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To Cheat or not to Cheat: Impact of Learning Disability Status on Reasons for Cheating

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TO CHEAT OR NOT TO CHEAT:
IMPACT OF LEARNING DISABILITY STATUS ON REASONS FOR CHEATING

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McKenzie Perdew

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TO CHEAT OR NOT TO CHEAT:
IMPACT OF LEARNING DISABILITY STATUS ON REASONS FOR CHEATING

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Dr. Jenni Redifer, Director of Specialist Project
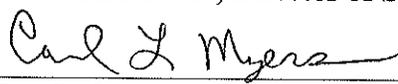
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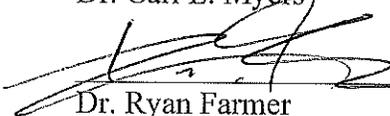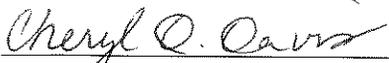
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I dedicate this specialist project to the one and only, Johnny Karate.

It's your turn to live forever in the WKU records, bud. You've earned it.

But, please stop eating the trash and fighting possums in the garden.

ACKNOWLEDGMENTS

It is said that nothing in this world can be accomplished alone and I certainly have a long list of people to thank. This project would have never survived if it wasn't for Dr. Jenni Redifer. I am forever grateful that we both showed up to that Psych Club meeting in Fall 2012 and you accepted me as a research assistant. I could say thank you forever and it still wouldn't be eough to cover all of your guidance and support the last seven years. Additional thanks to the rest of the members of the Attention and Memory Lab throughout the years, but especially to Chloe and Kailee for helping with coding. Further gratitude to Drs. Myers and Farmer for their invaluable input on this project, as well as to my overall development as a school psychologist. It's been an honor to be educated by you both. Many thanks once again to FUSE for providing the initial funding for this project in 2015, as well as the opportunity to call myself a researcher.

I would be remiss to exclude my parents from this list of people who have encouraged and pushed me. Thanks for never letting me quit anything when it got too hard and always reminding me that I am greater than any challenge I may face.

Alex- I don't know how you pulled it off, but you have officially survived two research projects of mine. I am thankful for your never ending patience, your unfailing belief in me always, and your uncanny ability to know exactly when I want a whole box of mac and cheese. I cannot wait to eat dinner with you for the rest of my life.

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TO CHEAT OR NOT TO CHEAT:
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McKenzie Perdew   December 2019   53 Pages

Directed by: Dr. Jenni Redifer, Dr. Carl Myers, and Dr. Ryan Farmer

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Academic cheating frequency, motivating factors for cheating, and student reasons for cheating have been studied extensively for decades, but nearly all of the research has been conducted with typically-developing students. To date, only one published study has examined cheating among students with learning disabilites, despite over 2 million students in American schools having been diagnosed with a learning disability.

Students who engage in academic cheating, as well as students who have learning disabilities, are more likely to have low levels of self-efficacy, hold more performance goal orientations, and have higher levels of impulsivity. Therefore, in the present study, individuals with a learning disability were expected to cite significantly more reasons for cheating related to those three variables, as well as to endorse cheating as being acceptable in more academic situations.

Learning disability status, cheating tolerance, and reasons for cheating were measured in 77 Amazon Mechnical Turk adult participants through self-report surveys. Results revealed no difference in cheating tolerance between individuals with learning disabilities and their typically-developing peers. Individuals with a learning disability cited significantly more reasons for cheating related to low self-efficacy and performance goal orientations compared to their typically-developing peers, but not for

reasons related to impulsivity. Strengths, limitations, and future directions are

discussed.

Introduction

Cheating in the schools, or academic cheating, is defined as violating school or classroom rules to receive a higher score on an assignment (Van Yperen, Hamstra, & van der Klauw, 2011). Most current and former students have some familiarity with academic cheating, regardless of whether they themselves have cheated, due to the widespread prevalence of cheating at various grade levels and courses, in both religious and secular schools, within different racial and ethnic groups, and across international lines (Anderman, Cupp, & Lane, 2010; Bruggeman & Hart, 1996; Ding et al., 2014; Evans & Lee, 2011; Witherspoon, Maldonado, & Lacey, 2012).

Academic cheating poses a significant problem beyond being a maladaptive coping strategy and reducing the amount of information students learn and retain. Psychometrically speaking, cheating not only interferes with the validity of exams as measures of learning, but also with inferences and assumptions based on exam scores, which can include teacher performance evaluations and instructional program evaluations (Cizek, 1999). Todd-Mancillas and Sisson (1987) asserted that academic cheating even affects students who do *not* cheat by placing them at a disadvantage when it comes to outcomes, such as grades, scholarships, and admittance to academic programs. Some longitudinal evidence suggests that cheating in school is related to later cheating behavior in one's life (Cizek, 1999; Sims, 1993). This relationship itself is an alarming one, as recent news stories have clearly demonstrated harmful effects of later-in-life cheating, such as the Wells Fargo fake account scandal and the men's college basketball bribery misconduct (Merle & Long, 2018; Rapaport, 2017).

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However, despite the fact that academic cheating, its determinants, and its outcomes have been variables of interest for decades, one population has consistently been excluded from studies of cheating: students receiving special education services. Extensive literature searches turned up only one empirical study examining the relationship between middle school students with a learning disability and academic cheating (Sideridis & Stamovlasis, 2014), which, while important, excludes multiple other cohorts of students. Yet, during the 2015-2016 academic year, 6.7 million students received special education services for their respective disabilities, representing approximately 13% of total public-school enrollment across the United States (National Center for Education Statistics, 2017). Of those 6.7 million children, 34% were receiving special education services for a specific learning disability. Considering that some estimates of academic cheating amongst students are as high as 79% (Bruggeman & Hart, 1996), it is reasonable to expect that students with learning disabilities cheat.

Because the vast majority of research on academic cheating has been conducted with typically developing students, it is difficult to generalize the findings to students with disabilities, as the two student populations may have very different schooling experiences. The proposed study aims to address this gap in the literature by further exploring the relationship between an individual's disability status and academic cheating, while expanding the age of participants into adulthood. Specifically, I plan to examine rationale for cheating behavior and situations considered acceptable to cheat in a pilot study consisting of adults with self-reported learning disabilities to better understand general cheating behavior trends in this population.

Overview of Academic Cheating

Operationalization of academic cheating. Despite the fact that it has been studied for decades, academic cheating has been theoretically defined with relative infrequence. However, general 'cheating' has been defined more frequently in the literature. In many cases, cheating is defined within the context of the study's design (e.g., looking at an answer key purposely left in view by the researcher, participants indicating that they got an impossible-to-answer question correct).

Some authors, however, have defined cheating on a broader theoretical level. For example, Van Yperen, et al. (2011) defined cheating as a "motivated behavior because it entails the intentional violation of pre-set rules in order to attain an advantage or credit or to increase the chance of success" (p. 6). Green (2004) echoed a similar definition, describing cheating as requiring two components: violating a "fair and enforced" rule and the intent to gain an advantage. Green specifically argued that covertness, or deception, is not necessary to constitute an act of cheating, because there are many ways to cheat overtly. In his book describing cheating on tests, Cizek (1999) said that, "cheating can be seen as an attempt, by deceptive or fraudulent means to represent oneself as having knowledge," (p. 3) and that cheating on tests is very clearly violating a set of rules.

For the purposes of the proposed study, academic cheating is defined similarly to the definitions provided by Cizek (1999), Van Yperen et al. (2011), and Green (2004), differing only in environmental context. Here, academic cheating is defined as an action, whether covert or overt, that an individual takes without teacher authorization to gain an advantage on an academic task (e.g., test, assignment). This definition was chosen

because it was general enough to include a variety of cheating methods individuals use to gain an unfair advantage yet, specific enough to exclude accidental incidents of cheating (e.g., inadvertently overhearing answer discussions). Additionally, this definition also encompasses impulsive decisions to cheat at various levels of behavioral visibility (i.e., covert or overt).

Prevalence of academic cheating in typically developing students. The prevalence of academic cheating has been studied at multiple grade levels with consistently high levels of self-reported or observed cheating behavior. Ding et al. (2014) examined cheating behavior using a computerized guessing game with Han Chinese elementary school students. Students were asked to guess which side of a computer screen a coin would appear on and then immediately verbally self-reported whether their guess was correct. The researchers could determine if a student cheated by comparing their self-report to video footage of the student's guess.

Even at this young age and with only the idea of potential peer comparison of scores as a motivation, rather than a tangible reinforcer for increased performance, 58% of the students cheated at least once, and of those that cheated, they cheated on an average of 37% of the trials. In their analysis of the students who cheated, Ding et al. (2014) found that cheating decreased with age, increased working memory and inhibitory control were related to decreased cheating, and that increased cognitive flexibility (i.e., ability to remember different rules for different situations) was related to increased use of a variety of cheating tactics. Although the guessing task was not inherently academic, it helps illuminate the prevalence of general cheating behavior

when the idea of peer comparison of scores is introduced, a common event in classrooms.

Evans and Lee (2011) found similar levels of cheating prevalence in their study of Canadian students ranging from elementary to high school age. Students were given a booklet of trivia questions to answer, which closely resembled an academic test. However, the answers to the trivia questions were inside the booklet and cheating was determined to have happened if the students provided the "correct" answers to the two impossible questions. Overall, 54% of participants cheated on the task. Specifically, 70% of 8-10-year-olds cheated, 55% of 11-13-year-olds cheated, and roughly 35% of 14-16-year-olds cheated on the task. Similar to Ding et al.'s (2014) findings, Evans and Lee's (2011) results indicated that age and prevalence of cheating were negatively correlated.

Academic cheating has also been studied during the transition from middle to high school (Anderman & Midgley, 2004). Students were asked to self-report their cheating behavior in their math classes during the fall and spring semesters of their eighth-grade year and again as ninth graders in the spring using a five-point Likert scale measure with "Not At All True" and "Very True. This measure included statements such as, "I copy items from other students on math tests," and "I cheat on my math work." Students reported higher levels of cheating during spring of their ninth-grade year than in the fall or spring data collection points in eighth-grade. After determining that cheating significantly increased over time using a growth curve model, post-hoc paired t-tests showed that the only significant difference was between spring of eighth grade data collection and spring of ninth grade data collection, indicating that self-reports of

cheating significantly increased between those two time periods. Particularly interesting is that this self-report research found cheating behavior increased with age, contradicting previous experimental research that concluded the opposite (Ding et al., 2014; Evans & Lee, 2011), highlighting that there could be a potential discrepancy between cheating behavior that students report versus cheating behavior that actually occurs.

Bruggeman and Hart (1996) examined cheating behavior in religious and secular private high schools by administering Hartshone and May's Circles Test, which requires students to briefly memorize the location of ten circles and then replace them with their eyes closed. The students were asked to self-report their number of correctly placed circles and were determined to have cheated if they reported a result higher than three standard deviations above the mean, which was established by a control group. To increase the incentive to cheat, the students were told that they could earn additional points to their final grade in their class if they earned higher than 27 points, which was an arbitrary number. A total of 70% of students at the religious private school and 79% of students at the secular private school cheated on the task, revealing no significant differences between the two groups. Although the Circles Test is not a typical classroom activity, this experiment helps illustrate the prevalence of general cheating behavior when extra credit incentives are used to motivate increased performance, a common practice used by teachers.

Although academic cheating has been studied extensively in undergraduate college students, some studies have examined graduate level cheating behaviors and prevalence. In a study of academic cheating in graduate business programs, McCabe, Butterfield, and Treviño (2006) found that 56% of graduate business students self-

reported cheating at least once in the last academic year. Of the non-business graduate students surveyed, 47% reported cheating at least once in the last academic year. McCabe (2009) specifically looked at undergraduate and graduate nursing students. In that study, 72% of undergraduate nursing students and 48% of graduate nursing students reported engaging in at least one of sixteen cheating behaviors.

Even with expanding their participant sample to students across multiple general education classes, Witherspoon et al., (2012) found cheating prevalence rates in their sample similar to that of McCabe (2009). A total of 186 undergraduate students across 11 general education classes and 80% of their sample reported engaging in academic cheating at least once during their undergraduate studies. Although some research has concluded that academic cheating behavior decreases as one progresses through school, the high prevalence rates of self-reported cheating in both undergraduate and graduate student populations indicate that it remains a problem worth studying at the college level and beyond. Additionally, since college degrees are often used as supporting evidence that a student has a certain level of expertise, the ramifications of academic cheating may be more severe at this level.

Prevalence of cheating in students with disabilities. A review of the literature revealed only one article investigating academic cheating in students with learning disabilities explicitly included a sample of students with a disability. Sideridis and Stamovlasis (2014) asked students to take an equivalent and parallel two-part mathematics test before and after an in-class lesson. During the second part of the mathematics test, the teacher proctoring the in-class exam had to take an "important phone call" and left the room for three minutes. Cheating was assessed by examining the

magnitude of the absolute value change between the two mathematics tests. In their sample of 32 sixth-grade students diagnosed with a learning disability, 51% of the students cheated.

Additionally, in an unpublished study, Perdew (2016) examined individual academic cheating history behavior self-reported by both typically-developing participants and participants with a learning disability. Participants with a learning disability reported higher rates of cheating, i.e., they reported cheating on significantly more assignments than their typically-developing peers.

When comparing the breadth and depth in which the frequency of academic cheating in typically-developing students has been studied at all educational levels to the single published article that examined academic cheating in 32 sixth-grade students with learning disabilities, the need for continued research with diverse learning populations is quite obvious. The present study looks to address this gap in the research literature.

Perceptions of cheating behavior among students. Jurdi, Hage, and Chow (2012) examined Canadian undergraduate students' beliefs about a variety of unethical academic behaviors (i.e., to what extent they would consider the behaviors to be academically dishonest). Three-hundred twenty-one students, who came from a wide variety of academic majors, rated 17 behavioral acts on a five-point Likert scale ranging from "Extremely Dishonest" to "Not Dishonest At All." Lower scores indicate stronger belief that the behavior constitutes academic cheating. A majority of students rated the following behaviors as "Extremely Dishonest": Completing an exam for another student (81.9%*)*; purchasing a paper to turn in as his/her own (77.5%*)*; writing a paper for another student (68.9%)*;* looking at another student's paper during an exam (68.7%);

using cheat sheets during an exam (68.7%); asking a student to take an exam on your behalf (65.0); selling a paper to another student (56.6%); and allowing others to look at one's paper during an exam (55.8%).

The behaviors less likely to be rated as "Extremely Dishonest" were: Receiving questions for an exam prior to taking it (39.5%); Using direct quotes without giving proper references (33.4%); Doing less work than one's share in a group project (27.0%); Using sources not included in the references (18.9%); Giving test information to someone absent from the test (18.8%); Submitting the same paper for more than one course, (18.1%); Intending to use a cheat sheet but not actually using it (12.6%); and Increasing margins/font to make a paper look longer (11.9%).

Interestingly, five out of the eight behaviors that a majority of students rated as "Extremely Dishonest" were examples of academic cheating within the context of test-taking. However, examples of academic cheating in the context of plagiarism were consistently rated as less academically dishonest. Only one-third of students rated "Using direct quotes without giving proper references" as "Extremely Dishonest." Similarly, only 18.9% of students surveyed rated "Using sources not included in the references" as "Extremely Dishonest," whereas 23% of students rated it as minimally dishonest or not dishonest at all. Most alarmingly, however, only 18.1% of students rated "Submitting the same paper for more than one course" as "Extremely Dishonest" whereas 28.5% of students rated it as minimally or not dishonest at all.

Lim and See (2001) examined several variables related to academic cheating, including Singapore students' interpretation of how academically dishonest certain behaviors were as well as self-reported engagement in those behaviors. Participants

rated 21 cheating behaviors on a Likert scale ranging from 0 (not cheating) to 5 (most serious). The cheating behaviors that students rated as the most dishonest were, "Taking unauthorized materials into a quiz, test, or exam" ($M = 4.04$) and "Using unfair means to gain advance information about the contents of a quiz, test, or exam" ($M = 3.76$). The two cheating behaviors that were rated the least serious were, "Paraphrasing material from another source without acknowledging it" ($M = 1.87$), and "Allowing own coursework to be copied by another student" ($M = 1.86$).

Like Jurdi et al. (2012), Lim and See (2001) found that the ratings of cheating behaviors related to plagiarism and falsification were substantially lower than students' ratings of exam-related cheating behavior. Their participants did not consider "inventing data (i.e., entering nonexistent results into the database)" ($M = 2.34$) or "altering data (i.e., adjusting data to obtain a significant result)" ($M = 2.22$) as serious cheating behaviors. Students also rated "Listing unread, unused, or nonexistent sources and references that one has not referred to" ($M = 2.02$) and "Copying material for coursework from a book or other publication without acknowledging the source" ($M = 2.00$) as less serious cheating behaviors.

Even more alarming, however, is how often the students reported engaging in these behaviors as compared to test-taking cheating behaviors. In their sample, 81.1% of students reported engaging in data invention, 81.4% of students reported engaging in altering data, 85.1% of students reported copying without citations, and 68.4% of students reported listing unused references in their work. Only 15.6% of students reported taking unauthorized materials into a testing situation and 24.2% reported using unfair means to gain an advantage prior to a testing situation.

Similarly, Carpenter, Harding, Finelli, Montgomery, and Passow (2006) examined students' perception of which behaviors are more academically dishonest in engineering and pre-engineering students. Nearly all students in the sample rated "Copying from another student during a test or a quiz" as cheating (96.4%). Only 60.7% of the sample rated, "Copying an old term-paper or lab report from a previous class" as cheating and only 52.3% rated, "Submitting or copying homework assignments from previous terms," as cheating. Interestingly, 55.7% of the sample rated, "Adding fake references to a term paper to expand the bibliography" as unethical, but not an example of cheating.

Overall, across three studies describing the behaviors students consider to be academic cheating (i.e., Carpenter et al., 2006; Jurdi et al., 2012; Lim & See, 2001), two trends were identified. The primary trend was that students consistently rated cheating behaviors related to quizzes, tests, or exams as significantly more serious than cheating behaviors related to plagiarism and falsification. A second trend was that students reported engaging in cheating behaviors related to plagiarism and falsification at higher rates than cheating behaviors related to test-taking. However, because all three of these studies used typically-developing students or did not report disability status in their samples, the specific behaviors individuals with learning disabilities define as cheating are unknown.

Motivation and justification for cheating in typically-developing students. In addition to simply rating how serious students perceive an act of academic cheating to be, researchers have also examined how environmental and situational variables impact a student's actual or hypothetical decision to cheat. Carpenter et al. (2006) asked pre-

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engineering students about the deterring effects of shame, loss of respect, and punishment across three different academic situations (i.e., test-taking, homework, and writing a term paper.) Specifically, the students were asked to rate their agreement on a three-point Likert Scale (Agree, Not Sure, Disagree) to various items measuring the shame, loss of respect, and punishment if they were to look at their neighbor's test, copy homework solutions from a peer, and extend their bibliography with fake references (e.g., feeling shame about looking at my neighbor's exam would prevent me from doing so; the potential loss of respect would prevent me from copying another student's homework; the chance of getting caught would prevent me from lengthening the bibliography).

There were stark differences in how shame, loss of respect, and punishment were reported to have deterred students from cheating in the test, homework, and term paper situations. In the test-taking situation, a majority of respondents agreed with all the items that shame, loss of respect, and punishment would prevent them from looking at their neighbor's exam. In the homework situation, a majority of respondents disagreed with all the items that shame, loss of respect, and punishment would prevent them from copying the solutions from their neighbor's assignment. For the term paper situation, there was a split in agreement amongst the respondents. A majority of respondents agreed that shame would prevent them from extending their bibliography, while a majority disagreed that loss of respect would prevent them from doing that. However, a majority of the respondents agreed that getting caught would prevent them from extending their bibliography, even though a majority did not believe that they would be caught.

Carpenter et al. (2006) also presented the respondents with numerous situations pertaining to institution, instructor, classroom, and assignment variables that could deter or increase one's likelihood of cheating. Some examples of questions asked include: "I would cheat if the institution had an honor code that clearly described what constituted cheating and penalties for cheating;" "I would cheat if they instructor cared about my learning;" "I would cheat if classes were smaller;" and "I would cheat if I felt the material in the course was important to my future career." The respondents were asked to indicate if they would cheat in those situations by saying, 'Yes,' 'No,' or 'Not Sure.' A majority of students responded saying that they would cheat in all of the 23 situations presented, with the exception of one situation, which was, "I would cheat if the institution provided a telephone hotline to report cheating" and a majority of respondents said they would not cheat. Respondents were also asked to rate on a 5-point Likert scale (Strongly Disagree to Strongly Agree) the extent to which cheating in provided situations would be wrong, such as, "It is wrong to cheat, even if the instructor wrote unfair exams." A majority of participants agreed that it was wrong to cheat in all circumstances, indicating an incongruence between beliefs about certain situations and their actions in them.

In addition to understanding the role that situational variables have on one's assessment of cheating acceptability, hypothetical internal motivation and justification for behavior has also been examined as a way to better understand what drives students to cheat (Jensen, Arnett, Feldman, & Cauffman, 2002). To measure the acceptability of cheating, Jensen et al. (2001) presented respondents with vignettes, which randomly assigned female/male characters that briefly described a cheating behavior and the

character's reasoning for committing that act. The following motive types were examined: self-gain, conformity, redressing perceived inequity, psychological/personality, autonomy, prosocial, no harm to self, no harm to others, avoid detection, viewed cheating as a challenge, prior history, relationship preservation, and other. Students found prosocial, relationship preservation, self-gain, and redressing perceived inequity as the most acceptable motives for cheating. The prosocial motive differed significantly from the other three most acceptable motives, which did not differ from each other. The students found psychology/personality, autonomy, prior history, and viewing cheating as a challenge were the least acceptable motives. All least four acceptable cheating motives differed significantly from the four most acceptable cheating motives.

Motivation and justification for cheating in students with disabilities. Unfortunately, no studies have examined the specific motivation for and justification of academic cheating in students with learning disabilities. However, factors that may contribute to the motivation of students with learning disabilities to engage in academic cheating will be discussed in the next section. Additionally, complaints that individuals with disabilities have about their schooling and school environments will be explored, as these factors may contribute to students' justification of cheating behaviors.

Factors That May Influence Cheating

Impulsivity. Although the connection between impulsivity and academic cheating may seem relatively obvious, the literature supporting its connection is not nearly as robust as other influences on academic cheating. Additionally, of the available research, impulsivity has been shown to have differing cheating effects for differing

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populations, so the extent of the relationship between the two variables is unclear. Impulsivity can be defined as "the tendency to act without considering the logical consequences of one's actions" (Anderman et al., 2010, p. 136), but as Dickman (1990) pointed out, impulsivity can be further divided into both functional and dysfunctional impulsivity, depending on the context of an individual's action (e.g., making a quick decision about which cereal to eat vs. quickly buying a house without considering whether it is affordable).

Anderman et al. (2010) examined the relationship between impulsive decision-making and academic cheating in high school students enrolled in a health class. Impulsive decision-making was positively and significantly correlated with academic cheating. However, impulsivity emerged as a significant predictor of academic cheating, but only for those students who reported extensive cheating. In fact, for these students, every one-unit increase in impulsivity nearly quadrupled the odds that they would cheat.

In addition to examining the relationship between impulsivity and academic cheating in older student populations, Kelly and Worrell (1978) also examined the impact of gender on these variables. Impulsivity was found to have a differential influence by gender in their participant population. The relationship between cheating and impulsivity was experimentally examined by having participants self-report their score on an impossible task and being given an extra credit incentive for a high score. Interestingly, impulsivity emerged as positively and significantly related to cheating, but only for the female students who decided to cheat. There was no relationship between impulsivity for male cheaters.

In looking to move beyond just examining the relationship between impulsivity and cheating and to better understand its influence as a stable personality construct, McTernan, Love, and Rettinger (2014) conducted a confirmatory factor analysis to determine what personality characteristics explained cheating best. Both impulsivity, sensation-seeking, and perspective-taking explained the frequency of transgressive behavior equally across personal relationships, competition, school and personal contexts, and social contracts. Sensation-seeking and impulsivity explained the largest proportion of variance in the frequency of cheating in a school setting.

Impulsivity and its impact on students with learning disabilities. Although little information exists on the relationship between impulsivity and academic cheating, even less is known about the combined relationships of impulsivity, learning disability status, and academic cheating. In one of the few articles found that addressed these variables together, Sideridis and Stamovlasis (2014) asserted that impulsivity may be a reason that students with learning disabilities cheat due to high comorbidity rates between learning disabilities and attention problems. Cortiella and Horowitz (2014) estimated that roughly one-third of individuals with a learning disability are also comorbidly diagnosed with Attention-Deficit/Hyperactivity Disorder (ADHD) but these estimates can range anywhere between 30 and 70% depending on how ADHD is conceptualized and what type of learning disability is in question (Mash & Wolfe, 2014). Additionally, in an unpublished study, Perdew (2016) found that individuals with learning disabilities reported higher levels of dysfunctional impulsivity and that higher levels of dysfunctional impulsivity were related to finding cheating more acceptable in more academic situations.

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Even though little evidence on the relationship between impulsivity, learning disability status, and academic cheating exists, taking the presented literature together, impulsivity could have a more direct and salient impact on students with a learning disability due to the nature of their disability and its frequently comorbid disorders (e.g., ADHD). Additionally, very little is known about the relationship between academic cheating and impulsivity, regardless of learning disability status, as research has been inconsistent on its impact. This study looks to address both of these gaps in the literature.

Goal orientation. In addition to personality influences on cheating, like impulsivity, there are numerous cognitive influences as well. One such cognitive influence is goal orientation and Woolfolk (2016) it as, "the pattern of beliefs about goals related to achievement in school" (p. 478). Goal orientations influence both the reasons we choose certain goals, how we pursue them, and how we evaluate our progress toward them. There are typically two goals conceptualized in the literature: mastery and performance goals. Mastery goals focus on self-improvement and learning, regardless of how "well" you did (i.e., grade received), whereas performance goals primarily focus on how well one did and to what degree that ability was demonstrated to others (i.e., receiving an A vs. a C). Additionally, individuals can hold either mastery or performance goals with an approach focus (mastering, learning, and understanding) or an avoidance focus (avoiding any misunderstandings or inability to complete the task).

Goal orientation, along with perceived classroom goal structure, has been studied with relative frequency as a potential influence on a student's decision to cheat, as well

as justification for that decision (Anderman et al., 2010; Anderman, Griesinger, & Westerfield, 1998; Murdock, Hale, & Weber, 2001; Van Yperen et al., 2011).

Van Yperen et al. (2011) studied goal orientation and its relation to academic cheating. In their first correlational study, students' intentions to and likelihood of cheating in education, work, and sport were examined in addition to their personally held goal orientation. Students with dominant performance goals (e.g., to do well and receive positive judgement while avoiding negative judgment) indicated significantly higher intentions to cheat across all three settings than their peers with dominant mastery goals (e.g., to develop one's skills, competency, and knowledge). However, the reported effect sizes were either below the recommended minimum practical effect or very small (Ferguson, 2009).

In their experimental study, Van Yperen et al. (2011) examined how imposed achievement goals impacted actual cheating behaviors. Participants were randomly assigned to one of four goal conditions (mastery approach and avoidance; performance approach and avoidance) and completed a computer-based task with that goal in mind. While practicing the computer task, the students learned that it was possible to cheat. Individuals assigned to performance achievement goals engaged in cheating behavior significantly more than their peers assigned to mastery achievement goals. However, the reported effect size was very small (Ferguson, 2009).

Even at the classroom level, goal orientation has been identified as a contributor to an environment that encourages academic cheating. Anderman et al. (2010) found that high school health students reported cheating less when they perceived a mastery goal structure in their classroom. In fact, they found that for every one-unit increase in a

perceived mastery classroom structure, students were 45% less likely to report cheating in school. Murdock et al. (2001) found that students who self-reported cheating were significantly less mastery-oriented than their non-cheating peers and perceived the overall goal structure of their classroom to be less mastery oriented. Anderman et al. (1998) found that middle school students who reported cheating perceived their classrooms and school as being performance and ability focused. Additionally, they also reported themselves to be more extrinsically focused.

Goal orientation and its impact on students with learning disabilities. Given the evidence suggesting that goal orientation is a significant influence on typically-developing students' decisions to cheat, it is important to understand whether its impact differs for students with learning disabilities. Baird, Scott, Dearing, and Hamill (2009) explored cognitive self-regulation, including goal orientation, in a large sample of adolescents. Roughly 7% of those adolescents were diagnosed with a learning disability and receiving special education services within their school. Learning disability status emerged as a significant predictor of quantitative academic goal orientation preference as well as a forced choice selection of academic goal orientation preference (i.e., learning or performance goal), but that this predictive effect was moderated by lower academic-self-efficacy and holding more entity-based views of intelligence. Those variables mediated nearly the entire relationship for the quantitative academic goal orientation preference, but only partially mediated the forced choice academic goal orientation preference. Additionally, students with learning disabilities were more likely than their typically-developing peers to endorse performance goals.

In the single study examining impulsivity, learning disabilities, and academic cheating, Sideridis and Stamovlasis (2014) explored the impact of goal orientation on their cheating behavior. Amongst the 32 children with learning disabilities who were included in the study, over 51% were identified as having cheated based on the comparison of their two-part math test scores. Results concerning the relationship between goal orientation and cheating behavior were mixed, but at some levels of goal orientation, both mastery and performance goals were associated with greater likelihood to cheat, particularly for the avoidance type of goals.

Altogether, previous findings indicate that goal orientation may have a more direct impact on whether students with a learning disability decide to cheat as compared to their typically-developing peers. Evidence of a relationship between performance goal orientation and increased levels of academic cheating, as well as a relationship between learning disability status and performance goal preferences supports this idea. Unfortunately, little evidence of the combined relationship between these three variables exist; addressing this gap is a primary goal of the present study.

Self-efficacy. Similar to goal orientation, one's self-efficacy has also been considered to be a cognitive influence on an individual's decision to cheat. Conceptually, self-efficacy can be broadly defined as one's judgments about their abilities to complete a task effectively, even if the task is difficult (Bandura, 1982; Cone, 2009), and is significantly influenced by one's personal behavior history and mastery experiences. Self-efficacy can also be broken down into two subtypes: efficacy expectations and outcomes expectations. Efficacy expectations are the personal belief one holds about their abilities to produce the needed outcome in various situations, while

outcome expectancies are the personal beliefs that one holds as to whether their abilities and behavior will result in a particular outcome (Bandura, 1977). Understanding and differentiating between the self-efficacy subtypes is important in order to conceptualize the influence that various levels of self-efficacy have on a student's decision to cheat. Because self-efficacy was identified as a significant mediator of the relationship between academic cheating and goal orientation, it is important to further explore whether self-efficacy has an independent influence on academic cheating.

Finn and Frone (2004) examined self-efficacy, school identification, academic performance, and academic cheating in adolescents by administering self-report surveys. Across the sample, self-reported cheating was consistently higher in students who endorsed low levels of academic self-efficacy, while the least amount of cheating was reported in students with both high academic self-efficacy and high academic performance. However, the students who reported the most cheating were those who endorsed high academic self-efficacy while also reporting low academic performance, which highlights the importance of understanding the influence of both self-efficacy and outcome expectations on academic cheating. Similarly, Kelley, Young, Denny, and Lewis (2005) found a significant difference in self-efficacy between individuals who engaged in a variety of dishonest behaviors within the last year, including cheating on an exam, and non-cheaters, with non-cheaters endorsing higher self-efficacy.

In addition to finding relationships between self-efficacy and academic cheating, research has also found self-efficacy to have predictive value in understanding academic cheating. Additionally, Murdock et al. (2001) found that students who reported cheating endorsed significantly lower levels of academic self-efficacy than their non-cheating

peers. Lower levels of academic self-efficacy significantly predicted cheating behavior across all four stages of their regression model even when other variables, such as classroom motivational goal structures, teacher variables, and sense of school belonging, were included. In their investigation of predictive variables of academic cheating, Jurdi, Hage, and Chow (2011) found that, generally, self-efficacy was significantly and inversely related to academic cheating. High levels of self-efficacy served as a protective factor against academic cheating when students also reported high levels of instrumental study motivation (i.e., performance goal orientation).

      Self-efficacy and its impact on students with learning disabilities. Given that self-efficacy was significantly related to and predicted cheating in typically-developing students, it is imperative to study it within the context of students with learning disabilities., This is because the nature of their disability can make it difficult to succeed in academic contexts, and experiencing success is one of the most powerful ways to increase one's self-efficacy. Lackaye, Margalit, Ziv, and Ziman (2006) examined cognitive and psychological variables, including academic self-efficacy, in Israeli middle school students with and without learning disabilities who were matched on age, gender, and grade level. Students with a learning disability endorsed lower academic and social self-efficacy, reduced effort, less hope, and more negative moods. Although the differences between the groups yielded small effect sizes, results indicated that students with a learning disability may be at greater risk of low academic self-efficacy, which in turn, can increase their likelihood of cheating.

      Ben-Naim, Laslo-Roth, Einav, Biran, and Margalit (2017) examined several cognitive and psychological constructs, including academic self-efficacy, in both

typically-developing Israeli college students and those with a learning disability. College students with a learning disability reported significantly lower academic self-efficacy as compared to their typically-developing peers and that this difference demonstrated a small to moderate effect size. Additionally, learning disability status, along with gender and personal resources, was a significant predictor of academic self-efficacy, but the relationship between learning disability status and academic cheating was mediated by personal resources. There was a negative relationship between having a learning disability and agency thinking (e.g., I can use strategies to accomplish my task), while there was a positive relationship between agency and academic self-efficacy. Essentially, have a learning disability leads to lower agency and in turn, lower agency leads to lower academic self-efficacy.

Taken together, previous findings indicate that self-efficacy could have a more direct and salient impact on whether students with a learning disability decide to cheat. Additionally, self-efficacy could serve as a mediator of the relationship between learning disability status and academic cheating, or between goal orientation and academic cheating. In typically-developing individuals, evidence appears to support a relationship between reduced self-efficacy, particularly in academics, and increased levels of academic cheating. Additionally, previous studies have reported lower academic self-efficacy in individuals with learning disabilities compared to typically-developing peers, likely due to the academic difficulties they have faced in their education careers due to the nature of their disability. Unfortunately, there is little to no evidence exploring the combined relationship between academic self-efficacy and learning disability status and its impact on an individual's motivation to cheat on academic tasks.

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Motivation. Motivation can be defined as an, "internal state that arouses, directs, and maintains behavior" (Woolfolk, 2016, p. 468). Motivation is a very complex topic that can be conceptualized from numerous perspectives (e.g., behavioral, sociocultural, humanistic), has numerous subtypes (e.g., amotivation, intrinsic, and extrinsic motivation), and several evidence-based models (e.g., basic needs theory, cognitive evaluation theory, Maslow's hierarchy of needs). A student's motivation can also be influenced by a number of cognitive factors, including goal orientation, interest, self-efficacy, and personal attributions (Woolfolk, 2016), as well as social factors, including peer influence, observing others engage in cheating behaviors, perception of peer cheating behaviors, and institution policies and consequences for cheating (Carrell, Malmstrom, & West, 2008; McCabe, Trevino, & Butterfield, 2001).

For the purposes of this study, motivation is recognized as an important factor related to a student's decision to cheat but is understood through the factors that impact it overall (i.e., goal orientation and self-efficacy). This is primarily because the complexity of motivation is out of the purview of this paper and in the context of determining influences on academic cheating, it is most relevant to examine the individual factors that contribute and influence a student's overall decision and motivation to academically cheat, which have been discussed previously. Additionally, literature examining the impact that motivation has on academic cheating has been conceptualized under the guise of goal orientation and other cognitive factors (Anderman et al., 1998; Anderman & Koenka, 2017; Murdock & Anderman, 2006).

Motivation and its impact on students with learning disabilities. In addition to the factors that were discussed in the previous sections, individuals with learning

disabilities also face a variety of social-emotional influences that can affect their motivation to academically cheat. Brown, Higgins, Pierce, Hong, and Thoma (2003) examined how special education placement impacted high school students' perceptions of alienation in their school. Special education placement had a significant impact on student perceptions, as respondents who received special education services reported higher scores for powerlessness, normlessness, meaninglessness, and estrangement. Fulk, Brigham, and Lohman (1998) described similar results: students with learning disabilities reported higher levels of alienation and avoidance of work than their emotionally-behaviorally disordered and average achieving peers. This lack of connection and identification is particularly interesting as Finn and Frone (2004) found that the lack of both was related to academic cheating. Similarly, it is not hard to deduce that students with a learning disability may feel less control of their lives, as the nature of their disability can make learning topics with ease or fluency and performing well extremely difficult, compared to their typically-developing peers.

The Present Study

  Rationale for the present study. The goal of the present study is to investigate the differences in perspectives on academic cheating between typically-developing individuals and individuals with a learning disability. This topic is important for two primary reasons: The first is that this is a large gap in the literature. Very little research exists on academic cheating in individuals with learning disabilities and even less exists comparing them to their typically-developing peers. Most of the previous research on academic cheating has been conducted with typically-developing individuals and general education students, making it difficult to generalize these findings to students

receiving special education services, as the two populations may have vastly different schooling experiences. The second reason is that, as described in preceding sections, individuals with a disability, and in particular, a learning disability, appear to experience the factors related to academic cheating at non-normative levels and may be more at-risk for academic cheating as compared to their typically-developing peers.

Research questions and hypotheses. Based on the literature cited, two research questions were developed to guide the present study and four hypotheses were developed to answer those questions:

RQ 1: Do typically-developing individuals and individuals with a learning disability differ in their cheating tolerance (i.e., academic situations that they would find acceptable to cheat in)?

H1: Individuals with a learning disability will have a higher cheating tolerance than their typically-developing peers.

RQ 2: Do typically-developing individuals and individuals with a learning disability differ in the reasons they report for cheating on academic tasks?

H2: Reasons for cheating given by individuals with learning disabilities will include more justifications related to having lower self-efficacy to complete the task (e.g., the assignment was too hard; no matter what I did, I could not complete the task).

H3: Reasons for cheating given by individuals with learning disabilities for cheating will include more justifications related to endorsing stronger performance goal orientations, as opposed to mastery goal orientations (e.g., I only cared about getting an A as opposed to learning the material).

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H4: Reasons for cheating given by individuals with learning disabilities for cheating will include more justifications related to higher levels of impulsivity.

Method

Participants

Using Amazon's Mechanical Turk, which is an open, crowd-sourcing platform owned by Amazon that allows individuals across the globe to participate in human subject research, a total of 83 participants were recruited for this study. Two identical surveys were uploaded to Mechanical Turk; however, one survey was specifically listed and marketed for individuals with a learning disability. If participants without a learning disability completed that survey, their data was removed, not analyzed, and did not receive payment. Six participants were removed due to extreme outlier scores using Cook's Distance Method, resulting in 77 participants' data being included in the analyses. Participants were paid $4.50 for the successful completion of surveys.

Of the 77 participants, 40 reported having been diagnosed with one or more learning disabilities based on Cortiella and Horowitz's (2014) categorization of learning disabilities. A total of 13 participants self-selected having at least two learning disabilities. A breakdown of learning disability by type can be found in Table 1 below.

The average participant age was 31 years-old with a range of 19-53 years-old; there were no significant age differences between participants with a learning disability and those who did not report a diagnosis. Of the participants, 42 identified as female (54%), 34 identfied as male (44%), and one participant chose not to answer (2%). No participants identfied as a third gender. There were some differences in gender between the two groups: 21 males reported having a learning disability; 13 did not report having a learning disability. There were 18 females with a learning disability and 24 without a learning disability. Additionally, 48% of participants reported that they did not complete

high school, 42% reported that they had a high school diploma or a GED, and 10%

reported that they had a bachelor's degree. Of those with a learning disability, 55%

reported that they did not complete high school.

Due to researcher error, racial/ethnic information was not collected from

participants. However, the racial/ethnic distribution of Mechanical Turk workers is

71.8% Caucasian/White, 7.1% African-American/Black, 5.6% Hispanic/Latinx, 7.1%

identified no race or ethnicity, and 8.6% identified as other (Levay, Freese, &

Druckman, 2016).

Table 1

Learning Disability Frequency

Learning Disability/ Associated Deficits and Disorders	Frequency	Percentage
Specific Learning Disability in Reading/Dyslexia	12	23%
Specific Learning Disability in Math/Dyscalculia	5	9%
Specific Learning Disability in Written Expression/Dysgraphia	1	2%
Auditory Processing Deficit/Disorder	3	6%
Executive Functioning Deficits	1	2%
Attention Deficit/Hyperactivity Disorder	27	51%
Other	4	7%

Note. Individuals who selected more than one learning disability or associated
deficit/disorder were counted for each selection. Participants who reported having a
Non-Verbal Learning Disability, Attention-Deficit/Hyperactivity Disorder, and self-
selected an "Other" Diagnosis are included in the Other category denoted above.

Measures

Participants completed a series of surveys via Amazon's Mechanical Turk and

were compensated $4.50 for their successful completion. Participants were made aware

that five attention questions (e.g., I can run five miles in thirty seconds) were scattered

throughout the surveys as one method to ensure data integrity since it was survey/self-

report data collection. If participants got two or more of the five attention questions

wrong, their responses were not accepted as valid and they did not receive compensation. Further details regarding the specific surveys can be found below.

Cheating Inventory. This measure was created for the purpose of gathering data regarding participants' perspectives on what educational situations they would find cheating to be an acceptable course of action (Perdew, 2016). Although this measure was created to better understand cheating in a variety of contexts and not intentionally created to measure one specific construct, reliability analysis indicated a high level of internal consistency ($\alpha = .972$); if participants found it acceptable to cheat in one situation, they were highly likely to find it acceptable to cheat in the other situations measured on the survey.

The Cheating Inventory was a 32-item Likert scale survey ranging from strongly disagree to strongly agree. It was developed based on previous literature that examined cheating and the possible reasons that individuals may engage in cheating, such as depletion, low self-efficacy, goal orientation, etc. (Anderman et al., 2010; Brown et al., 2003; Finn & Frone, 2004; Mead, Baumeister, Gino, Schwietzer & Ariely, 2009; McCabe et al., 2001; Van Yperen et al., 2011). Four questions measuring powerlessness, meaningless, and estrangement came directly from Brown et al.'s (2003) modified version of the Student Factors Questionnaire.

On the Cheating Inventory, the stem provided to participants read, "It would be okay for me to cheat on an assignment (test, paper quiz, etc.) if…". Participants then rated their agreement following the Likert scale mentioned above. Examples of situations included, "I was more concerned about getting an A than learning the

material," and "I did not care about the class content." A copy of the Cheating

Inventory, as well as what construct each item loads on can be found in Table 2.

Cheating History. Similar to the Cheating Inventory, this survey was developed

by Perdew (2016). The purpose of this measure was to gather data regarding the specific

cheating histories of each participant. Participants were presented with the stem, "Which

of the following assignments have you cheated on in the past?" Response items

included: Paper, Test, Quiz, General Assignment, Final Exam, or Other. Additionally,

participants could select "None of the Above" if they had not cheated previously in their

educational career. If participants indicated that they had cheated by selecting any

response other than "None of the Above," they were prompted with a second question

asking them to explain their reasoning for cheating on that assignment. If a participant

indicated that they had cheated on multiple forms of academic tasks, they were asked to

explain their rationale for cheating on them all.

Demographics. In addition to the cheating specific surveys administered,

participants completed a demographic questionnaire to gather non-identifying

participant information. Specifically, participants were asked to report their age, gender,

education level and/or major/area of study, diagnosis of learning disabilities and/or

associated disorders, age of diagnosis, and any educational services they recall having

received as a student.

Statistical Analyses

Descriptive statistics were used to report the frequency of participants who

agreed that cheating would be acceptable in the educational situations presented within

the Cheating Inventory. Descriptive statistics for frequency of learning disability by

type, type of educational services received, cheating by assignment type, as well as basic demographic information were previously conducted and reported (Perdew, 2016).

In order to answer the research questions and test the hypotheses, two analyses were conducted. For Hypothesis One, an independent samples *t*-test was conducted. This analysis was chosen to determine if disability status (a categorial variable) impacted cheating tolerance (a continuous variable) in two separate samples. For Hypotheses Two, Three, and Four, all reasons were coded prior to analysis. There were two coders, who were blind to the participant's disability status. A third individual, who was also blind to participants' disability status, double-checked the coding. All reasons were coded into nine categories. A list of all categories, as well as a participant example of each category, can be found in Appendix B. After coding, a chi-square test was conducted to examine the effect of learning disability status (categorical variable) on whether participants' reasons for cheating include low self-efficacy, performance goal orientations, and impulsivity (categorical variables).

Results

Learning Disability Status and Cheating Tolerance

Level of cheating tolerance was determined by participants' scores on the Cheating Inventory. The minimum possible score on this inventory was a 32, which would indicate that a participant found it inappropriate to engage in academic cheating in every situation presented. The maximum possible score on this inventory was 160, which would indicate that a participant found it highly appropriate to cheat in all presented situations. Across the 77 participants, scores ranged from 32 to 120.

An independent samples t-test was conducted to determine whether individuals with a learning disability had a higher level of cheating tolerance than their non-LD counterparts. Results revealed that there was not a significant difference in cheating tolerance between individuals with a learning disability ($M = 61.23$, $SD = 24.14$) and their non-LD counterparts ($M = 51.73$, $SD = 18.12$), $t(75) = 1.94$, $p = .056$, $d = .44$, failing to support Hypothesis 1. However, it should be noted that this result was approaching $p < .05$ significance and had an effect size above the recommended minimum effect size (Ferguson, 2009). Results can be found in Figure 1.
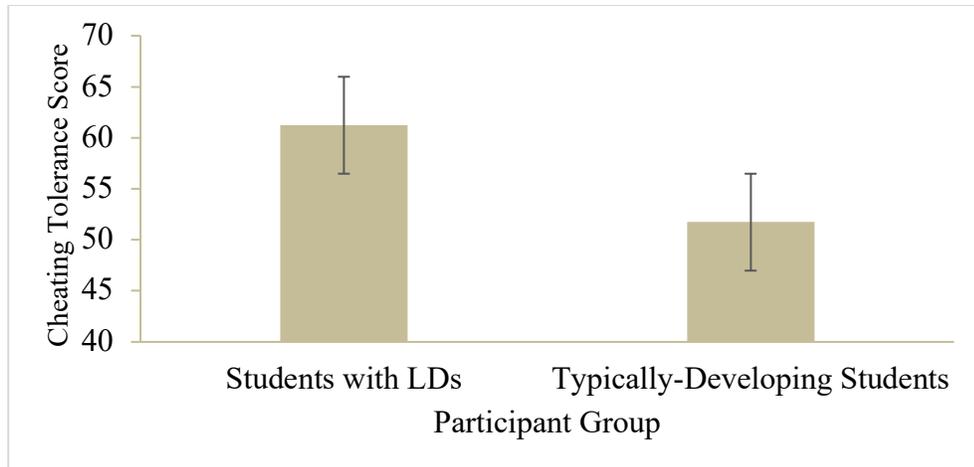
Figure 1. Cheating tolerance scores among students with learning disabilities and typically-developing students.

Learning Disability Status and Low Self-Efficacy as a Reason for Cheating

Participant-provided reasons for cheating on assignments were coded to determine if their rationale included low self-efficacy. Reasons for cheating were coded as inclusive of self-efficacy if they referenced a discrepancy between the task and their ability to complete the task correctly or independently. Across all 77 participants, 13 participants indicated that they cheated for reasons related to low self-efficacy. Of these 13 participants, ten had a learning disability and two did not report having a learning disability.

A chi-square test was conducted to determine if individuals with a learning disability reported more reasons for cheating related to low self-efficacy than their non-LD counterparts. There was a significant difference between individuals with a learning disability and their non-LD counterparts' number of reasons for cheating related to low self-efficacy, X^2 (1, N = 77) = 3.91, p = .048, supporting Hypothesis 2. Individuals with a learning disability were more likely to report reasons for cheating related to having lower self-efficacy than their non-LD counterparts.

Learning Disability Status and Performance Goal Orientation as a Reason for Cheating

Participant-provided reasons for cheating on assignments were coded to determine whether their rationale included performance goal orientations. Reasons for cheating were coded as related to goal orientation if they referenced cheating to avoid poor grades or getting in trouble with adults. Across all 77 participants, 15 participants indicated that they cheated for reasons related to performance goal orientations. Of these 15 participants, 13 had a learning disability and two did not report having a learning disability.

A chi-square test was conducted to determine if individuals with a learning disability reported more reasons for cheating related to performance goal orientation than their non-LD peers. There was a significant difference between individuals with a learning disability and non-LD counterparts' reasons for cheating related to goal orientation, X^2 (1, $N = 77$) = 8.99, p = .003, supporting Hypothesis 3. Individuals with a learning disability were more likely to report reasons for cheating related to performance goal orientation than their non-LD counterparts.

Learning Disability Status and Impulsivity as a Reason for Cheating

Participant-provided reasons for cheating on assignments were coded to determine if their rationale included impulsivity. Reasons for cheating were coded as impulsive if they referenced a hastily made or spur-of-the-moment decision to cheat. Across all 77 participants, only five participants indicated that they cheated for reasons related to impulsivity. Two of the five participants had a learning disability, and the other three participants did not report having a learning disability.

A chi-square test was conducted to determine if individuals with a learning disability reported more reasons for cheating related to impulsivity than their non-LD peers. There was not a significant difference between individuals with a learning disability and their non-LD counterparts' reasons for cheating related to impulsivity, X^2 (1, $N = 77$) = .306, $p = .580$, failing to support Hypothesis 4.

Discussion

Few studies have examined academic cheating in individuals with learning disabilities (Perdew, 2016; Sideridis & Stamovlasis, 2014) and no studies to date have directly compared these individuals to their typically-developing peers. Additionally, there is currently no published research that has specifically examined the reasons individual with learning disabilities cheat, or if their reasons differ from those of their typically-developing peers. The goal of this study was to address those gaps in the literature and contribute new research with a more diverse sample to the academic cheating literature.

Individuals with a learning disability were expected to report higher levels of cheating tolerance (i.e., finding it acceptable to cheat in more academic situations), as compared to typically-developing peers. However, there was not a significant difference between individuals with a learning disability and their typically-developing peers, although the result was nearing significance. This was a surprising result, as the Cheating History Inventory that measured cheating tolerance was developed based on previous literature that examined the possible reasons that individuals may engage in cheating (Anderman et al., 2010; Anderman & Danner, 2008; Brown et al., 2003; Finn and Frone, 2004; Mead et al., 2009; McCabe et al. 2001; Van Yperen et al. 2011). Some of those characteristics (i.e., low self-efficacy, performance goal orientations, and impulsivity) had even been previously found to be more common among students with learning disabilities (Baird et al., 2009; Lackaye et al., 2006; Perdew, 2016). Additionally, Perdew (2016) found that individuals with learning disabilities displayed higher levels of dysfunctional impulsivity, and that those with higher levels of

dysfunctional impulsivity were more likely to find more situations acceptable to cheat in. Because the the finding related to dysfunctional impulsivity in the present study was approaching significance and runs contrary to previous findings, it is possible that the present study's small sample size reduced its power, potentially resulting in a Type II error.

Furthermore, it was hypothesized that individuals with a learning disability would indicate more reasons related to decreased self-efficacy, performance goal orientation, and higher levels of impulsivity. As expected, individuals with a learning disability reported more reasons for cheating related to low self-efficacy and performance goal orientation. Although no other studies have investigated the reasons individuals with learning disabilities cheat, this result is consistent with other literature supporting the relationship between low self-efficacy, performance goal orientations, and academic cheating (Anderman et al., 2010; Jurdi et al., 2011, Murdock et al., 2001), as well as research supporting that individuals with learning disabilities experience low levels of self-efficacy at increased rates and endorse more performance goal orientations (Ben-Naim et al., 2017; Lackaye et al., 2006). Taken together, this data indicates that learning disability status may moderate the impact that low levels of self-efficacy and performance goal orientations have on students' decision to cheat.

Another surprising result was that individuals with a learning disability did not report more reasons for cheating related to impulsivity than their typically-developing peers. As previously mentioned, previous findings indicate that individuals with learning disabilities display higher levels of dysfunctional impulsivity (Perdew, 2016). However, recognizing that a personal action is the result of impulsivity requires a level of self-

awareness that individuals may not be fully developed in all students. Participants may have found it difficult to verbalize impulsive reasons for cheating because they may not be easily recognized or understood it in an academic context (e.g., confusing an impulsive reason for cheating as "not knowing" or "I just did it"). Additionally, because participants were asked about past cheating behavior, they may not have been able to accurately remember cheating for impulsive reasons due to the passage of time or because impulsivity did not "feel" like a specific reason.

Strengths, Limitations, and Future Research Directions

The primary strength of this research is that data were collected from an underrepresented and diverse population: individuals with learning disabilities. Although academic cheating has been extensively studied across all ages, races/ethnicities, and school settings, only one published study has previously studied academic cheating in students with learning disabilities. This is especially problematic, considering that 34% of the 6.7 million children are receiving special education services for specific learning disability (National Center for Education Statistics, 2018). It is important to study academic cheating in individuals who may have very different school experiences from typically-developing students. Previous findings with typically-developing students may not accurately represent the academic experiences of students with disabilities.

Additionally, a strength of this research study was that individuals with learning disabilities were compared to their typically-developing peers to determine whether there was a difference between their reported cheating histories, which revealed that the two groups differ significantly across several variables related to academic cheating.

This further indicates that the two groups may have very different academic/school experiences and may need specific interventions to address their reasons for cheating. Another strength of this research is that participants provided specific reasons as to why they cheated on school assignments. This information was especially important to collect from the participants with learning disabilities as no other studies could be found that reported specific reasons for cheating in this population.

Although this study contributes significantly to the literature regarding academic cheating, there were several limitations. With regard to methodology, this study was conducted using nonexperimental methods (e.g., self-report, surveys), so causation cannot be determined from these data. Additionally, the sample size for each group was relatively small, which likely impacted the power of the statistical tests. A final methodological limitation was the way impulsivity as a reason for cheating was measured. Participants may have found it difficult to explain reasons for cheating that were not premeditated. They may have been more likely to identify and verbalize impulsive reasons for cheating if, in addition to an open response space, they were presented with an item stating, "I don't know, I just did it," or another similar statement. This would have removed the added barrier of having to recognize and verbalize impulsive behavior.

Regarding the participants, there were two key limitations, with the first being the age of the sample. The average age of the participants was 31 years old, with a range of 19 to 58, indicating that many participants were probably not current students and were instead reflecting on their previous school experiences. Because some participants were far removed from their schooling, they could have been misremembering their

reasons for cheating or retroactively justifying their behavior. Additionally, the sample of participants obtained from Amazon's Mechanical Turk may not be representative of the general population, as almost half of the participants reported that they did not complete high school (Balfanz et al., 2014). However, it should be noted that students with disabilities do face higher dropout rates than their typically-developing peers (Doren, Murray, & Gau, 2014).

There are several future directions that researchers could take to further examine academic cheating in students with learning disabilities. It would be extremely beneficial to the literature to examine academic cheating among current students with learning disabilities, and their reasons for it, at all academic levels. Additionally, because technology in education has changed drastically in since the time that most of the participants in the present study attended school, it is important to understand how technology has impacted the prevalence of cheating and reasons for doing so in students with learning disabilities. Finally, it is important for future researchers to begin to develop, explore, and tailor interventions specifically to students with learning disabilities to address their reported reasons for cheating, such as low self-efficacy and performance goal orientations.

Implications and Conclusion

Despite this study's previously mentioned limitations, it has several important implications. The first implication is that, when it comes to reasoning for cheating, individuals with learning disabilities significantly differ from their typically-developing peers across several important constructs. This information can help educators better understand why their students engage in academic cheating. Additionally, having

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information regarding the motivating factors for cheating in students with learning disabilities will also allow educators to attempt to implement skill teaching rather than just punitive consequences.

In conclusion, the literature surrounding cheating in individuals with learning disabilities has been severely lacking and this study attempted to address that gap in the literature. Students with learning disabilities did not significantly differ from their typically-developing peers in cheating tolerance or in reported impulsive reasons for cheating. However, individuals with learning disabilities were significantly more likely to report reasons for cheating related to low self-efficacy and performance goal orientations than typically developing students.

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Appendix A
Cheating Tolerance Inventory

Table 2

Cheating Tolerance Inventory

Item Stem	Construct Measured	% Agreed Acceptable
The teacher/professor graded unfairly.	Powerlessness/Unfair	16.9%
The assignment was unfair.	Powerlessness/Unfair	15.6%
My professor enjoys making the class difficult for students.	Powerlessness/Unfair	9.1%
I do not really care about my school/university.	Estrangement	15.6%
I feel attached to my school/university, peers, etc.	Estrangement	3.9%
I feel that I am just a number at my school/university.	Estrangement	5.2%
I feel that I have a lot of support at my school/university.	Estrangement	11.7%
I was too tired.	Depletion	9.1%
I had too many things to do.	Depletion	10.4%
The teacher/professor does not care about cheating.	Social norms	18.2%
The penalties for cheating are not that bad.	Social norms	6.5%
I observed my peers cheating without getting caught.	Social norms	5.2%
My peers encouraged me to cheat.	Social norms	6.5%
My peers expressed disapproval in cheating.	Social norms	3.9%
The assignment was too hard.	Self-efficacy	10.4%
The content was just too difficult to understand.	Self-efficacy	5.2%
The assignment was difficult, but I felt that I could do it anyways.	Self-efficacy	6.5%
I felt that the assignment was manageable.	Self-efficacy	5.2%
I felt that I could not complete the assignment w/o cheating.	Self-efficacy	5.2%
I struggle with achieving my goals.	Self-efficacy	6.5%
No matter what I did, I could not master the content.	Learned helplessness	5.2%
I am more concerned about getting an A than understanding the material.	Goal orientation	14.3%
Learning the content is more important than grades.	Goal orientation	7.8%
My GPA is very important to me.	Goal orientation	13%
I would cheat if I knew I would not get caught.	Impulsivity	11.7%
I did not plan to cheat in advance but ended up cheating.	Impulsivity	6.5%
I do not care about the class content.	Meaninglessness	14.3%
The class is not in my major studies.	Meaninglessness	6.5%
I felt that I was wasting my time at my school/university.	Meaninglessness	5.2%
The class is very important to me.	Meaninglessness	5.2%
I did not study.	Lack of Preparation	14.3%
I forgot to study, do the assignment, etc.	Lack of Preparation	9.1%

Appendix B
Coding Categories for Participant Provided Reasons for Cheating & Examples

Impulsivity (1)
- *Participant Example:*
"Honestly, I generally do not plan to cheat, rather I found it [sic] tempting if I had an extra source on me."

Goal Orientation (2)
- *Participant Example:*
"I cheated on the assignment, so it [would] help "pad" my final grade in the class."

Self-Efficacy (3)
- *Participant Example:*
"[I] could not learn in time. [I] had to use [a] cheat sheet."

Peer Group Influence (4)
- *Participant Example:*
"On the group project assignment, the other people in the group were cheating, and I didn't know what to do. I didn't want to snitch on them."

Environmental Indifference (5)
- *Participant Example:*
"I could get away with cheating without getting caught. The teacher went out of the room and everyone was free to cheat."

Individual Indifference (6)
- *Participant Example:*
"They [assignments] were pointless and not helping me learn."

Righting A Perceived Inequity (7)
- *Participant Example:*
"Usually I would write down formulas for things in a calculator, so I could remember them. I did it because I felt like it was completely unfair that a professor would administer a test that required you to memorize a ton of formulas."

Lack of Preparation (8)
- *Participant Example:*
"I didn't have time to study or prepare a good paper."

Other (9)
- *Participant Example:*
"Because I couldn't sleep the night before and couldn't concentrate."

Appendix C
Informed Consent

INFORMED CONSENT

Project Title: Examining individual characteristics
Investigator: McKenzie Perdew, Department of Psychology,
Western Kentucky University, (270) 745-2695, mckenzie.perdew439@topper.wku.edu

You are being asked to participate in a project conducted through Western Kentucky University. The University requires that you give your agreement to participate in this project.

A basic explanation of the project is written below. If you find yourself with any questions about the project, please contact the researcher before participating. Please read this explanation below. You should keep a copy of this form for your records.

1. **Nature and Purpose of the Project:** The purpose of this project is to learn more about the relationship between individual characteristics of students and former students.

2. **Explanation of Procedures:** You will complete several surveys about your individual characteristics, as well as a demographic questionnaire. The task should take no more than thirty minutes.

3. **Discomfort and Risks:** No risks or discomfort are anticipated.

4. **Benefits:** You will have the opportunity to learn more about the research methods utilized in psychology. You will also have the opportunity to potentially earn $4.50 for your participation in this research. In order to earn the $4.50, you must answer all of the attention questions correctly.

5. **Confidentiality:** Participants' names and ID numbers will not be associated with their data except during initial data collection in order to award incentives. Study materials will be kept on password-protected computers.

6. **Refusal/Withdrawal:** Refusal to participate in this study will have no effect on any future services you may be entitled to from the University or research opportunities that the researcher conducts on Amazon's Mechanical Turk. Anyone who agrees to participate in this study is free to withdraw from the study at any time with no penalty.

You understand also that it is not possible to identify all potential risks in an experimental procedure, and you believe that reasonable safeguards have been taken to minimize both the known and potential but unknown risks.

Your continued cooperation with the following research implies your consent.

THE DATED APPROVAL ON THIS CONSENT FORM INDICATES THAT
THIS PROJECT HAS BEEN REVIEWED AND APPROVED BY
THE WESTERN KENTUCKY UNIVERSITY INSTITUTIONAL REVIEW BOARD
Paul Mooney, Human Protections Administrator
TELEPHONE: (270) 745-2129