UNDERGRADUATE RESEARCH

NUDGING STUDENTS THROUGH EMAIL COMMUNICATION

Justin Davidson,[1] Chanikan (Pluem) Yongyuan,[1] and Joshua A. Price[2]

Abstract

This study analyzes the results of an experiment using personalized emails to nudge second-year students to attend a career fair. The study relied on peer mentors to send out emails informing students about the details of the career fair. Students were randomly assigned to receive an email that focused on the benefits of attending the career fair and offered pizza and a prize if they attended a session to help them sign up and prepare for the career fair. The results indicate that the intervention had no measurable effect on increasing the likelihood that students attend the help session or attend the career fair. Several reasons for this might be because of email overload, present-biased preferences, and factors related to COVID. Further, we provide guidance on what might be done to address these factors in future interventions.

Key Words: Higher Education, Behavioral Nudges, Student Engagement

JEL Classification: I23

Introduction

One way in which universities have evolved over time is through increases in student services. These services offer students opportunities to engage with the university outside of instructional hours. This engagement, referred to as institutional engagement, comes in the form of extracurricular activities, student clubs, sporting events, career preparation centers, etc. (Page, 2020). Students who are institutionally engaged are 2.5 times more likely to say that they get excellent grades and do well in school, and they are 4.5 times more likely to be hopeful about the future than their disengaged peers (Hodges, 2021). Students who reported more frequent engagement in university activities earned higher grades and were more satisfied with their college experience (Svanum & Bigatti, 2009). As a result, universities often dedicate resources to provide a wide array of opportunities to engage students.

As universities increase their student service offerings, one of the challenges they face is how to get students to participate in the opportunities offered. Reasons why students may not participate can be attributed to two factors: awareness and salience of benefits. Awareness includes students being informed of the opportunities the university offers. Salience of benefits involves students' knowledge of the benefits of participating in these opportunities.

Consider the example of a university-sponsored career fair. Awareness would include knowing about the time and date of the event, but it would also include information about what is required to register, which employers will be recruiting, and what is needed to participate. Many

[1] Undergraduate student, Economics, Marketing and Analytics Department, Southern Utah University, 351 W. University Blvd., Cedar City, UT 84720

[2] Associate Professor of Economics, Economics, Marketing and Analytics Department, Southern Utah University, 351 W. University Blvd., Cedar City, UT 84720

students are informed of the event details but may wonder how attending a job fair in October would be beneficial if they don't graduate until May. Students may not be aware that many employers recruit during the fall months to fill positions that start after graduation. This highlights the second reason why a student may not participate: the benefits are unknown to them.

This study examines an intervention designed to overcome the two obstacles that might prevent students from attending a campus sponsored career fair. The intervention focused on increasing awareness of the event through personalized emails sent from peer mentors. The emails explicitly listed potential benefits that the student could experience realize if they attended the career fair. The results indicate that this intervention had no measurable impact on students attending the career fair. Included is a discussion about the implications of this intervention on institutional engagement of college students and about what can be learned from this intervention in improving institutional engagement among college students.

Literature Review

The intervention that this study examines uses informational nudges to influence behavior. There are several studies which have examined the effectiveness of informational nudges in higher education. Castleman and Page (2015) show that personalized text messages from near-aged peer mentors were effective at improving college outcomes for low-income students, focusing on enrollment between the senior year of high school and freshmen year of college. Castleman and Meyer (2020) analyzed a university-based text messaging system to overcome informational barriers in college persistence. They found that students receiving the text messaging are more likely to remain enrolled through their first year of college. Oreopolous et al. (2020) found that a large-scale text messaging campaign designed to improve students' academic and non-academic outcomes did not improve course performance. However, they also found that student satisfaction and sense of belonging to the university increased. A common component in these studies is that the informational nudges were paired with personalized support to help individuals act upon the nudge received.

Other studies that focused on informational nudges alone found that they were not effective in improving student outcomes. Oreopolouls and Petronijevic (2018) found that weekly study reminders sent via text message had a small impact on study times and no measurable impact on grades. Bettinger et al. (2012) used informational nudges to induce eligible individuals to apply for a Pell Grant. Their results showed that informational nudges without any support to act on the nudge did not lead more individuals to apply for the Pell Grant. Bird et al. (2019) attempted a large-scale randomized control trial to replicate studies that showed positive impacts of informational nudges, but their study found that these informational nudges were not effective.

Making the benefits of a program salient is also a key component to studies that find positive impacts of informational nudges. Marx and Turner (2019) showed that providing a letter with the exact amount of loans a student is eligible for increases the likelihood that they apply for a loan by 40%. Price (2021) showed that a letter from a university to high school seniors providing the potential Pell Grant award amount increases the probability that students apply to that college. Dyanarski et al. (2021) found that personalized letters with financial aid information increased application and enrollment rates of high school seniors.

The focus of this study is on a university-sponsored career fair. Career fairs can provide great benefits for students as they can be a low-cost way for students to meet many potential employers and apply for jobs. An intervention was designed to bring awareness of the event to students and to make the benefits of attending more salient. Personalized emails were sent to

individual recipients from an existing peer mentor.[3] This peer mentor was available to help students act upon the nudge to register for and attend the career fair. The messages focused on highlighting the benefits that the student could receive by attending the career fair with the intention of making these benefits more salient for the recipient.

The contribution of this study is two-fold. First, this study examines a setting in which a university had a goal of increasing student engagement by attending a career fair. An intervention was designed based on previous research with the goal of increasing attendance. Even though the intervention was based on what worked for previous studies (personalized emails, partnered with a peer mentor, and a focus on the benefits), the results indicate that the intervention was not successful. Understanding why such an intervention was not successful can be informative in designing future interventions.

Second, the target population of the intervention was sophomores in college. This group was chosen primarily because each sophomore was assigned a peer mentor which allowed the researchers to couple informational nudges with additional support.[4] Providing resources for underclassmen to prepare for their career can be very beneficial for these individuals. Stabelton and Diamond (2018) showed that often underclassmen are very concerned about their future careers but don't have access to resources to help them in the job search as do upperclassmen. Finding effective interventions early in their college careers can better prepare students for success when they graduate.

The Intervention

The intervention was conducted at a regional public university in the western United States. The university hosts two campus-wide career fairs each year, one in the fall and one during the spring semester. In a typical year, the career fair is held in-person on campus throughout the day in the middle of the week. The career fair is advertised through multiple mediums by different organizations on campus (career services, student mentors, faculty members, university website, emails, and the student's online portal). Normally, students can show up on the day of the fair and participate. However, in 2021, the career fair was held virtually as a result of the COVID-19 pandemic. As a result, students had to sign up beforehand in order to participate in the career fair.

The university has a peer mentoring program for first- and second-year students which matches them with an upper-class or graduate mentor. The mentors are trained to provide students with individualized mentoring and professional and personal development. They are also intended to be a primary point of contact for accessing resources on campus. The current study focuses on second-year students as they are more likely to benefit from a career fair compared to first-year students. Second-year mentors are known as LEADs (called after the program they participate in, which stands for Leadership, Engagement, and Development), and each LEAD is assigned around 20 second-year students. The LEADs take the initiative to communicate with their mentees and form relationships throughout the school year.

The intervention was designed to use information about the career fair to nudge second-year students to attend. Due to the requirement that students had to register for the career fair beforehand, the intervention also included a help session where LEADs were available to work

[3] Previous studies have used both text messages and emails to reach target populations. Among the existing peer-mentors, email was the most common form of communication. (Millican (2020) identifies email marketing as the most cost-effective communication for educational institutions.)

[4] Juniors and seniors are not assigned peer mentors at the university.

with students one-on-one to help them register. There is a location in the student center where the LEADs are normally located to help students; the help session was hosted at this location.

To identify the causal effect of the information coupled with peer-mentor assistance, second-year students were randomly assigned to either a treatment or control group. Assignment to each group was done by block random assignment for each LEAD. Those assigned to the control group were sent an email from their LEAD with the time and date of the career fair and a link that they could use to register. They were also notified of the date and time that the help session would be held. The help session was scheduled five days before the career fair and was designed to help students register and prepare for the fair. In accordance with campus COVID policies, students could attend the help session in person or meet with a LEAD through Zoom.

Those in the treatment group were sent the same email but with two important additions. First, the emails listed specific reasons why they should attend the career fair. These reasons included the following: employers were hiring summer interns now even though it was fall, the career fair offered an opportunity to practice how to act in a professional setting, and the career fair offered the opportunity to network with potential employers. This was done to highlight the benefits available to second-year students for attending the career fair with the intention of inducing students to attend. The second way in which the treatment differed from the control was to provide immediate and salient benefits to those who attended the help session. In addition to the times and dates, those in the treatment group were offered free pizza and were entered into a lottery to win $50 at the university bookstore if they attended.

Analysis

This university has over 10,000 undergraduate students, and 2,110 of those students are sophomores. Using the university's website, Table 1 reports the breakdown of enrollment for all sophomores between the university's nine colleges during the 2020-2021 academic year. Humanities and Social Sciences has the most sophomores with officially declared majors followed by Health Sciences and Engineering and Computational Sciences.

Table 1. Head Counts of Sophomore Students in Each College

College	Number of students
Humanities and Social Sciences	705
Health Sciences	322
Engineering/Computational Sci	314
Business	232
Education & Human Develop	214
Sciences	170
Library	147
Performing and Visual Arts	147
Integrative & Engaged Learning	6
Total Number of Sophomores	2,110

In our study, there were a total of 1,866 second-year students that had been assigned a peer mentor.[5] In the control group there were 931 students, and these received the email that only provided dates and times of the events. The other 935 students were assigned to the treatment group which identified the benefits of attending the career fair and offered pizza and a prize for attending a help session. Out of the 1,866 students in this study, only four showed up to the help session. Those four all went on to attend the career fair. A total of 45 sophomores attended the career fair, which amounts to 2.41% of all sophomores. This is significantly lower than previous years, mostly attributed to the virtual nature of the fair in response to COVID.

The research design relied on the random assignment of students to the treatment and control groups in order to identify the effects of the intervention. Two outcomes were examined to measure the effectiveness of the intervention. The first is a binary outcome that equals one if the student attended the help session designed to help them register and prepare for the career fair. The second outcome is also a binary outcome that equals one if the student signed up for the career fair. Students could sign up for the career fair on their own, they did not need to meet with the

[5] Second-year students who are classified as full-time online students are not assigned a peer mentor.

LEADs to do so. Outside of these two outcomes and the assignment to the treatment and control group, no other data was available. As such, we do not have data on observable characteristics of the students including gender, race, major, grade point average, etc. We use the following model to estimate the effectiveness of the intervention:

$$(1)\ Probability(Outcome = 1)_i = \beta_0 + \beta_1(Treatment)_i + \lambda_j + u_i$$

The outcome is one of the two mentioned above. Treatment equals one if individual *i* was assigned to the treatment group. As each LEAD has a unique relationship with the students whom they mentor, λ_j, represents a vector of dummy variables for each LEAD to control for LEAD-specific factors.

Table 2 presents the results of the Linear Probability Estimations of model (1). In regard to the outcome of attending the help session, the Treatment variable shows that those in the treatment group were no more likely to attend the session. Of the four that attended, one was in the control group and three were in the treatment group. However, the small sample size does not allow the model to identify any statistical difference.

Table 2. Estimation of Linear Probability Model with the Two Outcomes of Model (1)

	(1)	(2)	(3)	(4)
VARIABLES	Help Session	Help Session	Attend Career Fair	Attend Career Fair
Treatment	0.002	0.002	0.005	0.005
	[0.002]	[0.002]	[0.007]	[0.007]
Constant	0.001	0.001	0.021***	0.022***
	[0.002]	[0.002]	[0.005]	[0.005]
Control for Lead	No	Yes	No	Yes
Observations	1,866	1,866	1,866	1,866
R-squared	0.001	0.013	0.000	0.014

Standard errors in brackets

*** p<0.01, ** p<0.05, * p<0.1

Columns (3) and (4) of Table 2 display the results of model (1) with the outcome being equal to one if the individual attended the career fair. Column (4) includes controls for the LEAD and shows that 2.15% of those in the control group attended the career fair. Those in the treatment group were 0.5 percentage points more likely to attend or 24% more likely to attend, though the difference is not statistically different from zero.

Overall, these results show three key findings. First, holding the help session appears to have been ineffective in encouraging students to sign up for and attend the career fair. Second, a very small fraction of sophomores attended the career fair. And third, the messaging used in the email does not appear to have been effective in nudging more students to attend the career fair.

Discussion

The important question, then, is *why was the intervention not successful*? We will explore several explanations with the hopes of informing and influencing others as they seek to improve the effectiveness of communication with college students.

Email Overload

Email overload refers to receiving so many emails that the recipient's inbox becomes overcrowded, and new emails are not organized, categorized, or even read. In a study about email overload, Grevet et al. (2014) state, "One indication we had about information overload was the mentioning of large volumes of unwanted emails. Our participants often called these messages 'spam.'" As a result of email overload, many emails are not even opened by the recipient. In the Grevet et al. (2014) study, the average number of unread messages in participants' work email was 696. Email overload makes email a less effective mode of communication.

If college students experience email overload, then communications from their university may be less effective because they fall amongst the clutter of other emails received. For example, a study at Michigan State University revealed that students received over 400 emails from the school each semester. "Students understandably didn't have the time or inclination to read the tremendous amount of information pushed to them each day. As a result, they missed out on important information from the university" (Trost, 2018). As email is often the university's primary means of communicating with students, whether it be professors, student services, etc., it is highly likely that email overload may make a single email an ineffective means of communicating with students.

The intervention for our study examines the effectiveness of a single email. If that email is one of 400 received, then it is not surprising that it had little to no impact. The following could be done to increase the effectiveness of email communications: 1) The university and groups within the university could reduce the number of emails sent. This is not likely to work. That is, if every entity were to commit to reduce the number of emails, one group could see a benefit if they were to deviate and send multiple emails. The relative salience and importance of their emails make this strategy individually beneficial. Since each entity faces the same potential benefits, it is unlikely to work. 2) Increase the "catchiness" of the email. This can be done with short subject lines, preheaders, optimizing images, etc., that can be accessible over computer and mobile formats to engage the recipient (Millican, 2020). The challenge with this is that what might be catchy for one recipient may not catch the attention of another. 3) Have the email come from a known sender. Emails sent by known senders might lead students to be more likely to open the message. Many recent phishing emails rely on this by using names of known individuals within the subject line or even email address. It may not be enough for emails to come from official school emails. They may need to come from known individuals within the circles of students on campus. In this intervention, the email came from an assigned peer-mentor (LEAD) but there may be better known senders to send important information, such as a professor.

Organizations often form marketing campaigns to reach the target audience. Marketing campaigns can last days, weeks, or months. Our intervention consisted of a single email a few days before the target event. Many organizations on campus form marketing campaigns that use more than just email. These might include signage on campus, announcements on the student's university portal, and even social media posts. Henley (2011) found that "effective social

marketing requires coordinated approaches both upstream and downstream. In practices, social marketing campaigns need to be sustained over time to create change at a cultural or societal level." For example, an entire marketing campaign is used on campus to nudge students to register for classes, including announcements placed in restrooms on campus.

Present-Biased Preferences

The decision to attend campus events, like a career fair, can be viewed using an investment framework. When making the decision to invest, the cost of the investment is usually upfront while the benefits are realized in the future. The decision to attend college is exactly one of these decisions. The costs (i.e. tuition) are required up front, and the benefits (i.e. learning, social experiences, improved career options) are realized in the future.

Present bias refers to favoring decisions that provide net benefits today even if that means forgoing a greater net benefit in the future. In other words, individuals have preferences that are inconsistent over time. Rabin and O'Donoghue (1999) state that time consistent preference "ignores the human tendency to grab immediate rewards and to avoid immediate costs in a way that our 'long-run selves' do not appreciate." The example provided in their paper explains that individuals would prefer to do an unpleasant task for seven hours one month in the future than conduct the same unpleasant task for eight hours, one month and two weeks in the future. Yet when it came time to complete the unpleasant task for seven hours, individuals preferred to wait the additional two weeks to do the task even if it required them to do it for an additional hour. Their preferences changed over time, giving the present more weight in their decision-making process.

This bias towards the present can explain why students chose not to get involved in campus activities, such as a career fair. Most students, when asked, would say that going to a career fair would be beneficial in helping them find employment after graduation. Going to a career fair can be unpleasant for many students. It requires students to prepare a resume, dress up, and engage in conversations with strangers. Many students recognize that attending the career fair is more beneficial than searching for a job all on their own several months later. However, due to present-biased preferences, they might initially make the decision to go to the career fair, but when the day of the career fair arrives, they choose not to attend. Instead, they may decide that they will search for a job on their own at some future date even if it requires more time and be more difficult to do.

Present-biased preferences may be an even stronger explanation for the null results in this study. The participants in this study were sophomores. These students are at least two years away from the traditional time to search for a post-graduation job. For them, the benefits of finding a job are so far in the future, present-biased preferences may have had a much stronger impact than if the experiment had been conducted among seniors or even juniors.

To address this potential bias, pizza and the potential to win a gift card were offered to attend the help session. While it is often thought free pizza is the best incentive to motivate college students, it may not have been sufficient to overcome the upfront costs that students perceive in this scenario. Additionally, the lottery to win the gift card makes a portion of the immediate benefit not known with certainty. A more salient and effective reward, though more expensive, might be a gift card of a smaller amount for every student who participates in the intervention.

Another way to combat present-biased preferences, individuals can be nudged to commit to their planned action. This can be done by using current preferences to help individuals commit to future actions. An example of this can be seen in weight loss programs that require individuals to post a bond up front and then be refunded as they reach their goals. Structuring a weight loss

program like this can be more effective than simply paying for weight loss (Cawley and Price, 2013). However, applying refundable bonds in the higher education setting may not be practical.

A similar way to overcome present bias is for individuals to set a plan of action for their future self to follow. In a field experiment designed to increase voter turnout, a call to encourage voters to vote had no effect on turnout. But if the caller facilitated the formation of a voting plan, individuals were 9.1 percentage points more likely to vote (Nickerson and Rogers, 2010). If students can create a plan, they can improve their future outcomes. This is regularly done when students fill out a "Plan of Study" in which they plan which classes they will take each year as they work toward graduation. Students could also complete such plans in regard to participating in important extracurricular activities, such as a career fair.

COVID Related Issues

COVID has brought on new challenges for college students. One of these challenges has been the openness of college campuses and courses. In response to COVID, many colleges converted the traditional face-to-face experience to a virtual one during the second half of the academic school year in 2020. As colleges prepared for the 2020-2021 academic school year, difficult decisions were made about the appropriate balance between in-person and virtual courses and campus activities.

The University where this intervention was conducted made the decision to be open for in-person classes and activities for the 2020-2021 school year, with several caveats. First, both faculty and students could opt for virtual instruction. This led many students to not physically be on campus because they could complete their coursework virtually. This also meant that many students who were physically on campus had courses that were taught virtually based on the faculty member's decision. Second, there were limitations placed on the number of individuals that could gather indoors. As a result, many larger activities that had happened in the past were required to be virtual during the COVID pandemic. Third, due to the virtual nature of many activities, participants were required to register beforehand. Essentially, this created an added step to follow, or in other words, an added hurdle that individuals who wanted to participate had to overcome.

These three points provide a plausible explanation as to why the intervention was not effective. The virtual nature of campus limited the reach of on-campus advertising of events. As such, more advertising was done via email, adding to the potential for email overload. Even if the students in the treatment group saw the email, and it was effective in getting them to act, the registration requirement to attend the career fair may have been a hurdle preventing the students from acting upon the prompt.

In a typical year, a prompt could have been sent the day of the event and the student could have immediately responded and walked over to the career fair. However, in our setting and due to COVID, students had to create a Handshake account in order to register for the career fair. This was a much more onerous task than what was previously required of students. When the process to register for a program becomes too complex or time-consuming, it may lead individuals for whom the program is designed to not participate in the program. An example of this is the complexity of the process to complete a FAFSA in order to receive a Pell Grant (Dynarski & Scott-Clayton, 2006; Cochrane, 2010; Bettinger et al., 2012; Kofoed, 2017). The recommendation for colleges is to simplify the registration process as much as possible.

Another potential explanation of the ineffectiveness of the intervention is that students may have been experiencing burnout from having to deal with the pandemic over the past year. Studies have shown that the prevalence of depression, anxiety, and stress were higher for college students

during the pandemic (Wang et al., 2020; Son, et. al., 2020; Fruehwirth, 2021). Under such conditions, students may have sought to reduce stressors in their lives, which could have included participating in the career fair. This may be especially true for second-year students because they were still years away from graduation.

Conclusion

In conclusion, our intervention was designed to nudge students toward participating in a campus activity. The nudge was focused on providing salient information on the benefits of attending a campus career fair. Knowing that registering might be a hurdle for some, the intervention also included a session to help individuals register for the career fair. To induce individuals to come to the help session, pizza and a prize were offered. The information was provided in personalized emails from peer mentors who had already established a rapport with the students.

The results indicate that the intervention had no measurable effect on increasing the likelihood that students attend the help session or the career fair. We have presented several reasons why this might be the case: email overload, present-biased preferences, and factors related to COVID. Further we have provided guidance on what could be done to address these factors for future interventions.

Even with the lack of statistically significant results, the question to be asked is should colleges continue in attempts to use light-touch informational nudges to influence student behavior? In a cost-benefit framework, the costs to conduct such interventions are low such that a very small benefit would justify the intervention. As such, the focus going forward should be on the design of the nudge. This includes answering questions like what information should be provided and how should the information be provided (framing). Additionally focus should be given on how the information is communicated and what medium should be used to communicate with students (email, text, social media): how often should messages be sent, and who should send those messages? Focusing on these aspects will increase the effectiveness of future interventions and ultimately improve student outcomes.

References

Bettinger, E. P., Long, B. T., Oreopoulos, P., & Sanbonmatsu, L. (2012). The role of application assistance and information in college decisions: Results from the H&R Block FAFSA experiment. *The Quarterly Journal of Economics*, 127(3), 1205-1242.

Bird, K. A., Castleman, B. L., Denning, J. T., Goodman, J., Lamberton, C., & Rosinger, K. O. (2019). *Nudging at scale: Experimental evidence from FAFSA completion campaigns* (No. w26158). National Bureau of Economic Research.

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.

Castleman, B. L., & Meyer, K. E. (2020). Can text message nudges improve academic outcomes in college? Evidence from a West Virginia initiative. *The Review of Higher Education*, *43*(4), 1125-1165.

Cawley, J., & Price, J. A. (2013). A case study of a workplace wellness program that offers financial incentives for weight loss. *Journal of Health Economics*, 32(5), 794-803.

Cochrane, D. F. (2010). After the FAFSA: How Red Tape Can Prevent Eligible Students from Receiving Financial Aid. *Institute for College Access & Success*.

Dynarski, Susan, and Judith Scott-Clayton, 2006. "The Cost of Complexity in Federal Student Aid: Lessons from Optimal Tax Theory and Behavioral Economics." *National Tax Journal* 59 (2), 319–356.

Dynarski, S., Libassi, C. J., Michelmore, K., & Owen, S. (2021). Closing the gap: The effect of reducing complexity and uncertainty in college pricing on the choices of low-income students. *American Economic Review*, *111*(6), 1721-56.

Fruehwirth, J. C., Biswas, S., & Perreira, K. M. (2021). The Covid-19 pandemic and mental health of first-year college students: Examining the effect of Covid-19 stressors using longitudinal data. *PloS one*, 16(3), e0247999.

Grevet, C., Choi, D., Kumar, D., & Gilbert, E. (2014). Overload is overloaded: email in the age of Gmail. *In Proceedings of the sigchi conference on human factors in computing systems*. April 2014, pp. 793-802.

Henley, N., Raffin, S., & Caemmerer, B. (2011). The application of marketing principles to a social marketing campaign. *Marketing Intelligence & Planning*.

Hodges, T. (2021, May 8). School Engagement Is More Than Just Talk. Gallup.com. https://www.gallup.com/education/244022/school-engagement-talk.aspx. (Retrieved May 18, 2021)

Kofoed, M. S. (2017). To apply or not to apply: FAFSA completion and financial aid gaps. *Research in Higher Education*, 58(1), 1-39.

Marx, B. M., & Turner, L. J. (2020). Paralysis by analysis? Effects of information on student loan take-up. *Economics of Education Review*, *77*, 102010.

Nickerson, D. W., & Rogers, T. (2010). Do you have a voting plan? Implementation intentions, voter turnout, and organic plan making. *Psychological Science*, 21(2), 194-199.

Oreopoulos, P., & Petronijevic, U. (2018). Student coaching: How far can technology go?. *Journal of Human Resources*, *53*(2), 299-329.

Oreopoulos, P., Petronijevic, U., Logel, C., & Beattie, G. (2020). Improving non-academic student outcomes using online and text-message coaching. *Journal of Economic Behavior & Organization*, *171*, 342-360.

Page, L. C., Lee, J., & Gehlbach, H. (2020). Conditions under which college students can be responsive to nudging. *EdWorkingPapers. Com*.

Price, Joshua A. "Nudging Students toward College: The Effectiveness of Using Information on Pell Grant Awards as a Nudge." *Working Paper*

Rabin, M., & O'Donoghue, T. (1999). Doing it now or later. *American Economic Review*, *89*(1), 103-124.

Son, C., Hegde, S., Smith, A., Wang, X., & Sasangohar, F. (2020). Effects of COVID-19 on college students' mental health in the United States: Interview survey study. *Journal of medical internet research*, 22(9), e21279.

Svanum, S., & Bigatti, S. M. (2009). Academic course engagement during one semester forecasts college success: Engaged students are more likely to earn a degree, do it faster, and do it better. *Journal of College Student Development*, 50(1), 120-132.

Stebleton, M. J., & Diamond, K. K. (2018). Advocating for career development and exploration as a high-impact practice for first-year students. *Journal of College and Character*, *19*(2), 160-166.

Trost, H. (2018, October 4). You're Sending Too Many Emails: Signal Vine Blog. Signal Vine. https://www.signalvine.com/texting-best-practices/are-you-sending-too-many-emails. accessed 5/10/21

Wang, X., Hegde, S., Son, C., Keller, B., Smith, A., & Sasangohar, F. (2020). Investigating mental health of US college students during the COVID-19 pandemic: cross-sectional survey study. *Journal of medical Internet research*, 22(9), e22817.