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ABSTRACT

This study examined the relationship between college students' preference for an immediately available option (e.g., go to a favorite concert the day before a test) or a delayed alternative (e.g., stay at home to study for the test). Analysis focused on how much a student would like to engage in a specific activity, the importance of the activity to him/her, and the student's academic expectations given a choice for each activity. Undergraduate college students (n=113) completed the academic delay of gratification (ADOG) scale, in which students choose between an attractive, immediately available option versus a delayed alternative likely to produce better academic achievement. Students also completed the motivated strategies for learning questionnaire, which assesses students' motivational tendencies, cognitive strategies, and self-regulatory learning strategies. Analysis found that delay of gratification was a direct function of the differences between liking for, value of, and expectancy of academic success given the option of an immediate pleasurable activity. Motivation for learning and use of learning strategies were also functions of these differences. Results support the view that academic delay of gratification is an important volitional and self-regulatory strategy employed by learners to obtain academic achievement. The ADOG scale is appended. (Contains 16 references.) (DB)

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Individual Differences in Academic Delay of Gratification

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Presented at the Annual Meeting of the Eastern Psychological Association
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Individual Differences in Academic Delay of Gratification

Abstract

We examined the relationship between college students' preference for an immediately-available option (e.g., go to a favorite concert a day before a test) or a delayed alternative (e.g., stay home studying for a test). We assessed how much they would like to engage in these activities; the importance of these activities for them; and their academic expectations given a choice for each of the activities. These differences are significantly related to students' delay preference, motivation for learning, use of cognitive, metacognitive, self-regulated learning strategies and final course grade.

Individual Differences in Academic Delay of Gratification

Students often defer engaging in attractive activities (e.g., going to the movies) for the sake of achieving long term goals (e.g., getting a higher grade). This type of activity is characterized as delay of gratification, similar to the behavior of children who earn a larger reward by not succumbing to a smaller alternative that is immediately available (Mischel, 1996). The effort to identify factors that explain students' success at protecting academic intentions against disruption has generated a relatively new line of research known as self-regulated learning approach or volition (Snow, Corno, & Jackson, 1997; García, McCann, Turner, & Roska, 1997; Wolters, Yu, & Pintrich (1996). According to the self-regulated learning approach, three of the major factors that appear to mediate students' ability to remain task focused are (a) students' motivational tendencies, (b) their use of cognitive strategies, and (c) self-regulation or volition. The present study sought to better understand students' delay of gratification by examining its relation to these factors.

Most studies on delay of gratification have been aligned with work done by Mischel and his associates. For example, Mischel, Shoda, and Peake (1988) found that children who opted to delay gratification as preschoolers achieved more during high school and were academically and socially more competent than were children who preferred immediate gratification. Bembenutty and Karabenick (1996) developed a course-specific Academic Delay of Gratification Scale (ADOGS) in which college students rated their preference for an immediately-available option (e.g., go to a favorite concert a day before a test) or a delayed alternative (e.g., stay home studying for the test). As expected, the more students tended to delay, the higher was their facilitative motivational tendencies and use of cognitive and self-regulated learning strategies. The present study was designed to determine whether that finding would replicate. In addition, we examined the relationship between ADOG and the motivational (expectancy x value) characteristics of the immediate versus the delayed choices (e.g., Eccles, Wigfield, & Schiefele, 1998). Specifically, it was expected that students would prefer to delay as a function of differences between the expected-value of the academic (i.e., long) term goal and the immediate gratification of engaging in its alternatives.

With respect to the motivational determinants, although expectancy is relatively direct in terms of its assessment, value is more conceptually and empirically complex. Eccles, (1983), for example, posited three major components of value—interest, importance and the utility of the task—that are related but can be differentiated. We will focus on two of these components—interest and value—that are particularly germane to the delay of gratification scenario. Consider a college student who is studying for an important test the next morning and who receives an invitation from her

friends to go to a party that same night. The choice to study would be a function of her interest in studying versus being with her friends, and the degree that she considered studying to be the more valuable activity. At issue here is whether interest of value would be the primary determinant of the choice. For example, differential interest in studying and being with friends may not be as critical as the value of these activities in determining whether to continue studying or party with friends. The present study was designed to test for this possibility.

Method

Participants were 113 undergraduate college students enrolled during the Summer of 1997 in introductory level courses at a large, public, Midwestern university. Participation was voluntary and anonymous. The ADOGS (Cronbach alpha = .71) was administered to participants in their regular classroom. The ADOGS (see Appendix 1) is a 10-item instrument to assess course specific academic delay of gratification (Bembenutty & Karabenick, 1995). The students rated their preference for an immediately-available attractive option, such as "Going to a favorite concert, play, or sporting event, even though it may mean getting a lower grade on an exam in the class to be taken the next day" versus a delayed alternative, such as "Staying home and studying to increase your chances of getting a higher grade." Students responded on a four-point scale: Definitely choose A, Probably choose A, Probably choose B, and Definitely choose B. Delay preference was determined by summing over the ten items (coding of 1 to 4 per item) with higher scores indicating greater delay. The mean for the items was 3.0 (SD = .45).

For each item, students were then asked: a) how much they would "like" the immediate and the delayed alternatives (the way that "interest" was operationalized in the present study), b) how "important" the two alternatives were to them, and c) the likelihood that they would do well if they chose either of the alternatives (see Appendix 2). Students responded on a five-point scale from "not at all" to "very much." Difference scores were obtained by subtracting responses to the delay alternative from the immediate alternative, and these were summed over the ten items. Thus higher scores were indicative of greater liking, value, and expectancy for the delay versus non-delay alternative.

Students also completed the Motivated Strategies for Learning Questionnaire (MSLQ; Pintrich, Smith, García, & McKeachie, 1993). The 81-item MSLQ assesses students' motivational tendencies (i.e., intrinsic and extrinsic motivation, test anxiety, self-efficacy), cognitive strategies (i.e., elaboration, organization, metacognition), and self-regulatory learning

strategies (i.e., effort regulation, help seeking, peer learning). Demographic information and final course grade were also obtained.

Results and Discussion

Table 1 shows the results of multivariate tests of significance of the main effects and interactions between gender and ethnicity using ADOG, final course grade, liking, value, expectancy were not significant, $F\ (1,98) = .74$, *ns*. However, minorities students shown greater interest for the delayed alternatives than Caucasians. Table 2 presents correlations between delay preferences (ADOG) and dimensions assessed by the MSLQ. In general, the results replicate previous findings (Bembenutty & Karabenick, 1996) that delay preference is associated with greater use of most cognitive and metacognitive learning strategies (although not to retrieval, organization, or peer learning). However, in the present study, delay was not related to either self-efficacy or extrinsic motivation for the sample. For this specific course, therefore, the degree to which students believed they were more capable of performing well in the course or that considered the course more useful was unrelated to their delay preference.

Also shown in Table 2 are the independent relationships (using second-order partial correlations) between students' motivational tendencies, reported use of learning strategies, and overall difference scores for liking, value, and expectancy for delay and non-delay alternatives. Of considerable importance is that different patterns of associations were evidenced by these variables. Liking was related to the use of strategies of elaboration, rehearsal, and to the time that students dedicated to study, but not to course-specific motivation. In other words, students who were more interested in (i.e., "liked") studying relative to engaging in other activities tended to relate the course material to that of other courses, to memorize it through repetition, and not unexpectedly to spend more time studying. With the exception of effort regulation (i.e., persistence on difficult or boring tasks), however, value was not statistically related to the use of learning strategies and instead to: extrinsic motivation, task value, self-efficacy, and expectancy for success. In other words, the more motivated students considered delaying immediate gratification relatively more valuable than the non-delay alternative.

Relationships involving expectancy differences were similar to those of value, but also to students' use of two strategies (critical thinking and peer learning). With expectancy, however, the relationships were inverse: for students who considered the course more valuable, important, and believed they would perform better, the more negative the difference between expectations of doing well in the course for the delay versus the non-delay

alternative. For example, the more motivated students believed that studying or going to a party would make less of a difference than did less motivated students. This is reasonable if we assume that such students would be more prepared in general so that the difference in time devoted to studying versus engaging in social activities would be more marginal than it would be for less prepared students. The relationship between expectancy differences and critical thinking can be similarly explained as a manifestation of higher student motivation. That is, studying or partying made less of a difference for students who regularly engaged in more critical thinking (i.e., closely examining the issues and course material). The same analysis would apply to peer learning.

Table 3 shows correlations coefficients and lineal regression between the delay preference and differences between liking, value, and expectancy of the immediate versus the delayed alternatives. Table 3 focuses on the relationships between delay versus non-delay differences in interest, value and expectancies and overall delay preference (ADOG). As expected, students with higher delay preferences liked, valued, and had higher expectations of success for the delay relative to the non-delay options. From an expectancy x value perspective, students more likely to delay satisfaction, relative to their peers, (e.g., by opting to study instead of going out with their friends) are reflecting the difference between the expected-value of the alternatives. Furthermore, there is no difference between interest (liking) and value in this regard, as indicated by almost identical correlations with delay preference. Evidently, delay preference is highly a function of liking, value, and expectancy. Although the differences of expectancy do not predict delay preference, overall, the expectancy-value approach to delay of gratification represents a fruitful way to understand students' academic behavior and preference tendencies.

These findings indicate that delay of gratification is a direct function of the differences between liking for, value of, and expectancy of academic success given an engagement on the delayed versus non-delayed activities. Motivation for learning and use of learning strategies is also a function of these differences. These findings are consistent with previous work on delay of gratification (Funder, Block, & Block, 1989; Mischel, Shoda, & Rodríquez, 1989), volition and self-regulation (Corno, 1989), expectancy, values, and academic achievement (Eccles, Wigfield, & Schiefele, 1998). These results serve to establish academic delay of gratification as an important volitional and self-regulatory strategy employed by learners to obtain academic achievement.

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Table 1. Multivariate Analysis of Main Effect and Interaction of Gender and Ethnicity on Academic Delay of Gratification (ADOG), Final Course Grade, Liking, Value, and Expectancy (N = 98)

	ADOG	*Grade*	*Liking*	*Value*	*Expectancy*
Main Effect					
Gender	.30	.51	.96	1.00	1.16
Ethnicity	1.9	3.6	31.75***	2.18	.79
Interaction					
Gender X Ethnicity	.88	.10	.14	.55	.26
Means: Females	3.08	2.15	-.51	1.60	1.80
Males	3.03	2.05	-.27	1.44	1.63
Means: Caucasian	3.00	2.24	-1.09	1.40	1.64
Others	3.12	1.98	.31	1.64	1.79

*Note: P-values are for univariate F-ratios, ***p < .001*
Multivariate tests of significance of the interaction between Gender and Ethnicity using all variables: F (1,98) = .74, ns. Final Course Grade range from 0 to 4.

Table 2. *Relationship Between Academic Delay of Gratification (ADOG), Final Course Grade, and the MSLQ scales Controlling by the Differences between Liking, Value, and Expectancies of the Immediate versus Delayed Alternatives (N = 113)*

			Partial Correlations		
Scales	*Mean (SD)*	*ADOG*	*Liking*	*Value*	*Expectancy*
ADOG	3.0 (.45)		.36**	.34**	.09
Motivation					
Intrinsic Motivation	4.3 (.61)	.40***	.08	.15	.03
Extrinsic Motivation	3.8 (.94)	.11	-.15	.26*	-.25*
Task Value	4.1 (.99)	.22*	.10	.37**	-.22*
Self-Efficacy	4.1 (.80)	.11	-.16	.23*	-.28*
Expectancy of Success	4.0 (.91)	.23*	-.07	.26*	-.30**
Test Anxiety	2.6 (1.1)	.02	.18	.06	-.10
Cognitive Strategies					
Elaboration	3.2 (.72)	.59***	.27*	.10	.04
Organization	3.4 (.86)	.15	-.06	.10	-.05
Retrieval	3.1 (.88)	.04	.14	.10	.00
Critical Thinking	3.6 (.82)	.25*	.09	.19	-.23*
Metacognition	3.6 (1.0)	.30**	.17	.08	-.06
Conditional Knowledge	3.4 (1.0)	.26**	.10	.12	-.16
Rehearsal	2.6 (1.4)	.28**	.39***	.06	-.14
Self-Regulatory Strategies					
Effort Regulation	4.1 (.89)	.24*	-.01	.24*	-.16
Action Control	2.7 (1.0)	.21*	.16	.08	-.06
Control of Environment	3.8 (.74)	.29**	.15	.13	-.03
Time Dedicated to Study	2.9 (1.1)	.55***	.40***	.08	.00
Peer Learning	2.0 (1.1)	-.13	.09	.15	-.30**
Final Course Grade	3.2 (.87)	.34**	-.21	.23	-.04

*$p < .05$ **$p < .01$ ***$p < .001$

Table 3. *Correlation Coefficients and Lineal Regression between Overall Preferences and Differences between Liking, Value, and Expectancies of the Immediate versus Delayed Alternatives (N = 113)*

	Correlations					
Dimension	Preference	Liking	Value	ß	Mean	SD
Delay Preference					3.03	.48
Liking	.45***			.30**	-.61	1.35
Value	.51***	.31**		.38**	1.48	.79
Expectancy	.44***	.20*	.68***	.10	1.68	.48
Regression F for predicting Delay Preferences				17.51***		
R^2				.40		

*$p < .01$ **$p < .001$ ***$p < .0001$

APPENDIX 1

ACADEMIC DELAY OF GRATIFICATION SCALE (ADOGS)

1. A. Go to a favorite concert, play, or sporting event and study less for this course even though it may mean getting a lower grade on an exam you will take tomorrow, OR
   B. Stay home and study to increase your chances of getting a higher grade.

2 A. Study a little every day for an exam in this course and spend less time with your friends, OR

   B. Spend more time with your friends and cram just before the test.

3. A. Miss several classes to accept an invitation for a very interesting trip, OR
   B. Delay going on the trip until the course is over.

4. A. Go to a party the night before a test for this course and study only if you have time, OR
   B. Study first and party only if you have time.

5. A. Spend most of your time studying just the interesting material in this course even though it may mean not doing so well, OR
   B. Study all the material that is assigned to increase your chances of doing well in the course.

6. A. Skip this class when the weather is nice and try to get the notes from somebody later, OR
   B. Attend class to make certain that you do not miss something even though the weather is nice outside.

7. A. Stay in the library to make certain that you finish an assignment in this course that is due the next day, OR
   B. Leave to have fun with your friends and try to complete it when you get home later that night.

8 A. Study for this course in a place with a lot of pleasant distractions, OR
   B. Study in a place where there are fewer distractions to increase the likelihood that you will learn the material.

9. A. Leave right after class to do something you like even though it means possibly no understanding that material for the exam, OR
   B. Stay after class to ask your instructor to clarify some material for an exam that you do not understand.

10. A. Select now an instructor for this course who is fun even though he/she does not do a good job covering the course material, OR
   B. Select an instructor for this course who is not as much fun but who does a good job covering the course material.

Note: Values are based on a 1 to 4 coding of responses, with higher values representing greater preference for the delayed alternative.

— Response scale —

Definitely choose A ___ *Probably choose A* ___ *Probably choose B* ___ *Definitely choose B*

APPENDIX 2

Sample-Item Assessing Academic Delay of Gratification (ADOG) with Liking, Value, and Expectancy for Success Given Preferences for Immediate versus Delayed Alternatives

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Situation 1

Suppose that you had a choice between...

A. Going to a favorite concert, play, or sporting event and studying less even though it may mean getting a lower grade on an exam the next day, ***OR***

B. Staying home and studying to increase your chances of getting a high grade.

Which would you probably choose to do?

__Definitely choose A __Probably choose A __Probably choose B __Definitely choose B

- How much would you **like** to go to a favorite concert, play, or sporting event?

  Not at all 0 1 2 3 4 5 *Very Much*

- How much would you **like** to stay home and study?

  Not at all 0 1 2 3 4 5 *Very Much*

- How **important** would it be for you to go to a favorite concert, play, or sporting event?

  Not at all 0 1 2 3 4 5 *Very Much*

- How **important** would it be for you to stay home and study?

  Not at all 0 1 2 3 4 5 *Very Much*

- How **likely** is it that you would get a high grade on the exam if you went to the concert, play, or sporting event?

  Not at all Likely 0 1 2 3 4 5 *Very Likely*

- How **likely** is it that you would get a high grade on the exam if you stayed home to study?

  Not at all Likely 0 1 2 3 4 5 *Very Likely*

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