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EXTRA CREDIT AND PERCEIVED STUDENT ACADEMIC STRESS

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ABSTRACT

This article examines the impact of extra credit availability on students' perceived stress. The study looks at two areas. First, what type of extra credit students prefer be made available. Second, how student academic stress is impacted by the availability of extra credit. Results show that undergraduate business students at a private university prefer merit based extra credit and that perceived academic stress is higher for students when extra credit is available. Stress is particularly high for higher-performing students.

Key Words: Extra Credit; Collegiate Mental Health; Stress; Anxiety; Business

INTRODUCTION

The mental health of college students is increasingly coming into the collective conscious as headlines report students' increased stress, depression and anxiety. With titles like "Record Numbers of College Students Are Seeking Treatment for Depression and Anxiety - But Schools Can't Keep Up" in Time Magazine (Reilly, 2018), it is hard to ignore the increasing need to address student mental health needs. Concerns about depression, stress, and anxiety in the classroom are not new, nor are they limited to the United States (Kumaraswamy, 2013; Spielberger, 1962; Towbes & Cohen, 1996). The Center for Collegiate Mental Health 2018 Annual Report (2019, January) reports that anxiety and depression are the most common concerns of students seeking counseling services. Student self-reports of anxiety and depression continued to increase compared to previous annual reports. Particularly concerning is the fact that the rate of threat-to-self characteristics for students seeking counseling services increased for the eighth year in a row.

Increases in stress, anxiety, and depression may be the result of students facing more complex problems than in the past, the stress of the abrupt

change from high school, difficulty in achieving social intimacy, the pressure to succeed or a wide variety of other causes. As recommendations for outreach to students happens in non-classroom settings, counseling services and other support services, it is critical that faculty understand how to support these students in the classroom (Beiter, Nash, McCrady, Rhoades, Linscom, Clarahan, & Sammut, 2015; Delucia-Waack, Athalye, Floyd, Howard, & Kuszczak, 2011; Kumaraswamy, 2013; Mahmoud, Staten, Hall, & Lennie, 2012).

Stress, anxiety and depression impact students' academic ability. Students who report higher levels of anxiety have an unrealistic lack of confidence in their memory and poorer memory accuracy as those who report lower anxiety (Delleman & Fernandes, 2015). Stress, anxiety and depression have been linked to student illness (Rawson & Bloomer, 1994). Test anxiety has been linked to lower GPA in graduate and undergraduate students (Chapell, Blanding, Silverstein, Takahashi, Newman, Gubi & McCann, 2005). Depression has been found to negatively impact exam performance and overall academic performance (Andrews & Wilding, 2004).

As instructors, we may believe that we should work to reduce stress in our classes, while not reducing rigor. However, a recent study reports that students do not believe that anxiety should be removed from the classroom but rather that students should learn to address anxiety-inducing situations before graduation (Burch, Batchelor, Burch, Gibson, & Kimball, 2018). Perhaps one approach to reducing student stress, without reducing rigor, is to offer extra credit. According to a study conducted by Elbeck and DeLong (2015), a majority of students (52%) ask for extra credit after taking an exam or completing a learning activity as a means by which to make up or recover lost points. As discussed in the next sections of the paper, the availability of extra credit is hotly debated among instructors but it is also popular among students and may offer a way to reduce students' stress.

LITERATURE REVIEW

“Should one desire to start a barfight in a community tavern, the topics of politics, religion, and maternal heritage are likely precipitants. If one wishes to start a verbal brawl in a university faculty club, the desirability of extra credit is incendiary material” (Norcross, Horrocks, & Stevenson, 1989, p. 199). And, so the research shows. For example, later work by Norcross (Norcross, Dooley, & Stevenson, 1993) presents evidence suggesting there is “no middle ground” (the title of their paper) in the use and justification of extra credit. Research suggests ethical issues and difference in philosophies contribute to tensions over extra credit. Hill,

Paladino, & Eison (1993) note that some instructors believe that extra credit encourages lax student behavior while others believe that extra credit offers students additional opportunities to learn. Norcross, et al. (1993, p. 209) asked faculty to identify an instance in which extra credit was appropriate. Only 41% of the respondents could do so. When the remaining 59% were asked why they oppose the practice, common answers included “the course assignments on the syllabus are necessary and sufficient,” “there is already enough to do in the class,” and “other available methods, such as exam curves, rewrite opportunities, and dropping the lowest grade, handle the situation.” However, the same study found several faculty supported the use of extra credit, citing its ability to “motivate students to work harder” and “explore a topic in greater depth.” Sheafer (2011) later confirmed these findings.

In general, faculty favor content-related forms of extra credit over non-content-related. Hill, et al. (1993) had faculty indicate their likelihood of use of various modes of extra credit. Among the most frequent (p. 211) were modes such as “handing in questions about the text...,” “...assignments that complement the text material,” and “taking a pop quiz.” Among the least frequent were modes such as “donating food to the needy,” “donating blood,” and “... questions unrelated to the course content...” A high-level review of literature shows that most empirical studies of the efficacy of extra credit measure content-related modes such as summarizing journal articles (Hardy, 2002), reactions to content-related media (Sheafer, 2011), quizzes over required readings (Fuad & Jones, 2012, Padilla-Walker, 2006), seeking tutoring (Oley, 1992), and quizzes over class lectures (Maurer, 2006). Students, unsurprisingly, favor the use of extra credit (Bate, 1976, Maurer, 2006, Sheafer, 2011), especially when it is content-related (Groves, 2000).

We were unable to uncover any research that empirically examined the relationship between extra credit and stress. Magna Online Seminars (2011) notes that some believe that extra credit reduces student anxiety and motivates students to learn while others believe extra credit lowers academic standards and creates more work for instructors. Norcross, et al. (1989) also argue that extra credit reduces student anxiety. Again, neither article empirically investigated these claims.

One interesting and consistent finding in the extra credit literature is that high-performing students generally take advantage of extra credit opportunities more frequently than low-performing students do. Grijalva, Koford, and Parkurst (2018) measured students’ grades at the time they turned in extra credit assignments and found that higher grades increased the probability of turning in an extra credit assignment, and that high-

performers discounted the delayed rewards from extra credit less than low-performers did. Hardy (2002), Harrison, Meister and LeFevre (2011), and Padilla-Walker, Zamboanga, Thompson, & Schmursal (2005) all found a significant positive relationship between pre-extra credit grade and the submission of extra credit assignments. None of those studies was designed in such a way as to determine a cause for the relationship. Maurer (2006) used a quasi-experimental model comparing semesters when extra credit was available to semesters when it was not. As in other studies, high-performers took advantage of extra credit opportunities more frequently than low-performing students did. However, exam averages did not differ between semesters. Maurer thus ascribed the higher rate of extra credit participation to the higher-performers' conscientiousness and suggested that high-performing students are more motivated to attempt extra credit because they have a higher expectancy of completing it successfully.

These studies piqued our curiosity as to whether low and high performing students would differ as to their anxiety around extra credit. Does high-performers' higher confidence (ascribed by Maurer, 2006) make extra credit less stressful? Or does their higher conscientiousness (again, ascribed by Maurer, 2006) make them feel obligated to attempt extra credit, creating anxiety-inducing task overload? Though we could not test confidence and conscientiousness as mediators, those variables do suggest different effects of high performance on whatever anxiety may surround extra credit.

Research Questions

This study examines how the availability of extra credit impacts student stress and whether this relationship might differ on the basis of student performance. The study looks at two areas. First, what type of extra credit students prefer be made available. Second, how student academic stress is impacted by the availability of extra credit.

RQ1: How does extra credit affect student perceptions of academic stress?

RQ2: How does the course learning assessment criteria presented on a syllabus impact student perceptions of academic stress (PAS)?

RESEARCH METHODS

Two surveys were developed; one survey had extra credit as an option while the second did not have extra credit. Both surveys provided the assessment criteria (both type and weight) for two options of the same

course followed by the question “When selecting courses which course would you prefer?” Students could select option 1, option 2, or no preference. The surveys also included the Perception of Academic Stress (PAS) measure and demographic questions.

MEASURES AND INSTRUMENTATION

Extra Credit

The survey instrument consisted of a one-page hypothetical Business Course syllabus. This document contained only assessment criteria for the course (see Appendix A & B). The assessment criteria included categories such as attendance and participation, quizzes, exams, research paper, team project, and individual presentation, each with specific weights. Two versions of the survey instrument were presented to the students. One version offered extra credit opportunities as part of the assessment criteria structure while the other version did not. Students were not made aware that two different versions of the syllabus were distributed. The two surveys were mixed together such that every other student received a different version.

Each of the two versions of the Business Course syllabi contained two different assessment criteria options or choices. On the extra credit syllabus, the two options differed by how the extra credit could be earned. One option was through the attendance of a career or College of Business speaker event. The other option was merit based vis-à-vis additional homework, rewriting a paper, or repeating a quiz or exam. All other assessment criteria were unaltered. On the version of the syllabus without extra credit, option one offered a 20% exam weight and a 30% team project weight. Option two consisted of a 30% exam weight and a 20% team project weight. Students were asked to select the option (1 or 2) they would prefer if taking the course. After reviewing the syllabus, students were then asked to rate their perception of academic stress.

The two surveys allowed us to compare between students’ response to having and not having extra credit. The different extra credit offerings provided insight into the type of extra credit students prefer.

Stress

Data was collected and measured using the Perception of Academic Stress (PAS) scale (Bedewy & Gabriel, 2015). Subscales of the PAS include: a) pressures to perform, b) perceptions of workload, c) academic self-perceptions, and d) time restraints. All questions associated with the PAS were integrated into the study. Survey questions were posed using a 1-to-5 Likert-scale with an ordinal level of measure. Responses were

assumed to be and converted to an interval level of measure in order to apply parametric tests during data analysis. To identify and describe the individual characteristics of survey participants, demographic questions including age, gender, GPA, major, and class cohort were incorporated into the instrument.

Participants

Business students enrolled in an undergraduate introductory management course at a private university were randomly provided the two surveys. Student participation was voluntary.

RESEARCH DESIGN

The population consisted of College of Business students attending a mid-Atlantic private college during the spring 2018 term. The sampling frame included all 200 students enrolled in a 100-level management course, a required course for all business students. During the spring 2018 term, 8 sections of this course were offered, taught by 4 different faculty. Students were recruited by the faculty from each section to participate in the study. The survey was administered during regularly scheduled synchronous class sessions.

Sample Size

When conducting multiple regression with 9 or fewer predictor variables, a minimum sample size of $N = 100$ is recommended (Combs, 2010; Nunnally, 1978). According to Green (1991), with 7 predictor variables, a multiple regression sample size should equal $50 + 8k$, or 106. A minimum sample size of 103 was estimated using G*Power 3.1.9.2, assuming an *a priori* power analysis, $\alpha = .05$, $\beta = .80$, and a medium effect size (Faul, Erdfelder, Lang, & Buchner, 2007).

Reliability and Validity

To be considered reliable, an instrument is expected to produce a Cronbach's alpha of .70 or greater (Babbie, 2010). The Perceived Academic Stress (PAS) scale yields a Cronbach's alpha total item reliability of .70 (Bedewy & Gabriel, 2015). To minimize threats to internal validity and the influence that outliers have on the accuracy of prediction, a statistically large sample was used. In addition, participants were selected from a sample frame assuming an equal likelihood in experiencing academic stress. To avoid external threats to validity, a large sample was used to minimize the effects of low response rates (Lavrakas, 2008). A field

study was conducted with experts from a range of professional and academic backgrounds. The experts evaluated the logical flow, readability, and relevance of the survey questions and panelists assessed the accuracy and clarity of the questions.

RESULTS

Sample Description

Per Tables 1 and 2, a majority of the respondents were male (74.5%), 19 years of age (50.6%), part of the University freshman class (82.3%), with a self-reported GPA from 3.0 to 3.49 out of a 4.0 scale (40.2%).

Table 1
Cross-Tabulated Age and Gender Frequencies and Percentages (N = 164)

Age	Participant gender					
	Male		Female		Other	
	N	%	N	%	N	%
18	44	36.7%	13	32.5%		
19	62	51.7%	20	50.0%	1	100%
20	9	7.5%	3	7.5%		
21	1	0.8%	2	5.0%		
22	3	2.5%	1	2.5%		
Over 22	1	0.8%	1	2.5%		
Total	120	74.5%	40	24.8%	1	0.6%

A majority of respondents (83.5%) self-reported as either accounting (19.5%), marketing (18.9%), other management (18.9%), other (13.4%), or management (12.8%) majors. Table 3 shows the distribution of majors for the survey panel.

Table 2
Cross-Tabulated Cohort GPA Frequencies and Percentages (N = 164)

Cohort	Participant GPA									
	3.5 to 4.0		3.0 - 3.49		2.5 - 2.99		2.0 - 2.49		< 2.0	
	N	%	N	%	N	%	N	%	N	%
Freshman	48	87.3%	55	90.2%	21	72.4%	9	100.0%	1	100.0%
Sophomore	4	7.3%	5	8.2%	3	10.3%				
Junior	3	5.5%	1	1.6%	2	6.9%				
Senior					3	10.3%				
Total	55	35.5%	61	39.4%	29	18.7%	9	5.8%	1	0.6%

Table 3
Major Frequencies and Percentages (N = 164)

Major	N	%
Marketing	31	18.9%
Management	21	12.8%
Other Management	31	18.9%
Accounting	32	19.5%
Finance	14	8.5%
Information Management	2	1.2%
Analytics	3	1.8%
Human Resources	3	1.8%
Entrepreneurship	2	1.2%
Other	22	13.4%
Missing	3	1.8%
Total	164	100.0%

Eighty-two students received the extra credit version of the survey instrument to evaluate while 82 students received the non-extra credit version. One student who received the extra credit version of the survey opted out of the study. Table 4 identifies the majors of the respondents and which survey instrument they reviewed. Three students in the sample did not identify their major. Generally, those receiving the syllabus were categorized within the 3.0 to 4.0 GPA range with 69.2% and 82.6% of respondents receiving the extra credit and no extra credit versions, respectively. Table 5 identifies the distribution of the survey instrument by GPA range.

Table 4
Cross-Tabulated Major and Syllabus Version Frequencies and Percentages
 (N = 164)

Major	Extra Credit		No Extra Credit	
	N	%	N	%
Marketing	15	18.8%	16	19.8%
Management	7	8.8%	14	17.3%
Other Management	19	23.8%	12	14.8%
Accounting	19	23.8%	13	16.0%
Finance	6	7.5%	8	9.9%
Information	1	1.3%	1	
Management				1.2%
Analytics	3	3.8%		
Human Resources	2	2.5%	1	1.2%
Entrepreneurship			2	2.5%
Other	8	10.0%	14	17.3%
Total	80	49.7%	81	50.3%

Table 5
Cross-Tabulated GPA and Syllabus Version Frequencies and Percentages
 (N = 164)

GPA	Extra Credit		No Extra Credit	
	N	%	N	%
3.5 to 4.0	31	38.3%	25	31.3%
3.0 - 3.49	25	30.9%	41	51.3%
2.5 - 2.99	18	22.2%	11	13.8%
2.0 - 2.49	7	8.6%	2	2.5%
< 2.0			1	1.3%
Total	81	50.3%	80	49.7%

Data Analysis

Survey data was analyzed using SPSS version 27. Survey responses collected by the faculty were imported into SPSS from a Microsoft Excel file. Table 6 summarizes the instruments used to collect data.

Students that received the extra credit syllabus preferred extra credit assignments (62.2%) as compared to attending a College of Business or career event (Table 7). Students that received the syllabus without extra credit preferred option 1 (63.5%). This option weighted team projects more

heavily (30% as opposed to 20%) and exams less heavily (20% as compared to 30%).

Table 6
Business Course Syllabi Data Collection Instruments

Versions	Extra Credit		No Extra Credit	
	Option 1	Option 2	Option 1	Option 2
Attend an event	X			
Assignment		X		
30% team project, 20% exam			X	
20% team project, 30% exam				X

Table 7
Cross-Tabulated Syllabus Version and Option Frequencies and Percentages (N = 164)

Option	Version			
	Extra Credit		No Extra Credit	
	N	%	N	%
Option 1	27	36.5%	47	63.5%
Option 2	46	62.2%	27	36.5%
No Response	1	1.4%		
Total	74	50.0%	74	50.0%

The Perception of Academic Stress (PAS) scale is scored via four subconstructs. The minimum and maximum scores for each subconstruct is listed in Table 8. The higher the PAS score, the lower the level of stress experienced by the student.

Table 8
Minimum and Maximum Scores for Each PAS Subconstruct

Subconstruct	PAS Score	
	Minimum	Maximum
Pressures to perform	5	25
Perceptions of workload	4	20
Academic self-perceptions	5	25
Time restraints	6	30
Total	20	100

Student PAS scores are provided in Table 9. Students who evaluated the syllabus without extra credit reported 4% less stress than their counterparts

who reviewed the syllabus offering extra credit. Therefore, more stress may be experienced if extra credit is offered as part of the evaluative criteria on a syllabus.

Table 9
Mean and Median PAS Subconstruct Scores per Syllabus Version
(N = 164)

Subconstruct	PAS Score		Version			
	Minimum	Maximum	Extra Credit		No Extra Credit	
			Mean	Median	Mean	Median
Pressures to perform	5	25	15.34	15	16.19	17
Perceptions of workload	4	20	12.61	13	13.06	13
Academic self-perceptions	5	25	18.49	19	18.97	19
Time restraints	6	30	20.10	20	20.96	21
Total	20	100	66.54	67	69.18	70

Table 10
Mean and Median PAS Subconstruct Scores per Syllabus Version and Option
(N = 164)

Subconstruct	PAS Score		Extra Credit Options			
	Minimum	Maximum	Events		Merit	
			Mean	Median	Mean	Median
Pressures to perform	5	25	15.48	16	14.98	15
Perceptions of workload	4	20	13.22	14	12.33	12
Academic self-perceptions	5	25	19.11	20	18.24	18
Time restraints	6	30	20.54	20	19.5	19
Total	20	100	68.35	70	65.05	64

Subconstruct	PAS Score		No Extra Credit Options			
	Minimum	Maximum	20/30 Exam/Team		30/20 Exam/Team	
			Mean	Median	Mean	Median
Pressures to perform	5	25	15.89	16	16.56	18
Perceptions of workload	4	20	12.89	13	13.33	14
Academic self-perceptions	5	25	18.68	20	18.96	19
Time restraints	6	30	20.84	22	21.07	22
Total	20	100	68.30	71	69.92	73

When comparing the mean and median subconstruct scores between syllabus options as reported in Table 10, the lowest stress (69.92) is observed by those assigned to the no extra credit syllabus with a 30% exam, 20% team project weight. The highest level of stress was reported by those students associated with the merit-based extra credit syllabus option (65.05). Interestingly, students linked with the extra credit syllabus preferred the merit-based option, which is more stressful as compared to the event-based assessment criteria.

Testing Assumptions

Prior to conducting multiple regression, the dataset was explored for abnormalities and assumptions were tested to ensure sufficient conditions existed to utilize this particular multivariate statistical approach. A listwise approach was used to manage missing data; 20 cases were removed. Nominal variables were coded with dummy variables prior to conducting the analysis. Outliers were analyzed using residuals and Cook’s distance (Dunning & Freedman, 2008). Applying pairwise deletion, two observations were removed from the analysis.

Descriptive statistics were generated and normality plots were examined to test for normality. Univariate normality was evaluated using skewness and kurtosis indices. Field (2009) suggested that skew indices greater than three and kurtosis indices between 10 and 20 signify non-normality. No variables were highly skewed or kurtotic. All data was considered normally distributed. Scatterplots and histograms were evaluated for linearity. To test for homoscedasticity, Levene’s test was evaluated at $p > .05$. To evaluate for independence of errors, a Durbin-Watson test statistic for the model should result within a range of 1 to 3 (Field, 2009). With a Durbin-Watson test statistic of 1.922, the data was considered independent of correlation errors between residuals. Variance Inflation Factors were reviewed and all fell within the acceptable range of .1 to 10 (Field, 2009).

Results

Although the overarching Perception of Academic Stress (PAS) scale was not statistically significant in its entirety, predictive relationships were discovered between the subconstructs of the inferential model and the independent variables, and in specific, academic self-perceptions (ASP). Linear multiple regression was conducted to test the research questions and related hypotheses.

Table 11
Model Summary (N = 164)

R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				Sig. F Change	Durbin-Watson
				R Square Change	F Change	df1	df2		
0.317	0.100	0.074	4.396	0.100	3.850	4	138	0.005	1.922

Note. Dependent variable = Academic Self-Perceptions.

Table 12
 Analysis of Variance of the Regression Model ($N = 164$)

	Sum of Squares	df	Mean Square	F	Sig.
Regression	297.579	4	74.395	3.850	0.005
Residual	2666.896	138	19.325		
Total	2964.476	142			

Note. Dependent variable = Academic Self-Perceptions.

The ANOVA established that the model was statistically significant, with $F(142) = 3.85$ at $p < .01$, for age, GPA, version of the syllabus, and option from each version as predicting academic self-perceptions (see Table 11). The model indicated that age, GPA, and the syllabus version and option had a significant relationship upon the academic self-perceived stress experienced by students $(-1.25 \beta_1 (\text{age}) - 3.08 \beta_2 (\text{GPA}) - 0.031 \beta_3 (\text{version}) + 0.094 \beta_4 (\text{option}), t(142) = 3.85, p < .05)$.

DISCUSSION

The results of this quasi-experiment are enlightening to the scholarship of teaching and learning. For one, if given the choice, students may be more apt to select a merit assignment as opposed to attending a social event to earn extra credit. Since the majority of our sample consisted of first year college students, one explanation of this finding is that students newer to college may be more apprehensive about attending an event in a less familiar environment. Another reason, unrelated to our sample, may be that more college students are working to pay for college than ever before and may have less time to attend an event and complete their studies. According to a recent government survey, over 52% of college students are working at least 27 weeks per year or more to cover the cost of college (U.S. Census Bureau, 2017).

Students assigned to the syllabus version without extra credit lobbied for a more heavily weighted team project as opposed to an individual exam. Students may presume the team project workload to be moderated due to the sharing of deliverables among members. Yet, students reported more stress by their popular choice. Perhaps the increased stress emanates from past team experiences, working with others, the potential for time conflicts, or the concern of how they will be academically perceived by their teammates. Another interpretation is that more students within our sample had a high GPA and they may be concerned that, due to their higher achieving status, they may need to do more of the work for the team to be successful and meet their exacting standards.

In the Elbeck and DeLong (2015) study referenced earlier, among high performing students, the proclivity is to appeal for extra credit on a reactionary basis (60%) in lieu of a proactive pursuit (33%). In contrast, low performing students are far more balanced in their appeals with 43% requesting extra credit from a recovery standpoint and 43% from a proactive one. Therefore, students with a higher GPA may be more stressed out because they perceive themselves as having more to lose.

Research from Grijalva, Koford, and Parkhurst (2018) aligns with the findings of this study in that the higher a student grade, the more likely they are to complete an extra credit assignment, if given the opportunity. If students with a higher GPA have a greater frequency of completing extra credit, they may also have more elevated stress levels due from the self-imposed pressure to maintain an expected level of academic performance. The findings of this study align with this statement.

Academic self-perception is the belief that one has regarding their current and future academic abilities. This self-concept informs the choices that students make and influences their academic and professional goals. Those with lower academic self-perception may underrate their ability to achieve and elect to enter into less rigorous programs or career paths (Wilson, Siegle, McCoach, Little, & Reis, 2014). As interpreted from the regression model, the lower the self-reported GPA, the higher the academic self-perception stress. Offering extra credit as an option in a course to explore a topic in greater depth, recoup lost points, or demonstrate reward and effort, may elevate the stress experienced by those with a lower academic self-perception of themselves.

As for the independent variable age, the regression equation indicated that younger students experienced more academic self-perception stress than those in the sample population who were older by comparison. This result directly relates to a study conducted by Chung, Robins, Trzesniewski, Nofle, and Roberts (2014) in that students who persist in college improve their academic self-perception over time. The unfamiliarity of what will be expected can be intimidating and stressful as a newcomer to college. As students gain experience, achieve success, and develop a greater sense of self, academic self-perception evolves and stress related to academic self-perception declines.

LIMITATIONS

The purpose of this study was to evaluate the academic stress experienced by students upon the review of a one-page syllabus with two possible assessment criteria options for each syllabus. One limitation of this study was the incorporation of a survey as the data collection

mechanism. Questions were posed using a multiple-choice Likert-scale format. Therefore, respondents were not provided with the opportunity to explain or elaborate upon their answers.

An additional limitation of this study was the survey panel. Only business majors enrolled in a freshman Management synchronous course during one term at one specific institution served as the sampling frame. Hence, the research is limited to the perspectives of only those students involved in the study.

Research results may not be generalizable to the entire population of students, business or non-business majors, within or outside the institution of study. Bachelor degree seeking undergraduate students served as respondents for this study. Therefore, the perspectives of secondary, graduate, or doctoral students may differ from those surveyed as part of this research.

FUTURE RESEARCH

Future research should be conducted to evaluate the impact of extra credit on student stress in non-business majors and upper division or graduate-level course offerings since this study evaluated first year business students. Additional work should seek to clarify if extra credit is perceived differently in an online learning environment. Structural equation modeling could be employed to establish if causality exists between extra credit assignments and student academic stress. The research design used in this study could be modified to include an explanation of the extra credit assignment to determine if differences in student stress are perceived.

This study should be extended globally to conclude if cultural differences influence the results. Further analysis should incorporate high school GPA and other preparedness measures to better understand the population. Qualitative questions could be added to the data collection instrument to learn more about students experiences and to delve further into what is stressing them and why. Future work should compare stress levels originating from extra credit of traditionally aged students to non-traditional ones. The study should be expanded to assess whether alternate methods of extra credit are more or less stressful. Furthermore, researchers should evaluate the combination of various learning assessments and activities to learn more about their influences on the stress levels of students.

Anxiety is the most frequently reported health issue on college campuses (Center for Collegiate Mental Health, 2017). Nearly 85% of students are reportedly overwhelmed with almost 80% of them at the point of exhaustion. About 15% of all college students have been diagnosed with or have received some treatment for an anxiety disorder (Samuolis,

Barcellos, LaFlam, Belson, & Berard, 2015). Given this trend, more research should seek to understand the underlying factors that cause or influence student stress and anxiety including, but not limited to, learning assessments and activities such as extra credit, team projects, case studies, presentations, and examinations.

CONCLUSIONS

While somewhat controversial, extra credit is a means by which students can reinforce learning, engage further in any area of study, and improve their grades. In general, this study found that students prefer an extra credit assignment over attending an event. Correspondingly, perceived student academic stress increases when extra credit is presented. The results were surprising in that students may select an extra credit, merit based assignment, as opposed to an event or some other non-merit activity. While the intention of offering an extra credit assignment is ultimately to benefit students, a “bonus” opportunity may lead to more than what a student bargained for, additional stress and anxiety.

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APPENDIXES

Appendix A – Business Course Syllabus with Extra Credit Assessment Criteria for Required Business Course

<u>Option 1</u>	<u>Option 2</u>
<p>10% Attendance and Participation</p> <p>10% Quizzes Weekly quizzes will consist of multiple choice and true/false questions.</p> <p>30% Exams Exams include multiple choice, true/false and short answer questions.</p> <p>20% Research Paper Research papers will be 10-15 pages long with at least 8 external sources.</p> <p>20% Team Project Team project includes a written research paper and 20-minute presentation.</p> <p>10% Individual Presentation Individual presentations will be 15 minutes in length and require a minimum of 5 external resources.</p> <p>up to 5% Extra Credit is available</p> <ul style="list-style-type: none"> • Attendance at a College of Business speaker event • Attendance at a career event 	<p>10% Attendance and Participation</p> <p>10% Quizzes Weekly quizzes will consist of multiple choice and true/false questions.</p> <p>30% Exams Exams include multiple choice, true/false and short answer questions.</p> <p>20% Research Paper Research papers will be 10-15 pages long with at least 8 external sources.</p> <p>20% Team Project Team project includes a written research paper and 20-minute presentation.</p> <p>10% Individual Presentation Individual presentations will be 15 minutes in length and require a minimum of 5 external resources.</p> <p>up to 5% Extra Credit is available</p> <ul style="list-style-type: none"> • Additional homework assignment • Rewrite a paper • Repeat a quiz/exam

**Appendix B – Business Course Syllabus without Extra Credit
Assessment Criteria for Required Business Course**

<u>Option 1</u>	<u>Option 2</u>
<p>10% Attendance and Participation</p> <p>10% Quizzes Weekly quizzes will consist of multiple choice and true/false questions.</p> <p>20% Exams Exams include multiple choice, true/false and short answer questions.</p> <p>20% Research Paper Research papers will be 10-15 pages long with at least 8 external sources.</p> <p>30% Team Project Team project includes a written research paper and 20-minute presentation.</p> <p>10% Individual Presentation Individual presentations will be 15 minutes in length and require a minimum of 5 external resources.</p>	<p>10% Attendance and Participation</p> <p>10% Quizzes Weekly quizzes will consist of multiple choice and true/false questions.</p> <p>30% Exams Exams include multiple choice, true/false and short answer questions.</p> <p>20% Research Paper Research papers will be 10-15 pages long with at least 8 external sources.</p> <p>20% Team Project Team project includes a written research paper and 20-minute presentation.</p> <p>10% Individual Presentation Individual presentations will be 15 minutes in length and require a minimum of 5 external resources.</p>