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This chapter reviews the association between academic delay of gratification and students' motivational beliefs and use of self-regulated learning strategies.

Academic Delay of Gratification and Academic Achievement

Héfer Bembenutty

The ability to delay gratification is the cornerstone of all academic achievement and education. It is by delaying gratification that learners can pursue long-term academic and career goals. In general, *delay of gratification* refers to an individual's ability to forgo immediate rewards for the sake of more valuable ones later (Mischel, 1996). Individuals who are able to delay gratification are known to have higher intelligence and higher academic achievement and to be more socially well adapted than individuals who succumb easily to immediate impulses and temptations. It is impossible to conceptualize a well-functioning society if its members are unable to prioritize between available rewards and those more important for which they will need to wait.

In an academic content, however, *academic delay of gratification* refers to students' postponement of immediately available opportunities to satisfy impulses in favor of pursuing important academic rewards or goals that are temporally remote but ostensibly more valuable (Bembenutty and Karabenick, 1998). Given the importance of delay of gratification for academic success, one might expect, therefore, that the conceptualization of this construct and its educational implications should be reasonably understood by learners and educators. In spite of its significance, little is known about delay of gratification among college and university students. Successful postsecondary education is inconceivable if educators and learners do not comprehend this valuable educational factor in this period of educational accountability.

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Learners who are able to delay gratification are self-regulated learners (Bembenutty, 2009). *Self-regulation of learning* refers to individuals' controlling their motivation, beliefs, and behaviors in order to pursue academic goals (Zimmerman, 2000). Indeed, Mischel (1996) conceptualized the ability to delay gratification as part of the self-regulatory system necessary to guide behavior without external controlling stimuli. Likewise, Zimmerman (1998) posited that learners must generate extraordinary personal motivation to delay gratification until distal goals are achieved. A fundamental issue in postsecondary education concerns the manner in which learners select academic goals, pursue and monitor those goals, and self-reflect about their academic outcomes.

In early research on delay of gratification, it was assumed that delay of gratification was only an inherited disposition or personality trait with limited possibility for change (Funder and Block, 1989) or an intrapsychic phenomenon subject primarily to the unconscious structure of the personality. Subsequently, this ability has been conceptualized as an individual competence that children develop over time by learning delay-relevant strategies (Mischel, 1996). A major limitation of modern conceptions of delay of gratification, however, is that, to date, researchers have not clearly examined the importance of delay for postsecondary education within the framework of self-regulation of learning. However, new research initiatives have started to shed light on the pioneering factor of delay of gratification for postsecondary education. Therefore, the three major purposes of this chapter are to fill this gap by examining the new conceptualization of delay and the factors associated with successful attainment of goals over long periods and to provide new directions of research on delay of gratification expected to be beneficial to postsecondary education.

What Is Academic Delay of Gratification?

Previous research on delay of gratification centered primarily on children and was conducted mainly in nonacademic settings. A major limitation of that research is that little was known about college students' tendencies and preferences for delay of gratification and how their motivational tendencies and self-regulatory practices were associated with their willingness to delay gratification. At the same time, a relatively new line of research on self-regulation of learning has been undertaken to shed light on college students' motivation, cognition, and behavior. Thus, triangulating previous findings about delay of gratification with contemporary findings about college students' cognitive, motivational, and behavioral tendencies was a logical path to undertake. To this end, Bembenutty and Karabenick (1998, 2004) initiated a new line of research on academic delay of gratification. They developed a course-specific assessment instrument, the Academic Delay of Gratification Scale, to assess college students' tendencies and willingness to delay gratification in academic-related matters.

In the ten-item Academic Delay of Gratification Scale, the researchers asked college students to choose between two competing alternatives. An example of the items is:

> Suppose that you have a choice between a) "Going to a favorite concert, play, or sporting events 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?

The scale has solid psychometric properties with acceptable internal consistency, reliability, and validity. The scale has been administered to traditional college students and in-service and preservice teachers enrolled in undergraduate and graduate courses.

This research program also has explored the associations between academic delay of gratification and college students' motivational beliefs and their use of cognitive and self-regulatory strategies. Using the Academic Delay of Gratification Scale, Bembenutty and Karabenick (1998) found that college students' willingness to delay gratification was associated with higher grade point averages. With regard to motivational beliefs, delay of gratification was associated with higher task value and self-efficacy belief and with intrinsic and extrinsic motivation. Delay of gratification was positively associated with college students' use of cognitive strategies such as rehearsal, elaboration, organization, and critical thinking. With regard to resource management strategies, delay of gratification was related to college students' control of their time and study environment, effort regulation, and use of help-seeking strategies.

Links Between Motivational Factors and Academic Delay of Gratification

The following sections include a discussion of the associations between self-efficacy beliefs, intrinsic and extrinsic motivation, task value, and achievement goals and academic delay of gratification.

Self-Efficacy Beliefs. *Self-efficacy* refers to individuals' beliefs that they can execute a determined specific task (Bandura, 1997). Self-efficacy is associated with students' perseverance on tasks and effort regulation. Students with high self-efficacy beliefs tend to set academic goals for which they believe they are competent. Self-efficacy influences the time students spend on task, the amount of effort, the quality of work, and perceptions of success and completion. Self-efficacious students are also self-regulated learners. Self-efficacy has been found to be associated consistently with academic delay of gratification (Bembenutty and Karabenick, 1998). These findings suggest that students who are confident in their ability to perform designated academic tasks for this particular course also were willing to resist temptations—for example, deciding not to party the night before a test for the sake of being prepared for the test the following day.

Intrinsic and Extrinsic Motivation. *Intrinsic motivation* refers to students' engaging in the task for the sake of the task. *Extrinsic motivation* refers to students' engaging in a task for the sake of getting rewards that are external to the task. These findings suggest that pursuing long-term academic goals is associated with students' engaging in the task for its own sake and also because they believe that the task will give them socially acceptable rewards, such as a higher final grade in the course and recognition from professors and peers. It is important to understand that at least for these students, engaging in academic tasks is twofold. The literature contains conflicting evidence regarding the effects of extrinsic motivation on academic achievement (Deci and Ryan, 1985), but with regard to students' sustaining motivation while pursuing long-term goals, both intrinsic and extrinsic motivation are positive predictors.

Task Value. Bembenutty and Karabenick (1998) found a positive association between task value and academic delay of gratification. *Task value* refers to students' evaluation of how interesting, important, and useful the task is. From this positive association, it is suggested that for students to be able to delay gratification, they need to consider the reward or goal important, useful, and interesting to them. In a different study with 196 college students, Bembenutty (2008) found that students were more likely to engage in academic delay of gratification when they liked the delay alternative, considered the delay alternative more important than the nondelay alternatives, and had higher expectations that the delay alternative would provide better outcomes than the nondelay alternatives. Further, after controlling for gender, importance of the delay alternative versus immediate alternative was a significant predictor of academic delay of gratification.

Personal Achievement Goal Orientation. In a study with 102 college students enrolled in introductory psychology courses, Bembenutty (1999) found that task-goal orientation was positively related with academic delay of gratification. *Task-goal orientation* refers to students' engagement in challenging schoolwork for the sake of mastering the tasks (Elliot, 1999). However, *performance approach* and *performance avoidance* were not related to academic delay of gratification. A hierarchical cluster analysis suggested that students' willingness to delay gratification is a function of their goal orientations. Students in the cluster with high task-goal orientation were high in delay of gratification and considered the delay alternatives more important in comparison with the nondelay alternatives.

Links Between Cognitive Strategies and Academic Delay of Gratification

The following section examines the associations between academic delay of gratification and learners' use of cognitive strategies such as rehearsal, organization, elaboration, and metacognition.

Rehearsal refers to the process of activating information storage in the working memory by engaging in reciting items over and over (Garcia Duncan and McKeachie, 2005; Pintrich, Smith, Garcia, and McKeachie, 1993). In the study conducted by Bembenutty and Karabenick (1998) with 369 college students enrolled in introductory psychology courses, a positive correlation was found between students' use of rehearsal strategies and delay of gratification.

Bembenutty and Karabenick (1998) found a positive association between organization and elaboration and delay of gratification. *Organization* refers to learners' cognitive process of making connections between information, such as by outlining the material, making class charts, diagrams, or tables. *Elaboration* is a cognitive strategy useful to move information into the long-term memory by making connections between information from different sources, such as lectures, readings, and discussions, and by relating ideas from one course to another course (Garcia Duncan and McKeachie, 2005; Pintrich and others, 1993).

Metacognitive self-regulation is a cognitive process in which learners become aware of the knowledge they have, control that knowledge, and monitor it by planning and regulating their learning actions. Metacognitive self-regulation involves focusing on the task and avoiding distractions, posing questions to focus attention to the task, changing the way of learning difficult material, and, for difficult courses, identifying unknown material, and setting and monitoring goals. Bembenutty and Karabenick (1998) found a positive association between delay and use of metacognitive strategies.

Links Between Self-Regulatory Strategies and Academic Delay of Gratification

The following sections highlight the associations between academic delay of gratification and students' use of self-regulatory strategies.

Time and Study Environment, Effort Regulation. According to Bembenutty and Karabenick (1998, 2004), the more that students reported they would delay gratification in favor of engaging in academic tasks that would improve their chances of academic success, the more they reported using self-regulated learning strategies. Delay of gratification was highly correlated with students' reported regulation and control of their time and study environment and effort regulation. Control of *time and study environment* is a self-regulatory strategy used by students to manage their time and environmental settings, which involves task focus, making effective use of study time, adhering to a predetermined schedule, maintaining weekly readings, and completing assignments on time. *Effort regulation* involves students' ability to manage their attention and affect in the face of distractions in order to fulfill predetermined academic goals. This strategy entails avoiding study conditions to lead to laziness or boredom and expending

extra effort when academic tasks are unpleasant, uninteresting, or difficult.

Help Seeking. Delay of gratification is also significantly related to adaptive help-seeking strategies. *Help seeking* refers to students' strategic seeking of goal-directed help from knowledgeable sources, such as professors, peers, parents, or media outlets, in order to facilitate learning when faced with obstacles (Karabenick and Newman, 2006). Accordingly, adaptive help seekers spontaneously employ constructive strategies, such as asking questions when they do not understand a lesson, in order to achieve the best outcome in their learning experience.

Self-Efficacy Enhancement, Stress-Reduction Actions, Negative-Based Incentives. In two different studies, Bembenutty examined the association between motivational regulation strategies and college students' willingness to delay gratification. In the first study with 102 college students, Bembenutty (1999) found that delay of gratification was positively related to students' use of self-efficacy enhancement as a self-regulatory strategy to sustain goal-directed actions while distracting alternatives attempted to get attention. The strategy of *self-efficacy enhancement* represents behavioral control in which students reassure themselves about their ability to do expected tasks (such as "I tell myself, 'I can do this'"). However, delay of gratification was not related to *stress-reduction actions* (e.g., "I usually use some form of relaxation techniques so I am better able to concentrate on my studies") or *negative-based incentives* (e.g., "I do think about the kinds of job/career I may end up with if I flunk out of college"). This finding suggests that delay of gratification is not isomorphic with all motivational regulation strategies.

Value-Based Incentives. In a second study with 250 college students, Bembenutty (2009) found again that self-efficacy enhancement was related to academic delay of gratification. He further found that self-efficacy enhancement was related with how important and valuable the delay alternatives were in comparison to the immediate alternatives. In this sample, value-based incentives were positively associated with delay. *Value-based incentives* refer to students' use of cognitive control strategies by self-instruction and self-rewards. Value-based incentives were positively associated with how important the students perceived the delay alternatives to be but were inversely related to students' consideration of the negative consequences associated with the possible selection of the immediate alternatives versus the delay alternatives.

Educational Implications

The empirical evidence that we just considered demonstrates that academic delay of gratification is associated with students' academic achievement and self-regulation of learning. Although the current findings do not imply causation, the overwhelming empirical evidence across diverse samples of college

students attests to the validity of this construct as a serious motivational and self-regulatory factor that is important for pursuing valuable temporally distant goals and rewards.

These findings call for educators at the postsecondary education level to revitalize their efforts to provide learners with an educational environment that supports their ability to delay gratification. How can educators at the postsecondary education level instill in their students the willingness to delay gratification? What are the responsibilities of students in order to sustain delay of gratification despite attractive, immediately available but less valuable, rewards? Table 6.1 displays examples of ways in which instructors of postsecondary education could help students pursue long-term goals and examples of the responsible actions that students could take to attain temporally distant academic rewards.

Table 6.1. Definitions of Constructs Associated with Academic Delay of Gratification and the Role of the Instructors and the Students

Variable and Definition	*Role of Instructors*	*Role of Students*
Self-efficacy refers to individuals' beliefs that they can execute a specific predetermined task.	Help students to acquire the necessary skills and the beliefs that they can do the tasks.	Get knowledge, believe that they can do it, have self-assurance in their capabilities.
Intrinsic motivation refers to students' engaging in the task for the sake of the task.	Provide instruction and tasks that are interesting, attractive, and enjoyable to students.	Develop interest in the academic task and discover the utility value of the tasks.
Extrinsic motivation refers to students' engaging in a task for the sake of getting rewards external to the task.	Deemphasize competition and grades as academic rewards to avoid excessive extrinsic motivation.	Pursue rewards and recognition while mastering tasks.
Task value refers to students' evaluation of how interesting, important, and useful the task is.	Demonstrate how valuable and important academic tasks are for attaining goals.	Judge the value of immediately available rewards and temporally distant rewards.
Task-goal orientation refers to students' engagement in challenging schoolwork for the sake of mastering the tasks.	Impart instruction that promotes mastery rather than competition.	Find interest in academic tasks by seeing how rewarding learning the information is for its own sake.

(*continued*)

Table 6.1. (*Continued*)

Variable and Definition	*Role of Instructors*	*Role of Students*
Performance-approach goal orientation measures students' engagement in the tasks to demonstrate competence and skills.	Promote collaboration during instruction and deemphasize grades as goals in learning.	Pursue high grades while mastering and valuing the course material.
Performance-avoidance goal orientation refers to students' intention to avoid demonstration of lack of skills.	Help students to understand that in the classroom, they are not dumb if they do not know answers to posed questions.	Engage in class activities without thinking that one will look dumb if one fails to provide a correct answer.
Rehearsal refers to the process of activating information storage in the working memory by reciting items over and over.	Ask students to test each other during and after instruction. Ask students to rephrase the information in their own words.	Create index cards with important vocabulary and definitions, talk to peers about the course materials, take notes during instruction, and rewrite lesson notes.
Organization refers to learners' cognitive process of making connections between information, such as outlining the material and making class charts, diagrams, or tables.	Present instruction in an organized format that is logical and cohesive while clearly delineating the connections between different points.	Make charts, concept maps, flow charts, diagrams, or tables to pictorially represent and organize the information.
Elaboration is a cognitive strategy useful for storing information into the long-term memory by making connections between information from different sources, such as lectures, readings, and discussions, and by relating ideas from one course to other courses.	Impart instruction in which current information is linked to prior knowledge or to other content areas.	Create charts in which instructional material is related to prior knowledge.

Table 6.1. (*Continued*)

Variable and Definition	*Role of Instructors*	*Role of Students*
Metacognitive self-regulation involves focusing on the task and avoiding distractions, posing questions to focus attention to the task, changing the way of learning difficult material, and, for difficult courses, identifying unknown material and setting and monitoring goals.	Provide rubrics and self-monitoring tools when assigning tasks that could help students be aware of their knowledge and could control and monitor their progress.	Create self-monitoring forms to evaluate academic progress and academic outcomes.
Control of time and study environment is a self-regulatory strategy used by students to manage their time and environmental settings, which involves task focus, making effective use of study time, adhering to predetermined schedules, maintaining weekly readings, and completing assignments on time.	Instill the importance of strategically selecting places to study and study partners while using time-management tools, such as weekly planners.	Use time-management tools, such as weekly planners, and identify study partners and places to study conducive to learning.
Effort regulation involves students' ability to manage their attention and affect in the face of distraction in order to fulfill predetermined academic goals. This strategy entails avoiding lazy or boring study conditions and expending extra effort when academic tasks are unpleasant, uninteresting, or difficult.	Impart the value of persistence and perseverance in spite of obstacles.	Resist giving up when confronted with obstacles.

(*continued*)

Table 6.1. (*Continued*)

Variable and Definition	*Role of Instructors*	*Role of Students*
Help seeking refers to students strategically seeking goal-directed help from knowledgeable sources, such as professors, peers, parents, or media outlets, in order to facilitate learning when faced with obstacles.	Be available to students and tell them that help seeking when necessary is an important learning strategy.	Understand that seeking help from appropriate sources when it is needed is an indication of positive adaption rather than an indication of low self-esteem.
Self-efficacy enhancement represents behavioral control in which students reassure themselves about their ability to do expected tasks.	Teach the value of recognizing the skills one possesses.	Reinforce the belief system with phrases such as "I can do it."
Stress-reduction actions represent students' taking actions to reduce stress produced by attractive alternatives.	Provide instruction and assessments that reduce anxiety, worry, stress, and tension.	Relax before class presentations or examinations.
Negative-based incentives represent students' attempts to remind themselves of their goals and intentions and to increase motivation to comply with academic commitments.	Help students to realize the consequences associated with their academic behavior.	Think aloud about the reaction of significant others if determined goals are not attained.
Value-based incentives refer to students' use of cognitive control strategies by self-instruction and self-rewards.	Teach that the tasks would be helpful to achieving long-term goals.	Engage in self-directed talk reinforcing the beliefs that the tasks would have long-term benefits.

Conclusion

The findings revealed that students who are willing to delay gratification sustain high motivational beliefs and use effective cognitive, metacognitive, and self-regulatory strategies. Academic delay of gratification has just recently gained attention in the educational psychology literature, despite

its long tradition as a general psychological construct, particularly through the work of Mischel. Students and educators at the postsecondary education level would do well to give more attention to and integrate this self-regulatory phenomenon that is a central cornerstone of all academic achievement and performance.

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