**Nudging Students Toward Timeliness**

**Mary J. McDonough, Ph.D.**

**Saint Peter’s University**

**ABSTRACT**

This study explored whether nudging an ethnically diverse group of students toward timely submissions of work products improved adherence to deadlines. The research method compared a group of student submissions from students who were not reminded of deadlines (not nudged) to a group that was reminded of deadlines (nudged) as to the timeliness of their submissions. The results show a tendency toward improved timeliness when students are nudged. The study invites further research as to the efficacy of prompts and nudges as they may influence student efficacy.

**INTRODUCTION**

The purpose of this exploratory study is to see whether email reminders as a nudging technique impact the timely submission of coursework by college business students at a small private, coeducational, Jesuit Roman Catholic secondary institution. Located in an urban area, this institution serves 3,524 students: of the undergraduate population, approximately 62% are low-income, 25% are non-native English speakers, 50% are first-generation college students, and 70% come from minority backgrounds (40% Hispanic, 23% Black, and 7% Asian/Pacific Islander).

 **Conceptual Framework**

The population of students in modern colleges and universities varies, from those who are fully supported by family resources to those who access loans and struggle to balance the demands of work, family, and academia. In particular, minority students face daily challenges of institutional racism and financial and socioeconomic stress. Graduation rates are saliently affected by minority versus majority status (see Figure 1).

 As time demands affect students’ prioritization, the tendency to choose immediate gains over long-term gains may become more common, particularly among those for whom immediate demands, such as rent, childcare, and other present-biased conditions, have been modeled by previous generations (Laibson, 1997). When present-biased needs are associated with the survival of self and family, demand is a salient influence. Although long-term goals are initially sincere commitments, the demands of immediacy and the temptations therein can easily preempt long-term goals.

 In particular, marginal students whose efforts in academia have been met with minimal success—a condition overly represented in the low socioeconomic community—have other sources of

 **FIGURE 1
 2008 COHORT GRADUATION RATE BY ETHNICITY**

 SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated
 Postsecondary Education Data System (IPEDS), Spring 2002 through Spring 2013 and Winter 2013-14
 through Winter 2015-16, Graduation Rates component.

(immediate) gratification that can interfere with timely work submission. Facing frustration and what can be less-than-rewarding outcomes, the avoidance of assignments can become a habitual and counterproductive coping technique; those with cognitive or attentional difficulties can lose their bearings in a sea of constant stimulation. Because there is a limit to what the brain can process, the din of ambient stimuli can create challenges, particularly for those with cognitive or attentional challenges (DellaVigna, 2009).

The need to support waning self-regulatory behavior has set the stage for “nudging,” or the prompting of individuals to modify their behavior in a predictable manner. This approach neither judges nor coerces, but simply offers reminders in an effort to cut through the informational din that most students experience. Students who have no internalized governance nor possess the ability to hold themselves to deadlines—a hallmark of maturity—function more successfully with external scaffolding, namely by nudging and implied accountability in that process. Students who are the first in their family to attend college are among those without modeling and understanding of the time management and the necessary life–work balance techniques for fostering successful long-term outcomes (Thaler & Sunstein, 2008).

The nudging approach endeavors to morph previous avenues of distraction into avenues through which the academic community can access the student. Feedback provided to students in the form of reminders may bring course requirements to the forefront amid the dizzying seductions of media. The literature shows that nudging may, in fact, be a viable technique to motivate students who lack the ability to self-regulate. For instance, Castleman and Page (2015) found that text messages that prompt students to navigate summer deadlines increased the likelihood that they would enroll in the Fall semester by seven percentage points.

The trends seem to indicate that students require clearly delivered expectations. In this exploratory study, the examiner has exploited the personal professor-student relationship with an encouraging nudge delivered via a group email. This is to say that the expectation for timely submission was delivered as an email with a positive, encouraging tone. Part of the appeal of nudges is that they are so-called “soft” interventions that involve encouragement rather than coercion (Thaler & Sunstein, 2003).

**METHODS** Three management classes in the college of business administration at an urban university were used to determine if email reminders as a nudging technique impact the timely submission of assignments in a classroom setting. The average age of the students (n=72) was 20. The participants were 68% male (n=49) and 32% female (n=23). Additionally, 92% were classified as freshman or sophomores (n=66) and 8% were classified as juniors (n=6). Students in all three classes were taught by the same instructor and exposed to the same content in a business course over a fifteen-week period; however, one class (n=25) was nudged using email reminders three days prior to each assignment deadline. The other two classes of students (n=47) received no nudge using email reminders. Following is an example of the professor’s nudge/email reminder. “H*i Principles of MGT class. Just a reminder that the case is due this Sunday, 10/8, midnight. Keep working hard! Have a great day, Professor Mary McDonough”* Students in all three classes were required to complete ten assignments within the 15 week semester. These assignments (n=720) included three case studies, an annotated bibliography, a research paper; three take-home quizzes, and two current events summaries. Each assignment had an assigned due date with a grade-deduction penalty for each day late. All assignments were to be uploaded to Saint Peter’s Learning Management System (LMS) on the assigned due date.
 The data were collected by utilizing the LMS reports for the date assignments were submitted. The assignment submissions that met the deadline were recorded as “on-time” and those that did not meet the deadline were recorded as “late.” An overall percentage of late and on-time submissions for all assignments were compiled for students in both the nudge and non-nudge categories.

**RESULTS**

The results of classifying the 720 assignments by nudging category and whether or not they were on time are given in Table 1. The hypothesis of no difference in the on time rate (or late rate) between the two groups was tested using the Pearson chi-square statistic. This hypothesis is rejected with p<0.001. The conclusion is that the on time rate in the nudged group at 90% is significantly higher than in the non-nudged group which is at 30%. Nudging does greatly improve the on time rate.

**TABLE 1**

***ASSIGNMENTS CLASSIFIED BY NUDGING CATEGORY***

***AND WHETHER OR NOT THEY WERE ON TIME***

*­­­­­­­­­­­­­­­­­­­­ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

 Assignments

 Nudging Category On-Time Late Total

|  |  |  |  |
| --- | --- | --- | --- |
|  Nudged  |  225 |  25 |  250 |
|  Non-nudged |  141 |  329 |  470 |
|  Total |  366 |  354  |  720 |

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DISCUSSION**

 The data in this exploratory study supports the notion that the typical issues that inhibit student success—namely, time management and the loss of priority focus—can be remedied via timely nudges. Because the sampled population largely consisted of minority students of lower socioeconomic status (SES), this study invites further comparative studies that contrast various cohort groups of SES and cognitive and attentional variants. Furthermore, this study supports others that indicate that nudging brings attention to requirements and may cut through the tendency to procrastinate and leave time gaps that are quickly filled with more immediate needs. Among students for whom priorities can be immediately defined and are thus fluid, the nudge technique can aid the ability to regulate priorities.

Further studies may explore the interaction of factors, such as SES, Grade Point Average (GPA), and cognitive and attentional variants, as they demonstrate responsiveness to nudging interventions. In addition, the quality of relationship and rapport between the “nudger” and “nudgee" can present another aspect of the nudge technique’s efficacy.

Traditionalists may present the argument that the college-age student should not be “enabled” by extraordinary interventions such as nudging. That argument is based upon the judgment that all students, regardless of SES, lack of modeling, overwhelming personal demands, and poor preparation, should be at a level of readiness for post-secondary academic challenges.

It is a more valid argument that students in the population of this study are *delayed* in their ability to self-regulate, prioritize, and remain on task. If this is so, the responsibility of the post-secondary arena is to provide a bridge to the point where more appropriate and mature skills are acquired. In this sense, nudging can be viewed as a necessary reminder, not a permanent replacement for skills needed to flourish academically and professionally. To not provide necessary supports echoes institutional bias, prejudging those for whom skill development has not yet been cultivated.

In an era where a diverse student population is experiencing difficulties with attention and the ability to self-regulate, interventions must become more creative and relevant to enhance the timely submission of work and assist self-regulation. The nudging technique can be a valuable tool for bringing requirements to the forefront that will help students keep long-term goals at the forefront despite the distractions inherent in their lives, but particularly for those of lower SES. Rather than seeing media as an interfering phenomenon, this study suggests that using media to provide connectedness and accountability can be of service to students in categories of challenged self-regulation.

**REFERENCES**

Castleman, B. L. & Page, L. C. (2015). Summer nudging: Can personalized text messages and peer mentor outreach increase college-going among low-income high school graduates? *Journal of Economic Behavior & Organization, 115*, 144–160.

DellaVigna, S. (2009). Psychology and economics: Evidence from the field. *Journal of Economic Literature 47*(2), 315–372.

Laibson, D. (1997). Golden eggs and hyperbolic discounting. *Quarterly Journal of Economics, 112*(2), 443–477.

Saint Peter’s University. (n.d.) Saint Peter’s University fact book. Retrieved from https://www.saintpeters.edu/institutional-research/fact-book/

Shapiro, D., Dundar, A., Huie, F., Wakhungu, P., Yuan, X., Nathan, A & Hwang, Y. A. (2017, April). Completing college: A national view of student attainment rates by race and ethnicity – Fall 2010 cohort (Signature Report No. 12b). Herndon, VA: National Student Clearinghouse Research Center.

Thaler, R., & Sunstein, C. R. (2003). Libertarian paternalism. *American Economic Review, 1*(2), 1–17.

Thaler, R., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven, CT: Yale University Press.

U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System. (2009). IPEDS Fall 2009, Institutional Characteristics component.

U.S. Department of Education, National Center for Education Statistics. (2016). *The Condition of Education 2016* (NCES 2016-144), [Undergraduate Retention and Graduation Rates](https://nces.ed.gov/programs/coe/indicator_ctr.asp).

Wildavsky, B. (2013). *Nudge nation: A new way to prod students into and through college*. ES Select.