

STUDENT MOTIVATION AND ACADEMIC DISHONESTY:  
A META-ANALYTIC INVESTIGATION

by

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## **ABSTRACT**

Academic dishonesty plagues nearly every educational institution. It can lead to serious consequences, including the illegitimate earning of credentials, inability to perform job duties, and continued deviance within society. Although prior research has investigated various predictors of academic dishonesty, a research synthesis in the form of meta-analysis is warranted to bring clarity to a complex body of literature. This dissertation was guided by two research questions: (1) What is the relationship between achievement motivation and academic dishonesty? and (2) If substantial variation exists across studies, to what extent do research characteristics like academic dishonesty form, type of task, and student demographics, influence the magnitude and direction of this relationship? This dissertation addressed the research questions by synthesizing the academic dishonesty literature investigating how academic dishonesty is influenced by six motivational processes: (a) students' satisfaction of their basic needs for competence, autonomy, and relatedness, (b) students' goal orientation and classroom-level goal structure, (c) students' task-related expectancies and values, (d) students' self-efficacy for successfully completing academic tasks, (e) students' perception of the future, and (f) students' causal attributions. This meta-analysis of 80 studies examined the influence of achievement motivation on academic dishonesty for students. Results indicated that negative correlates of academic dishonesty were classroom-level mastery goal structure, student-level mastery goals, intrinsic motivation and value, self-efficacy, utility value, and internal locus of control. Additionally, motivation factors that were positively related

with academic dishonesty were amotivation and personal performance approach goals. Furthermore, significant moderators that influenced the relationship between motivation and academic dishonesty were institution type, country of origin, form of academic dishonesty, and type of task the academically dishonest act was performed on. Implications for future research and practice are discussed.

## **I: INTRODUCTION**

Academic dishonesty plagues nearly every educational institution. Academic dishonesty has been defined in various ways, but for the purposes of this study it is defined as any unauthorized assistance in completing a task and can include cheating, plagiarism, fraudulence, and falsification (Sendag, Duran, & Fraser, 2012). Examples of cheating include copying another's work, using a smart phone during an exam, using unauthorized crib notes, obtaining prior exams, misusing calculators, exchanging answers verbally and non-verbally, and utilizing university tutors to unknowingly assist with exams (Khalid, 2015). Not only can academic dishonesty appear in a variety of forms, there is widespread prevalence of this phenomenon in education. A study of 20,000 U.S. secondary students conducted by Josephson Institutes (2012) found the following prevalence rates: 32 percent admitted to plagiarism using the internet; 51 percent cheated on an exam; and 74 percent copied a peer's homework assignment. Research has also indicated the high prevalence of cheating in higher education (McCabe, Butterfield, & Trevino, 2006). There is an estimated range from 50 to 70 percent of undergraduates have performed some form of academic dishonesty (Hensley, Kirkpatrick, & Burgoon, 2013; McCabe, 2005; Schmelkin et al., 2008, Whitley, 1998).

Research over the decades has confirmed the ubiquity of academic dishonesty as a normalized student behavior (Baird, 1980). In 1979, the Carnegie Council Report described that students believed specific forms of cheating were justified in order to obtain desired grades. Furthermore, academically dishonest behaviors rarely occur once, as students who have engaged in unethical practices often continue to do so (Hollinger & Lanza-Kaduce, 1996; McCabe & Trevino, 1997; Swift & Nonis, 1998). Academic

dishonesty not only affects the student, but also has institutional and societal implications as students may receive credentials illegitimately (Gulli, Kohler, & Patriquin, 2007).

### **Defining Academic Dishonesty**

Multiple definitions of academic dishonesty in the literature have created confusion; thus, it is important to have one clear guiding definition for this study. Without a clear definition of academic dishonesty, cheating, and plagiarism, it would be difficult to infer appropriate implications and practices based on findings from different studies with dissimilar definitions. Because the purpose of this dissertation is to synthesize the academic dishonesty literature, an explicit definition of academic dishonesty that will be included in this meta-analysis is crucial.

Thus, for the purpose of this study academic dishonesty is defined broadly as any unauthorized assistance in completing a task. Specifically, academic dishonesty is defined as student engagement in one or more of the following behaviors adopted from McCabe et al.'s (2012) definition: (a) copying sentences of material without footnoting the reference; (b) bibliography padding or including sources that were not used throughout the project; (c) plagiarizing from public sources; (d) turning in a paper completed entirely or partly by another; (e) receiving questions or answers from another who had already taken the exam; (f) collaborating with peers on an assignment without the teacher's permission; (g) coping off others during an exam; (h) taking unauthorized material into an exam; and (i) not accurately reporting task score when graded by the student. McCabe et al.'s (2012) list of academically dishonest behaviors was chosen as it provides the most clear and concise list of behaviors considered academically dishonest by honor codes and majority of included studies used this conceptual definition when

measuring academic dishonesty as an outcome. Furthermore, plagiarism was defined as items a-d and cheating was categorized as items e-h. Other studies have used expanded definitions of academic dishonesty. For example, Ives et al. (2017) included students' false excuses to garner a later due date, damaging others' work, and blocking others' access to resources as academic dishonesty because they are not preformed when actually completing a task. According to my working definition, I would exclude these activities for my study's conceptualization of academic dishonesty. Additionally, I excluded measures of academic dishonesty intention as the motivation processes behind intention and actual behavior may be different. It is important to note that my approach is still limited by how researchers conceptualized and operationalized academic dishonesty coupled with how students may define academic dishonesty when reporting their past dishonest behaviors.

### **Statement of the Problem**

Educational institutions can provide opportunities for students to develop as intellectuals, individuals, and civic members. Academic dishonesty not only obstructs students' engagement in learning, but also impedes their development of positive attributes that education institutions may nurture, such as integrity and fairness (Boehm, Justice, & Weeks, 2009). Students who perform academic dishonesty in primary and secondary education may not learn the requisite knowledge in order to advance in coursework and enroll in college-level courses. Because standardized placement tests are primarily used to assess students' skills and knowledge in secondary education and college readiness, students who have relied on academically dishonest behaviors may perform poorly on these examinations.

Postsecondary students deemed not college ready or considered underprepared based on a standardized test predetermined cutoff score are encouraged or required (depending on the institution and/or state policies) to enroll in developmental education coursework in reading, writing, and/or mathematics. Developmental education courses cost the same as college-level courses, but do not count as credit towards degree completion and are not eligible for financial aid assistance. Developmental coursework focus on students' strengths, develop affective and cognitive domains, and build upon skills necessary to succeed in college-level coursework (Arendale, 2010). Although developmental education courses are intended to prepare students for college-level courses, less than half finish developmental coursework, and even less transfer from a community college to a 4-year institution or graduate with an earned certificate or degree (Bailey, Jaggars, & Jenkins, 2015). Developmental education courses extend the length of time to complete a certificate or degree, increase financial burden, and can isolate and stigmatize students enrolled in these courses.

The field of developmental education is uniquely positioned to help students understand the motivational factors surrounding academic dishonesty. Developmental education is focused on supporting students throughout their higher education journey including assisting with learning skills and strategy acquisition, peer tutoring, academic coaching and mentoring, supplemental instruction, and more. With this field having multiple connections to students in various ways, the field of developmental education can make a difference in teaching and supporting students about motivational factors. Because the field of developmental education is interested in helping students develop holistically, understanding their motivations, beliefs, goals, attitudes, and perceptions



towards learning is essential. These motivational factors can in turn help reduce academic dishonesty. The field could also research different academic dishonesty interventions focused on altering motivation as well since developmental education courses and support services impact numerous students' lives. Duranczyk (2007) found that former students enrolled in developmental mathematics regretted cheating in high school because that allowed them to be placed in classes they were not prepared for and did more poorly as a result. As students transition to postsecondary education, informing new students of academic honesty issues is imperative (Higbee & Thomas, 2002). As academic dishonesty, along with appropriate sanctions for such misconduct, increases in today's colleges, the more likely students are to fail their courses, withdraw from the institution, and not attain their academic goals. Developmental educators are often concerned with preventing academic dishonesty (Wilkinson, 2011); however, my study proposed cultivating student motivation to mitigate the prevalence of academic dishonesty. Thus, future motivation interventions could be used within developmental education courses to evaluate the impact of motivation re-training with this specific population. Additionally, student support services could not only help with students' academic skills, but could also bring light to students' motivation behind their academic behaviors. Taking everything into account, developmental education focuses on student success and understanding why students perform academic dishonesty from a motivation perspective may help developmental education educators and student support personnel ameliorate the problem.

Academic dishonesty also diminishes the effectiveness of an educational system (Magnus, Polterovich, Danilov, & Savvateev, 2002). The legitimacy of credentials from

universities or colleges are compromised in the presence of rampant cheating (Yu, Glanzer, & Johnson, 2016). Academic dishonesty threatens the academic standards set in place to the extent that the credibility of a student's qualifications or content mastery is questioned. Academic dishonesty within higher education is of increased importance as students are less likely to have the necessary and required skills for their future careers (Mwamwenda, 2012). Unqualified professionals entering the labor market can lead to 'societal injuries,' future employees who are likely to be unable to adequately perform at their jobs. They may potentially cause harm to others and reputational damage to the institution that conferred their degree (Teixeria & de Fatima Rocha, 2008). Harding, Carpenter, Finelli, and Passow (2004) found direct links between academic dishonesty and unethical work behaviors such as using company supplies improperly or employee theft, falsifying records (i.e., time cards, expense reports, and quality assurance reports), neglecting the quality of work assignments and safety problems. Biswas (2014) and other researchers discovered that academic dishonesty was related to other deviant behaviors including substance abuse (Blankenship & Whitley, 2000), shoplifting (Beck & Ajzen, 1991), assault and vandalism (Rutherford & Olswang, 1981). Because academic dishonesty may be seen as a gateway practice for future unethical behaviors, it is critical to understand its antecedents and the best preventative measures.

Previous studies on academic dishonesty have examined a wide range of possible predictors of academically unethical behaviors and intentions. Some have focused on student factors including demographic characteristics, character qualities, and college experience (e.g., Lowry, Zhang, & Wu, 2017; Pabian, 2015; Yang, Huag, & Chen, 2013; Yu, Glanzer, & Johnson, 2016, 2017; Yu, Glanzer, Johnson, Sriram, & Moore, 2018; Yu,

Glanzer, Sriram, Johnson, & Moore, 2017). Whereas gender (male/female) and prior achievement are fairly stable and static, psychological variables such as student motivation tend to be more malleable, providing opportunities for intervention. Moreover, a growing body of literature has examined motivational correlates with academic dishonesty such as self-efficacy, goal orientation and structure, self-determination, future time perspective, and attribution or locus of control (e.g., Anderman & Murdock, 2007).

Moreover, a limitation within the methods of prior studies is that they investigate motivational variables in isolation. Although studying variables separately is important to determine a general relationship, researchers and practitioners are not able to discern which motivational variable has the largest associated magnitude with academic dishonesty. Although a number of studies measuring the relationship between motivation variables and academically dishonest behaviors have accumulated, researchers and practitioners still lack clarity on this topic. Furthermore, assessing moderators across multiple studies will be a novel contribution to the literature.

### **Prior Preventative Academic Dishonesty Interventions**

Given the host of maladaptive outcomes associated with academic dishonesty, a variety of interventions have been employed to address the complexities of academically unethical behaviors and beliefs. Clark and Soutter (2016) contented that broad character approaches should be employed when creating interventions targeted at combating the cheating culture both within the class and school level. Similarly, Tang (2010) discovered that an embedded ethics intervention within a business management course resulted in a decreased likelihood of unethically using resources. With the increase in availability and

demand of online courses, virtual modules have been created to address the advent of e-cheating/digital cheating, the use of technology to conduct academic dishonesty (Bain, 2015; Cronan, McHaney, Douglas, & Mullins, 2017; Greer et al., 2012; Rogers, 2006; Sendag, Duran, & Fraser, 2012). Although, Cronan et al. (2017) and Greer et al. (2012) found their online interventions decreased positive cheating attitudes at universities, Sendag et al. (2012) did not find a significant effect of their online tutorial on cheating.

In addition, in-class interventions aimed at decreasing plagiarism have had mixed results. McKay (2014) developed a plagiarism intervention that incorporated lectures, tutoring, and a formal exam. As result of the intervention, there were lower occurrences of plagiarism in comparison to the previous year. Utilizing an intervention based on definitions and examples of academic dishonesty administered on the first-day of class, Azulay Chertok, Barnes, and Gilleland (2014) discerned students exhibited more knowledge and ethical attitudes about cheating immediately following the intervention. On the other hand, some interventions did not significantly change academic dishonesty behavior (Morgan & Hart, 2013; Smedley, Crawford, & Cloete, 2015). For example, Morgan and Hart (2013) instituted a discussion-based intervention which led to students' increased support of policies without significant changes in behavior. Spangenberg and Obermiller (1996) took a different approach and asked a group of students to predict their intention to cheat (yes/no response) before offering an opportunity to cheat. Results indicated that students who were asked to predict their intention had a lower likelihood to cheat compared to their peers who were not asked.

Past research has illustrated the varying degree of effectiveness of different preventative academic dishonesty interventions that differ in aim, length, and scope.

Interventions tend to emphasize learning policies, skills, and definitions to deter academic dishonesty. Although these approaches lead to mixed results, they also neglect the potential power of addressing student motivations behind their decision to cheat.

## **Motivation**

Past interventions focused on decreasing academic dishonesty have had mixed results, but targeting student motivation may be significant in increasing the effectiveness of academic dishonesty interventions. Motivation is any force that influences, initiates, guides, and maintains behavior (Reeve & Halusic, 2009). In general, motivation is thought of as either intrinsic (sources that are internal, such as enjoyment) or extrinsic (sources that are external, for instance receiving high grades) (Lazowski & Hulleman, 2016). Motivation within education takes on a multitude of qualities and types including goals, needs, aspirations, drives, affects, values, and interests. Researchers have investigated the diverse range of motivation processes from various perspectives in psychology (i.e., developmental, cognitive, social, educational) and established a rich literature base (for reviews, see Perry, Turner, & Meyer, 2006; Pintrich, 2003; Schunk, Pintrich, & Meece, 2008; Wigfield & Eccles, 2002).

Motivation theories are generally focused on explaining the direction and energy of behavior (Pintrich, 2003). Within education, motivation theories are usually based on social-cognitive perspectives that highlight students' perceptions of themselves (Perry et al., 2006) rather than biological drivers (Weiner, 1980). Social-cognitive theories of motivation include constructs such as perceived ability (e.g., Bandura, 1997), achievement needs and motives (e.g., Deci & Ryan, 1985b; Ryan & Deci, 2000), perceived expectancies and values for an activity (e.g., Eccles et al., 1983; Wigfield &

Eccles, 1992, 2000), goals (e.g., Ames, 1984; Dweck, 1986; Dweck & Leggett, 1988; Elliot, 1999; Pintrich, 2000), perception of the source of causality (e.g., Rotter, 1954; Weiner, 1985), perception of the future (e.g., Husman & Lens, 1999; Lens & Seginer, 2015), and intention and perceived control (e.g., Ajzen, 1991).

**Prior motivation interventions.** Student motivation is an essential outcome because students who are intrinsically motivated learn more, have higher persistence rates, have increased task performance, and receive higher scores on standardized achievement exams (Fredericks et al., 2011; Maehr & Midgley, 1999; National Research Council & Institute of Medicine, 2004). Various research reports have concluded that the educational systems themselves are not able to sustain or enhance students' motivation to learn (Bridgeland, DiLulio, & Morison, 2006; Gallup, Inc., 2014; Jacobs, Lanza, Osgood, Eccles, & Wigfield, 2002; Lepper, Corpus, & Iyengar, 2005; Nicholls, 1979). Not only does motivation enhance student learning, but it is also malleable and thus amendable to interventions.

A wide range of interventions based on motivation theories have been developed and tested. Social-psychological interventions aim to alter students' behavior by targeting their subjective school experience and by deploying self-reinforcing recursive processes to create lasting positive effects on motivation and achievement (Walton & Cohen, 2011; Yeager & Walton, 2011). For example, an attribution intervention started a recursive process within first-year college students, increasing performance each semester reinforced by the use of more adaptive attributions (Wilson & Linville, 1982, 1985). Additionally, Lazowski and Hulleman (2016) meta-analyzed 92 intervention studies based on motivation theories and discovered that these interventions were effective in

positively increasing self-reported motivation, behavior, and performance ( $d = .49$ ).

Interventions based on motivation theories can unleash students' potential, provide better advantages to taking present learning opportunities, and recruit current recursive processes to produce ongoing effects (Yeager & Walton, 2011). This meta-analysis demonstrates that motivation interventions have robust effects across diverse students and substantiates the overall premise that student motivation can be successfully enhanced. Thus, the malleability of motivational qualities in students coupled with an understanding of the motivation correlates to academic dishonesty, future motivation interventions aimed at decreasing academic dishonesty behavior can be developed.

### **Prior Conceptual Framework on Academic Dishonesty**

Furthermore, there has been limited scholarship that has aggregated the literature on motivation and academic dishonesty using a central conceptual framework (see Murdock & Anderman, 2006; Whitley, 1998). Thus, there is a lack of systematic understanding of the relationship between motivation and academic dishonesty. Murdock and Anderman (2006) developed a theoretically based conceptual framework for understanding motivational factors of academic dishonesty. The framework was created based on achievement motivation concepts by reviewing the vast academic dishonesty literature. The model consists of three motivational mechanisms believed to influence academically dishonest behavior: (1) goals, (2) expectations, and (3) costs. Each mechanism is guided by a central question that students might ask themselves when deciding whether to perform academic dishonesty: (1) "What is my purpose?" (2) "Can I do this?" and (3) "What are the costs?" Murdock and Anderman suggested that students answer "what is my purpose?" via self-determination and achievement goal theory. In

this model, students who are extrinsically motivated and/or hold performance goals are more likely to perform academic dishonesty as they are motivated by high grades. Students are thought to answer, “can I do this?” by incorporating self-efficacy and expectancy-value concepts focusing on their perceived expectancies for success. Their review illustrated that students with low self-efficacy and negative outcome expectations were more likely to perform academic dishonesty. Lastly, the cost component within expectancy-value theory is considered to be what a student considers last when determining whether to perform academic dishonesty. Specifically, students weigh the costs of getting caught and sanctioned or viewing themselves unfavorably against the benefits of achieving their goals. Findings indicated that if students perceive the costs to be minimal, academically dishonest behavior is more likely.

Murdock and Anderman’s (2006) motivation framework for academic dishonesty is limited as it was conceptual and has not been empirically evaluated using a meta-analytic approach. The framework also shifts domains when describing the different constructs. For example, when the model discusses goals and expectations, it is framed within an academic domain, when costs are framed from a cheating domain. Thus, the current model can be strengthened by a more coherent understanding of the motivational forces behind academic dishonesty.

### **Purpose of the Study**

This study enhances Murdock and Anderman’s (2006) conceptual framework by adopting their approach of integrating achievement motivational theories together. However, the current study enhances this prior work in the following two ways. First, I expand the conceptual understanding of motivation and academic dishonesty by adding



two motivational theories: future time perspective and attribution theory or locus of control. Second, although Murdock and Anderman conducted a narrative or theoretical synthesis of the literature, I conducted a quantitative synthesis or meta-analysis of the literature and examined the empirical associations among motivation and academic dishonesty variables. Meta-analysis is a quantitative methodological technique that focuses on empirical reports and aims to summarize past studies by deriving conclusions from numerous, separate studies that investigate the topic of interest (Cooper, Hedges, & Valentine, 2009).

Thus, this study proposed to synthesize the academic dishonesty literature through a theoretical framework of social-cognitive theory and a theoretical model with the following student motivation theories: self-determination theory, achievement goal theory, expectancy-value theory, future time perspective, and attribution or locus of control. The goal of this study was to evaluate a variety of motivational factors that can influence academic dishonesty using meta-analytic methods.

### **Research Questions**

1. What is the relationship between achievement motivation and academic dishonesty?
  - a. What is the relationship between each of the constructs within self-determination theory and academic dishonesty?
  - b. What is the relationship between each of the constructs within achievement goal theory and academic dishonesty?
  - c. What is the relationship between each of the constructs within expectancy-value theory and academic dishonesty?

- d. What is the relationship between each of the constructs within social-cognitive theory and academic dishonesty?
  - e. What is the relationship between each of the constructs within future time perspective theory and academic dishonesty?
  - f. What is the relationship between each of the constructs within attribution and locus of control theory and academic dishonesty?
2. If substantial variation exists across studies, to what extent do research characteristics (i.e., academic dishonesty and student characteristics) influence the magnitude and direction of the relationship between academic dishonesty and motivation?

### **Summary of Chapter 1**

Academic dishonesty is a widespread issue affecting all educational institutions. When academic dishonesty is present, students may not learn requisite knowledge to advance in coursework, learning engagement is obstructed, and may increase the likelihood of future societal deviance. Multiple possible correlates of academic dishonesty have been investigated including demographics, college experiences, and motivation. However, motivational influences on academic dishonesty have not been investigated when created targeted interventions aimed at decreasing academic dishonesty. This study enhances the prior conceptual framework developed by Murdock and Anderman (2006) by adding motivational theories, quantitatively testing the proposed model, and expanding to all student populations. This study meta-analytically evaluated the academic dishonesty literature through a theoretical framework of social-cognitive theory and a theoretical model of five achievement motivation theories: self-

determination theory, achievement goal theory, expectancy-value theory, future time perspective, and attribution or locus of control.

### **Organization of the Study**

Chapter Two provides a literature review of academic dishonesty and a discussion of the theoretical framework and theoretical model. Chapter Three discusses the research design of meta-analysis used to answer the research questions and test related hypotheses. Chapter Four summarizes analyses results using meta-analytic methods described in Chapter Three. Chapter Five provides a discussion and implications based on the data presented in Chapter Four. Chapter Five also describes recommendations for educational practice and future research on the topic.

### **Definition of Terms**

*Academic dishonesty* (any unauthorized assistance on tasks) can include unauthorized collaboration with a peer on an assignment, falsifying a bibliography, copying another student while taking an exam or bringing unauthorized notes to an exam, students searching for answers during examinations utilizing internet capabilities on smart devices, purchasing papers, and plagiarizing from sources without proper citation (Boehm et al., 2009; Finn & Frone, 2004, p. 115; Johnson & Martin, 2005; Ma, Wan, & Lu, 2008; McCabe et al., 2012). Cheating and plagiarism are included within academic dishonesty.

*Achievement goal theory* explores the motivation behind individuals' and perceived classroom goals towards task engagement and performance (Ames, 1984; Dweck, 1986; Dweck & Leggett, 1988; Elliot, 1999; Pintrich, 2000).

*Attribution* is the perceived source of causality when experiencing success and failure (Weiner, 1985).

*Cheating* can include unauthorized collaboration with a peer on an assignment, falsifying a bibliography, copying another student while taking an exam or bringing unauthorized notes to an exam, and searching for answers during examinations utilizing internet capabilities on smart devices (Boehm et al., 2009; Finn & Frone, 2004, p. 115; Johnson & Martin, 2005; Ma, Wan, & Lu, 2008; McCabe et al., 2012).

*Expectancy-value theory* ascertains that the motivation to perform a task is based on individuals' beliefs of how well they expect to do and the degree to which they value the task (Eccles et al., 1983; Wigfield & Eccles, 1992, 2000).

*Future time perspective* is based on individuals' perception of the future and the link between present actions and future goals (Husman & Lens, 1999; Lens & Seginer, 2015).

*Locus of control* is how individuals perceive the cause of their success and failure (Rotter, 1954).

*Meta-analysis*, also known as research synthesis, is a quantitative methodological technique that focuses on empirical reports and aims to summarize past studies by deriving conclusions from numerous, separate studies that investigate the topic of interest (Cooper, Hedges, & Valentine, 2009).

*Moderator* is a variable where the effect of a second variable depends on the level of the moderator (Miles & Shevlin, 2001).

*Motivation* is any force that influences, initiates, guides, and maintains behavior (Reeve & Halusic, 2009).

*Plagiarism* can include turning in another's work as your own, purchasing papers, and paraphrasing and/or copying-and-pasting from sources without proper citation (Boehm et al., 2009; Finn & Frone, 2004, p. 115; Johnson & Martin, 2005; Ma, Wan, & Lu, 2008; McCabe et al., 2012).

*Self-determination theory* asserts that intrinsic motivation is facilitated by satisfaction of three needs: relatedness, competence, and autonomy (Deci & Ryan, 1985a, 1985b; Ryan & Deci, 2000).

*Social-cognitive theory* contends that motivation is influenced by the interaction between behaviors, personal, and environmental factors (Bandura, 1997).

## **II: LITERATURE REVIEW**

### **Academic Dishonesty**

Academic dishonesty, for the purpose of my dissertation, was operationally defined as any unauthorized assistance in completing a task. Numerous factors have been examined to uncover the phenomenon of academic dishonesty. Some variables that have been investigated include characteristics of academic dishonesty, sample characteristics, and achievement motivation constructs. The following sections describe each of the theoretically relevant factors used to explore the phenomenon of academic dishonesty. Furthermore, prior meta-analyses over academic dishonesty literature are discussed.

#### **Academic Dishonesty Form**

Within the academic dishonesty literature, two forms or distinctions of academic dishonesty appear to be predominately investigated, plagiarism and other cheating behavior. When it came to plagiarism, Spanish university students stated the four main reasons as lack of time to complete academic tasks, the habit of completing tasks last minute, having too many assignments to complete in a short amount of time, and the ease of access from the internet (Comas-Forgas & Sureda-Negre, 2010). From a motivation perspective, it appeared that students are motivated to plagiarize because of poor time management skills, an external locus of control (e.g., having too many assignments to complete), and a lack of self-efficacy as they procrastinate to put off assignments that they do not feel confident in successfully completing. On exams, students who were motivated by the satisfaction and pleasure of learning were less likely to cheat. In contrast, U.S. college students who were unmotivated or concerned with their future well-being were more likely to plagiarize (Angell, 2006). When comparing plagiarism

with cheating, in terms of predicting plagiarism, future time perspective was an important factor; however, when predicting cheating behaviors on exams, intrinsic and attainment value were more salient (Angell, 2006). The research suggests that motivation for academic dishonesty is moderated by the form of dishonesty.

Although U.S. undergraduate students can undoubtedly associate copying a peer's exam as cheating, less than twenty percent of them defined plagiarism as academic dishonesty (Carpenter, Harding, Finelli, Montgomery, & Passow, 2006). Cronan, Mullins, and Douglas (2018) investigated the differences in attitudes for plagiarizing on a paper assignment versus sharing homework from a sample of U.S. undergraduates. Students held more favorable attitudes towards sharing homework than plagiarizing, which suggests that sharing homework is not seen as a severe honor code violation. Positive attitude towards academic dishonesty was positively correlated with cheating intention, indicating that as students developed a favorable attitude toward academic dishonesty, their intention to cheat also increased. However, these findings should be guarded as social desirability bias was alluded with low observed cheating intentions. Additionally, only intentions were measured and not actual behavior, thus attitude predictors may differ between academic dishonesty intentions and behavior.

Within the theory of planned behavior (Ajzen, 1991), subjective norm refers to the importance of significant individuals' acceptance or disapproval of a behavior, academic dishonesty in this case. Subjective norm also negatively predicted sharing homework intentions, but did not predict intentions to plagiarize among U.S. undergrads (Cronan et al., 2018). Thus, in terms of sharing homework, how students perceived significant others would accept the violation influenced their intention to do so, whereas

plagiarizing behaviors were not shaped by views from significant others. Furthermore, among a group of U.S. undergraduates' prior academically dishonest behaviors, perceived behavioral control, attitude, and moral obligation all predicted plagiarism and sharing homework at different levels illustrating the moderating effect type of academic dishonesty has on motivational predictors of cheating (Angell, 2006).

Additionally, Rettinger and Kramer (2009) uncovered that U.S. undergraduates attending a religious private institution reported plagiarism activities twice as frequent as cheating on exams on average, proposing that students believe plagiarism is easier to do and is less severe than exam cheating. Cheating behaviors on exams were strongly shaped by neutralizing attitudes and minimally by knowledge of peers' dishonesty, whereas plagiarism was the reverse. The relationship may be explained by the moral ambiguity of plagiarism as students witness peers performing this behavior making it acceptable. These results may not be generalizable to the greater population of undergraduate students as the sampled students attended a religious institution functioning under religious law; therefore, these students may have stronger ethical values and be practically different to students attending public institutions. In contrast, cheating on exams is less ambiguous with students feeling the need to neutralize the behavior in order to offset their dishonesty. Thorpe, Pittenger, and Reed (1999) criticized the common practice of lumping types of academic dishonesty together as it ignores the important interactions that may exist. For instance, when all academically dishonest behaviors were combined into a single index, there was a definite sex difference (Thorpe et al., 1999). However, when the different types of academic dishonesty were examined, the only difference that existed was for plagiarism on papers. From the research, it is clear that the



different forms of academic dishonesty are linked to different psychological processes and should thus be examined as a potential moderator of the academic dishonesty and motivation relationship.

### **Academic Task**

The task that a student performs academic dishonesty on may moderate the relationship between motivation and cheating. For the purposes of this meta-analysis, academic task encompasses both the type of assignment (e.g., exam, homework assignment, in-class quiz, etc.) and features of the task (e.g., difficulty level, interest level, grade weight, etc.). From the literature, it is clear that students do not consider academic dishonesty performed on all academic tasks equally. Students cheated more on projects, plagiarized and copied homework assignments than on exams as students believed that cheating on tests had higher stakes (Newstead, Franklyn-Stokes, & Armstead, 1996; Schmelkin et al., 2008; Swift & Nonis, 1998; Thorpe et al., 1999). In addition, from a sample of Spanish university students, Comas-Forgas and Sureda-Negre (2010) found that when an assessment had decreased weight on the final grade and the topic had low relevance, students were more likely to plagiarize. Thus, when students are analyzing the cost and benefits of performing academic dishonesty, they may associate exams with higher costs of getting caught and sanctioned compared to lower costs associated with smaller assignments. It is important to understand how students come to predict the severity of academic dishonesty for different tasks in order to inform future practice. These studies fail to uncover students' developmental process of their value spheres and rather rely on surface explanations of value judgements. Moreover, Passow et al. (2006) ascertained that U.S. students viewed academic dishonesty as more than one

construct with different factors predicting each. When parallel models were used to predict exam and homework cheating, the model explained 36 percent of the variance for cheating with exams, compared to 14 percent for cheating on homework. This differential prediction suggested that exam cheating was a different construct than homework cheating which further illustrated that students' decision to perform academic dishonesty are influenced differently dependent on the assessment type. Furthermore, prior cheating in high school and fraternity/sorority membership strongly predicted cheating on tests, but not on homework. The previous research suggests that students' motivation to perform academic dishonesty may be moderated by features of the academic task.

### **Student Characteristics**

It is logical to anticipate that the relationship between motivation and academic dishonesty may vary depending on a range of student characteristics. Specifically, gender (male/female), age, academic major, grade point average (GPA)/prior academic performance, and country of origin may influence the magnitude and direction of the correlation between motivation and academic dishonesty. The following sections will describe each of the theoretically relevant sample characteristics that may moderate the motivation-academic dishonesty association that are assessed in this meta-analysis.

**Gender.** Gender, measured in terms of male and female, continues to be investigated as a potential predictor and moderator of academic dishonesty. Whitley, Nelson, and Jones (1999) conducted a meta-analysis on college gender differences in academically dishonest behavior and attitude among 48 studies from 1964 to 1999. The results indicated a moderate attitudinal gender difference and only a small behavioral difference; overall, they found that men cheated more and held more positive attitudes

toward cheating. Furthermore, Whitley (1998) found meta-analytically that men cheated more than female college students ( $d = .15$ ,  $k = 33$ ). When it came to predicting cheating attitudes among U.S. undergraduates, Saulsbury, Brown, Heyliger, and Beale (2011) found that female students with high idealism (adherence to ethical values regardless of situation) had greater moral values and cheated less; in contrast, male students' tolerance for peer dishonesty predicted cheating attitude, suggesting that men had moral flexibility, lower personal values, and increased cheating. When it came to norms and beliefs, perceived social norms were associated with cheating for U.S. college men whereas moral beliefs were related to cheating for women (Tibbetts, 1997b). This finding implies that male students are more concerned with external norms and female students are guided by internal beliefs.

Using a sample of U.S. university students, Newstead et al. (1996) discovered an interaction between academic achievement levels and gender suggesting that women and men have different academic dishonesty motives. Whereas women reported academic dishonesty at the same rate among all achievement levels, men reported more dishonesty as their achievement level decreased. Thus, male students' motivation for cheating changed as a function of their achievement level. Considering men's motivations behind cheating, Niiya, Ballantyne, North, and Crocker (2008) found that U.S. college men were more likely to cheat when their self-worth was based on virtue. Thus, in order to avoid failure, male students cheated to protect their self-worth. In addition, if a male student based his self-worth on competition, witnessing a peer cheat may indicate that he would lose the grade competition. This evaluation motivates him to cheat in order to be on the same playing ground and maintain self-esteem. In addition, U.S. university women

reported less cheating than men, because women had a greater need for approval and did not perceive that chance or powerful others controlled their lives (Thorpe et al., 1999). The findings suggest that female students hold more internal locus of control and attribution beliefs compared to their male counterparts, which in turn lowers their likelihood to perform cheating behaviors.

Also, when it came to reasons for academic dishonesty, gender differences were present. Taiwanese college males mentioned their lack of attention to coursework, and females noted lack of penalties (Yang et al., 2013). The cost and benefit analysis, or psychological cost, for female students seemed important for their motivation behind academic dishonesty. On the other hand, male students were more concerned with attainment value, or lack thereof, as it was not important for them to complete and pay attention to their coursework. As the literature suggests, gender is hypothesized to moderate the relationship between motivation and academic dishonesty. Although this meta-analysis will include gender (male/female) as a potential moderator, researchers should consider whether this variable creates discrimination as it suggests an innate characteristic can lead to higher or lower instances of academic dishonesty. Furthermore, with gender becoming a fluid personal trait, it may no longer be an appropriate variable to predict events, but rather how individuals come to experience their gender may be more appropriate.

**Age.** In the literature, there are mixed results regarding the influence of students' age on academic dishonesty and on the relationship between motivation and academic dishonesty. When examining cheating among college-aged students, some researchers discovered that first and second year students were more likely to perform academic

dishonesty compared to juniors and seniors (Allmon, Page, & Roberts, 2000; Atmeh & Al-Khadash, 2008; Bowers 1964; Haines, Diekhoff, Labeff, & Clark, 1986; McCabe & Trevino, 1997; Newstead et al., 1996; Park, 2003; Straw, 2002). Additionally, results of a meta-analysis conducted by Whitley (1998) found that age was negatively associated with cheating ( $d = -.563$ ,  $k = 10$ ), suggesting that first- and second-year students cheated more than juniors and seniors. One reason could be attributed to how first- and second-year students hold naïve beliefs and values or lack necessary learning skills and strategies to successfully complete tasks; this can result in academic dishonesty in order to achieve better grades. Another reason could be that juniors and seniors experience more meaningful tasks compared to first- and second-year students. However, other studies revealed the opposite result, finding that junior and senior U.S. college students had a higher propensity to perform academic dishonesty behaviors (Pino & Smith, 2003; Tang & Zuo, 1997). For instance, juniors and seniors may evaluate the cost and benefit of academic dishonesty and determine that the benefit of higher grades outweigh the cost of being disciplined if they are apprehended and punished. In addition, juniors and seniors may have more experience with failing academic tasks which can lead to a decreased sense of self-efficacy. Therefore, juniors and seniors may decide to behave unethically as they do not believe they can successfully complete a task.

That being said, several analyses found no influence of age/college classification on cheating attitudes among U.S. university students (Harding et al., 2007; Saulsbury et al., 2011). Although the influence of age/college classification on academic dishonesty is unsettled, the relationship between age and cheating was investigated within the achievement goal orientation framework. Sampling adolescents and college students in

Greece, Michou, Vansteenkiste, Mouratidis, and Lens (2014) revealed that age was negatively correlated with cheating beliefs and behaviors for students that were mastery-oriented. With inconclusive results of the relationship between age and academic dishonesty, it is imperative to investigate the possibility of age moderating the association between motivation and academic dishonesty. The full age range of students will be included in this meta-analysis to potentially capture motivation as a developmental construct.

**Academic major.** Another potentially relevant sample characteristic variable in predicting academic dishonesty was students' academic major. Some researchers claim that students majoring in science, technology, engineering, math (STEM), or business performed the majority of cheating behaviors on campuses (Baird, 1980; Harding et al., 2007; Marsden, Carroll, & Neill, 2005; Newstead et al., 1996; Williams, Nathanson, & Pualhus, 2010). Because these majors historically are focused on extrinsic results and are extremely competitive, students nested within these majors or classrooms may exude a performance goal orientation, fostering a cheating culture as acceptable to get ahead. This notion is supported by the tendency for business students to believe unethical behaviors and perceive academic dishonesty as socially acceptable compared to students not majoring in business (Klein, Levenburg, McKendall, & Mothersell, 2007; Smyth & Davis, 2004). Frank, Gilovich, and Regan (1993) discovered that after a single semester, U.S. undergraduate students enrolled in an introductory economics course had higher self-interest behavior and lower academic integrity in comparison to their counterparts in an introductory astronomy course. This implies that courses in the business college

promote egocentric beliefs and values above honesty, which consequently encourages academic dishonesty.

In terms of motivation, Taiwanese college students majoring in business attributed their cheating behaviors to lower academic capabilities, whereas engineering students cited self-interest as their reason for cheating (Yang et al., 2013). Business students may hold low self-efficacy, competence, or expectancy beliefs for completing tasks, whereas engineering students may hold performance goals; these are two different motivational mechanisms which lead to cheating behaviors. Eastman, Eastman, and Iyer (2008) uncovered the opposite pattern that U.S. university nonbusiness majors performed more academically dishonest acts compared to business majors, whereas Nathanson, Paulus, and Williams (2006) and Ledwith, Risquez, and O'Dwyer (2010) found no influence of major among the cheating behaviors of U.S. and Irish undergraduates, respectively. Given these mixed set of results, an examination of the moderation of academic major is warranted for this meta-analysis.

**Prior academic achievement.** As suggested by previous research, students' prior academic achievement or GPA may moderate the motivation-academic dishonesty connection. Antion and Michael (1983) sampled U.S. community college students to determine the correlation between self-reported GPA and academic dishonesty. The researchers found that as students' GPA increased, the occurrence of dishonest behavior decreased ( $r = -.2$ ). Moreover, the *cheat score*—the difference between students' actual final exam score and what they indicated as their final score from self-grading—was also negatively related to GPA ( $r = -.2$ ). The results revealed that the motivation-academic dishonesty relationship may be influenced by students' GPA, as students' prior academic

success influences their motivation to cheat. With a sample of undergraduate Jordanian students, Atmeh and Al-Khadash (2008) investigated the association between GPA and cheating. The authors found that students with high GPAs were 15 percent more likely to hold conservative cheating attitudes. Moreover, Whitley's (1998) meta-analysis discovered that students with higher GPAs cheated less ( $d = -.32$ ,  $k = 16$ ). Thus, as students' GPAs increased, the need to cheat decreased. It is imperative to consider whether students have high GPAs because they performed academic dishonesty or because they leveraged other adaptive qualities or strategies (i.e., motivation, effort, study strategies, etc.). Therefore, it is difficult to disentangle the reciprocal dynamic between prior academic achievement and academic dishonesty. On one hand, academic dishonesty may increase achievement, which causes students to decrease their academic dishonesty since they have high achievement. On the other hand, when achievement decreases, they may feel they have to perform academic dishonesty to increase their achievement again. All in all, studies propose that prior academic achievement or GPA can moderate the association between motivation and academic dishonesty as past academic achievement influences students' future academic decisions.

**Country of origin.** Although academic dishonesty is prevalent across the globe, students' perception of academically unethical behavior can differ depending on their country of origin. Davis (2003) and Martin (2012) argued that economic and cultural factors influence how students perceive and engage in plagiarism. Others have suggested that the cultural goals can explain the differences in academically dishonest practices within various countries. If a country has an individualistic culture (e.g., North American, Western Europe), individualistic goals are valued over the collective goals of a



community. On the other hand, collectivist cultures (e.g., Southern America, Southern Europe, Asia) value interpersonal goals over individual goals (Hui & Triandis, 1986; McCabe et al, 2008). Teferra (2001) provided a possible explanation as to why most developing countries' universities engage in academically dishonest behaviors. When competition, high unemployment, and economic insecurity were present, exams held greater worth as a gateway to private and government jobs that can increase individuals' economic security and social mobility. Furthermore, a university degree can provide opportunities for better jobs, livelihood, social values, higher earnings, status, and lifestyle. Thus, these high-stakes assessments that surround these cultural groups may intensify academic pressure and thereby increase academic dishonesty.

Numerous studies have investigated the differences in academic dishonesty propensities among various countries using both quantitative and qualitative methods. Interviewing five Chinese nationals, Gow (2014) uncovered cultural differences between the educational systems within China and the United Kingdom (UK). Students mentioned that copying answers on homework and exams was a common practice beginning in primary school as Chinese culture instilled a strong view of helping or sharing information with fellow peers. This may explain why 80 percent of Asian students thought writing a paper for another was not cheating or only a minor violation (Hayes & Intona, 2005). When these participants went to the UK to complete their master's degrees, they expressed being confused with the referencing system and had little experience with paraphrasing and quoting primary sources in China. Even though academic dishonesty was mentioned during their undergraduate degrees in China, no formal instruction of the definition and how to avoid it was provided.

Comparing cheating perceptions cross culturally, Lupton, Chapman, and Weiss (2000) discovered that American students did not consider the following behaviors as cheating: using previous semester exams, giving peers past exams to study, and memorizing test banks; in contrast, Polish students defined these behaviors as cheating. In another comparative study with American and Russian students (Lupton & Chapman, 2002), students from Russia did not believe that cheating was wrong, whereas American students felt otherwise. Additionally, students from Russia reported more cheating instances than their American counterparts (64 and 55 percent, respectively).

To prevent academic dishonesty in their institutions, many colleges developed codified academic dishonesty policies and/or honor codes to define and explain academic dishonesty practices and possible sanctions. However, there are variations among countries and their policies and practices surrounding academic dishonesty. For instance, Bangladesh, which is home to 71 private and 34 public universities, sparingly endorses institutional policies to reduce plagiarism (Moten, 2014). Students are not restricted from freely copying from text; this behavior is modeled by faculty who cite information without proper acknowledgement. Another example is the higher education system in the Czech Republic, which is organized around students replicating knowledge on exams via copying or memorizing information that the faculty presents (Pabian, 2015). In an ethnographic study of five Czech university departments, Pabian found that students copying practices were essential to the learning process rather than considered as deviant. None of the Spanish universities included in Teixeira and de Fatima Rocha's (2008) study had any policy that regulated academic dishonesty, whereas only some in Portugal did. Thus, establishing a global standard honor code that addresses academic dishonesty

is not currently feasible as different countries' education systems disagree on what behavior and practices should be regulated or even considered as academically dishonest. Taking everything into account, social and cultural factors inherent to the country of origin can influence the propensity of academic dishonesty.

In sum, demographic characteristics such as age, gender, academic major, GPA/prior academic achievement, and country of origin appear to be relevant moderators for the motivation-academic dishonesty relationship. Although I could not assess this in the current meta-analysis due to small sample size, the interaction effects among these factors may also lead to interesting individual differences regarding motivation and academic dishonesty. For instance, investigating the interaction of gender and academic major, Clariana (2013) found that college males attending a university in Spain majoring in law, journalism, and business procrastinated at higher rates above all groups resulting in increased cheating behaviors.

### **Achievement Motivation Variables**

Although the literature supports that student motivation in general relates to academic dishonesty, it is important to distinguish which motivation factors have larger relational magnitudes with academic dishonesty to inform future targeted interventions, programs, and theories designed to decrease academic dishonesty. From a meta-analysis of 107 included studies spanning 1970 to 1996, Whitley (1998) found that college students' who had higher expectancy of success ( $d = .934, k = 3$ ) and held performance goals ( $d = .484, k = 2$ ) cheated more compared to their peers. Among a sample of Korean middle school students, Bong, Hwang, Noh, and Kim (2014) discovered different associations to the acceptability of academic dishonesty depending on the motivational

factor. Self-efficacy ( $r = -.2$ ) and mastery goal orientation ( $r = -.26$ ) negatively influenced the acceptability of academic dishonesty, whereas performance-approach ( $r = .04$ ) and performance-avoidance goal orientations ( $r = .11$ ) were both positively associated with acceptability. In this instance, achievement goals that were externally motivated increased the acceptability of academic dishonesty as academic dishonesty can be seen as a means to obtain higher grades. However, if students are confident about successfully completing a task, and their goals are focused on mastering the material, academic dishonesty is inconsistent with beliefs that view cheating as a short-cut that undermines deep learning and effort. Furthermore, a sample of U.S. college students studied by Rinn, Boazman, Jackson, and Barrio (2014) also found that specific motivation variables moderated the relationship between motivation and academic dishonesty. Academic self-concept or students' beliefs about their abilities had a negative influence on academic dishonesty ( $r = -.29$ ), illustrating that students who doubt their ability to complete a task were more likely to perform academic dishonesty. Locus of control (negatively valenced in the study) was also negatively related to academic dishonesty ( $r = -.21$ ), demonstrating students' external perceptions of causality was associated with academic dishonesty. These research reports exemplify that different motivational variables have different influences on academic dishonesty and thus should be further investigated.

### **Prior Meta-Analyses on Academic Dishonesty**

Several researchers have conducted meta-analyses on academic dishonesty research, yet a systematic review including all student populations with a more and updated comprehensive list of motivational factors has yet to be conducted. Existing empirical academic dishonesty meta-analyses have focused on general correlates to

academic dishonesty (Whitley, 1998), gender differences (Athanasou & Olabisi, 2002; Whitley, 1999), cognitive ability (Paulhus & Dubois, 2015), and the Big Five personality characteristics (Giluk & Postlethwaite, 2015).

Whitley (1998) performed a comprehensive meta-analysis over the prevalence and correlates of cheating for college students including 107 studies from 1970 to 1996 broadly evaluating student characteristics, attitudes toward cheating, personality variables, and situational factors as potential predictors of cheating. The strongest predictors of cheating were prior cheating behavior ( $d = 1.117, k = 4$ ), expecting a reward for success ( $d = 1.19, k = 2$ ), perceived social norms supporting cheating ( $d = .929, k = 16$ ), having positive attitudes toward cheating ( $d = .811, k = 16$ ), poor studying conditions ( $d = -.185, k = 5$ ), and having moderate success expectations ( $d = .934, k = 3$ ). Furthermore, additional achievement motivation variables that were studied found that as students had higher achievement motivation ( $d = .25, k = 2$ ), held performance goals ( $d = .484, k = 2$ ), and had higher success expectancies ( $d = .934, k = 3$ ) they tended to cheat more. A limitation within Whitley's meta-analysis was that most variables examined had small sample size or  $k$  as they were only investigated in a handful of included studies, thus conclusions should be considered exploratory. Lastly, the effect sizes were heterogeneous for majority of the variables suggesting vastly different operational definitions of cheating used within the included studies. My meta-analysis will provide an updated research synthesis with a focus on achievement motivational antecedents of academic dishonesty.

Athanasou and Olabisi (2002) analyzed 21 studies from 1964 to 1999 sampling college and high school students. The authors found a mean effect size of  $d = 0.14$  ( $SE =$

.03) between males and females for cheating in high school ( $k = 9$ ),  $d = .17$  ( $SE = .04$ ) for college students ( $k = 15$ ), and  $d = .23$  ( $SE = .02$ ) overall. Furthermore, the average effect size for exams and tests ( $k = 15$ ) was  $d = .186$ ,  $d = .132$  for copying assignments ( $k = 10$ ), and  $d = .128$  for plagiarizing ( $k = 8$ ). Additionally, Whitley (1999) conducted a meta-analysis on college gender differences in academically dishonest behavior and attitude among 48 studies from 1964 to 1999. The results indicated a moderate attitudinal gender difference ( $r = .21$ ,  $k = 10$ ) and only a small behavioral difference ( $r = .08$ ,  $k = 43$ ).

Paulhus and Dubois's (2015) meta-analysis included 20 articles from 1879 to 2014 and explored the relationship between cognitive ability and academic dishonesty. The findings indicated that students who cheated had lower cognitive ability ( $r = -.26$ ). Giluk and Postlethwaite (2015) also conducted a meta-analysis of 17 studies sampling high school and university students from 2002 to 2014 on the association between the Big Five Personality traits and academic dishonesty. Results indicated that conscientiousness ( $r = -.18$ ,  $k = 16$ ), agreeableness ( $r = -.11$ ,  $k = 13$ ), and openness to experience ( $r = -.06$ ,  $k = 13$ ) were negatively associated with academic dishonesty, whereas neuroticism ( $r = .02$ ,  $k = 16$ ) and extraversion ( $r = .04$ ,  $k = 13$ ) were positively related. Although several meta-analyses have synthesized different aspects of the academic dishonesty literature, this dissertation will provide an updated research synthesis using social-cognitive theory as the theoretical framework and a theoretical model of five additional achievement motivation theories described further below.

### **Theoretical Framework**

Social-cognitive theory (Bandura, 1997) along with five motivation theories form the basis for my theoretical framework. Social-cognitive theory provides the overall lens

in interpreting students' motivation to perform academically dishonest behaviors as it illustrates that decisions and actions do not happen in isolation, but rather are a result of multiple interacting processes. These interactions inform and guide present and future behavior as students consider multiple processes, values, and beliefs in order to make decisions to perform academic dishonesty or not. The following review includes background on social-cognitive theory and the subsequent theoretical model.

### **Social-Cognitive Theory**

Bandura's (1997) social-cognitive theory, is a multidimensional model, which posits that behavior is influenced by reciprocal interactions among behaviors, personal, and environmental factors. This theory proposes that people identify characteristics and attributes that are valued within themselves, others, and the world. Individuals also develop inherent beliefs about the ability to control those attributes and they adapt particular goals, practices, and behaviors in accordance to those attributes (Dweck & Leggett, 1988). Social-cognitive theory underscores the sustainability of certain behaviors through self-regulation and reinforcement (Bandura, 1986). Behaviors and their consequences interact with environmental and personal aspects in the process of reinforcement where people learn to avoid detrimental behaviors and repeat beneficial ones (Lowry et al., 2017). Reciprocal determinism is the overlying mechanism and recognizes that factors of the environment and individual interact in ways that may shape future behavior, motivation, and well-being. From this perspective, a person's interpretation of the outcomes of his or her behavior may adjust and inform the environment and his or her own interpersonal/intrapersonal factors, which in turn may then change the individual's future behaviors (Bandura, 2004).

There are four key elements that affect how individuals respond and interact to stimuli: self-efficacy, outcome expectations, cognized goals, and environmental factors. Arguably the most salient aspect of social-cognitive theory, self-efficacy, is one's confidence in successfully completing a task. Bandura (1997) proposed that an individual's expectations in efficacy are the main factor of activity choice (Wigfield & Eccles, 2000), persistence (You, 2018), goal setting (Wolf, Herrmann, & Brandstätter, 2018), and willingness to put forth effort (Alias, Akasah, & Kesot, 2016). Self-efficacy maps onto the reciprocal interactions by individuals' perceptions of their efficacy guiding the types of expected scenarios they create and reiterate (Bandura, 1989). Those with high self-efficacy (personal) envision success scenarios (environment) that supply positive directions for performance (behavior). However, those with low self-efficacy (personal) are more likely to imagine failure situations (environment); fixating on how matters will go wrong (behavior) that undermine individuals' performance.

Another element is outcome expectations, the beliefs that particular behaviors will lead to specific outcomes. They differ from efficacy expectations, which refer to beliefs about whether one can successfully perform behaviors essential for an outcome to happen. Outcome expectations map onto interactions as they are formed from various factors within the environment, which in turn influences behavior. For example, in a classroom (environment) students may expect to receive favorable evaluations from faculty (outcome expectation) if they behave in a non-disruptive manner (behavior).

Third, cognized goals supply individuals with self-incentives and may be proximal and/or distal. Goals are important to changes in behavior; short-term goal attainment leads to long-term success. Successful individuals predict probable



consequences of future behaviors and set goals to yield desired outcomes (Bandura, 1989). Goals map onto interactions as they motivate participation (behavior) in activities (environment) by postulating the provisional requirements for positive self-evaluation (personal). Individuals pursue self-satisfaction from achieving valued goals and are driven to increase their efforts from displeasure with poor performances.

Lastly, environmental factors encompassing physical, social, and cultural forces impact behavior choice. A student's social network may provide support, encouragement, or coercion to perform certain behaviors. An individual's cultural background may indirectly affect behavior by establishing cultural/social behavioral norms. Physical forces can include costs, climate, accessibility, and safety associated with the task at hand (Bandura, 1998). Although environmental elements are one of the factors within reciprocal interactions, they also interact with personal factors as they include one's social network and cultural background influences behavior.

Social-cognitive theory is an appropriate theoretical framework for understanding the relationship between achievement motivation and academic dishonesty as both motivation and academic dishonesty are influenced by behavioral, personal, and environmental factors. Furthermore, I propose a theoretical model that integrates five social-cognitive theories of achievement motivation to model the motivation and academic dishonesty relationship.

### **Theoretical Model**

Through the lens of social-cognitive theory, I proposed a theoretical model to explicate the academic dishonesty literature that included five motivation theories with constructs that can be directly mapped onto the reciprocal aspects within social-cognitive

theory: behavioral, personal, and environmental processes. The motivation theories within the theoretical model are self-determination, achievement goals, expectancy-value, future time perspective, and attribution/locus of control. See Figure 1 for a visual representation of the proposed theoretical model. The following review includes background on each theory and their relation to academic dishonesty through empirical evidence.

### **Self-Determination Theory**

Related to the personal factor within social-cognitive theory is the macro motivation theory of self-determination. Self-determination theory integrates relatedness, competence, and autonomy as basic psychological needs required for an individual's adaptive functioning and self-motivation (Ryan & Deci, 2000). Because extrinsic pressures and incentives can undermine intrinsic motivation to perform tasks, self-determination theory (Deci & Ryan, 1985b) integrates various perspectives to understand more internal forms of motivation. Self-determination or the need for autonomy is understood as the perception that one behaves on their own accord; providing choice to individuals can support the needs of autonomy (Patall & Leach, 2015). The need for competence, or the perception that one is capable, can manifest itself in seeking out challenging activities that are intrinsically motivating. Finally, the basic need for interpersonal relatedness, or the degree of closeness with others in the absence of external pressures, expounds why individuals convert their external goals to internal goals through the process of internalization. Thus, intrinsic motivation is only maintained when individuals feel they are competent, autonomous, and related. Self-determination theory is structured around three motivational processes—intrinsic, extrinsic, and amotivation.

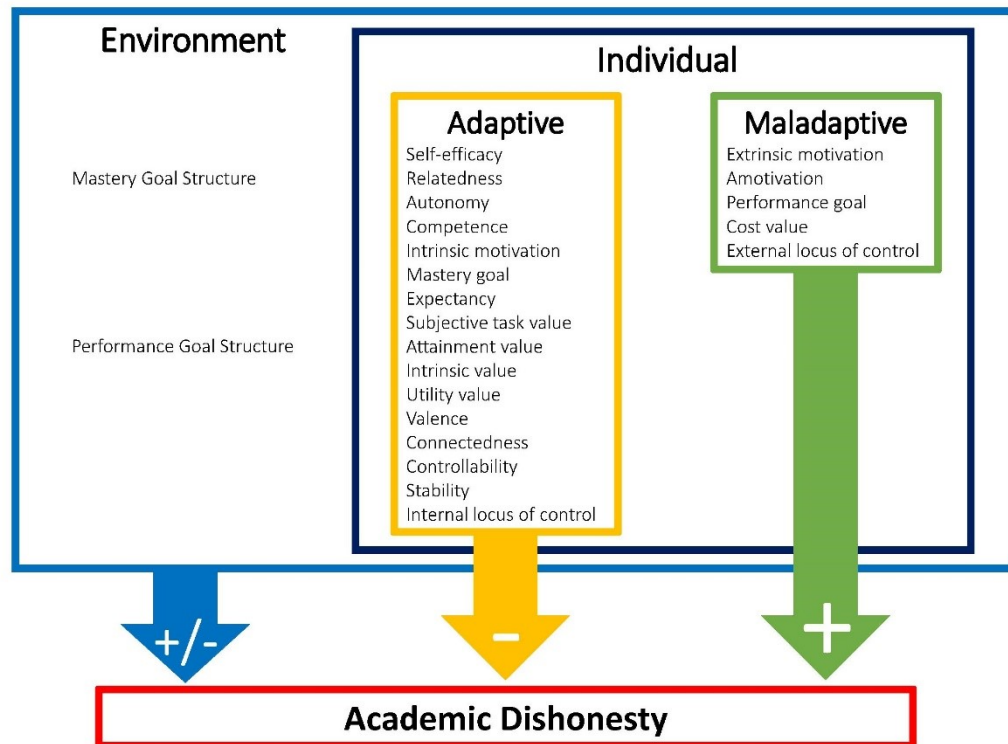


Figure 1. Proposed theoretical model.

These three motivational processes can be thought of as existing on a continuous spectrum. Intrinsic or internal motivation would be positioned to the right, extrinsic or external in the middle and amotivation on the left. As students move from right to left, they experience their behaviors to be motivated towards external factors (e.g., grades, positive teacher affirmations). However, when students continue to move to the left towards amotivation, they are no longer motivated by internal or external factors, but rather become passive passengers in their life without any motivational drive. In the following paragraphs, each motivational process is discussed further.

Intrinsic motivation is the desire to pursue an activity for the satisfaction, interest, or pleasure derived from doing it. Intrinsic motivation is conceptualized as an integrated construct from the psychological needs of self-determination and competence. It is also

considered to be an archetype of autonomy as its premise is centered on activity engagement of one's own volition and interest (Deci & Ryan, 2000). For example, a student may complete a writing assignment because of the interest and joy associated with writing.

Extrinsic motivated behaviors usually are directed towards achieving a positive outcome or avoiding a negative one. However, there are various forms of extrinsic motivation depending on the degree of internalization, which occur through the developmental steps of external, introjected, identified, and integrated regulation. External regulation is most similar to the extrinsic motivation construct where a student may perform academic dishonesty in order to avoid a bad grade. During introjected regulation, students do not attribute personal value to the behavior. There is more of a self-determined form of control and students feel that they should do the behavior. Identified regulation occurs when a student attributes personal value to a behavior to meet internalized goals, but is still extrinsically motivated. Lastly, integrated regulation occurs when a student fully endorses an activity and the activity becomes important for a valued outcome (Deci & Ryan, 2000).

Amotivation is characterized by behaviors that are not motivated by either extrinsic or intrinsic beliefs. Amotivation is similar to learned helplessness as the behaviors are not governed by the individual and are not regulated and intentional (Fortier, Vallerand, & Guay, 1995). In this sense, individuals are passive to the forces operating on them, which may be experienced as uncontrollable. Consequently, amotivating events (e.g., boredom) can thwart motivation of both intrinsic and extrinsic and decrease the likelihood of a behavior's recurrence (Deci & Ryan, 1985a).

**Psychological need satisfaction and academic dishonesty.** Research has indicated that when students feel satisfied with their basic needs for competence, autonomy, and relatedness, they are less likely to perform academic dishonesty. Surveying undergraduates in Israel, Kanat-Maymon, Benjamin, Stavsky, Shoshani, and Roth (2015) found that students whose psychological needs were unmet displayed a higher rate of cheating on problem-solving tasks. Specifically, students exhibited more dishonesty in the following situations: when students believed their cognitive abilities were being tested, or when the experimenter questioned their ability to succeed, did not care about them, and reduced their sense of autonomy. These results should be taken with caution as the researchers manipulated and measured the different needs together rather than treating each need as distinctively central in measuring wellbeing and autonomous motivation. Additionally, when fulfillment of basic needs was manipulated, students could have portrayed it as supporting mastery goals rather than their psychological needs. Moreover, in a study on college students in the U.S., participants read a college course description that included multiple opportunities to make the course relevant, causing the students to feel a higher sense of autonomy and competence (Patall & Leach, 2015). These psychological needs positively predicted whether they attributed blame for cheating behavior to themselves compared to professors. Need satisfaction was associated with less favorable attitudes towards cheating, which led to a lower likelihood of cheating.

Conceptually, self-determination theory and psychological need satisfaction form an appropriate lens for predicting academically dishonest behavior. Individuals who are intrinsically motivated generally feel autonomous in their decision-making, self-

determined, and competent to put forth additional effort when necessary to complete a task. Those who are extrinsically motivated, however, commonly do not feel that their behavior is of their own volition, may not feel self-determined, and lack feelings of competence, especially when the outcome is not intrinsically valued and the desired outcome may be out of one's reach. Thus, it is likely that a student's self-determination will influence behaviors and proclivities towards academic dishonesty. Although self-determination theory captures a students' psychological need satisfaction, achievement goal theory posits students' goal orientation and approaches as possible predictors of academic dishonesty.

### **Achievement Goal Theory**

Developed within a social-cognitive framework, achievement goal theory focuses on individuals' goals toward task engagement and performance. The goal orientation construct assumes the presence of a specific set of reasons or purposes that a person desires to achieve when engaging in a task (Pintrich, 2000). The two classic goal orientations are mastery (i.e., task orientation, mastery-challenge, and learning) and performance (i.e., ego orientation, self-enhancement, relative ability) (Ames, 1984; Dweck, 1986; Elliot, 1999; Harackiewicz & Sansone, 1991; Nicholls, 1984; Skaalvik, 1997; VandeWalle, 1997). Mastery goal orientation refers to students' goals focused on learning and ultimately mastering the content or task, whereas performance goal orientation refers to students' goals aimed at demonstrating their ability in comparison to their peers (Pintrich, 2000). Students who adopt mastery goals generally believe that internally controllable factors and effort are the cause of failure or success. When performance goals are held, students are more likely to believe that uncontrollable factors

and ability are the reasons for failure or success (Dweck & Leggett, 1988). Mastery goals are generally associated with adaptive motivational outcomes and processes, whereas performance goals are not clearly associated with adaptive, neutral, or maladaptive strategies (Ames, 1992; Elliot, 2005; Senko, Durik, & Harackiewicz, 2008; Urdan, 1997). Achievement goals are conceptually related to self-determination constructs, specifically mastery goals with intrinsic motivation and performance goals with extrinsic motivation.

Theorists have expanded goal orientations to four dimensions or a 2 x 2 achievement goal framework. The dimensions include performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance (Elliot & McGregor, 2001). Whereas performance-approach goals are aimed at performing better relative to peers, performance-avoidance goals are concentrated on preventing worse performance compared to peers (Elliot, 1999; Pintrich, 2000). Students who hold mastery-approach goals are driven to increase their understanding and master the material in order to accomplish academic challenges. In contrast, mastery-avoidance goals are adopted when students want to avoid failing to master the material or performing worse than they had done previously (Pintrich, 2000).

Another aspect of achievement goal orientation is how students perceive the goal structures in their learning environments. The perception of the learning environment can directly affect student motivation (Roeser & Eccles, 1998; Roeser, Eccles, & Sameroff, 2000). Individual motivation beliefs are partial products of the broader psychological and social contexts (Eccles et al., 1993). Studies have found that when students perceive that their educational environment promotes competition and incentivizes performance (i.e., performance goal structure), students are more likely to internalize this classroom/school

culture and begin to personally adopt performance goals (Bong, 2005, 2008; Roeser, Midgley, & Urdan, 1996). A perception of performance goal structure predicted increased academic dishonesty (Anderman & Midgley, 2004; Murdock, Hale, & Weber, 2001), self-handicapping tactics (Urdan, 2004), procrastination and lower persistence (Wolters, 2004). On the other hand, when students believed teachers valued content mastery over exam scores, the educational culture was perceived to be mastery orientated resulting in students embracing mastery goals (i.e., mastery goal structure). When the environment is perceived to have a mastery goal structure, researchers have found that students have higher self-efficacy and grades (Roeser et al., 1996; Wolters, 2004), increased effort, persistence, and use of metacognitive and cognitive strategies and decreased procrastination (Wolters, 2004), reduced self-handicapping and help-seeking avoidance (Ryan, Gheen, & Midgley, 1998; Turner et al., 2002).

**Achievement goal theory and academic dishonesty.** Various studies have investigated the relationship between achievement goals and academic dishonesty. Researchers have discovered that students who adopt performance goals were more likely to perform academic dishonesty than students who held mastery goals (Anderman, 2007; Anderman, Griesinger, & Westerfield, 1998; Anderman & Midgley, 1997, 2004; Jordan, 2001; Newstead et al., 1996). In a sample of high school first- and second-year students in South Korea, Bong (2008) examined the relationships among academic dishonesty, goal orientation, self-efficacy, and help-seeking behavior in mathematics. Path analyses revealed that students who held mastery goals and high self-efficacy had a decreased tendency of academic dishonesty. Tas and Tekkaya (2010) found similar results within their sample of seventh-grade Turkish students, indicating that higher levels of



performance-avoidance and performance-approach goals increased levels of cheating in science and math coursework. Tas and Tekkaya only measured cheating in class overlooking academic dishonesty that is performed outside of the classroom; thus, the study evaluates one aspect of academic dishonesty and ignores how achievement goals may differentially predict various forms of academic dishonesty.

In sum, achievement goal orientation theory constructs may help explain why students perform academic dishonesty, as academic dishonesty may depend on goals students set and the reasons behind those goals. The vast literature exemplifies the relationship between achievement goals and academic dishonesty across different contexts. In general, the more students are concerned with mastering the material, the less likely they are to perform academic dishonesty as it would degrade the learning experience. However, the more oriented towards performance a student is, the increased chances the student will perform academic dishonesty as it provides an opportunity to obtain higher grade marks than one's peers. Thus, how students are oriented towards mastery or performance may influence their propensity to perform academically dishonest behaviors. Whereas achievement goal theory suggests that students' goal orientation can predict academic dishonesty tendencies, expectancy-value theory provides another avenue to predict academic dishonesty through students' expectancies.

### **Expectancy-Value Theory**

Another motivation theory that pertains to the personal element of social-cognitive theory is expectancy-value. Modern expectancy-value theories, based on Atkinson's (1964) expectancy-value model, directly link persistence, achievement performance, and choice to individuals' beliefs about how well they expect to do on a

task and the degree to which they value the task (Atkinson, 1957; Eccles et al., 1983; Eccles & Wigfield, 2002; Wigfield, 1994; Wigfield & Eccles, 1992, 2000). Choices are assumed to be influenced by positive and negative task characteristics and have associated costs as choosing one often eliminates others. Consequently, the key determinants of this theory are the probability of success and the tasks' perceived value (Eccles & Wigfield, 2002).

Expectancies are defined as students' beliefs about how well they believe they will do on upcoming tasks (Eccles et al., 1983). They influence a student's effort, performance, and persistence and are generally measured in a similar fashion as Bandura's (1997) personal efficacy expectations. Although Bandura declared that expectancy-value focused on outcome expectations, expectancies are mainly focused on efficacy or personal expectations (Eccles & Wigfield, 2002).

The theory proposes four components of achievement task values: attainment value, intrinsic value, utility value, and cost (Eccles et al., 1983). First, attainment value is the importance of performing a task well. Using identity and self-schema theories, attainment value can also be connected to the relevance of performing a task that confirms one's self-schema. Thus, if a task provides opportunity to demonstrate an aspect of one's self-schema like competence in a domain or masculinity/femininity, the attainment value will increase as successfully completing this task will confirm one's self-concept (Eccles & Wigfield, 2002). Depending on how attainment value is defined, it could be associated with internal motivation constructs (i.e., intrinsic motivation within self-determination theory) if defined as confirming one's self-image or external

motivation (i.e., extrinsic motivation within self-determination theory) if defined as demonstrating successful performance to an audience.

Second, intrinsic value refers to the enjoyment or interest gained from performing a task. Intrinsic value can also be the subjective interest a person has in the specific subject of the task. This element of value is similar to intrinsic motivation where the drive to pursue a task is based simply on the satisfaction or pleasure derived from doing the task (Deci & Ryan, 1985b). Intrinsic value can be theoretically associated with intrinsic motivation within self-determination theory. Third, utility value indicates how a task benefits an individual's future goals. Even if an individual is not interested in completing a task, the task can have a positive value as it is perceived as useful for one's future academic or career-related goals. For example, students may enroll in courses they do not enjoy, but know that in order to accomplish their future career goals, these courses are necessary. In one sense, this value component is similar to identified regulation from self-determination theory (Deci & Ryan, 1985b). Utility value also directly influences a student's internalized short- and long-term goals (Eccles & Wigfield, 2002).

Finally, the cost component is associated with what an individual has to surrender in order to complete a task and the expected effort needed to complete the task (Wigfield & Cambria, 2010). Cost is usually conceptualized as a negative aspect of completing a task as a student may experience performance anxiety, fear of failure, and lost opportunities by making one choice over another. For example, if there are two tasks, A and B, and B has a higher attainment value. The subjective cost of task A increases as the student loses time to successfully complete task B by engaging in task A. Thus, cost

value is a dynamic component that changes with every new factor and situation (Eccles, 2005).

Students' expectancies and values are influenced by social-cognitive variables such as task-specific beliefs including perceptions of difficulty of various tasks, perceptions of competence, and students' self-schema and goals. These variables are shaped, in turn by students' perceptions of their own previous achievements, other individuals' expectations and attitudes for them and for their emotional memories. Lastly, interpretations of past achievement and task perceptions are assumed to be affected by past experiences, social and cultural aspects of life, and individuals' behaviors and beliefs (Eccles & Wigfield, 2002).

**Expectancy-value theory and academic dishonesty.** Multiple researchers have investigated the relationship between expectancies, values, and cheating behavior within educational contexts (Lee, Bong, & Kim, 2014; Pavlin-Vernardic, Rovani, & Pavlovic, 2017; Trautwein, Marsh, Nagengast, & Ludtke, 2012). In some instances, the likelihood of academic dishonesty depended on the subjective task value a student assigned to an assessment. Pavlin-Vernardic et al. (2017) studied Croatian high school students to examine the relationship between motivational variables outlined by Murdock and Anderman (2006) and self-reported academic dishonesty in mathematics. They found that subjective task value was negatively related with self-reported academic dishonesty, suggesting that if a student highly valued a task, he/she was less likely to perform academic dishonesty. This indicates that a student's subjective task value may alter motivation towards academic dishonesty. The generalizability of the findings are questioned as schooling in Croatia is conceptually different from other schools;

normative grading or grading on a normal curve is scarcely applied in Croatia creating a potentially less competitive learning environment compared to the U.S.

In sum, the decision to perform academic dishonesty is in part a function of an individual's expectancies of success and the value placed on success. From prior research and theory, it is expected that students who place high value on a task (i.e., high importance for career goals) and do not expect successful task completion may regard academic dishonesty as a means to accomplish a task. Additionally, if a task is of high importance, students may expend increased efforts toward successful completion of the task, which may include finding ways to perform academic dishonesty. To conclude, expectancy-value theory provides a necessary framework to understand the motivation predictors of academic dishonesty. Although expectancy-value theory offers a model to predict academic dishonesty from students' expectancies, self-efficacy presents another angle to understand academic dishonesty from students' perceived confidence in completing tasks.

### **Self-Efficacy**

Self-efficacy is one of the driving interpersonal factors within social-cognitive theory. Self-efficacy is defined as an individual's confidence in his or her ability to accomplish a task and is characterized as multidimensional varying in generality, strength, and level of difficulty (Bandura, 1997). Related to expectancy-value theory, self-efficacy is centered on expectancies for success. Self-efficacy has been demonstrated to be an important determinant of an individual's behavior, motivation, and affect (Valentine, DuBois, & Cooper, 2004). Bandura (1986) theorized that self-efficacy was developed by four main sources: mastery experiences, vicarious experiences, verbal

persuasions, and physiological/affect states. First, past performance (mastery experiences) is considered the most important source of self-efficacy, as past successes or overcoming barriers boost an individual's self-efficacy, whereas past failures reduce self-efficacy. Vicarious learning, or observing another perform a behavior, also enhances self-efficacy, as individuals internalize the success and failures of their peers and role models. Verbal persuasion, often in the form of feedback or self-talk, can influence beliefs that the person can master the activity, consequently increasing effort and diminishing self-doubt. Lastly, somatic and emotional (physiological and affective) states shape self-efficacy; for instance, stress and tensions often create feelings of inefficacy, fatigue, and/or pain, which in turn, reveal incapability or inability (Pekmezi, Jennings, & Marcus, 2009).

**Self-efficacy and academic dishonesty.** Numerous studies have investigated the relationship between self-efficacy and academic dishonesty (Bong, 2008; Bong & Skaalvik, 2003; Elias, 2009; Fine & Frone, 2004; Murdock et al., 2001; Tas & Tekkaya, 2010; Umaru, 2013; Yang et al., 2013). In STEM (science, technology, engineering, and mathematics) subjects, students who had high self-efficacy were less likely to engage in cheating behaviors (Bong, 2008; Tas & Tekkaya, 2010). Additionally, in a sample of business students from three U.S. universities, self-efficacy was positively related to viewing academic dishonesty within and outside the classroom as unethical (Elias, 2009). Although Elias (2009) found a relationship between self-efficacy and academic dishonesty perceptions, self-efficacy may operate differently for actual academically dishonest behaviors; thus, Elias's study is a first step in realizing the influence of self-efficacy on academic dishonesty. From the empirical research, it is clear that self-efficacy

creates a buffer against academic dishonesty intentions as students' confidence in successfully completing tasks decreases the necessity for academically dishonest practices.

The social-cognitive construct of self-efficacy has been used successfully to predict academic dishonesty. The empirical evidence indicates that students with low self-efficacy are more likely to perform academic dishonesty. Self-efficacy tends to be a more stable belief with robust associations with academic dishonesty in multiple domains. Social-cognitive theory lays a foundation of motivational predictors for academic dishonesty related to students' self-beliefs. Self-efficacy bestows one path to understand academically dishonest behaviors from the standpoint of student's perceived confidence, but future time perspective can provide another avenue to predicting academic dishonesty from how students' perception of the future and its links to behavior and goals.

### **Future Time Perspective**

Related to the social-cognitive reciprocal factors of personal and behavior, future time perspective represents an individual's perception of the future and the link between present actions and future goals (Husman & Lens, 1999; Lens & Seginer, 2015). There are two components within future time perspective—valence and connectedness (Husman & Shell, 2008; Shell & Husman, 2001). Valence refers to how much value individuals place on their future goals and their willingness to bear the current difficulties required to attain their goals. Connectedness is the extent that a person links present behavior with future achievements and outcomes. Individuals with high levels of future time perspective recognize the utility of present activities towards attaining their future

goals. Consequently, they delay gratification, sustain their interest to continue efforts to satisfy long-term needs, and consider immediate rewards as secondary (McInerney, 2004; Simons, Vansteenkiste, Lens, & Lacante, 2004).

**Future time perspective and academic dishonesty.** Researchers have investigated the relationship between future time perspective and academic dishonesty behavior. Orosz, Dombi, Toth-Kiraly, Bothe, Jagodics, and Zimbardo (2016) sampled two groups of Hungarian high school students and found that future time perspective was directly and negatively related to academic dishonesty. Furthermore, intrinsic motivation and amotivation mediated this relationship. The results suggested that the long-term consequences of getting caught and punished or decreased reputation can deter students from academic dishonesty. Second, the positive association between future time perspective and intrinsic motivation implies that focusing on future goal attainment is strongly correlated with interest in learning. Lastly, the negative link between future time perspective with amotivation suggested that students who cannot resist temptation, meet deadlines or school-related obligations, will consider academic dishonesty to successfully complete a task. One possible reason for this result was the lack of perceived connection between their learning behaviors and outcomes. The results should be interpreted cautiously as two of the time perspective scales had low internal consistency ( $\alpha < .6$ ) questioning whether items used to measure time perspective actually measured students' time perspective.

Theory and empirical evidence both suggest that students with a higher degree of future time perspective will evaluate the consequences of academic dishonesty as greater than the benefit of immediate gratification. Moreover, future oriented individuals are



invested in their long-term goals and are willing to delay gratification in order to attain future goals. Academic dishonesty may work against future goal attainment as it diminishes the learning process, restricting the necessary knowledge acquisition required for goal attainment. Encouraging the importance of successfully and adequately attaining future educational and/or career goals could decrease the propensity of academic dishonesty. Although future time perspective is concerned with how students perceive the links between current actions and future goals, attribution/locus of control captures how students attribute their successes and failures and whether outcomes are believed to be controlled by internal or external forces.

### **Attribution/Locus of Control**

Lastly, attribution and locus of control are directly associated with all three social-cognitive reciprocal interactions between behaviors, personal, and environmental factors. Attribution theory is aimed at exploring how individuals perceive the source of causality when experiencing success and failure (Weiner, 1985). Prior theorists have examined how individuals assess the reason behind an event and how attributions toward the result of the event guide subsequent behavior (Bar-Tal, 1978). Weiner (1985, 1992) also demonstrated the consequences of causal biases when students interpret failures or successes during the learning process. Three key dimensions to attributions are controllability, stability, and locus of causality (Weiner, 1992). The dimension of controllability, also known as volitional control, involves the distinction that individuals can alter their effort expended. Stability refers to the notion that some sources can be dynamic (e.g., emotion) or constant (e.g., aptitude). Locus of causality, deriving from the locus of control construct (Rotter, 1954), represents how an individual perceives a

behavioral outcome to be a consequence of one's own doing (internal) or non-controllable outside forces (external). Perceiving that one has the resources and opportunities to engage in an activity are probable to having strong intentions to perform the behavior.

Within the attributional model, the range of attributions operate along two main dimensions, internal-external and controllable-uncontrollable (Weiner, 1985). First, if a student attributes their success to internal factors such as effort and skill, he or she will have a personal investment in succeeding on assignments, increased feelings of pride, and a greater likelihood of beginning achievement tasks. Second, when an internally-oriented student with high controllability faces failure, he or she is likely to attribute lack of effort to poor performance and continue to strive towards unattained goals with increased intensity and perseverance. In contrast, students who are externally-oriented could attribute successes and failures to non-controllable outside forces, thus avoiding any personal investment involved with expending more effort.

**Attribution/locus of control and academic dishonesty.** Empirical evidence illustrates a relationship between attribution theory, locus of control, and academic dishonesty. In a sample of high ability (based on their SAT/ACT scores) undergraduates, Rinn et al. (2014) found that locus of control was significantly correlated with academic dishonesty; specifically, an internal locus of control was associated with decreased academic dishonesty. This finding further illustrated that students who believe they are in control of their academic successes and failures are less likely to perform academic dishonesty as they believe that their effort is the reason for subsequent results. The research findings are not necessarily generalizable to other high ability students as high

ability was designated solely based on students' SAT/ACT scores. Standardized exams are not completely indicative of a student's intellectual capacity (Bridgeman, 2005), and the study did not collect GPA information to further measure "ability." A similar finding was found among at-risk undergraduates where external locus of control positively predicted academic dishonesty (Leming, 1980). Leming proposed that an externally-oriented student may perform academic dishonesty because of two possible control attributions: students may perceive the implausibility of controlling their circumstances, or they view academic dishonesty as a way to shift control from the environment to self.

Both research and theory point to the utility of attribution theory and locus of control in understanding the phenomenon of academic dishonesty. Recognizing whether a student is more internally or externally oriented can aid in detecting academic dishonesty. For example, a student who is internally-oriented (more likely to attribute success and failure to effort) can control future outcomes by adapting effort rather than turning to academically dishonest behaviors. Moreover, if a student believes success and failure are determined by outside forces, academic dishonesty may be a method to overcome uncontrollable factors and obtain a desired result. Thus, locus of control and attributions provide powerful approaches to further uncovering student motivations behind cheating behavior. Table 1 includes a succinct definition of each theory and identifies and defines the salient constructs within each theory.

### **Critique of Theory**

The proposed theoretical model integrates five achievement motivation theories under the theoretical framework of social-cognitive theory. Although each motivation theory tackles a different aspect of motivation, they do not fully explain the overall

Table 1

*Theoretical Framework and Model Definitions*

Motivation Theory	Definition	Construct(s)
Social Cognitive (Bandura, 1997)	Motivation is influenced by the interaction between behaviors, personal, and environmental factors	<b>Self-efficacy:</b> self-confidence in ability to accomplish a task
Self-Determination (Deci & Ryan, 1985a, 1985b; Ryan & Deci, 2000)	Intrinsic motivation is facilitated by satisfaction of three needs: relatedness, competence, and autonomy	<b>Relatedness:</b> degree of closeness with others <b>Autonomy:</b> perceived control of one's behaviors and goals <b>Competence:</b> self-perceived capability <b>Intrinsic motivation:</b> behavior driven by internal rewards (i.e., interest or joy) <b>Extrinsic motivation:</b> behavior driven by external rewards (i.e., grades or praise) <b>Amotivation:</b> behavior that lacks motivation (i.e., learned helplessness)
Achievement Goal (Ames, 1984; Dweck, 1986; Dweck & Leggett, 1988; Elliot, 1999; Pintrich, 2000)	Motivation behind individuals' goals towards task engagement and performance	<b>Mastery goal:</b> goals focused on learning and mastering the content or task <b>Performance goal:</b> goals focused on demonstrating ability in comparison to peers <b>Mastery goal structure:</b> perception of classroom/school goals focused on learning and mastering course content <b>Performance goal structure:</b> perception of classroom/school goals focused on demonstrating ability
Expectancy-Value (Eccles et al., 1983; Wigfield & Eccles, 1992, 2000)	Motivation to perform a task based on individuals' beliefs of how well they expect to do and the degree to which they value the task	<b>Expectancy:</b> belief about how well they believe they will do on a task <b>Subjective task value:</b> personal value placed on completing a task <b>Attainment value:</b> importance of performing well <b>Intrinsic value:</b> enjoyment or interest gained from task performance <b>Utility value:</b> perceived usefulness of the task <b>Cost value:</b> what has to be surrendered to complete a task
Future Time Perspective (Husman & Lens, 1999; Lens & Seginer, 2015)	Motivation based on individuals' perceptions of the future and the link between present actions and future goals	<b>Valence:</b> value placed on future goals and willingness to bear current difficulties required to attain goals <b>Connectedness:</b> extent to link present behavior with future achievements and outcomes
Attribution (Weiner, 1985)	Perceived source of causality when experiencing success and failure	<b>Controllability:</b> ability to alter effort expended <b>Stability:</b> sources can be either constant or dynamic <b>Locus of causality:</b> perceived behavior outcome is a consequence of internal or external causes
Locus of Control (LOC) (Rotter, 1954)	How individuals perceive the cause of their success and failure	<b>Internal LOC:</b> success and failure is caused by internal factors (i.e., effort and skill) <b>External LOC:</b> success and failure is caused by external factors (i.e., luck and fate)

relationship between motivation and academic dishonesty on their own. Therefore, I proposed to combine various achievement motivation theories to look at motivational antecedents of academic dishonesty more holistically. This approach is consistent with the underlying notion of social-cognitive theory that behavior does not occur in a vacuum, but rather as a result of numerous interactive processes (Bandura, 1997). Additionally, students' behaviors are informed and directed by various processes, beliefs, and values; thus, several motivation theories are necessary to comprehend the academic dishonesty literature in a more comprehensive manner. For example, achievement goal theory depicts students' motivation toward performing and engaging in a task based on the goals they set (Pintrich, 2000). However, these goals do not explain how students attribute their success and failure, whether based on internal factors such as effort or external elements such as luck (Weiner, 1985). With this tangled web of processes, terminology, values and beliefs, it would be inappropriate to assume that one achievement motivation theory could fully illustrate the dynamic relationship between motivation and academic dishonesty. This study is a necessary first step at determining the relationship between achievement motivation and academic dishonesty and understanding how the theories within the proposed theoretical model together explain students' academically dishonest behaviors.

## **Summary of Chapter 2**

The literature review illustrated six seminal student achievement motivation theories and their subsequent constructs that have been used to understand academic dishonesty. Specifically, the theoretical concepts within social-cognitive, self-determination, achievement goal orientation, expectancy-value, future time perspective,

and attribution/locus of control, provides a way to organize the academic dishonesty literature and examine academic dishonesty more holistically through the lens of student motivation. Murdock and Anderman (2006) provided the foundational framework for academic dishonesty literature to follow. Prior meta-analyses on academic dishonesty have focused on different aspects including general correlates such as student characteristics, motivation, attitudes toward cheating, personality variables, and situational factors (Whitley, 1998), cognitive ability (Paulhus & Dubois, 2015), the Big Five personality characteristics (Giluk & Postlethwaite, 2015), and gender differences (Athanasou & Olabisi, 2002; Whitley, Nelson, & Jones, 1999). Although research on academic dishonesty and motivation has accumulated, a synthesis is needed to identify transparent relationships among various motivational theories. Limitations exist within the literature that weakens the reliability, generalizability, and applicability of results. First, Murdock and Anderman's (2006) framework is conceptual and has not been tested empirically. Second, motivation constructs have been studied in isolation instead of collectively. Third, few studies have included measures of social desirability bias limiting the validity of the study.

As a tool to bridge various theoretical perspectives, meta-analysis is able to quantitatively and conceptually synthesize constructs together (see Cooper et al., 2009; Fong et al., 2017). This study addressed the various gaps and limitations within the literature by empirically testing the proposed theoretical model, included additional motivation constructs and expanded to all student populations. Thus, this meta-analysis evaluated a variety of motivational factors that can influence academic dishonesty, with the hopes of bringing clarity to a nuanced and complex body of literature. Regarding

educational practice, because motivation is a malleable factor, this study aided in suggesting possible directions for creating focused programs and interventions to decrease academic dishonesty and further conceptual understanding. Regarding theory, findings explicated how motivation links students' beliefs and values to academic dishonesty. This study also added to the existing literature by providing a systematic review, analysis, and summary of empirical research to determine the motivational influences on academic dishonesty.

### **III: METHODS**

A research synthesis, specifically in the form of meta-analysis, allows a systematic investigation of the most salient motivation correlates of academic dishonesty. Meta-analysis is a quantitative methodological technique to summarize past studies by deriving conclusions from numerous, separate studies that investigate the topic of interest (Cooper et al., 2009). Thus, this study synthesized the academic dishonesty literature through a theoretical framework of social-cognitive theory and a conceptual model integrating the following central student motivation theories: self-determination theory, achievement goal theory, expectancy-value theory, self-efficacy, future time perspective, and attribution/locus of control. The goal of this study was to evaluate a variety of motivational factors that can influence academic dishonesty by statistically aggregating prior studies on this topic.

#### **Research Questions**

Various motivational theories have been used to uncover students' motivation for engaging in academically dishonest behavior. However, it is not clear how motivational theories relate to academic dishonesty and how these relationships vary across studies. Therefore, a systematic research synthesis is needed to first uncover all the studies that exist, which measure academic dishonesty and student motivation. The research questions below guided my research synthesis and meta-analysis.

**Research Question 1:** What is the relationship between achievement motivation and academic dishonesty?

**Research Question 1a:** What is the relationship between each of the constructs within self-determination theory and academic dishonesty?



**Research Question 1b:** What is the relationship between each of the constructs within achievement goal theory and academic dishonesty?

**Research Question 1c:** What is the relationship between each of the constructs within expectancy-value theory and academic dishonesty?

**Research Question 1d:** What is the relationship between each of the constructs within social-cognitive theory and academic dishonesty?

**Research Question 1e:** What is the relationship between each of the constructs within future time perspective theory and academic dishonesty?

**Research Question 1f:** What is the relationship between each of the constructs within attribution and locus of control theory and academic dishonesty?

**Research Question 2:** If substantial variation exists across studies, to what extent do research characteristics (i.e., academic dishonesty and student characteristics) influence the magnitude and direction of the relationship between academic dishonesty and motivation?

### **Research Design**

The purpose of research synthesis focused on empirical research is to summarize prior research by illustrating overall conclusions (Bowman, 2012). As a tool to bridge various theoretical perspectives, meta-analysis quantitatively and conceptually synthesizes constructs together (Cooper et al., 2009; Fong et al., 2017). In the following sections, I outline the methodological and analytic approaches used for the meta-analysis.

### **Inclusion Criteria**

To be included in the meta-analysis, a research study must have met the following criteria: the inclusion of (a) students enrolled in an education institution, (b) achievement

motivation factors (e.g., self-efficacy, goal orientation, expectancy-value, etc.), (c) a measure of academically dishonest behaviors, and (d) effect size information regarding the relationship between achievement motivation and academic dishonesty. Regarding the sample criteria, students in the study must have been currently enrolled in a private or public institution. If school information was not provided, but students were described as pursuing various higher education degrees, the study was coded as meeting this criterion.

I further limited the inclusion of motivation variables to constructs that tapped achievement motivation more broadly. For example, the self-efficacy construct is conceptually different when used to measure confidence in completing academic tasks (general academic self-efficacy) compared to the confidence in successfully performing academic dishonesty (self-efficacy for academic dishonesty). It would be inappropriate to combine a motivation construct solely on the basis of name alone without taking context into consideration and how the construct is conceptualized. Thus, only motivation predictors conceptualized as measuring academic motivation more broadly were included in this meta-analysis. Constructs measuring motivation to explicitly conduct academic dishonesty were excluded.

The academic dishonesty outcome variable included all indicators of performing academically dishonest acts as defined as either self-reported by the participant, the participant getting caught and sanctioned (i.e., failing the assignment, course, or university suspension) by faculty/institution, observed by an external member, or in a laboratory setting. Although behavioral intention has been used to measure actual behavior, intention or willingness to perform academic dishonesty was excluded from this meta-analysis. This decision was to focus solely on the motivation predictors of

actual academic dishonesty as students who may have the intention to perform academic dishonesty, may not go through with the actual behavior.

Academic dishonest behaviors (unauthorized assistance on tasks) included unauthorized collaboration with a peer on an assignment, falsifying a bibliography, copying another student while taking an exam or bringing unauthorized notes to an exam, students searching for answers during examinations utilizing internet capabilities on smart devices, purchasing papers, and plagiarizing without appropriate citation (Boehm et al., 2009; Finn & Frone, 2004, p. 115; Johnson & Martin, 2005; Ma, Wan, & Lu, 2008). Outcome variables were coded such that larger values represented more or higher incidences of academic dishonesty.

Lastly, to calculate a correlation between predictor and outcome, studies had to report sufficient data including Pearson's  $r$  correlation and sample size, or sufficient information to estimate a correlational effect size: group means and standard deviations,  $t$ -statistic,  $F$ -statistic, chi-square, or  $p$ -value.

I did not institute a time frame criterion for studies as I hoped to capture the majority of literature investigating the relationship between motivation and academic dishonesty to provide a historic, holistic research synthesis. Included studies spanned from 1968 to 2018. Only studies written in the English language, coders' native language, were included to prevent misunderstanding through translation.

### **Literature Search Procedure**

Studies were accumulated from multiple sources and located by using exhaustive search strategies intended to uncover both published and unpublished (i.e., dissertations, theses, reports, conference papers) research. It was important to analyze all studies that

met the inclusion criteria, regardless of publication status, as it sheds light on possible publication bias, or the tendency for published studies to have larger effects (Polanin, Tanner-Smith, & Hennessy, 2016). I searched ERIC (Educational Resources Information Clearinghouse), Education Source, PsycINFO, and Proquest Dissertation and Theses Global Full Text electronic databases using a wide array of key terms within the domain of academic dishonesty. I employed the proper truncation and Boolean techniques to obtain a focused yet inclusive search. See Table 2 for my electronic database search strategy.

After the search strategy was employed, I evaluated titles and abstracts for relevance, resulting in a reduced pool of studies that could potentially meet the inclusion criteria. The full texts of the prospective codeable studies were then reviewed and evaluated with the inclusion criteria. Ancestry searches were conducted by examining the reference lists of all included studies along with relevant review articles. To locate studies that have cited seminal pieces on the relationship between motivation and academic dishonesty, descendent searches were conducted using Social Sciences Citation Index for the following articles: Anderman, Griesinger, and Westerfield (1998), Whitley (1998), McCabe and Trevino (1993), and Murdock and Anderman (2006).

I also sent author queries via electronic mail if included studies did not provide effect size information in the form of correlations or appropriate statistics that can be used to estimate correlations. The author queries were only sent to included studies that were reported since 2010 as seven years is the length of time most researchers are required to maintain their data. I sent author queries for 28 studies; 6 authors responded with necessary data to be included in the meta-analysis.

Additional papers, specifically unpublished or grey literature, were collected by contacting the following listservs: Motivation in Education Special Interest Group and Division C (Learning & Instruction) from the American Education Research Association and Division 15 (Educational Psychology) from the American Psychological Association. Requests were sent through electronic mail to potentially contact various prominent researchers in the academic dishonesty and motivation areas regarding any relevant data not publicly available. See Figure 2 the PRISMA diagram that models the flow of the literature search.

The electronic database search resulted in a pool of 8,408 potentially relevant studies. I also added 13 studies from ancestry (backwards) searching, 2 studies from listservs, and 39 studies from descendancy (forwards) searching for a total of 8,462 potential studies. From the list of potential studies, I screened all titles and abstracts using my inclusion criteria and excluded 7,090 studies.

The full-text documents of the remaining studies were obtained by a team of two doctoral students and one university staff member and then uploaded to a learning management system. I then further reviewed the full-text documents for significance and relevance and further rejected 1,292 studies from this meta-analysis. The main reasons for excluding studies were a lack of achievement motivation variable, lack of actual academic dishonesty measure opting to measure students' academic dishonesty intention, and not presenting viable effect size data. See Figure 3 for PRISMA flow diagram of the retrieval process.

The final pool of studies that met the inclusion criteria included 80 studies spanning 1968 to 2018 ( $N = 37,399$ ). Sample sizes ranged from 33 to 3,151. Students

Table 2

*Search Strategies for Electronic Databases*

Domain	Terms
Academic Dishonesty	"academic dishonest*" OR "academic cheat*" OR plagari* OR "academic integrity" OR "academic misconduct" OR "honor code violation" OR "honour code violation" OR "honor code" OR "honour code" "turn-it-in" OR "turn it in" OR "turnitin" OR "academic merit" OR "academic honest*" OR "sharing homework" OR "scholastic dishonest*" OR "scholastic honest*" OR "e-cheat*" OR "contract cheat*" OR "echeat*" OR "e-dishonest*" OR "edishonest*" OR (cheat* OR dishonest* OR collusion OR copy* OR "maladaptive strategies" OR "ethical code" OR "ethical dilemma" OR deviance OR "cheat* behavior" OR "cheat* behaviour" OR "code of ethics" OR "essay mill" OR "scholastic dishonest*" OR "scholastic honest*" OR "text sourcing" OR "unethical behavior" OR "unethical behaviour" OR "defensive strateg*")
School	school* OR education OR student* OR college OR university OR undergrad* OR class* OR learn* OR achieve* OR academic
NOT	copyright OR infidelity OR marriage OR spouse OR gambling

*Note.* Academic dishonesty and School terms are linked by AND Boolean operator.

\* represents truncation techniques.

sampled within the included studies ranged from elementary school to postsecondary education, but studies mainly sampled from postsecondary institutions and from within the United States. The majority of the included studies were from published literature sources, but 22.2 percent of the studies were unpublished. Most of the included studies, 51.2 percent, were published between 2010 and 2018 with an additional 32.2 percent from 2000 to 2009. See Table 3 for further descriptive information about the included studies.

### Data Extraction

Numerous features from each study were coded from the research. In some cases where ambiguous characteristics were present, I inferred and established definitions of academic dishonesty and theoretical conceptualizations of motivation factors. Moreover, information that was too ambiguous for inference or missing within the study that

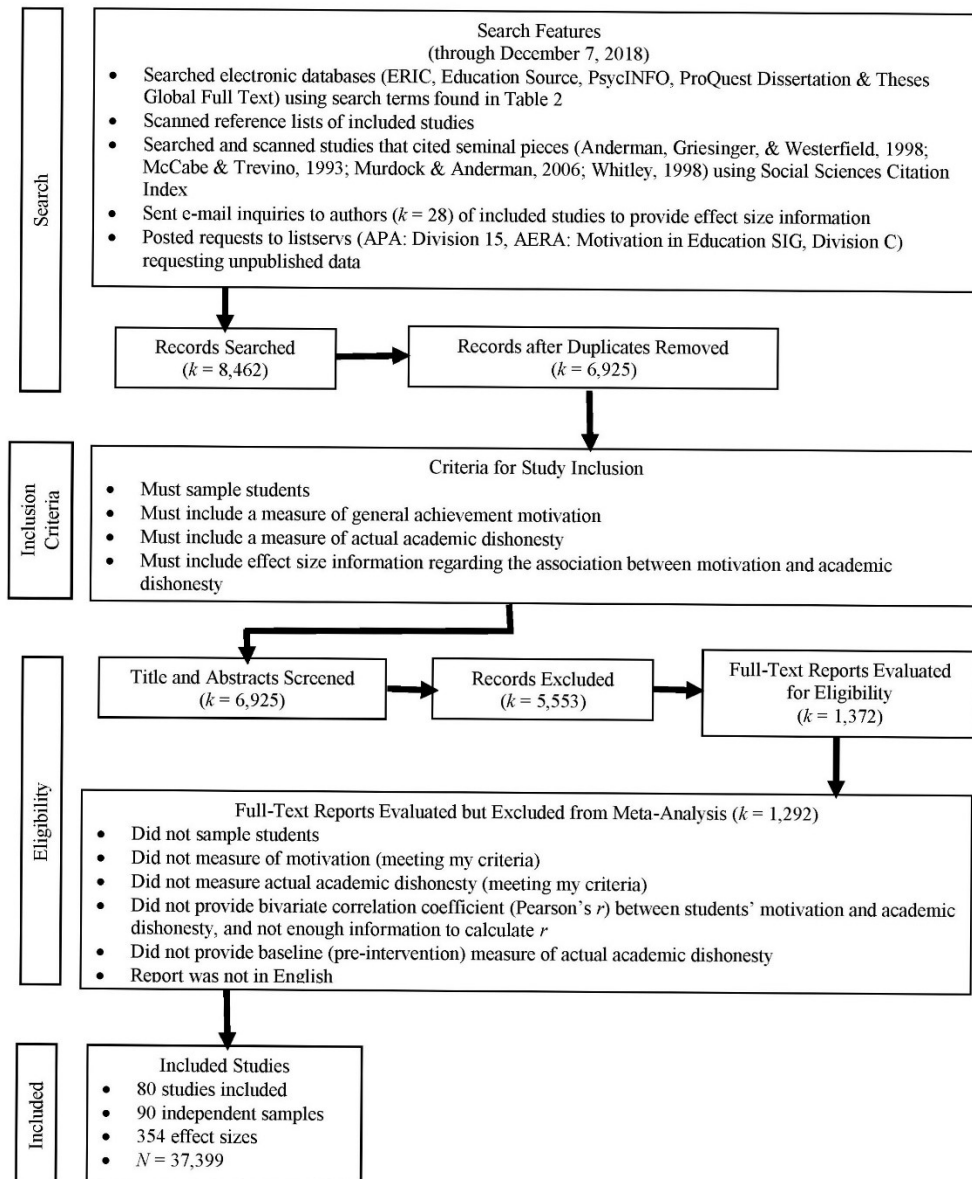


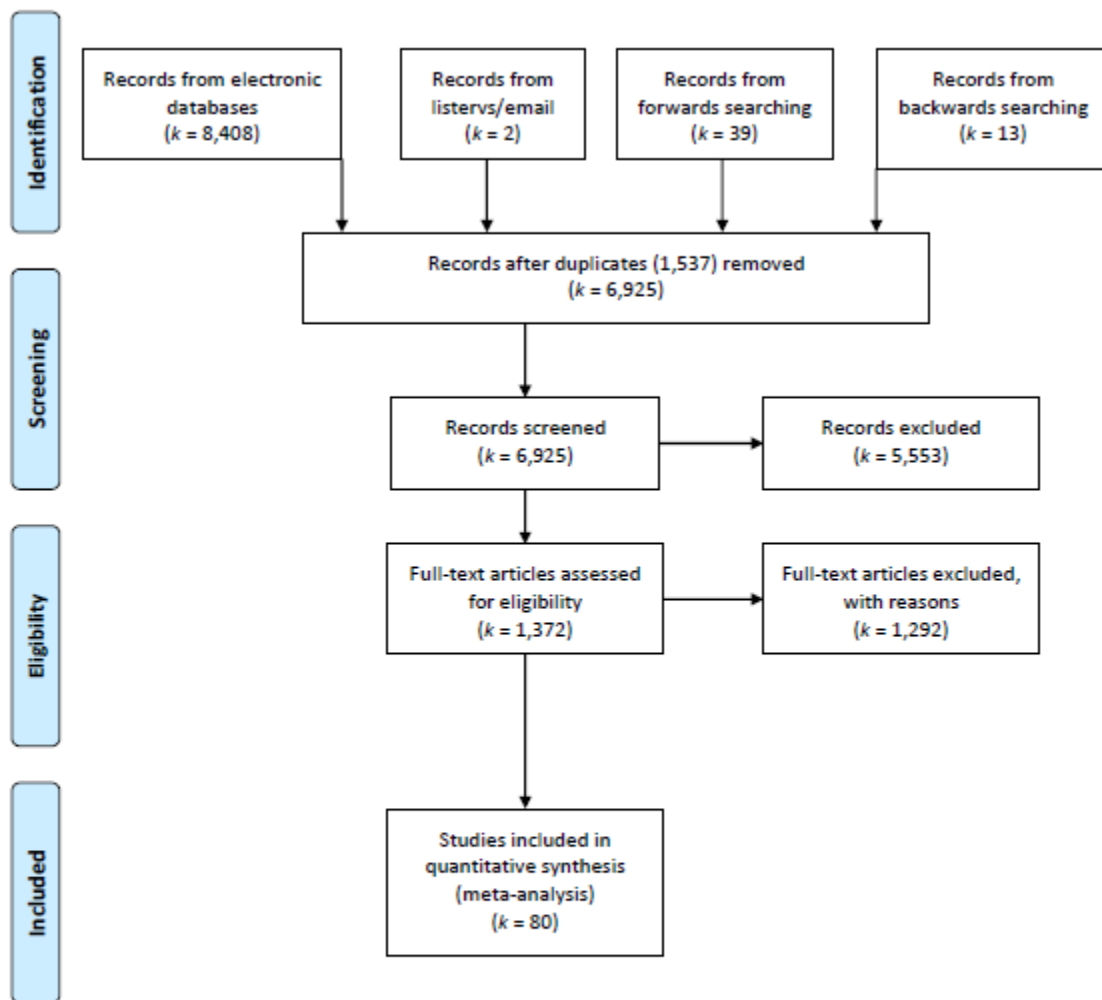
Figure 2. Search strategy flow diagram.

was reported after 2010, I made attempts to contact the study author(s) through electronic mail to collect information. A coding guide was created and used to code for six broad categories: (a) report characteristics, (b) setting characteristics, (c) participant and sample characteristics, (d) outcome measure (academic dishonesty), (e) predictor measure (motivation), and (f) the estimate of the relationship between motivation and academic dishonesty. The coding guide can be found in Appendix A and each characteristic category is outlined below. See Table 4 for a brief description of the study information retrieved from each included study.

**Research report characteristics.** First, I coded for report characteristics, including the first author's last name, year of report, and type of report (journal article, book or book chapter, dissertation, thesis, government paper, conference paper, or other type). I also categorized publication status of each report being either published (journal articles, book or book chapter) or unpublished (dissertations, theses, government papers, or conference papers), allowing me to evaluate publication bias (Polanin et al., 2016). Publication bias occurs when the results of a study influences the decision to publish. This could result in studies that found insignificant findings to not be published, which then misleads researchers in understanding the field by just reviewing published research.

**Setting characteristics.** Second, I coded for setting characteristics in each report. I coded for the type of school the study was conducted in (elementary school, middle school, high school, or post-secondary including 2-year college/university, 4-year college/university, professional school, or technical school) and the country of origin (U.S. or international), if provided. If the country of origin was not explicitly reported, I assumed the country of the author(s)' institution was also the sample's origin. For





From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(7): e1000097. doi:10.1371/journal.pmed1000097

For more information, visit [www.prisma-statement.org](http://www.prisma-statement.org).

Figure 3. PRISMA flow diagram.

Table 3

*Characteristics of Included Studies*

	<i>k</i>	%
Publication type		
Peer-reviewed journal article	68	75.6%
Doctoral dissertation	15	16.7%
Master's thesis	1	1.1%
Conference paper	1	1.1%
Book chapter	2	2.2%
Unpublished data	3	3.3%
Publication year		
1960s	1	1.1%
1970s	2	2.2%
1980s	2	2.2%
1990s	10	11.1%
2000s	29	32.2%
2010 - 2018	46	51.2%
Region		
U.S.	54	60%
Non-U.S.	35	38.9%
Not reported	1	1.1%
Grade		
6-8	9	10%
9-12	20	22.2%
Postsecondary	56	62.2%
Not reported	5	5.6%

*Note.* Reports that included multiple studies were counted as separate studies.

moderator analyses, if a sample was taken from multiple types of institutions and/or countries, the sample was excluded from that particular test.

**Participant and sample characteristics.** Third, I coded for the characteristics of each sample within each report. Each sample was assigned an ID number to denote if multiple samples were utilized in a report and whether the sample was the overall sample or a subgroup of the overall sample. This helps determine independent samples within a study and ensures that each weighted effect size represents a unique sample. The following demographic characteristics were also coded: socioeconomic status, percentage of females, race/ethnicities, major or program of study, prior academic achievement

Table 4

*Description of Information Retrieved from Studies*

Code Categories		Description
Research Report		Journal article, research report, conference paper, dissertation/thesis
Setting		
	Type	Elementary, middle, high school, community college, 4-year college/university, professional school
	Country of Origin	U.S., International
Sample		
	SES	Percentage of students considered low, low-middle, middle, middle-upper, and upper socioeconomic status
	Gender	Percentage of female students reported
	Ethnicity	Ethnic composition and percentage of each ethnicity reported
	Major	Academic major composition and percentage of each major reported
	GPA	Mean/median GPA of students reported
	Age	Mean/median age
Academic Dishonesty		
	Description	Peer collaboration, falsifying a bibliography, copying peer assignment, using crib notes, using internet during exam, copy and paste on assignment
	Type	Plagiarism or all other forms of cheating
	Task	Homework assignment, in-class assignment, exam or test
	Task Characteristics	Difficulty, grade/point worth, high/low stakes
	Measure	Instrument used to measure academic dishonesty
	Form	Self-reported, sanctioned, observed, laboratory
	Domain	General academic, math, science, English/language arts, social studies/science, or other
	Social Desirability Bias Measure	Instrument used to measure social desirability bias
	SDB Correlated Items Removed	Yes or no
Motivation		
	Motivation construct	Intrinsic motivation, task value, time perspective, locus of control, mastery goal, self-efficacy, etc.
	Measure	Instrument used to measure motivation construct
	Domain	General academic, math, science, English/language arts, social studies/science, or other
	Domain specificity	Yes or No
Effect Size		Correlation

(GPA), and age (mean or median). It is important to note that prior academic achievement (GPA) was not assessed as a possible moderator due to low and insufficient reporting. For moderator analyses, I recoded major as two continuous variables: percentage of business majors, and percentage of science, technology, engineering, and math (STEM) majors. Additionally, if a sample did not report percentage of females, major or program of study, and age, the sample was not included in the subsequent

moderator analyses. The full-age range of students was included in this meta-analysis to potentially capture any developmental trends.

**Outcome measure.** Fourth, I coded for the outcome measure, academic dishonesty, such as the form of academic dishonesty (e.g., general, cheating, plagiarism), what kind of task was the academically dishonest act performed on (e.g., general, test, assignment), task characteristics (e.g., difficulty, grade/point worth, high/low stakes, etc.), how the author described academic dishonesty, how academic dishonesty was measured, internal reliability/consistency of the academic dishonesty scale, and whether a prior existing instrument was used. If the author did not specify the form of academic dishonesty, I coded the study as general academic dishonesty to denote an unspecified form of academic dishonesty that could encompass both cheating and plagiarism. For the same situation involving type of task, I coded the study as general academic task because the task was unspecified and could represent a range of academic assessments. In addition, I coded how academic dishonesty was measured (i.e., self-reported academic dishonesty, sanctioned for academic dishonesty, and observed by external member or laboratory setting). I coded the name used for the outcome measure directly from the study and in what domain (general academic, math, science, English/language arts, social studies, or other). Academic dishonesty domain was used to determine specificity between motivation predictor and academic dishonesty outcome. I also coded if the study used a measure for social desirability bias, which instrument was used, and whether items that correlated with the bias were removed. When the outcome was negatively framed, I reverse coded the direction of the effect size so all effect sizes were in the same direction.

**Predictor measure.** Fifth, I coded for the motivation measure. I coded for each motivational variable used within the study and how the author(s) described the construct. I also took note if an existing instrument or scale was used and recorded the reliability of the measure. The motivational variable domain was also coded if reported (general academic, math, science, English/language arts, social studies, or other). I also coded whether domain specificity was present by determining whether the domain of the academic dishonesty outcome and the domain of the motivation predictor were aligned together. Note that if both variable domains were coded as general academic, they were not considered matching as the domain is not specified. This characteristic is important to consider as measures that agree in their level of specificity will be more strongly correlated than those that do not (Ajzen, 1996). Ajzen purported that intentions and attitudes are effective predictors of behavior provided that the principle of compatibility (i.e., intentions, attitudes, and behaviors should be measured at the same level of specificity) is met. For example, if the academic dishonesty outcome domain was math and the motivation predictor was general self-efficacy, the measures would be less compatible resulting in lower correlations. There is insufficient literature on the potential influence of domain specificity to form a hypothesis; thus, although domain was included as a potential moderator, it was not significant across motivation predictors and not discussed in the results. In order to keep the direction of the outcome the same, the sign of the correlation was reversed when the motivation variable was negatively-valenced (i.e., external locus of control).

**Coder reliability.** To ensure inter-rater reliability, I trained another doctoral student to double-code the included studies. The second coder was experienced in coding

for meta-analysis and received extensive training in the coding guide. Coders independently extracted information from each study. In order to establish reliability, 20 percent of the included reports were double coded to ensure accuracy of high-interference codes. To check reliability, I compared all pairs of codes for the double coded studies for agreement between coders. I calculated a reliability measure between coders by dividing the number of matched codes by the total number of codes. When disagreements about the contents of the code or presence of relevant information arose, a third party (i.e., dissertation co-chair) helped to resolve disagreements. From the 80 included studies, 354 separate effect sizes were extracted from 90 separate samples. After checking all pairs of the double coded studies, the coding reliability was 98.03 percent across all six coding categories before discrepancies were resolved, which indicated very high reliability.

### **Effect Size Calculation**

Effect sizes were calculated as Pearson's  $r$  (see Fritz, Morris, & Richler, 2012; McGrath & Meyer, 2006, for benefits of using  $r$  as an effect size metric). When feasible, I extracted sample sizes and correlations from available tables or texts within each report. If available data included means, standard deviations, and sample sizes of two groups (i.e., cheaters and non-cheaters), a standardized mean difference effect size ( $d$ ) was calculated as (Lipsey & Wilson, 2001)

$$d = \frac{\overline{Y_{cheater}} - \overline{Y_{non-cheater}}}{\sigma_{within}}$$

$\overline{Y_{cheater}}$  and  $\overline{Y_{non-cheater}}$  represent the sample means of the two groups (i.e., cheaters and non-cheaters).  $\sigma_{within}$  is the within-groups standard deviation pooled across groups, calculated as

$$\sigma_{within} = \sqrt{\frac{\sigma_{cheater}^2(n_{cheater}-1) + \sigma_{non-cheater}^2(n_{non-cheater}-1)}{n_{cheater} + n_{non-cheater} - 2}}.$$

$n_{cheater}$  and  $n_{non-cheater}$  are the sample size of the two groups, and  $\sigma_{cheater}$  and  $\sigma_{non-cheater}$  are the respective standard deviations. The standard deviation is pooled because it is unlikely that the sample standard deviations are equal even if the population standard deviations are the same (i.e.,  $\sigma_{cheater} = \sigma_{non-cheater} = \sigma$ ). Pearson's  $r$  was derived as

$$r = \frac{d}{\sqrt{d^2 + 4}}.$$

Moreover, when studies only provided dichotomous proportional information, I calculated a log odds ratio as

$$l_i = \ln(o_i) = \ln\left(\frac{p_{i1}(1-p_{i2})}{p_{i2}(1-p_{i1})}\right),$$

and a variance of

$$v_i = \frac{1}{n_{i1}p_{i1}(1-p_{i1})} + \frac{1}{n_{i2}p_{i2}(1-p_{i2})}$$

Where  $p_{ij}$  is the proportion of students in  $i$  cheater group (i.e., cheater and non-cheater) in condition  $j$  (e.g., low and high self-efficacy) (Cooper et al., 2009). I then converted the log odds ratio to a standardized mean difference ( $d$ ) calculated by

$$d = \frac{\ln(o)\sqrt{3}}{\pi}$$

with a variance of

$$v_d = \frac{3v_{\ln(o)}}{\pi^2}$$

Where  $v_{\ln(o)}$  is the variance of the log odds ratio. I then converted the standardized mean different to Pearson's  $r$  as

$$r = \frac{d}{\sqrt{d^2 + a}}, a = \frac{(n_1 + n_2)^2}{n_1 n_2}$$

where  $a$  is the correction factor for cases when  $n_1 \neq n_2$ .

### **Methods of Data Integration**

Before conducting any meta-analytic analyses, I counted the number of positive and negative effects and calculated the median and range of estimated relationships of motivation and academic dishonesty. I also examined the effect size distribution to check for any statistical outliers. Outliers were found by applying Grubb's (1950) test, which identifies effect sizes that are two standard deviations beyond the distribution mean. If outliers were detected, they were Winsorized to their next nearest neighbor. This procedure was repeated after each substitution to identify any additional outliers. When additional outliers were detected, these values were again set to their nearest neighbor. This procedure was repeated until no outliers are found.

**Calculating average effect sizes.** In order to stabilize variance and normalize the sampling distribution when studies had small sample sizes, Fisher's (1928)  $z$  transformation was employed on raw Pearson's  $r$  correlations. According to Cooper, Hedges, and Valentine (2009), the majority of meta-analyses do not perform analyses using the correlation coefficient as the variance strongly depends on the correlation. Additionally, as the population  $r$  becomes further away from zero, the distribution of sampled  $r$ 's becomes skewed, which complicates the combination and comparison of  $r$ 's (Cooper & Hedges, 1994). Fisher (1928) addressed this complication by developing a transformation that is distributed as practically normal. Thus, all the analyses are performed using Fisher's  $z$  and converted back to  $r$ , a procedure similar to that used for odds or risk ratios where analyses are conducted using log transformed values and



converted back to the original metric. The transformation from  $r$  to Fisher's  $z$  was derived as

$$z_i = \frac{1}{2} \ln \left( \frac{1+r_i}{1-r_i} \right),$$

with a variance of

$$v_i = \frac{1}{n_i - 3}.$$

Where  $n_i$  is the within-study sample size of the  $i$ th study. Since a meta-analytic methodological assumption is normality of the sampling distribution of the observed outcomes, Fisher's  $z$  transformation is an effective way to normalize (see Meng, Rosenthal, & Rubin, 1992).

Average effect sizes were calculated by weighted procedures according to the sample sizes across all comparisons where each independent effect size was multiplied by the inverse of its variance and the sum of the products were then divided by the sum of the inverses (see Hedges & Vevea, 1998). Specifically, the average effect size was calculated as

$$\bar{Z} = \frac{\sum_{i=1}^k w_i z_i}{\sum_{i=1}^k w_i},$$

with weights being calculated as

$$w_i = \left( \frac{1}{n_i - 3} + \hat{\tau}^2 \right)^{-1}$$

Where  $\hat{\tau}^2$  is an estimate of  $\tau^2$  or the between-studies variance.

$$\hat{\tau}^2 = \frac{Q - (k - 1)}{c}, Q = \sum_{i=1}^k (n_i - 3)(z_i - \bar{Z})^2, c = \sum_{i=1}^k w_i - \frac{\sum_{i=1}^k w_i^2}{\sum_{i=1}^k w_i}$$

Where  $k$  is the number of studies,  $c$  is a constant, and  $Q$  is the weighted sum of squared errors with a chi-square distribution with  $k - 1$  degrees of freedom under the homogenous

effect sizes null hypothesis (Hedges & Olkin, 1985). If  $\hat{\tau}^2$  or the estimate of between-studies variance is negative, the value is then set to zero since the variance cannot be negative (Field, 2005).

In addition, to assess significance, 95% confidence intervals were calculated for the average effects. I first calculated the standard error of the average effect size as

$$SE_{\bar{z}} = \sqrt{\frac{1}{\sum_{i=1}^k w_i}}$$

To calculate a 95% confidence interval, the standard error is multiplied by the two-tailed critical value of the normal distribution ( $z = 1.96$ ) then added and subtracted from the average effect size or

$$CI_{lower} = \bar{z} - 1.96SE_{\bar{z}}$$

$$CI_{upper} = \bar{z} + 1.96SE_{\bar{z}}$$

After the analyses, the effect sizes and confidence intervals were transformed back to correlations or  $r$  and were presented as average effect sizes and confidence intervals. The transformation back to  $r$  from Fisher's  $z$  was derived as

$$r = \frac{e^{2z} - 1}{e^{2z} + 1},$$

where  $e^x$  is the exponential (anti-log) function.

**Identifying independent hypothesis tests.** To account for dependency of various outcomes or subgroups in a study, I utilized a multivariate model and a sandwich estimator. It is recommended to fit multivariate models when multiple correlated effect sizes are present. Since correlations between measures are frequently unreported within primary studies, I assumed a correlation of .80 with robust variance estimation (Hedges, Tipton, & Johnson, 2010). Robust variance estimation protects against threats of

misspecification for hypothesis testing and standard errors. Instead of assuming standard errors and variances from a model, robust variance estimation applies observed variation in effect sizes to estimate standard error. In order to test the hypotheses that the effect of motivation is equal to zero, I used small-sample adjustments for  $t$ -tests (Tipton, 2014).

**Moderator analyses and meta-regression.** Homogeneity analyses were utilized to determine if sampling error alone accounted for the variance in effect sizes compared to the variance observed caused by characteristics of the studies (Cooper et al., 2009). Thus, possible moderators were examined using homogeneity analyses. I evaluated homogeneity of the set of observed effect sizes using a within-class goodness-of-fit statistic ( $Q_w$ ). Moderator variables should be tested if a significant  $Q_w$  statistic is found which indicates that sampling variation alone could not sufficiently explain the effect size estimation variability (Cooper et al., 2009). I also measured heterogeneity by using sigma-squared (the equivalence of tau-squared in multi-level models), which is a measure of the variance of the random intercepts, i.e., the variance of the true effects.

To assess the role of moderators in systematically explaining variance among effect sizes, I used a multivariate model and robust variance estimation to estimate standard errors and perform hypothesis testing for meta-regression. A weighted least squares technique was employed to estimate regression coefficients with weights based on the random effects model to approximate inverse variance. To assess the relationship between focal variables and effect sizes in the population, I again used small-sample adjusted  $t$ -tests (Tipton & Pustejovsky, 2015). For example, meta-regression equations for percent female and major were as follows:

$$(\text{percent female})ES_i = \beta_0 + \beta_{\text{female}} + u_i + e_i$$

$$(major/program\ of\ study\ composition)ES_i = \beta_0 + \beta_{major/program} + u_i + e_i.$$

By testing each moderator separately, there is a possibility that moderators are confounded with each other. For example, the academic task may be confounded with the form of academic dishonesty, i.e., plagiarism will most likely occur on out-of-class writing assignments whereas looking up answers will occur during in-class examinations. Therefore, I inspected the pairwise relationship using chi-square tests between significant moderators.

**Publication bias.** Numerous approaches exist to assess bias in meta-analyses with their own limitations. The most common approach is a forest plot that graphically displays the effect sizes by their standard error. Forest plots are highly subjective and challenging to interpret, thus I decided to use selection modeling that provides more malleable ways for identifying and adjusting for selection bias (Vevea & Hedges, 1995). Selection models are a type of sensitivity tests that utilize a weight-function to estimate effects of different levels of potential publication bias on outcomes. From the assumption that smaller  $p$ -values communicate to a higher inclusion probability, the selection model utilizes a step function with pre-set cut-points of statistical significance. For example, a meta-analysis that included studies that reported effects with  $p < .05$  and did not include studies with effects of  $p > .05$  would signify extreme selection bias. Due to the limited number of included reports, I chose cut-points at  $p = .05$  and  $.50$ . These cut-points created a relatively equal number of reports in each interval. The selection model also contains a likelihood-ratio test that determines if the adjusted model fits the data better, indicating a possible concern for publication bias.

## **Model of Error**

With all meta-analytic projects, an appropriate model of error is needed to calculate the variability in estimated effect sizes that are averaged across studies. Fixed-effect models calculate error that reflects variation of effect size solely based on the sampling of participants and ignores the possibility that other characteristics may have random influences on outcomes. Random-effect models treat effect sizes as if they were randomly sampled from a population; thus, study-level variance is seen as an additional source of random variation (Cooper et al., 2009). This meta-analysis will utilize random-effects as the model of error because of the diversity of designs and populations in the synthesis. All statistical analyses were performed using R (version 3.5.1 “Feather Spray”) and RStudio (version 1.1.456).

## **Summary of Chapter 3**

To answer the first research question (What is the relationship between achievement motivation and academic dishonesty?), this meta-analysis uncovered a range of motivation variables used by prior literature associated with academic dishonesty. Due to the systematic nature of the proposed review of existing literature, I was able to locate a considerable number of studies examining the relationship between general achievement motivational variables and academic dishonesty. Additionally, a weighted average effect size for each motivation construct and academic dishonesty was calculated to reveal a range of relationships between motivation and academic dishonesty.

Moderator tests addressed my second research question: if substantial variation exists across studies, to what extent do characteristics like type of academic dishonest and student attributes influence the strength and direction of this relationship? I examined

heterogeneity in the distribution of effect sizes and explored such variance by testing potential moderators. The moderators that were assessed were publication status, institution type, country of origin, age, gender, major, form of academic dishonesty, and type of task.

## IV: RESULTS

This chapter begins by first describing the overall main analyses results. The results are organized by each motivation theory included within the theoretical model. Second, the results from the moderator analyses are presented. Lastly, I discuss the potential presence of publication bias.

### **Overall Main Effects of Motivation Constructs and Academic Dishonesty**

This meta-analysis first assessed the overall main effects of the relationship between each motivation construct and academic dishonesty. Table 5 illustrates the overall results for each motivation construct. The table includes the number of studies ( $k$ ), the average correlation effect size ( $r$ ), 95% confidence interval, within-class goodness-of-fit statistic used to assess heterogeneity ( $Q_w$ ), the effect size standard deviation for studies ( $\sigma_I^2$ ), and the standard deviation of effect sizes ( $\sigma_2^2$ ). The results in this section are organized with each motivation construct housed within their corresponding motivation theory within the conceptual framework.

Also, it is important to remember that due to the motivation factors in the included studies being self-reported, the effects with academic dishonesty outcomes could be attenuated from measurement error, understating the true effects. Moreover, countless factors can influence students' achievement motivation and academic dishonesty, and even small effects can accumulate over time (Abelson, 1985). Lastly, it is important to note that the effect sizes are correlational, thus the causal directionality of average effects cannot be assumed one way or another. Although theory and literature suggests that motivation is an antecedent of academic dishonesty, with this meta-analysis reporting correlational effects, direction cannot be assumed.

Table 5

*Results of Overall Analyses Examining the Correlation between Academic Dishonesty and Motivation (N = 37,399)*

Motivation	<i>k</i>	<i>r</i>	95% Confidence Interval		<i>Q<sub>w</sub></i>	$\sigma_1^2$	$\sigma_2^2$
			Low Estimate	High Estimate			
Self-efficacy	27	-.16***	-.2	-.11	366.03***	.011	.0018
Intrinsic motivation and value	23	-.17***	-.23	-.1	407.4***	.0163	.003
Amotivation	7	.23**	.14	.31	150.49***	0	.0117
Extrinsic motivation	8	.07	-.02	.15	244.88***	0	.0153
Autonomy	1	-.22	-	-	-	-	-
Mastery goal	30	-.17***	-.21	-.13	507.99***	.0056	.0049
Performance approach goal	32	.11*	.04	.17	390.97***	.0254	.0026
Performance avoidance goal	11	.08	-.01	.18	198.07***	.0175	.0035
Mastery goal structure	11	-.21***	-.27	-.15	87.36***	.0064	.0024
Performance goal structure	12	.02	-.1	.13	259.3***	.0281	.0074
Utility value	5	-.15*	-.23	-.07	10.3	.0021	.0005
Attainment value	2	-.26	-.75	.41	13.35*	.0487	0
Subjective task value	4	-.08	-.29	.14	14.32*	.0202	0
Time perspective	2	.02	-.45	.48	13.37*	.0215	.0028
Locus of control	12	-.13*	-.22	-.04	1672.93***	.0024	.037

\* $p < .01$ ; \*\* $p < .001$ ; \*\*\* $p < .0001$

*Note.* Locus of control was recoded to represent a continuum with higher numbers signifying more internal locus of control.

### Self-Efficacy

For the relationship between self-efficacy and academic dishonesty, there were 67 effect sizes (67 negative, 0 zero, and 0 positive) originating from 29 different samples. Three effect size outliers were detected (Campbell, 2012; Houston, 1977; Ip, 2016) and were Winsorized to their nearest neighbor. The weighted average effect was  $r = -.16$  (95% CI [-.2, -.11]), which was significant at the  $p < .0001$  level. This association indicates that an increase in students' self-efficacy was associated with a decrease in academic dishonesty. There was significant heterogeneity with a significant within-class goodness-of-fit statistic ( $Q_w = 366.03$ ).



## Self-Determination Theory

Intrinsic motivation ( $k = 13$ ) and intrinsic value ( $k = 10$ ) were combined due to their similarities in conceptualizations within the literature (e.g., Abdulghani et al., 2018; Angell, 2006) and to increase the sample size for performing meaningful moderator analysis. For the relationship between intrinsic motivation and value and academic dishonesty, I extracted 32 effect sizes (25 negative, 0 zero, and 7 positive) from 23 different samples. One effect size outlier was detected (Ip, 2016) and Winsorized to its nearest neighbor. The weighted average effect was  $r = -.17$  (95% CI  $[-.23, -.1]$ ), which was significantly different from zero ( $p < .0001$ ). This suggests that as intrinsic motivation and value increased, academic dishonesty decreased. There was significant heterogeneity in the effect size distribution, signified by a significant within-class goodness-of-fit statistic ( $Q_w = 407.4$ ).

For amotivation and academic dishonesty, there were 10 effect sizes (0 negative, 0 zero, and 10 positive) from 7 different samples. One effect size outlier was detected (Ellahi, 2013) and Winsorized to its nearest neighbor. The weighted average effect was  $r = .23$  (95% CI  $[.14, .31]$ ), which was significant at the  $p < .001$  level. This association indicates that as amotivation increased, academic dishonesty also increased. There was significant heterogeneity with a significant within-class goodness-of-fit statistic ( $Q_w = 150.49$ ).

For the relationship between extrinsic motivation and academic dishonesty, I extracted 12 effect sizes (5 negative, 0 zero, and 7 positive) originating from 8 different samples. No effect size outlier was detected. The weighted average effect was  $r = .07$  (95% CI  $[-.02, .15]$ ), which was not significantly different from zero. This suggests that

there was no meaningful correlation between extrinsic motivation and academic dishonesty. There was significant heterogeneity in the effect size distribution, signified by a significant within-class goodness-of-fit statistic ( $Q_w = 244.88$ ).

For autonomy and academic dishonesty, I extracted 1 effect size (1 negative, 0 zero, and 0 positive) from 1 sample. The effect size was  $r = -.22$ , which was not significant. Although this is based on only one study, I found that as student autonomy increases, academic dishonesty decreases.

### **Achievement Goals**

For the relationship between mastery goals and academic dishonesty, I extracted 61 effect sizes (55 negative, 0 zero, and 6 positive) from 31 different samples. One effect size outlier was detected (He, 2015) and was Winsorized to its nearest neighbor. The weighted average effect was  $r = -.17$  (95% CI  $[-.21, -.13]$ ), which was significantly different from zero ( $p < .0001$ ). This suggests that as students' goal orientation towards mastery increased, academic dishonesty decreased. There was significant heterogeneity with a significant within-class goodness-of-fit statistic ( $Q_w = 507.99$ ).

For performance approach goals and academic dishonesty, I extracted 51 effect sizes (18 negative, 0 zero, and 33 positive) from 33 different samples. Two effect size outliers were detected (He, 2015; Ip, 2016) and were Winsorized to their nearest neighbor. The weighted average effect was  $r = .11$  (95% CI  $[.04, .17]$ ), which was significant at the  $p < .01$  level. This suggests that performance approach goal orientation was positively linked with academic dishonesty. There also was significant heterogeneity ( $Q_w = 390.97$ ).

For the relationship between performance avoidance goals and academic dishonesty, I extracted 20 effect sizes (7 negative, 0 zero, and 13 positive) originating from 12 different samples. No effect size outlier was detected. The weighted average effect was  $r = .08$  (95% CI [-.01, .18]), which was not significant. This suggests that there is no evidence of a relationship between performance avoidance goal orientation and academic dishonesty. However, there was significant heterogeneity among effect sizes ( $Q_w = 198.07$ ).

For classroom mastery goal structure and academic dishonesty, I extracted 16 effect sizes (15 negative, 0 zero, and 1 positive) from 11 different samples. No effect size outlier was detected. The weighted average effect was  $r = -.21$  (95% CI [-.27, -.15]), which was significantly different from zero ( $p < .0001$ ). This suggests that the more students perceived the classroom goal orientation to be mastery, academic dishonesty decreased. There was significant heterogeneity in the effect size distribution ( $Q_w = 87.36$ ).

For the relationship between classroom performance goal structure and academic dishonesty, I extracted 19 effect sizes (7 negative, 0 zero, and 12 positive) from 12 different samples. No effect size outlier was detected. The weighted average effect  $r = .02$  (95% CI [-.1, .13]), which was not significantly different from zero. Thus, there is no evidence to support the association between academic dishonesty and performance goal structure. However, there was significant heterogeneity with a significant within-class goodness-of-fit statistic ( $Q_w = 259.3$ ).

## Expectancy-Value

For utility value and academic dishonesty, I extracted 6 effect sizes (6 negative, 0 zero, and 0 positive) originating from 5 different samples. One effect size outlier was detected (Angell, 2006) and was Winsorized to its nearest neighbor. The weighted average effect was  $r = -.15$  (95% CI  $[-.23, -.07]$ ), which was significant at the  $p < .01$  level. This suggests that as utility value increases, academic dishonesty decreases. There was no evidence of heterogeneity indicated by a non-significant within-class goodness-of-fit statistic ( $Q_w = 10.3$ ).

For the relationship between attainment value and academic dishonesty, I extracted 3 effect sizes (3 negative, 0 zero, and 0 positive) from 2 different samples. No effect size outlier was detected. The weighted average effect was  $r = -.26$  (95% CI  $[-.75, .41]$ ), which was not significant. Because this effect was not significant (and because there were only two different samples), there was no evidence of a relationship between attainment value and academic dishonesty. There was significant heterogeneity in the effect size distribution, signified by a significant within-class goodness-of-fit statistic ( $Q_w = 13.35$ ).

For subjective task value and academic dishonesty, I extracted 5 effect sizes (3 negative, 1 zero, and 1 positive) originating from 4 different samples. No effect size outlier was detected. The weighted average effect was  $r = -.08$  (95% CI  $[-.29, .14]$ ), which was not significant. Thus, the correlation between subjective task value and academic dishonesty is assumed to be zero. There also was significant heterogeneity with a significant within-class goodness-of-fit statistic ( $Q_w = 14.32$ ).

### **Future Time Perspective**

For the relationship between time perspective and academic dishonesty, I extracted 3 effect sizes (1 negative, 0 zero, and 2 positive) from 2 different samples. No effect size outlier was detected. The weighted average effect was  $r = .02$  (95% CI [-.45, .48]), which was not significant. Although only based on two different samples, I found little evidence that future time perspective was associated with academic dishonesty. There was significant heterogeneity in the effect size distribution, signified by a significant within-class goodness-of-fit statistic ( $Q_w = 13.37$ ).

### **Attribution/Locus of Control**

For locus of control and academic dishonesty, I extracted 43 effect sizes (31 negative, 1 zero, and 11 positive) originating from 12 different samples. No effect size outlier was detected. The weighted average effect was  $r = -.13$  (95% CI [-.22, -.04]), which was significantly different from zero ( $p < .01$ ). This suggests that an increase in internal locus of control or attributions results in a decrease in academic dishonesty. There was significant heterogeneity with a significant within-class goodness-of-fit statistic ( $Q_w = 1672.93$ ).

### **Summary of Overall Associations between Motivation Constructs and Academic Dishonesty**

This dissertation evaluated the average correlational effect sizes for the relationship between achievement motivation constructs and academic dishonesty. Meta-analysis determined that academic dishonesty occurrences increased when performance approach goals and amotivation increased. However, incidences of academic dishonesty decreased when self-efficacy, mastery goals, mastery goal structure, internal locus of

control, utility value, and intrinsic motivation and value increased. Although the weighted average effect sizes were positive, there was no evidence to support any relationships between academic dishonesty and time perspective, performance avoidance goals, performance goal structure, and extrinsic motivation. Additionally, there were non-significant negative average effect sizes for correlations between academic dishonesty and autonomy, subjective task value, and attainment value. It is also important to note once more that a number of these analyses had small numbers of studies and samples and should be interpreted with caution.

### **Moderator Analyses**

Because there was significant variation among effect sizes for a number of overall main analyses, I evaluated various moderators to examine such heterogeneity. I examined eight moderators related to publication status, institution type, country of origin, age, sex, major, academic dishonesty type and task (see Tables 6-8).

#### **Publication Status**

I assessed whether publication status moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, unpublished studies served as the reference group. For self-efficacy, published studies was a marginally significant moderator ( $\beta = -.14$ ,  $SE = .05$ ,  $df = 10.32$ ,  $p < .1$ ). This illustrates that for published studies, the relationship between self-efficacy and academic dishonesty is weaker (i.e., less negative) compared to unpublished studies. Publication status was not a significant moderator for the relations between academic dishonesty and the following motivation variables: intrinsic motivation and value, locus of control,

Table 6

*Summary of Moderator Results for Self-Efficacy, Intrinsic Motivation and Value, and Locus of Control*

Moderator	Self-Efficacy				Intrinsic Motivation and Value				Locus of Control			
	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>
Publication status												
Unpublished	7				4				3			
Published	20	-.14 <sup>†</sup>	.05	10.32	19	-.09	.05	4.5	9	-.15	.07	2.89
Institution												
Middle school	5				1				0			
High school	4	.12	.1	6.44	5	.07	.06	2.99	1	-	-	-
Postsecondary	15	.05	.08	7.16	17	.17**	.04	14.22	11	-	-	-
Country												
U.S.	26				11				9			
International	11	-.06	.05	23.6	12	-.08	.06	19.55	3	-.25	.11	2.24
Sample												
Age	20	-.005	.01	9.49	16	.01	.01	7.81	10	.02	.03	2.38
%Female	25	-.14	.27	7.41	21	.19	.22	3.59	10	.55	.64	3.22
%STEM major	5	.001	.19	3.24	5	-.12	.14	2.1	2	-	-	-
%Business major	5	.01	.15	1.31	2	.91	.41	1.99	1	-	-	-
Academic dishonesty outcome												
General academic dishonesty	10				7				6			
Cheating	13	.02	.05	22.1	15	-	-	-	7	-	-	-
Plagiarism	4	-.004	.06	20	1	-	-	-	1	-	-	-
General academic task	17				12				6			
Test	6	.08	.05	16.9	8	-.03	.03	4.28	6	.17 <sup>†</sup>	.07	6.76
Assignment	7	.04	.05	17.4	3	.04	.03	2.04	2	.19 <sup>†</sup>	.07	3.79
General subject	17				18				11			
Subject specific	10	.01	.05	16.4	5	-.04	.04	3.91	1	-.01	.05	6.13

<sup>†</sup> $p < .1$ ; \* $p < .01$ ; \*\* $p < .001$ ; \*\*\* $p < .0001$

*Note.* Locus of control was recoded to represent a continuum with higher numbers signifying more internal locus of control. For institution, academic dishonesty form, and type of task academic dishonesty was performed on, variables were dummy-coded with middle school, general academic dishonesty, and general task as reference groups, respectively.

Table 7

*Summary of Moderator Results for Performance Approach Goals, Performance Avoidance Goals, and Performance Goal Structure*

Moderator	Performance Approach Goals				Performance Avoidance Goals				Performance Goal Structure			
	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>
Publication status												
Unpublished	6				2				3			
Published	26	.05	.06	7.66	9	.08	.08	1.53	9	.25	.13	3.25
Institution												
Middle school	5				2				4			
High school	6	-.07	.08	8.59	4	-.29	.14	1.94	7	-	-	-
Postsecondary	21	.1	.08	6.14	5	-.28	.13	1.74	1	-	-	-
Country												
U.S.	18				3				8			
International	14	-.19*	.04	10.8	8	-.04	.08	3.29	4	.07	.1	6.1
Sample												
Age	23	.01	.01	2.21	9	-	.02	3	12	-	.02	1.88
						.04†				.01		
%Female	32	-.17	.07	1.13	1	-.08	.48	3.94	12	.18	.44	2.33
					2							
%STEM major	4	.18	.33	3.23	2	-	-	-	0	-	-	-
%Business major	3	.01	.38	1.83	1	-	-	-	0	-	-	-
Academic dishonesty outcome												
General academic dishonesty	14				5				5			
Cheating	20	-.05	.03	3.02	7	-.01	.04	1.91	7	-	-	-
Plagiarism	5	-.05†	.02	3.54	2	-.06	.05	1.48	1	-	-	-
General academic task	23				9				10			
Test	11	-.05	.03	3.07	3	-.04	.05	1.52	1	-	-	-
Assignment	5	-.06†	.02	3.07	2	-.07	.04	1.19	1	-	-	-
General subject	21				5				3			
Subject specific	11	-.01	.07	19.9	6	-.01	.09	8.46	9	.09	.12	3.56

† $p < .1$ ; \* $p < .01$ ; \*\* $p < .001$ ; \*\*\* $p < .0001$

Note. For institution, academic dishonesty form, and type of task academic dishonesty was performed on, variables were dummy-coded with middle school, general academic dishonesty, and general task as reference groups, respectively.



Table 8

*Summary of Moderator Results for Mastery Goals and Mastery Goal Structure*

Moderator	Mastery Goals				Mastery Goal Structure			
	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>	<i>k</i>	$\beta$	<i>SE</i>	<i>df</i>
Publication status								
Unpublished	7				3			
Published	23	-.06	.04	7.85	8	.03	.09	3.33
Institution								
Middle school	5				4			
High school	7	.07	.07	8.34	6	-	-	-
Postsecondary	18	.12†	.05	5.97	1	-	-	-
Country								
U.S.	15				7			
International	15	-.01	.04	21	4	.09	.06	6.56
Sample								
Age	25	.003	.01	4.09	11	.01	.01	1.87
%Female	30	.03	.06	1.53	11	.31	.31	2.04
%STEM major	4	.04	.12	3.01	0	-	-	-
%Business major	3	-.15	.28	1.63	0	-	-	-
Academic dishonesty outcome								
General academic dishonesty	13				4			
Cheating	19	.005	.03	4.67	7	-	-	-
Plagiarism	5	.03	.03	4.05	0	-	-	-
General academic task	22				11			
Test	10	-.04	.04	5.11	0	-	-	-
Assignment	5	.02	.02	3.75	0	-	-	-
General subject	20				2			
Subject specific	10	-.01	.05	16.9	9	-.04	.14	1.47

† $p < .1$ ; \* $p < .01$ ; \*\* $p < .001$ ; \*\*\* $p < .0001$

Note. For institution, academic dishonesty form, and type of task academic dishonesty was performed on, variables were dummy-coded with middle school, general academic dishonesty, and general task as reference groups, respectively.

performance approach goals, performance avoidance goals, performance goal structure, mastery goals and mastery goal structure.

### Institution Type

I evaluated whether institution type moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, I dummy-coded institution type, with middle school as the reference group, and high school and postsecondary as predictors. For intrinsic motivation and value, postsecondary institution was a significant moderator ( $\beta = .17$ ,  $SE = .04$ ,  $df = 14.22$ ,  $p < .001$ ), whereas high school was not significant ( $\beta = .07$ ,  $SE = .06$ ,  $df = 2.99$ ). This illustrates that for

students in postsecondary, the relationship between intrinsic motivation and value and academic dishonesty was stronger (i.e., more negative). For mastery goal, postsecondary institutions was also a significant moderator, but only at a marginal significance level ( $\beta = .12$ ,  $SE = .05$ ,  $df = 5.97$ ,  $p < .1$ ); high school was not significant ( $\beta = .07$ ,  $SE = .07$ ,  $df = 8.34$ ). This illustrates that for students in postsecondary, the relationship between mastery goals and academic dishonesty was also stronger (i.e., more negative). Institution type was not a significant moderator for the relations between academic dishonesty and the following motivation variables: self-efficacy, performance approach goal, and performance avoidance goal. Institution type was not assessed as a moderator for internal locus of control, mastery goal structure, and performance goal structure due to small sample size between categories.

### **Country of Origin**

I measured whether country of origin moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, the United States (U.S.) served as the reference group. For performance approach goals, international origin was a significant moderator ( $\beta = -.19$ ,  $SE = .04$ ,  $df = 10.8$ ,  $p < .01$ ). This illustrates that for studies sampling students outside of the U.S., the relationship between performance approach goals and academic dishonesty was weaker (i.e., less positive). Country of origin was not a significant moderator for the relations between academic dishonesty and the following motivation variables: intrinsic motivation and value, self-efficacy, locus of control, performance avoidance goals, performance goal structure, mastery goals and mastery goal structure.

## **Age**

I assessed whether age moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, age was a continuous moderator. For performance avoidance goals, age was a marginally significant moderator ( $\beta = -.04$ ,  $SE = .02$ ,  $df = 3$ ,  $p < .1$ ). This illustrates that as participants get older, the relationship between performance avoidance goals and academic dishonesty becomes weaker (i.e., less positive). Age was not a significant moderator for the relations between academic dishonesty and the following motivation variables: intrinsic motivation and value, self-efficacy, locus of control, performance approach goals, performance goal structure, mastery goals, and mastery goal structure.

## **Gender**

I tested whether gender moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, I operationalized gender as percent female composition in the sample. There was no evidence that percent female composition was a significant moderator for any of the relationships between motivation and academic dishonesty.

## **Major**

I measured whether major moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, major was a continuous moderator and denoted as the percent business major and percent STEM major compositions in the sample. Major was not a significant moderator for the relations between academic dishonesty and the following motivation variables: intrinsic motivation and value, self-efficacy, performance approach goals, and mastery goals.

Major was not assessed as a moderator for locus of control, performance avoidance goals, performance goal structure, and mastery goal structure due to small sample size between categories. It is important to note that students' major was not consistently reported within studies, which led to small sample sizes for this set of moderator analyses.

### **Academic Dishonesty Form**

I assessed whether the form of academic dishonesty moderated the relationship between motivation constructs and academic dishonesty. After dummy-coding, general or unspecified academic dishonesty served as the reference group, and plagiarism and cheating were predictors. For performance approach goals, plagiarism was a marginally significant moderator ( $\beta = -.05$ ,  $SE = .02$ ,  $df = 3.54$ ,  $p < .1$ ), whereas cheating was not significant ( $\beta = -.05$ ,  $SE = .03$ ,  $df = 3.02$ ). This illustrates that for studies that measured plagiarism, the relationship between performance approach goals and academic dishonesty was weaker (i.e., less positive) compared to other forms of academic dishonesty. Academic dishonesty form was not a significant moderator for the relations between academic dishonesty and the following motivation variables: self-efficacy, performance avoidance goals, and mastery goals. Academic dishonesty form was not assessed as a moderator for intrinsic motivation and value, locus of control, mastery goal structure, and performance goal structure due to small sample size between categories.

### **Academic Dishonesty Task**

I evaluated whether the task that academic dishonesty was performed on moderated the relationship between motivation constructs and academic dishonesty. In the meta-regression models, I dummy-coded general or unspecified academic task as the reference group, and test and assignment were predictors. For locus of control, test was a

marginally significant moderator ( $\beta = .17$ ,  $SE = .07$ ,  $df = 6.76$ ,  $p < .1$ ) and assignment was also marginally significant ( $\beta = .19$ ,  $SE = .07$ ,  $df = 3.79$ ,  $p < .1$ ). This illustrates that for studies that measured academic dishonesty on tests and assignments, the relationship between locus of control and academic dishonesty was stronger (i.e., more negative) compared to general academic tasks. For performance approach goals, assignment was a marginally significant moderator ( $\beta = -.06$ ,  $SE = .02$ ,  $df = 3.07$ ,  $p < .1$ ), whereas test was not significant ( $\beta = -.05$ ,  $SE = .03$ ,  $df = 3.07$ ). This illustrates that for studies that measured academic dishonesty on assignments, the relationship between performance approach goals and academic dishonesty was weaker (i.e., less positive) compared to other tasks. Academic dishonesty task was not a significant moderator for the relations between academic dishonesty and the following motivation variables: intrinsic motivation and value, self-efficacy, performance avoidance goals, and mastery goals. Academic dishonesty task was not assessed as a moderator for mastery goal structure and performance goal structure due to small sample sizes among categories.

### **Possible Confounding Moderators**

By testing each moderator separately, there is a possibility that moderators are confounded with each other. I inspected the pairwise relationship between the significant moderator variables: country of origin, academic dishonesty type and task for performance approach goals. Chi-square tests were conducted since all variables assessed were categorical with the null hypothesis of independent samples. The first chi-square test evaluated the potential confounding moderators of country of origin and type of task and did not find a confounding result ( $\chi^2_2 = 1.555$ ,  $p = .46$ ). Another non-confounding moderating relationship was between country of origin and form of academic dishonesty

( $\chi^2_2 = .522, p = .77$ ). However, there is a potential for confounding between the moderators of form of academic dishonesty and type of task ( $\chi^2_4 = 39.472, p = .000$ ). Looking at the actual crosstabs, the majority of effect sizes for plagiarism (academic dishonesty type) occurred simultaneously with effect sizes for assignments (academic dishonesty task). This same pattern was found with cheating (academic dishonesty type) on tests (academic dishonesty task), and general academic dishonesty (academic dishonesty type) on general academic tasks (academic dishonesty task). This finding is consistent with the literature that plagiarism is primarily conducted on out-of-class assignments, whereas cheating frequently occurs on in-class exams. It is important to note that all chi-square tests conducted violated the assumption of cells having an expected value of five or more values; thus, findings should be evaluated with caution and seen as trends that should be further researched.

### **Publication Bias**

I ran selection models to determine whether publication bias was present. Table 9 illustrates the results of the selection models. For each of the relationships between motivational constructs and academic dishonesty, I found no evidence indicating publication bias from the selection models, as the likelihood-ratio tests did not find that the adjusted models fitted the data better. A selection model was not conducted for autonomy and subjective task value due to too few effect sizes leading to estimation problems. Therefore, the selection model approach suggests no concern for publication bias. Note that many of the selection models were conducted with small sample sizes, which may have distorted these results. Although the moderator analysis of published

Table 9

*Selection Model Results*

Motivation Construct	Model Intercept	Adjusted Model Intercept	$\chi^2$	<i>p</i>
Self-efficacy	-0.12	-.1	2.72	.26
Intrinsic motivation and value	-.13	-.16	2.24	.33
Amotivation	.23	.21	.64	.73
Extrinsic motivation	.06	.03	2.65	.27
Autonomy	-	-	-	-
Mastery goal	-.15	-.15	1.02	.6
Performance approach goal	.09	.16	2.73	.25
Performance avoidance goal	.07	.1	.81	.67
Mastery goal structure	-.21	-.23	1.75	.42
Performance goal structure	.04	.01	.37	.83
Utility value	-.14	-.14	.43	.8
Attainment value	-.31	-.3	.21	.9
Subjective task value	-	-	-	-
Time perspective	.05	.07	.02	.99
Locus of control	-.1	.004	3.63	.16

*Note.* Locus of control was recoded to represent a continuum with higher numbers signifying more internal locus of control.

versus unpublished studies suggested a slight bias towards published studies for a few of the models, this was not a consistent finding.

### Summary of Chapter 4

This meta-analysis assessed the average correlational effect sizes for the relationship between achievement motivation and academic dishonesty. This study included 80 separate reports between 1968 and 2018 with 90 samples and 354 total effect sizes. Significant negative average effect sizes were discovered between academic dishonesty and the following motivation factors (listed in the order of greatest association): mastery goal structure, mastery goals, intrinsic motivation and value, self-efficacy, utility value, and internal locus of control. Significant positive average effect sizes were discovered between academic dishonesty and the following motivation factors (ordered from greatest association): amotivation and performance approach goals. I also assessed whether various moderators attributed to differences in effect sizes.

Publication status was a marginally significant moderator for self-efficacy. Institution type was a marginally significant moderator for mastery goal and a strong ( $p < .001$ ) moderator for intrinsic motivation and value. Country of origin was significant moderator for performance approach goals, whereas age was a marginally significant moderator for performance avoidance goals. Academic dishonesty task was a significant moderator for locus of control and performance approach goals. Form of academic dishonesty was a marginally significant moderator for performance approach goals. Lastly, gender and major were not significant moderators for the relationship between achievement motivation and academic dishonesty. Selection models suggested no publication bias for the achievement motivation factors.



## **V: DISCUSSION**

Academic dishonesty is a worldwide phenomenon that affects all educational institutions. Academic dishonesty can lead to serious consequences, including the illegitimate earning of credentials, inability to perform job duties, and continued deviance within society. Students who engage in academic dishonesty may earn higher grades in the coursework where academic dishonesty is more accessible; however, they may perform less well during high stakes testing situations, where cheating is more difficult. This can potentially lead to diminished college access and increased placement into developmental education, which heavily depend on high-stakes testing. Although prior research has focused on demographic variables to understand academic dishonesty, these variables are mainly innate and cannot be changed. Thus, focusing on factors that are malleable (e.g., motivation) in decreasing academic dishonesty, programs can be created to change students' motivation and, in turn, reduce academic dishonesty. This meta-analysis is a timely addition to the literature by providing an updated systematic review, analysis, and summary of empirical research to determine the motivation variable(s) with the greatest association with academic dishonesty.

The main objective of this meta-analysis was to quantitatively synthesize the literature and evaluate the empirical relationships among achievement motivation and academic dishonesty. This study synthesized the literature through the theoretical lens of social-cognitive theory and the theoretical model including self-determination theory, achievement goal theory, expectancy-value theory, future time perspective, and attribution or locus of control. In the following sections, I discuss the findings organized

by research question, implications for research and practice, limitations, and conclusion in further detail.

### **Overall Relationship among Achievement Motivation and Academic Dishonesty**

To answer the first research question, I obtained studies from electronic databases, listservs, author queries, ancestry and descendancy searches that met the inclusion criteria; extracted data using a coding guide; and calculated average effect sizes. Overall, the results from 80 studies with 90 samples and 354 effect sizes suggested that there were three main motivation groups of relationships with academic dishonesty: adaptive, maladaptive, and environmental. Adaptive motivation variables that were significant negative predictors of academic dishonesty were self-efficacy, mastery goals, internal locus of control, utility value, and intrinsic motivation and value. These findings suggest that students who are confident in successfully completing their tasks, have learning goals aimed at mastering the learning content, attribute their successes and failures to internal causes such as effort, assess tasks to be useful, or complete tasks for the satisfaction or pleasure derived from doing them are less likely to perform academic dishonesty. These overall findings are in line with prior research that supports how academic dishonesty is reduced when students possess a high degree of mastery goals (Anderman, 2007; Tas & Tekkaya, 2010), self-efficacy (Bong, 2008; Tas & Tekkaya, 2010), and internal locus of control (Rinn et al., 2014).

Maladaptive motivation variables that were significant positive predictors of academic dishonesty were performance approach goals and amotivation. Students whose learning goals are aimed at demonstrating their ability compared to their peers are more likely to perform academic dishonesty. Students with this goal are more likely to believe

that uncontrollable factors and innate ability are the causes of their success and failure, therefore academic dishonesty provides a solution to outperform their peers. Regarding findings on amotivation, students who lack any motivation are also more likely to perform academic dishonesty. These students may become passive passengers moving through life without motivational drive and experiencing forces that are uncontrollable; therefore, academic dishonesty becomes a viable option to successfully complete assignments and exams in comparison to exerting effort into their schoolwork.

Amotivation had the largest positive association with academic dishonesty demonstrating the importance of future practices considering preventing amotivation among students. These findings parallel prior research illustrating how performance approach goals and amotivation reduced help-seeking behaviors and created a sense of helplessness, respectively, resulting in increased academic dishonesty (Fortier et al., 1995; Tas & Tekkaya, 2010).

Lastly, an environmental motivation variable that was a significant negative predictor of academic dishonesty was mastery goal structure. Mastery goal structure—when classroom goals are perceived to be aimed at mastering the content—was the largest negative predictor of academic dishonesty. This suggests how classroom mastery goals can be one practical solution to decrease academic dishonesty. This finding is consistent with theoretical explanations that students internalize the classroom culture and begin to personally adopt the goals leading to higher self-efficacy, effort, persistence, metacognitive strategies, and reduced procrastination (Roeser et al., 1996; Wolters, 2004). One aspect that should be investigated further is whether there are additive effects

of adopting personal goals based on the classroom goal structure as it relates to academic dishonesty.

This meta-analysis did not find autonomy, time perspective, performance avoidance goals, performance goal structure, extrinsic motivation, subjective task value, and attainment value as significant correlates of academic dishonesty. Although, the majority of the findings were consistent with prior research, the time perspective construct had opposing results. This study found that time perspective had a nonsignificant positive relationship with academic dishonesty and Orosz et al. (2016) found a negative relationship. This result could have been due to small sample size ( $k = 2$ ) as well as the construct being operationalized differently across studies.

Based on the overall meta-analytic findings, I created an updated theoretical model based on the findings (See Figure 4). This model highlights the variables that were most salient from the meta-analysis as it relates to academic dishonesty.

Within the achievement goal literature, an interesting finding was that performance approach goals were significantly associated with academic dishonesty, whereas performance avoidance goals were not. These goals are different in the sense that students who hold performance approach goals may engage in academically dishonest behaviors to outperform their peers, whereas students with performance avoidance goals may perform academic dishonesty to avoid looking incompetent; however, depending on the situation, students may increase or decrease their likelihood to perform academic dishonesty (hence the non-significant correlation). This does not necessarily suggest that performance avoidance goals are not an important predictor of academic dishonesty, but that these goals may operate in different directions in predicting

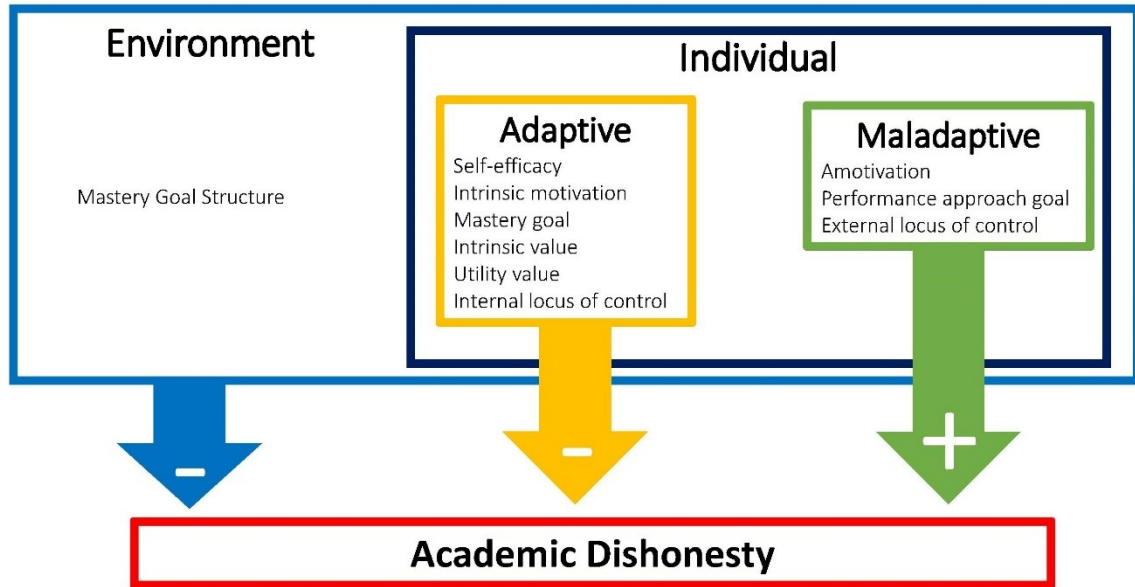


Figure 4. Updated theoretical model.

academic dishonesty depending on the student. For instance, students who adopt performance avoidance goals do not want to appear incompetent, thus they perform academic dishonesty to hide their perceived lack of ability. But on the other hand, maybe the fear of getting caught might make them look even more incompetent, so they avoid academic dishonesty. This may explain the findings of 12 studies reporting 7 negative and 13 positive associations with academic dishonesty. Performance avoidance goals may operate differently as there are two competing relationships ultimately rendering the relationship with academic dishonesty statistically null. This finding calls for future examination into the association between performance avoidance goals and academic dishonesty to further tease apart these subtle nuances.

Another part of achievement goal theory that had mixed results was classroom goal structure. Mastery goal structure was a significant correlate of academic dishonesty, but performance goal structure was not, indicating virtually no association with academic dishonesty ( $r = .02$ ). It is noteworthy that only one classroom goal structure would be a

significant correlate, whereas the other had no influence. Conceptually, if a classroom is structured around the importance of students achieving high grades, this may foster a competitive environment where students find different means to obtain high grades. Past studies indicated that performance goal structure increased the instances of academic dishonesty (Anderman & Midgley, 2004; Murdock et al., 2001), but this systematic analysis of 12 included studies (effect sizes ranging from  $-.35$  to  $.32$ ) found little to no influence on academic dishonesty. Included studies differentiated between the different goal structures by how students perceived what they were rewarded for, their academic performance or mastering the content (Barnhardt & Ginns, 2017; Anderman et al., 1998). What is interesting is that personal performance approach goals significantly correlated with academic dishonesty, whereas classroom goals focused on performance did not; which warrants the investigation of whether personal goals are stronger correlates of academic dishonesty than classroom environment learning goals. Furthermore, if students internalize the goal structures found within their learning environment as suggested by Eccles et al. (1993), do environmental contextual factors no longer influence academic dishonesty once a student has internalized them? More research is necessary to garner the information that is needed to answer these theoretical questions.

Additionally, there were mixed results on significant correlates within self-determination theory, intrinsic and extrinsic motivation. Intrinsic motivation was a strong negative correlate of academic dishonesty ( $r = -.17, p < .0001$ ), whereas extrinsic motivation was marginally associated with academic dishonesty ( $r = .07, p < .12$ ). From the 8 studies that investigated extrinsic motivation, the effect sizes ranged from  $-.02$  to  $.24$  with majority of the effect sizes between  $-.1$  and  $.1$ . Expectancy-value theory and

prior literature suggested that extrinsic motivation has a positive relationship with academic dishonesty; however, I found three included studies with negative associations. Included studies with different directions (positive versus negative) in effect sizes defined and measured extrinsic motivation similarly, students' decisions focused on external rewards or obtaining good grades compared to learning using a self-reported Likert scale response (Greenberger, Lessard, Chen, & Farruggia, 2008; Orosz et al., 2016). Similar to performance avoidance goals, extrinsic motivation may be positively linked towards academic dishonesty at times and at other times negatively. For example, a student may want good/high grades and actually feel good about the effort they put into obtaining those good/high grades, rather than relying on academic dishonesty. So, they are extrinsically motivated, but do not necessarily perform academic dishonesty. Again, the results from 8 different samples produced 5 negative and 7 positive associations with academic dishonesty bringing the overarching association to zero providing fruitful evidence for future researchers to disentangle the complexities regarding the relationship between extrinsic motivation and academic dishonesty.

### **Interpreting Overall Effect Sizes**

Although the magnitudes of effect sizes are traditionally interpreted according to set guidelines by Cohen (1992; small: .10, medium: .30, large: .50), these benchmarks are de-contextualized and fairly arbitrary. Researchers should consider that effect size magnitudes can vary by academic discipline. Thus, rather than comparing effect sizes to Cohen's guidelines, I opted to compare effect sizes found in my results to several observed effects in a meta-analysis of psychological correlates of college student's performance by Richardson, Abraham, and Bond (2012).

Although the overall main effects are small in magnitude, they are equivalent to those in prior meta-analyses. Richardson et al. (2012) conducted a meta-analysis on 217 included papers that measured the psychological correlates of college students' performance. The magnitudes (ignoring the direction) of average effect sizes were similar to this dissertation. Specifically, Richardson et al. discovered the overall main effects of locus of control ( $r = .13$ ), intrinsic motivation ( $r = .17$ ), extrinsic motivation ( $r = .01$ ), performance approach goal ( $r = .09$ ), and performance avoidance goal ( $r = -.14$ ); compared to this dissertation that found locus of control ( $r = -.13$ ), intrinsic motivation ( $r = -.17$ ), extrinsic motivation ( $r = .07$ ), performance approach goal ( $r = .11$ ), and performance avoidance goal ( $r = .08$ ). Although the average weighted correlations are modest, they mirror the effect sizes found by other meta-analyses that examined achievement outcomes.

Furthermore, it is important to realize how each motivation factor is a piece in a larger mosaic of motivation variables more broadly. When looking at the overall picture of the relationship between achievement motivation and academic dishonesty, our review showcases a host of variables that not only individually makes incremental contributions, but also collectively captures a driving force explaining academic dishonesty. We all have several motivation factors inside us at all times with certain factors having stronger influences on certain behaviors. Thus, this dissertation points to several motivation factors when taken together can unlock solutions in reducing academic dishonesty. Specifically, interventions can target multiple motivation pathways to decrease academic dishonesty.



## **Moderators of the Relationship between Achievement Motivation and Academic Dishonesty**

Although it is important and a necessary first step to evaluate the overall main effects, ample heterogeneity was found among various motivation factors; therefore, it is necessary to analyze possible moderators to understand whether these relationships vary by important study characteristics. In my study, notable moderators included publication status, institution type, country of origin, type of task, and form of academic dishonesty. It is crucial to note that not all moderators that were assessed were significant across all motivation variables due to small sample sizes or inadequate reporting among studies. The majority of the significant moderators were marginally significant ( $p < .1$ ), thus findings should be evaluated with caution and seen as trends that should be further examined in future research.

Publication status was a marginally significant moderator for self-efficacy suggesting that studies that reported higher significance were more likely to be published. However, this finding was inconsistent as the selection models did not find publication bias for any of the motivation factors. This inconsistent finding is not without limitations as several of the selection models had small sample sizes, which may have distorted the results. Overall, the evidence points to little publication bias in the meta-analysis.

Sample characteristics were also found to moderate the relationship between motivation and academic dishonesty, namely, institution type and country of origin. Institution type was a significant moderator for mastery goals and intrinsic motivation and value. For mastery goals and intrinsic motivation and value, students in postsecondary institutions had stronger relationships with academic dishonesty compared

to students in middle and high school. Institution type as a moderator may be explained by two factors, developmental and contextual. In terms of developmental reasons, compared to younger adolescents, postsecondary students may have more experience in performing academic dishonesty, just by virtue of being older. They are also exposed to more and diverse peers that may influence their behavior. College students also have increased autonomy to develop their own set of personal values. Also, as research has indicated that mastery goals in adolescents decline after middle school (Wigfield, Eccles, Iver, Reuman, & Midgley, 1991; Wang & Pomerantz, 2009), it follows that college students may be less mastery-oriented overall. Especially as college students may be more extrinsically motivated to prepare for their future careers, they may be less intrinsically motivated as well. Given that college students are already less internally driven compared to younger adolescents, the degree to which they have mastery goals and intrinsic value for what they are learning are perhaps more salient when considering academic dishonesty. In addition, there are a number of contextual factors to consider as well. For instance, there are different types of assignments and workload changes in postsecondary contexts compared to K-12 schooling. In addition, there may be increased facilitation of academic dishonesty for members/pledges of fraternities and sororities (Storch & Storch, 2002). Furthermore, the institutional policies and/or honor codes on academic dishonesty may also have an impact on students' academically dishonest behaviors and whether they are aware of the policies. Thus, programs focused on decreasing academic dishonesty via increasing students' mastery goals and intrinsic motivation and value may have a stronger effect when directed towards postsecondary students.

Another significant sample characteristic moderator was the country where students were sampled. Country of origin was a significant negative moderator for performance approach goals, implying that students outside of the U.S. had weaker relationships between performance approach goals and academic dishonesty. This finding may be due to international students living in a collectivist culture in which they are not concerned with performing better than their peers (McCabe et al, 2008; Pintrich, 2000). International institutions may have different contextual factors surrounding education such as deeming plagiarism and “helping” peers complete assignments as appropriate methods. Understanding how sample characteristics may moderate the relationship between motivation and academic dishonesty can inform practices, programs, and interventions efficacy if targeted at specific populations.

Features of academic dishonesty were also found to be significant moderators. The type of task academic dishonesty was performed on was a significant moderator for locus of control and performance approach goals. For internal locus of control, the relationship with academic dishonesty was stronger for both tests and assignments compared to general academic tasks. When considering dishonesty on specific academic tasks such as exams and assignments, perhaps students feel a greater sense of internal locus of control because they can exert more effort towards specific tasks. Accordingly, programs aimed at decreasing academic dishonesty, specifically on exams and assignments compared to general tasks, could create programs concentrated on increasing internal locus of control.

The relationship between performance approach goals and academic dishonesty was weaker when students performed academic dishonesty on assignments compared to

other general academic tasks. This suggests that the negative relationship between performance approach and academic dishonesty is attenuated when cheating on assignments. Perhaps assignments compared to exams and other unspecified tasks are not perceived as important for performance approach goal students who may want to demonstrate their competence through more high-stakes assessments such as exams. This is supported by evidence that the form of academic dishonesty was also found to moderate the motivation and academic dishonesty relationship. Academic dishonesty form was a significant moderator for performance approach goals. The relationship between performance approach goals and academic dishonesty was weaker when students plagiarized compared to other forms of academic dishonesty. This indicates that when students make the decision to plagiarize, they are less concerned with performing better than their peers as the main motivator for academic dishonesty. It is important to consider the characteristics of academic dishonesty when assessing possible predictors as students may have different motivators for different tasks and academic dishonesty methods. Additionally, practitioners and researchers can develop more informed initiatives if their aim is on decreasing a certain form of academic dishonesty or on specific tasks.

Finally, this meta-analysis did not find gender and major as significant moderators for the relationship between achievement motivation and academic dishonesty. This suggests that the motivation-academic dishonesty relationship does not differ depending on gender and major, specifically STEM and business. Most studies did not report the major or program of study for students, which limited the analysis of major as a possible moderator. These findings are consistent with the inconsistent findings within the

literature in predicting the prevalence of academic dishonesty by gender or major (Eastman et al., 2008; Williams et al., 2010). A possible rationale for major not being a significant moderator for the relationship between motivation and academic dishonesty could be from several studies finding conflicting results in terms of which majors performed more academic dishonesty. Some studies discovered that STEM and business majors performed more academic dishonesty (Harding et al., 2007; Williams et al., 2010), whereas Eastman et al. (2008) found the opposite results: non-business majors cheated more. Furthermore, Nathanson et al. (2006) and Ledwith et al. (2010) found no influence of major among cheating behaviors.

In terms of gender, prior research found that males tended to perform academic dishonesty at higher rates than females (Thorpe et al., 1999; Whitley et al., 1999). However, several studies found that additional factors interacted with gender while predicting academic dishonesty (Newstead et al., 1996; Niiya et al., 2008). Therefore, there may be other factors that gender depends upon when predicting the prevalence of academic dishonesty than solely gender alone. As a result, underlying gender differences, e.g., socializations, should be considered when studying inherent gender differences.

### **Implications for Research**

Results from this meta-analysis indicate important implications for both theory and practice in education and academic dishonesty. First, concerning implications for future research, my meta-analysis revealed notable gaps in the literature. For instance, the literature search exposed multiple achievement motivation predictors that have been scarcely examined. After extracting data, I discovered that constructs within self-determination theory (autonomy, extrinsic motivation, amotivation), expectancy-value

theory (subjective task value, attainment value, utility value) and future time perspective were minimally studied in prior research that was retrieved. For example, extrinsic motivation defined as behavior driven by external rewards (Ryan & Deci, 2000), is a relevant motivation predictor as external rewards such as grades are used to evaluate, rank, and advance within the education institution. Another important motivation predictor that is missing from the empirical literature was autonomy. Autonomy is the perceived independence or perception that an individual behaves on their own accord. If students do not feel that they are in control, they may resort to academic dishonesty as uncontrollable external forces are dictating their life. Additionally, time perspective, subjective task value, and attainment value did not have meaningful results as the sample sizes were small ( $k < 5$ ), thus more research is warranted to understand these possible influences.

Moreover, several motivation factors were academic dishonesty context specific compared to general motivation variables that were included in this study. For example, studies evaluating the relationship between attitude and academic dishonesty exclusively defined attitude as the attitude toward academic dishonesty rather than a general attitude toward education (Cronan et al., 2018). It is important to note the difference for potential program development as the structure for general attitudinal shift and specific shifts in attitudes towards academic dishonesty may operate differently.

Academic dishonesty specific motivation predictors within prior academic dishonesty frameworks were also missing from this meta-analysis. Murdock and Anderman's (2006) conceptual framework included cost defined as being caught, sanctioned, and perceiving self as dishonest instead of the expectancy-value definition of

having to give up something in order to do something else. No studies that reflected this kind of psychological cost were found. Potentially codeable studies after the initial title and abstract screening mirrored Murdock and Anderman's conceptual definition of costs. For instance, several studies defined cost as the severity of punishment, likelihood of being caught, peer reporting, and lack of penalties if a student was to get caught (Cochran, 2017; Huang, Shu Ching, & An-Sing, 2015; McCabe et al., 2006; Orosz, Farkas, & Roland- Lévy, 2013). Thus, future direction to measure general motivation predictors of academic dishonesty is needed as well as research to evaluate the theoretical difference, if any, between general and academic dishonesty specific motivation predictor measures.

Primary research that evaluate achievement motivation predictors of academic dishonesty are encouraged to further the field. Moreover, studies that describe the relationship of motivation and academic dishonesty across gender, major, prior academic achievement, institution, form of academic dishonesty, and type of task are missing or insufficient from the literature (which prevented me from evaluating moderator analyses). Although some reports provided demographic information, consistent and complete reporting was lacking to meaningfully evaluate them in the meta-analysis. A call for future research that explores additional achievement motivation variables and across multiple demographic groups and academic dishonesty characteristics is warranted.

### **Implications for Practice**

Furthermore, the results of this meta-analysis can provide direction for practice to promote academic honesty through student motivation. This dissertation found that mastery goal structure was the largest negative predictor of academic dishonesty

suggesting one method to decrease academic dishonesty through perceived classroom goals. Anderman and Koenka (2017) suggested several strategies to encourage a classroom goal focused on mastering the content over grade evaluations. They proposed that teachers emphasize mastery or effort and growth when presenting assessments in the following ways: minimizing the importance of publicizing grades, clearly communicating expectations, and openly discussing academic dishonesty. Amotivation was the largest positive predictor of academic dishonesty, stressing the importance of preventing students from feeling unmotivated. This may be accomplished by leveraging the finding of intrinsic motivation and value having a negative influence on academic dishonesty by incorporating students' interests within assessments. For example, an English course can allow students to participate in creating a written assignment over a topic of their interest, while still evaluating students' written skills. This may promote students in taking ownership of their assignment (increasing internal locus of control and autonomy) and create a sense of pride when presenting their paper. Altogether, practitioners should incorporate and encourage student involvement in their learning experience rather than allowing them to be passive passengers in their education journey.

Findings of this meta-analysis can also be used in the field of developmental education to continue to provide learning support to students at the postsecondary level. Institutions that offer academic support services can use the findings to promote adaptive motivation and discourage maladaptive motivation to decrease academic dishonesty. Support services can include tutoring, supplemental instruction, mentoring, academic coaching, and learning communities. These personnel can assist students with deeper content comprehension, developing learning strategies, and increasing self-efficacy to



decrease academic dishonesty (Pintrich & De Groot, 1990). In terms of intrinsic motivation and value, support services personnel can help students relate coursework to their interests to promote enjoyment while completing the task. To encourage internal attributions and locus of control, support services can provide feedback based on a students' effort rather than ability. Mastery goals may be instilled by explicitly conveying these goals by learning support personnel. They can express expectations based on learning and understanding material rather than on earning a high grade. Personnel can also help students create goals centered on learning strategies compared to external rewards (Acee, Weinstein, Dacy, Han, & Clark, 2012).

With regard to practice, this meta-analysis offers practitioners and administrators accrued and synthesized evidence of the usefulness of achievement motivation in decreasing academic dishonesty. Specifically, my findings can be used to develop practices, programs, orientations and interventions that focus on modifying achievement motivation to decrease academic dishonesty. Majority of academic dishonesty interventions are focused on learning policies, skills, and definitions ignoring the potential power of integrating motivation within the interventions. Motivation interventions can unlock students' potential, recruit current recursive processes to produce ongoing effects, and provide advantages to taking learning opportunities (Yeager & Walter, 2011). For example, a motivation intervention concentrated on students' attributions established a recursive process within first-year university students increasing their performance each subsequent semester and reinforced by adaptive attributions (Wilson & Linville, 1982, 1985). Therefore, researchers and practitioners can create orientation programs, classroom practices, and interventions focused on increasing

students' self-efficacy, mastery goals, perceived classroom mastery goal structure, internal locus of control, intrinsic motivation and value, and utility value, while decreasing students' amotivation and performance approach goals to help decrease academic dishonesty.

### **Limitations**

The main limitation for this study is its generalizability, relying on correlational data and conducting exploratory analyses of moderators. Because experimental research methodology within academic dishonesty literature was scarce, the quality of the meta-analysis became subject to the limitations of the included studies research designs. When conducting meta-analysis research, synthesis-generated evidence should not be inferred as supporting causality statements (see Cooper, 1998). Therefore, when different report characteristics are discovered to be associated with effect sizes, these results should be used for future research directions to investigate those factors in a controlled design so causal impact can be evaluated. It is important to note that several of the findings were based on small amounts of effect sizes, creating difficulty in placing confidence in the direction and magnitude of estimated effects. Additionally, only quantitative studies were examined for constructs that could alternatively be explained qualitatively. Therefore, there may be measurement error in how different authors conceptualized and operationalized constructs that were collapsed together for analyses.

Another limitation is the measurement error and validity in measuring academic dishonesty. Given social desirability bias, the ability to assess actual academic dishonesty is a particularly challenging construct to measure. Social desirability bias can impact the methodology as participants provide favorable or socially desirable images of themselves

to researchers (Johnson & Frendrich, 2002). The validity of findings is influenced by social desirability bias and frequently produces over-reported 'good' behavior. Several included studies measured social desirability bias, but used the measure as a control variable when conducting regression analyses. Thus, the findings reported within the included studies may be inappropriate as they are confounded by social desirability bias and skew the observed correlations. Although this dissertation was affected due to the inclusion of studies that did not control for social desirability, I opted to include these studies as the number of effect sizes would have been further reduced. Lastly, the variability in the quality of different instruments may affect the observed differences in correlations based on the academic dishonesty measurement used.

Finally, there were several important variables that could not be investigated as moderators due to inconsistent and incomplete reporting in the included studies. Sample and academic dishonesty characteristics such as major or program of study, prior academic achievement, institution, type of task and form of academic dishonesty could not be robustly evaluated for several motivation predictors. Future research is encouraged to systematically evaluate these factors to uncover their moderating influence on the relationship between achievement motivation and academic dishonesty.

### **Summary of Chapter 5**

Synthesizing reports frequently leads to critical implication for theory and practice. This dissertation found the degree which achievement motivation influences academic dishonesty. Generally, this meta-analysis found three main groups of achievement motivation factors that influenced academic dishonesty: adaptive, maladaptive, and environmental. Findings are salient for the field of education as the

purpose of educational institutions is to educate individuals and using academic dishonesty to progress through educational levels may lead students to not learning requisite knowledge. Regarding theory, the findings explicated how motivation links students' beliefs and values to academically dishonest behavior. This study also added to the existing literature by providing a systematic review, analysis, and summary of empirical research to determine the motivational variables with the greatest associations to academic dishonesty. This dissertation proposed an updated theoretical model for academic dishonesty literature with additional motivation theories that should be examined further. I illustrated that gaps in the academic dishonesty literature still exist after 40 years of research. Future research is needed to further uncover the motivation influences on academic dishonesty across different sample groups and academic dishonesty characteristics. In regards to practice, by confirming significant modest relationships between motivation and academic dishonesty, this meta-analysis offers practitioners synthesized evidence to customize practices, programs, and orientations that focus on developing the most potent motivation factors. This dissertation found that perceiving a classroom to have mastery goals, or goals focused on mastering the content, was the most influential motivator for decreasing academic dishonesty. Therefore, teaching strategies that demonstrate a classroom goal of mastery is one method to decrease academic dishonesty. Overall, this dissertation provided an accumulated and synthesized report of the relationships between achievement motivation factors and academic dishonesty for future practitioners and researchers to create more focused practices, programs, and interventions aimed at decreasing academic dishonesty.

**APPENDIX SECTION**

A. AD CODING GUIDEBOOK V.1 .....122

## APPENDIX A: AD CODING GUIDEBOOK V.1

<b><i>Report Characteristics</i></b>	
R1. What was the first author's last name?	
R2. What was the year of appearance of the report of publication?	
R3. What type of report was this?	Journal article Book or book chapter Dissertation MA thesis Government paper (state, federal, or district) Conference paper Other (specify) Can't tell
R4. What was the publication status?	Published (articles) Unpublished (dissertations, theses, reports)

<b><i>Setting Characteristics</i></b>	
S1. What is the study ID number? (if there are multiple studies in a report)	
S2. What type of school was the study conducted in?	Elementary School Middle School High School Community College Four-year College/University Professional School Other Can't tell
S3. Country of origin	U.S. Non-U.S.

<b><i>Participant and Sample Characteristics</i></b>	
P1. What is the sample's ID number? (if there are multiple samples in a report)	
P2. Is this relationship for the overall sample or a subgroup?	Overall sample Subgroup (specify)
P3. What was the socioeconomic status (SES) of students in the sample?	Low SES Low-middle SES Middle SES Middle-upper SES Upper SES Only labeled as "mixed" Not reported
P4. What sexes were represented in the sample?  P4a. If reported, what was the percentage of females in the sample?	Male Female No sex information given
P5. What race/ethnicities were represented in the sample?  P5a. What were the percentages of the race/ethnicities represented?	White Black Asian Hispanic Native American Other Not reported
P6. What kind of major/program were students in?  P6a. What were the percentages of the majors/programs represented?	Math Science Business General Not reported Not applicable Other (specify)
P7. GPA	GPA
P8. Age	Age  Specify (mean/median)

<b><i>Academic Dishonesty Outcome Measure</i></b>	
O1. Academic Dishonesty	<b>Academic Dishonesty</b> Collaboration with peers Falsifying a bibliography Copying another student Using unauthorized notes on exam Searching for exam answers during examination (internet, smartphone) Purchasing paper Using website to copy and paste sections applicable to assignment
O1b. Academic Dishonesty Form	<hr/> Cheating Plagiarism General AD (cheating and plagiarism) <hr/>
O1c. What was the task?	<b>Task</b> Assignment Exam or test General (assignment and test) <hr/>
O1d. What are the task characteristics?	<hr/> Difficulty Grade/point worth High/low stakes <hr/>
O1e. How does the author describe academic dishonesty? Pg. #	
O1f. How was academic dishonesty measured? Name of instrument if used.	
O1g. What was the internal consistency for the academic dishonesty instrument used?	<hr/> $\alpha = . \quad \quad$ <hr/>
O1h. What was the form in which academic dishonesty was measured?	Self-reported Sanctioned Hypothetical Observed Laboratory
O2. Name of measure	Specify Page number



O3. Domain of outcome	General Academic Specific academic subject Math Science English/Language Arts Social Studies/Science Others specify
O4a. Social desirability bias measure included in study?	Yes No
O4b. Name of SDB measure	
O4c. Were items removed that correlated with SDB?	Yes No

<b><i>Motivation Predictor Measure</i></b>	
V1. Predictor	Amotivation Attainment value Attitude Autonomy Competence Connectedness Controllability Cost value Expectancy External LOC Extrinsic motivation Internal LOC Intrinsic motivation Intrinsic value Locus of causality Mastery goal Mastery goal structure Perceived behavioral control Performance goal Performance goal structure Relatedness Self-efficacy Stability Subjective norm Utility value Valence
V1a. How does the author describe this predictor? Pg. #	

V2. Name of measure	Specify Page number
V3. Domain of predictor	General Academic Specific academic subject Math Science English/Language Arts Social Studies/Science Others specify
V4. Domain specific between outcome and predictor?	Yes No
V5. What was the internal consistency of the motivation variables, if reported?	Each motivation variable $\alpha = . \quad \quad$

<b><i>Effect Size (Correlation) Information</i></b>	
E1. What was the total sample size for this relationship?	
E2. What was the effect size?	Each motivation variable: $r = 0.$
E2a. Record relevant information used to calculate effect size (if effect size was calculated):	M1:    SD1: M2:    SD2: $p$ values $F$ value $t$ value sample size (n) chi-square
E2b. Was the effect size reverse-coded?	Yes No

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\*Studies included in the meta-analysis are denoted by an asterisk.

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