5)

35. *I delay academic work because there are too many different things going on in my life.* (+4)

There are many demands on the time of students on the *Delay by Design* factor. But they know why they are in college and they are generally successful at academic endeavors so those are not indicators of why they procrastinate. They are ethical people who are not procrastinating in order to get help from classmates who started earlier on a task. They plan ahead and utilize *Delay by Design* as a time management strategy for their academic work. According to their Personal Information Forms, *Delay by Design* students were least interested among the three groups in decreasing their procrastination of academic tasks.

Discussion and Implications

In comparing this study to earlier studies, three of the factors seemed to confirm what other studies had found to be typical reasons for academic procrastination. The viewpoint of *Perfectionism at a Price* was consistent

with earlier findings on perfectionism and fear of failure as reasons for academic procrastination. The viewpoint of *Procrastinating for Pleasure* was consistent with earlier findings on task aversion as an explanation. The viewpoint of *Limited by Life* echoed the insights of earlier research about blaming outside forces (self-handicapping) as explanations for delaying the start of academic work.

What is unique about this study is the positive attitude toward academic procrastination taken by the *Delay by Design* group. They seem to have intentionally chosen to include academic procrastination as a positive learning strategy in their busy lives. In contrast to the prevalent response in the literature that academic procrastination is a harmful behavior, their experience suggests that academic procrastination should not always be viewed as a negative strategy. Rather, *Delay by Design* should be thought of as a possible positive coping strategy to be affirmed and perhaps even taught to undergraduates as one option to help them accept their procrastinating behavior and become more proficient at learning through its application.

However, the *Delay by Design* perspective also serves as a warning to educators that many students perceive school as a low priority chore among the many demands on a student's life. The existence of a *Delay by Design* perspective suggests that some students view schooling merely as a means to an end. It is to be endured in order to receive a credential for some greater goal than engaging important ideas and learning for its own sake. If this were true, then educators would do well to reconsider how ideas are presented in their classrooms so that they have greater significance and more immediate applications for the students in their classes.

Teachers might also want to consider establishing higher standards for the quality of academic work completed by students. The fact that most students in this study have been rewarded with good grades for procrastinated academic work might suggest that, since grades are not an effective deterrent to procrastination, instructors might be wise to develop creative assignments that both engage student interests at a higher level and require learning in small chunks over time, instead of large assignments being due all at once on a single day, such as a major paper. Assignments that build over time would be consistent with the increased student understanding that is associated with "distributed practice" (work done in small chunks over a period of time) instead of "massed practice" (intensified studying done all at once, an example of which is cramming for a test the night before).

An additional concern for educators in the United States is the growing culture of standardized testing that seems to have the effect of limiting the development of student thinking and self-expression in

deference to merely learning enough to pass State-mandated tests. A concern is that creative thinking and learning for its own sake will be increasingly replaced by learning to earn a credential in the most efficient way possible, which increases the likelihood that extrinsic reinforcers could replace the intrinsic satisfaction of meaningful learning. This trend may lead to increased academic procrastination as students give priority to learning only what is needed to succeed on tests in the most expedient way possible instead of exploring ideas of personal interest to them. Students may continue to become increasingly proficient at “playing the credentials game of school” by meeting others’ academic expectations (often at a minimum level of proficiency) instead of taking responsibility for setting their own high standards of accomplishment as they set important goals for their lives and view schooling as a means to assist them think about what is important and how to accomplish it.

The findings of Brownlow & Reasinger (2001) on locus of control and academic procrastination are echoed in the present study with one major variation. The present study found that all four groups exhibited high levels of academic procrastination, but the high-level procrastination by the *Procrastinating for Pleasure*, *Perfectionism at a Price*, and *Limited by Life* groups was exemplified by an external locus of control that justified academic procrastination by attributions of causality beyond student control (e.g., “I’m a born procrastinator” and/or “I just can’t stop procrastinating” and/or “The demands of my life force me to procrastinate”). To some extent, the *Procrastinating for Pleasure* group represented a hybrid of external and internal locus of control (e.g., “My friends easily distract me from studying, but I accept responsibility for allowing them to do so.”). In contrast with the other factors, the *Delay by Design* group displayed a strong internal locus of control by affirming that academic procrastination was a positive time management strategy they had embraced, perfected, and for which they took responsibility. Future research might fruitfully define and operationalize “higher” and “lower” levels of academic procrastination in order to gauge more accurately their actual frequencies and intensity among the four groups studied here. If the number of incidents of academic procrastination by students in the *Delay by Design* group were significantly fewer than the other groups, the conclusions of the Brownlow & Reasinger (2001) study might be supported.

Future research might usefully focus separately on these typical occasions for procrastination. (e.g., tests, papers, daily or weekly assignments, etc.) as well as on the unanimous association of *Perfectionism at a Price* with “eveningness” (Hess et al., 2000). If the theory of circadian rhythms gains further credibility via research, it may

become a source of insight into the relationship, if any, between academic procrastination and the anxiety of evening people.

Q methodology has proved to be a useful tool to explore the nature of academic procrastination among undergraduates. The results of this study have strong heuristic value for thinking about how students view schooling and how educators might better address issues of curricular relevance and the development of learning assignments. The use of Q methodology has enabled affected students to express their points of view on their beliefs and experiences as whole persons *in media res* rather than being forced into predetermined categories that view them as collections of traits rather than as whole persons. As a result of the holistic approach of Q methodology, traditional insights into academic procrastination have been confirmed to some degree and a new insight has been identified—the *Delay by Design* factor—that describes how students deliberately delay academic pursuits from an internal locus of control, that is, intentionally and responsibly, given their life circumstances. Perhaps those on the *Delay by Design* factor are not truly academic procrastinators, but are skilled and reasonable prioritizers who have learned to manage their time and tasks well in an increasingly demanding and fast-paced world, even if their choice to rank academic pursuits low in priority often seems unfortunate and misguided to the academics who study them and for whom academic procrastination of any kind represents a shortcoming or weakness in their students. In this study, Q methodology, itself an approach that is often belittled by establishment researchers because it challenges traditional presuppositions about how to measure human experience, has shown its value in its identification of a new way of thinking about planning for academics that is also unconventional and effective.

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Appendix A: Q Sample in Numerical Order

Statements are followed by rankings on each factor in 1-2-3-4 order.

1. I'd rather relax or work out or be with friends and family than work on academic projects. (+5 +4 0 +3)
2. I'm mostly interested in getting grades sufficient to graduate and get a job, so spending a lot of time to learn and remember things in depth doesn't make sense to me. (-5 -4 -3 -2)
3. My goal is to do the least possible work for the best possible grade. (0 -4 -2 0)
4. I just don't care enough to plan ahead for papers and tests. (-1 -5 -5 -2)
5. I seem to waste a lot of time. (+3 -2 +1 -3)
6. I procrastinate because I don't trust myself to do a good job. (-4 +3 -3 -2)
7. I find time management a difficult skill to master. (+1 0 +2 -3)
8. I need to know everything about how to do something before I can get started. (-2 +3 0 0)
9. I tend to digress in my thinking, so if I start too early on a project, my time is not well spent. (-2 -1 -1 +2)
10. I'm a lazy person by nature and I doubt if I can change. (0 -4 -3 -4)
11. By delaying, I know I can get help from a classmate who started earlier. (-4 0 -5 -4)
12. I have confidence I will get high quality work done on time, even though I start late. (+1 +1 +3 +4)
13. I am convinced I am a born procrastinator. (+3 +2 +1 -1)
14. I worry the professor won't like my work or think it's good enough and I'll get a bad grade. (-2 +5 +4 -3)
15. If I start studying for papers or tests far in advance, I'd be thinking and worrying about them so much the stress would drive me crazy. (+2 +3 -3 +3)
16. Delaying helps me focus. It gets me to make decisions that would normally be hard for me to make. (0 -2 0 +2)
17. Preparing for tests and major papers seems so daunting and unmanageable I put it off. (+1 +3 +1 +1)
18. I am a perfectionist. I prefer to work on assignments in small chunks well in advance, but I can't seem to do it. (0 +5 +2 -3)
19. I basically need to be forced to do most academic work. (0 0 -1 -2)

20. I've been rewarded for procrastination with good grades. (+4 -1 +3 +3)
21. I don't know what to include or not to include in preparing for a test or paper and I don't feel comfortable approaching the professor to ask for help. (-4 -3 +3 0)
22. I too easily underestimate the amount of time a project will take. I may start early but do too little on it until the last minute. (0 +1 0 -1)
23. Pressure feels good. It makes me feel creative and alive. I like the "rush" of having to finish things at the last minute. (-1 -1 +2 +4)
24. I don't like others to evaluate my work and call attention to my shortcomings. (-3 +2 -1 0)
25. I procrastinate more in courses where I don't like or respect the professor. (+1 0 -4 +1)
26. Procrastination saves time for me to do other things I enjoy more. (+4 0 -3 +1)
27. Academic tasks are always easier to do when I'm in the mood for them but I usually find it hard to get in the mood. (+5 +2 +1 +3)
28. My friends or family pressure me to do things other than academic work and I give in to them. (+2 0 +4 +1)
29. When I have to be focused because of time, I produce much better work. (-1 +1 +5 +5)
30. I procrastinate in courses I don't like or where the subject matter seems to have no value for me. I spend as little time as possible on them. (+3 -1 -1 +2)
31. Procrastination is almost a way of life for me. It's not just in academics. I show up at the last minute or late to work, social events, and community activities, too. (-3 -2 0 -5)
32. I may wait to start academic projects closer to the deadline than many people do, but the truth is that the vast majority of people procrastinate, so why shouldn't I? (+1 -3 0 -1)
33. When I start to procrastinate, it's a sign to me that I'm not being responsible enough about my use of time and my priorities. (-1 -1 +3 0)
34. I don't do a good job of balancing work and play in small doses on a regular basis. I tend to play all-out now and work all-out later. (+2 +4 +1 -1)
35. I delay academic work because there are too many different things going on in my life. (+3 +2 +5 +4)

- 36. I am involved in a lot of activities outside of school to which I have to give immediate attention. I don't have time to work on academic assignments until "later in the game." (-3 +1 +2 +2)
- 37. Circumstances beyond my control usually prevent me from getting started on academic tasks sooner. (+2 -1 +4 +1)
- 38. The less I enjoy something, the longer I put it off. (+4 +4 -2 +5)
- 39. I'm not good at academic things and I don't like doing them. Putting them off keeps me from wasting my time and allows me to focus on things I'm good at. (-1 -2 -4 -4)
- 40. I'm not really sure why I'm in college or where I'm headed in a career, so it's hard to dig in early and study in advance on assignments that have little meaning for me. (-5 -5 -2 -5)
- 41. I like to put off studying for a test or preparing a paper because it's a personal challenge for me to see if I can get a good grade in spite of starting late. (-3 -3 -1 -1)
- 42. I dislike required courses. Procrastinating in those courses is my way of asserting my independence. (-2 -3 -4 0)

Appendix B: Factor Loadings for Each Q Sort

<i>Q sort</i>	<i>Factors</i>			
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
1	20	02	04	77
2	-23	13	75	26
3	22	-23	36	71
4	11	68	16	28
5	21	31	07	64
6	10	49	46	40
7	52	11	20	53
8	82	15	06	17
9	39	64	19	21
10	06	07	18	73
11	40	09	61	00
12	24	39	01	67
13	03	80	05	25
14	72	12	12	38
15	30	14	68	05
16	01	46	48	34

Defining sorts are shown in bold with decimals omitted.

Appendix C: Factor Arrays**Factor 1: Procrastinating for Pleasure**

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
2	6	24	42	39	18	17	34	30	38	1
40	21	41	14	23	19	12	37	35	20	27
	11	36	8	33	3	32	15	5	26	
		31	9	29	10	7	28	13		
				4	16	25				
					22					

Factor 2: Perfectionism at a Price

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
40	2	41	31	37	25	22	35	6	34	18
4	10	21	5	23	7	33	27	8	38	14
	3	32	16	9	11	29	13	15	1	
		42	39	30	19	36	24	17		
				20	28	12				
					26					

Factor 3: Limited by Life

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
11	39	2	10	41	32	5	23	20	37	35
4	42	15	38	24	16	17	18	33	14	29
	25	6	40	9	8	27	7	21	28	
		26	3	30	22	34	36	12		
				19	1	13				
					31					

Factor 4: Delay by Design

-5	-4	-3	-2	-1	0	+1	+2	+3	+4	+5
40	10	5	6	34	42	26	36	1	35	29
31	11	7	4	13	3	37	30	15	12	38
	39	18	19	22	33	17	9	27	23	
		14	2	41	21	28	16	20		
				32	8	25				
					24					