

## **Academic Dishonesty: An Exploratory Study of Traditional Versus Non-Traditional Students**

Michael Monahan  
Frostburg State University

Amit Shah  
Frostburg State University

### **ABSTRACT**

Academic dishonesty is a major issue in education. Perhaps more so in the online environment where many times students are on their honor to complete exams without the use of the Internet, notes, or other prohibited materials. The age range of 18-24 encompasses the traditional aged student body. The non-traditional students are over the age of 25 and may be married, have children, full time jobs and other obligations. Age and the concomitant responsibilities associated with married life, children and working full time work may have advanced the maturity of these students and may allow them to look at the bigger picture and become less tolerant on issues of academic dishonesty. An analysis of the grade records in business classes at a mid-Atlantic comprehensive university provided the data for this study. All classes were online and covered the period from 2017-2021. A total of 455 participants (134 traditional aged students and 321 non-traditional aged students) took either two or three exams each, equating to a total of 1227 test scores being analyzed. To determine if cheating was occurring faculty began utilizing the capabilities of the Respondus Lockdown Browser<sup>®</sup> which records both sound and video while the student is taking the exam. The results were surprising. Implications for practice are also included.

Key Words: Academic dishonesty, Non-traditional students, Respondus Lockdown Browser

Copyright statement: Authors retain the copyright to the manuscripts published in AABRI journals. Please see the AABRI Copyright Policy at <http://www.aabri.com/copyright.html>

## INTRODUCTION

Cheating is a common behavior among university students. It has been posited that laziness, lack of preparedness, competition, peer pressure, high stakes exams and assignments, and lax honor codes are some of the reasons for cheating. There appears to be a growing acceptance of the act as evidenced by the decreased level of shame associated with it and when caught, the penalties are light (Long, 2020). Additionally, the onslaught of Covid-19 exacerbated the situation since many assessments were done online without direct supervision. Faculty were left trusting students to be honest which may have inflated grades and reduced student learning.

Education is often referred to as lifelong learning since it begins when we are very young and continues through our lives. The terms traditional and non-traditional student are often used to separate classes of learners. Traditional students are students who enroll in postsecondary educational institutions after high school and until they reach the age of 25. Non-traditional students are generally over the age of 25, and may have full or part-time jobs, families and other commitments (Tilley, 2014).

McCabe, Trevino & Butterfield, (2002) defined academic dishonesty as “copying from another student with or without their permission, using unpermitted crib or cheat notes, helping someone else cheat on a test/exam, copying material from any source and turning it in as your own work, fabricating or falsifying a bibliography, turning in work done by someone else”, and failure to properly cite the work of others. However, changes in technology have assisted in these unscrupulous behaviors as the ubiquitous nature of smartphones, tablets and laptops have expanded exponentially. These tools enhance the opportunity for both learning and cheating. It has become extremely easy and tempting for students to cheat instead of creating their own work (Cifuentes, & Janney, 2016). A quick internet search reveals a number of firms who have developed tools to help instructors check the originality of their students’ work such as Honorlock, Turnitin, Formative, Proctortrack, and Respondus.

## PURPOSE

The purpose of this paper is to determine if there are differences in the level of academic dishonesty between traditional students and non-traditional college students.

## LITERATURE REVIEW

### Prevalence of Cheating and Unethical Academic Behaviors

Often, instructors erroneously assume the less intelligent or less motivated students will cheat. However, Pérez-peña (2012) found high achievers were also involved in academic dishonesty. Further, faculty who do not think academic dishonesty is a problem are only fooling themselves since cheating is a universal behavior that transcends education, ethnicity, gender, or income levels.

These unethical behaviors begin well before their first day at college. McCabe and the International Center for Academic Inquiry surveyed over 70,000 high school students across the United States between 2002-2015 found 58% admitted to cheating on a test, 64% admitted to committing plagiarism, and an astonishing 95% admitted to any form of cheating (Simmon, 2018). Similarly, Dejene (2021) surveyed 1246 students from public and private secondary

schools and found approximately 80% of students were actively involved in dishonest academic behaviors. Kennedy et al (2000) found “64% of faculty and 57% of students reported it would be easier to cheat online than cheating in a traditional face-to-face environment”. However, “Harmon, Lambrinos, and Buffolino (2010) found 50% of students reported the frequency of cheating online is the same as face-to-face” (Dietz-Uhler, & Hurn, 2011). In addition, Burton, Tapade & Haynes (2011) survey business school alumni and found 86% of admitted to cheating during college.

Perhaps the interest in online classes goes beyond their asynchronous nature and convenience to the opportunity for cheating. Wolverton (2016) expressed concerns about the level of academic integrity and how effortlessly opportunities could be exploited. Further, recent studies report that online systems in education are prone to academic dishonesty. The Josephson Institute of Ethics Biennial Report Card on American Youth (2012) surveyed more than 23,000 US students in public, private and charter high schools. They found the majority of students (51%) affirmed to committing academic dishonesty by cheating on exams over the prior year while 57% of respondents agreed with the statement “*In the real world, successful people do what they have to do to win, even if others consider it cheating.*” (Cheating In College: The Numbers And Research - Best College Reviews, 2021 )According to the Educational Testing Service, two out of three high school students reported cheating on a test, while nine out of ten admit to copying another’s homework. Students also admitted they were more than four times as likely to cheat in an online class when compared to face-to-face classes (Watson & Sottile, 2010).

The academic quantitative fields of business, nursing, and engineering were particularly prone to high rates of academic dishonesty (Dyer, Pettyjohn, & Saladin (2020). For example, in a study of freshmen and sophomore engineering students at four institutions covering nearly 500 respondents, Dyer, Pettyjohn, & Saladin, (2020) found cheating was common and viewed as proper. Over 62% admitted having engaged in some sort of cheating during their time in college, and over 75% recognized cheating as a fact of college life. In addition, a study of 730 medical, dental, pharmacy and nursing students found most respondents (68%) preferred in-campus E-exams, while 32% preferred remote online exams. Regarding dishonest academic behaviors, over 20% sought assistance from friends, and nearly 25% sought help from other possible sources (Elsalem, et al, 2021). Elias (2020) investigated business students to ascertain if demographic differences in ethical perceptions were present. He found women and older, non-traditional aged students viewed different types of cheating more unethical than their male and traditional aged counterparts. Further, the male accounting majors more frequently acknowledged committing academic dishonesty, while female students were more apt to excuse their dishonest behaviors. Business students’ cheating is disconcerting since unethical behavior in college often predicts cheating in the workplace (Nonis & Swift, 2001).

Dyer, Pettyjohn, & Saladin (2020) found students were more prone to commit academic dishonesty behaviors in an environment which was unproctored. This may be due to the socio-technological phenomenon popularly called as “the online disinhibition effect” which may contribute to unethical behavior that digital technologies seem to be facilitating (Farisi, 2013). McCoy (2017) cites a Kessler International survey of three hundred college students, 86 percent of respondents admitted to cheating in some manner. Of those who acknowledged cheating, 97 percent indicated that they had gotten away with it. He posits, it is the fault of the faculty for not creating an engaging environment, not making the material relevant, and not instilling a culture of unshaking academic integrity.

Even at Yale University, the elite Ivy League institution, cheating exists. The Yale News conducted a survey in 2018 which garnered over 1400 responses. Over 24% reported copying another student's answers and 14% admitted to cheating on exams. Interestingly only 8% were caught cheating (Prihar and Wanna, 2019).

Often, there is a disconnect between student test scores and the rest of their work. The members of the American Society for Clinical Laboratory Science noticed this disconnect when students with high test scores were not able to articulate the concepts in class (Conway-Klaassen & Keil, 2010). The Josephson Institute (2009) found in a "study of 6,930 respondents in five age groups (17 and under, 18-24, 25-40, 41-50, over 50) found some connections between high school cheating and dishonesty later in life, including at work, with spouses, and on taxes".

### **Traditional vs Non-Traditional Students**

Researchers Smith, Davy, Rosenberg, & Haight, (2002) contend chronological age is a weaker indicator of academic dishonesty than class standing. Consequently, as the more students mature, they are less prone to commit academically dishonest behaviors. Logically, those students who tended to cheat in the past were more apt to affirm they would continue to cheat in the future (Smith et al, 2002). Similarly, when studying traditional aged students, Rocha and Teixeira (2010) found newer undergraduates were more likely to cheat. Stuber-McEwen et al. (2009) assert students who cheated in their primary and secondary schools were more apt to continue these academically dishonest behaviors in college. Conversely, non-traditional students were less likely to cheat. Harding (2001) asserted younger, traditional college students cheat more often than older, non-traditional students.

Graham et al. (1994) found traditional aged students cheated more than non-traditional students. Similarly, age was found to be inversely related to cheating as older non-traditional students were found to have cheated less often than their younger colleagues (Srikanth & Asmatulu, 2014). McCabe et al. (2012) attributed age as one of the student characteristics that may play a role in a greater risk for cheating. Similarly, Stuber-McEwen, Wisely, & Hoggatt, (2009) found non-traditional students were less likely to commit academic dishonesty as they assert these students were more motivated and self-directed to learn. In addition, it is not surprising that greater maturity and commitment had less violations of academic dishonesty (Tolman 2017).

### **Methods to reduce academic dishonesty**

Faculty can use traditional pedagogical methods for educating, preventing, and reporting academic dishonesty and employ technological deterrents (Bain, 2015). Stanford faculty member Jaffe (2020) reposted the academic cheating fact sheet produced by Educational Testing Services. While there are a number of facts about academic dishonesty, the final point is chilling. Cheating does not end at graduation and these unethical behaviors are serious issues for employers who are concerned about the integrity of new employees. Lockdown browsers by themselves are not effective as students can use their phones, another computer, or other materials to cheat. Supiano (2020) recommends talking with students about academic integrity, having multiple methods of assessments, and split between multiple choice and short answer questions.

Alessio, et al, (2017) asserts online testing produces artificially high grades and to test this hypothesis by comparing 147 students enrolled in multiple sections. Half the students had no proctoring while the other half had proctoring software. They found students who were proctored performed the exam quicker and scored approximately 17 points lower than the unproctored students. The software used was Software Secure and Respondus Monitor which both employed videotaping of the students while they took the tests.

Medical students recommended other forms of assessment in lieu of exams, the use of online proctoring solutions and compulsory pass/fail grades to curtail cheating. Their faculty used different exams, placed limits on the time to take the exam and applied one way navigation to reduce the students' dishonest behaviors (Elsalem, et al, 2021). In a study of 212 students and 162 teachers in Norway, Chirumamilla (2020) found impersonation, forbidden aids, peeking, peer collaboration, outside assistance and student–staff collusion and seven different countermeasures were considered – proctors, biometry, mingling, shuffling, random drawing, sequencing, and broadcasting. Both students and teachers perceived cheating as easier with e-exams. They also thought some countermeasures would be easier to implement and could curtail cheating.

Educating students about the importance of academic integrity is critical. This includes e-cheating or digital cheating where students use a myriad of unauthorized electronic resources. Multiple studies revealed institutions who were proactive with creating policies to combat academic dishonesty also obtained lower rates of misconduct and greater faculty involvement (Jarc, 2009, Shelling, 2008, McCabe, 2005 and Harmon, 2008). Chiesl (2007) asserts making strong policies to provide a sound moral and ethical framework, limited time for the exams, personal or video surveillance, randomized questions and employing a statistical analysis to find abnormalities which could not have occurred naturally. Moten et. al. (2013) found successful exam proctoring occurred when the academic institution has a testing center and student identification cards were checked and verified the student is the one taking the exam. King et al., (2009) recommended using shorter timed exams and essay questions to minimize online cheating. Christe (2003) recommends using multiple low stakes assessments to display their level of learning. For exams, faculty should rearrange and rewrite exams every semester, have a time limitation and have them proctored and use plagiarism software such as Turnitin. The University of North Texas (UNT) recommends making your expectations clear for students, utilizing the learning management system to track students to see if they are viewing and participating (<https://teachingcommons.unt.edu/teaching-essentials/academic-integrity/academic-dishonesty-online-courses-tips-strategies/>) Consequently, Dyer, Pettyjohn, & Saladin (2020) assert “ it is imperative to establish a culture and expectation in higher education around the purpose of testing and assessment that incorporates the impact of academic dishonesty.”

## **METHODS**

Online courses which had high percentages, approximately 90% or greater of non-traditional or traditional aged students were selected for analysis. Students in the Bachelor of Science in Nursing program are already Registered Nurses who are seeking to increase their skills to move into supervisory positions. Many are completing their second or third degree. Demographics data from their program revealed dates of birth from 1945 to 2004. Eighty-nine percent of students in the program are over the age of 25, thereby making it a reasonable assumption that this group of students be categorized as non-traditional. Data from Summer



2018, 2019, and 2020 was analyzed to determine the average test scores. The capstone class for business students is offered online during the summer session. These students are overwhelmingly traditionally aged students. Data from summer 2017, 2018, 2019, and 2020 were analyzed.

Beginning Spring of 2021 the Respondus Lockdown Browser was introduced into these classes. This initial usage explains the lower number of respondents. The Respondus Lockdown Browser® locks down the testing environment within a learning management system. It is being used at more than 2000 higher educational institutions. The assessments are displayed full-screen and cannot be minimized. The browser menu and toolbar options are removed, except for back, forward, refresh and stop. In addition, the program prevents access to other applications including messaging, screen-sharing, virtual machines, and remote desktops as well as disabling printing, screen capturing, and copying and pasting ([web.respondus.com/he/lockdownbrowser/](http://web.respondus.com/he/lockdownbrowser/)) Before taking the exam, students are required to download the program, have a webcam and a microphone. Students first take a photo of their picture ID to ensure it is the same person taking the test. Then a brief live video showing what is on their desk and their surroundings. When the student begins the timed exam, both sound and video are recorded. The program flags head and eye movements, or any questionable behavior which is marked for review as low, medium or high priority. The exact minute and second when the incident occurred is delineated. Faculty can then watch the entire video or skip to the issues to see for themselves if there is an issue. In some cases, behaviors were flagged but no discernable academic dishonesty was witnessed by the instructor. However, in other cases, the flagging revealed students had utilized notecards or their phone.

## RESULTS

A total of 455 students with multiple exams, two to three, per class, with 265 traditional tests and 963 non-traditional tests were examined. Approximately 77% of the respondents were before the Respondus Lockdown Browser (RLB) was implemented (see Table 1). There was remarkable consistency between the student test scores which were remarkably high when compared to students who took the exams in a face-to-face proctored environment. The faculty suspected academic dishonesty but had no way to prove it.

Non-traditional students took three exams, on their honor, and achieved scores which averaged 82%. After the Respondus Lockdown Browser was implemented, the test average dropped to 66.5%, a decrease of 15.5%. In other words, the average student grade decreased by a full grade and a half. The decreases ranged from -14.4% to -17.4% which is compelling evidence academic dishonesty was occurring before the implementation of the RLB. These differences were statistically significant at the .000 level (see Table 2).

The traditional students test scores decreased an average of -18% when using the RLB. In particular, students on test 2 averaged over 91% which is highly unlikely, especially in an online class. Again, these differences were statistically significant at the .000 level (see Table 3).

## CONCLUSIONS

While the instructors had suspicions, there was no evidence that cheating on tests was occurring. Now, after using the Respondus Lockdown Browsers which records both sound and video of the student while they are taking the exams, dishonest academic behaviors are more

difficult to commit. The exams were completed much quicker and the scores were statistically significantly lower. Scores were 14.4-19.3% lower which affirms academic dishonesty. Stated another way, student cheating accounted for 1.5 to nearly 2 full grade differences. This finding is appalling for both traditional and non-traditional students, but the differences were not statistically significantly different. The findings of this study support the work by Alesso et al (2017) who found students scored 17 points lower and used significantly less time in online tests that used proctoring software versus unproctored tests. This study found academically dishonest behaviors by both traditional and non-traditionally aged students but the differences between groups were not statistically significant. The study did not support the findings of Stuber-McEwen et al. (2009), Harding (2001) Graham et al. (1994) Srikanth & Asmatulu, (2014), McCabe et al. (2012), and (Tolman 2017) all found non-traditional students were less apt to commit academically dishonest acts than traditional students.

Cheating is not limited to online exams. As faculty we are training the next generation of workers and leaders. Those who practice or tolerate unethical ethical behaviors now may continue these tactics throughout their lives. Faculty can stop it through the will to implement a culture of integrity and the technology to prevent cheating.

### **RECOMMENDATIONS FOR FUTURE STUDY**

This study could be replicated to compare results by gender. Further, additional classes including graduate classes could be examined so ascertain if academic dishonesty is more prevalent in graduate or undergraduate classes.

**REFERENCES**

- Academic Dishonesty in Online Courses: Tips & Strategies retrieved Aug 14, 2021 from <https://teachingcommons.unt.edu/teaching-essentials/academic-integrity/academic-dishonesty-online-courses-tips-strategies/>
- Alessio, H. M., Malay, N., Maurer, K., Bailer, A. J., & Rubin, B. (2017). Examining the effect of proctoring on online test scores. *Online Learning*, 21(1), 146-161.
- Bain, L. Z. (2015). How Students Use Technology to Cheat and What Faculty Can Do About It. *Information Systems Education Journal*, 13(5) pp 92-99. <http://isedj.org/2015-13/> ISSN: 1545-679X
- Burton, J. H., Tapade, S., & Haynes, J. (2011). Religiosity and test-taking ethics among business school students. *Journal of Academic & Business Ethics*, 4, 1-8.
- Chirumamilla, A., Sindre, G. & Nguyen-Duc A. (2020) Cheating in e-exams and paper exams: the perceptions of engineering students and teachers in Norway. *Assess Eval. High Educ.* pp. 1-18,
- Christe, B. (2003). Designing online courses to discourage dishonesty. *Educause Quarterly*, 4. Retrieved from <http://net.educause.edu/ir/library/pdf/eqm0348.pdf>
- Cheating in college: The numbers and research*. Best College Reviews. (2021, May 3). Retrieved September 1, 2021, from <https://www.bestcollegereviews.org/cheating/>.
- Cifuentes, L., & Janney, A. (2016). Protecting students' integrity and reducing academic dishonesty in online learning. *Distance Learning*, 13(4), 9
- Conway-Klaassen, J. M., & Keil, D. E. (2010). Discouraging academic dishonesty in online courses. *American Society for Clinical Laboratory Science*, 23(4), 194-200.
- Dietz-Uhler, B., & Hurn, J. (2011, June). Academic dishonesty in online courses. In 44th Annual Conference June 12-16, 2011 (p. 71).<http://67.20.69.115/files/proceedings/2011-final.pdf#page=72>
- Dyer, J. M., Pettyjohn, H. C., & Saladin, S. (2020). Academic dishonesty and testing: How student beliefs and test settings impact decisions to cheat. *Journal of the National College Testing Association* (4),1
- Elias, R. Z. (2020). Procrastination And Its Relationship With Business Students' Cheating Perceptions. *American Journal of Business Education (AJBE)*, 13(1), 1-8
- Elsalem, L., Al-Azzam, N., Jum'ah, A. A., & Obeidat, N. (2021). Remote E-exams during Covid-19 pandemic: A cross-sectional study of students' preferences and academic dishonesty in faculties of medical sciences. *Annals of Medicine and Surgery*, 62, 326-333.
- Farisi, M. I. (2013). Academic dishonesty in distance higher education: Challenges and models for moral education in the digital era. *Turkish Online Journal of Distance Education*, 14(4), 176-195.<https://dergipark.org.tr/en/download/article-file/155865>
- Harding, T. (2001, June). On the frequency and causes of academic dishonesty among engineering students. In 2001 Annual Conference (pp. 6-7)
- Harmon O.R, Lambrinos J. (2008) Are Online Exams an Invitation to Cheat? *J Econ Educ.* 39:116-25
- Harmon, O. R., Lambrinos, J., & Buffolino, J. (2010). *Online Journal of Distance Learning Administration*, 13(3). Retrieved August 18, 2021 from: [https://www.westga.edu/~distance/ojdla/Fall133/harmon\\_lambrinos\\_buffolino133.html](https://www.westga.edu/~distance/ojdla/Fall133/harmon_lambrinos_buffolino133.html)



- Herdian, H., Mildaeni, I. N., & Wahidah, F. R. (2021). "There are Always Ways to Cheat" Academic Dishonesty Strategies During Online Learning. *Journal of Learning Theory and Methodology*, 2(2), 60-67.
- Jaffe, D (2021) ENGR110/210: Perspectives in assistive technology - academic cheating fact sheet. (n.d.). Retrieved September 1, 2021, from <https://web.stanford.edu/class/engr110/cheating.html>
- Jarc R, Fox V. There's a Hole in Our Moral Ozone and It's Getting Bigger: Survey of 29,000 high school students reveals entrenched habits of dishonesty. Report Card on the Ethics of American Youth © 2008 Josephson Institute.
- Kennedy, K. Nowak, S., Raghuraman, R., Thomas, J., & Davis, S. F. (2000). Academic dishonesty and distance learning: Student and faculty views. *College Student Journal*, 34, 309-314.
- King, C.G., Guyette, R. W. & Piotrowski, C. (2009) "Online Exams and Cheating: An Empirical Analysis of Business Students' Views", *The Journal of Educators Online* Vol 6, No. 1, pp1-11
- Long, E. (2020.). *Cheating in school is at an all-time high*. The Express. Retrieved September 14, 2021, from <https://www.blhsnews.com/opinion/2020/03/02/cheating-in-school-is-at-an-all-time-high/>
- McCabe DL. It Takes a Village: Academic Dishonesty and Educational Opportunity. *Liberal Education*. 2005. Summer/Fall: 26-31.
- McCabe, D. L., Trevino, L. K., & Butterfield, K. D. (2002). Honor codes and other contextual influences on academic integrity: A replication and extension to modified honor code settings. *Research in Higher Education*, 43, 357-378.
- McCoy, B (2021, June 10). *Why students cheat (it's not them-it's us): To tackle student cheating, we need to rethink assignments and classroom culture*. Association of American Colleges & Universities. Retrieved September 1, 2021, from <https://www.aacu.org/liberaleducation/2021/winter/mccoy>.
- Moten Jr, J., Fitterer, A., Brazier, E., Leonard, J., & Brown, A. (2013). Examining online college cyber cheating methods and prevention measures. *Electronic Journal of E-learning*, 11(2), pp139-146.
- Nonis, S. A., & Swift, C. O. (2001). An examination of the relationship between academic dishonesty and workplace dishonesty: A multicampus investigation. *Journal of Education for Business*, 77(2), 69-77.
- Pérez-peña, R. (2012, September 8). *Studies find more students cheating, with high achievers no exception*. The New York Times. Retrieved September 14, 2021, from <https://www.nytimes.com/2012/09/08/education/studies-show-more-students-cheat-even-high-achievers.html>.
- Prihar, A & Wanna,C (2019), February 8). *Cheating at Yale: Students Get Honest about academic dishonesty*. Yale Daily News. Retrieved September 1, 2021, from <https://yaledailynews.com/blog/2019/02/07/cheating-at-yale-students-get-honest-about-academic-dishonesty/>.
- Schelling LP, Gilbert K, Spencer KJ, Pinks HS, Silva, RA. Multidimensional Scaling of College Students' Perceptions of Academic Dishonesty. *J Higher Educ*. 2008. 79:587-607.
- Simmons, A. (2018, April 28). *Why students cheat-and what to do about it*. Edutopia. Retrieved September 14, 2021, from <https://www.edutopia.org/article/why-students-cheat-and-what-do-about-it>

- Smith, K. J., Davy, J. A., Rosenberg, D. L., & Haight, G. T. (2002). A structural modeling investigation of the influence of demographic and attitudinal factors and in-class deterrents on cheating behavior among accounting majors. *Journal of Accounting Education*, 20, 45-65.
- Spaulding, M. (2009). Perceptions of academic honesty in online vs. face-to-face classrooms. *Journal of interactive online learning*, 8(3).
- Srikanth, M., & Asmatulu, R. (2014). Modern cheating techniques, their adverse effects on engineering education and preventions. *International Journal of Mechanical Engineering Education*, 42(2), 129-140
- Stuber-McEwen, D., Winseley, P., & Hoggatt, S. (2009). Point, click, and cheat: Frequency and type of academic dishonesty in the virtual classroom. *Online Journal of Distance Learning Administration*, 12(3).
- Supiano, B (2020). Students cheat: How much does it matter? Retrieved 8/23/21 from <https://www.chronicle.com/article/students-cheat-how-much-does-it-matter>.
- Teixeira, A., & Rocha, M. (2010). Cheating by economics and business undergraduate students: an exploratory international assessment. *Higher Education* (00181560), 59(6), 663–701.
- Tilley, B. (2014) What Makes a Student Non-Traditional? A Comparison of Students over and under Age 25 in Online, Accelerated Psychology Courses 13(2) 95-106.
- Tolman, S. (2017). Academic Dishonesty in Online Courses: Considerations for Graduate Preparatory Programs in Higher Education. *College Student Journal*, 51(4), 579–584.
- Watson G. Sottile, J. (2010) "Cheating in the Digital age: Do Students Cheat More in Online Courses?", *Online Journal of Distance Learning Administration*, Vol 13, No 1
- Wolverton, B. (2016, August 28). The new cheating economy. *The Chronicle of Higher Education*. Retrieved from <https://www.chronicle.com/article/The-New-CheatingEconomy/237587>

**APPENDIX**

**Table 1** Demographics

	No RLB	RLB	Total
	N	N	
Traditional	96	38	134
Non-Traditional	255	66	321
<b>Total</b>	<b>351</b>	<b>104</b>	<b>455</b>

**Table 2** Exam Means for Non-Traditional Students

		N	Mean	Std. Deviation	
Non-Traditional 356 Test 1	No RLB	255	83.5%	9.4%	
	RLB	66	69.1%	11.1%	
	Difference		-14.4%		
356 Test 2	No RLB	255	83.4%	9.7%	
	RLB	66	66.0%	10.9%	
	Difference		-17.4%		
356 Test 3	No RLB	255	79.2%	10.0%	
	RLB	65	63.9%	10.9%	
	Difference		-15.2%		
Average	No RLB		82.0%		
	RLB		66.5%		
	Difference		-15.5%		
	F	Sig		t	Sig
Test 1	6.178	0.013	Equal variances not assumed	9.662	0.000
Test 2	3.285	0.071	Equal variances assumed	12.574	0.000

**Table 3** Exam Means for Traditional Students

Traditional	Browner	N	Mean	Std. Deviation	
	No RLB	96	76.6%	19.3%	
485 Test 1	RLB	38	62.2%	16.8%	
	Difference		-14.4%		
485 Test 2	No RLB	96	91.1%	11.9%	
	RLB	35	71.8%	13.1%	
	Difference		-19.3%		
Average	Difference		-18.0%		
	F	Sig		t	Sig
Test 1	2.09	0.151	Equal variances assumed	4.036	0.000
Test 2	2.937	0.089	Equal variances assumed	8.02	0.000

