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Examining the Relationship Between Academic Integrity and Moral Reasoning Among Physical Therapy Students

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EXAMINING THE RELATIONSHIP BETWEEN ACADEMIC INTEGRITY AND MORAL REASONING AMONG PHYSICAL THERAPY STUDENTS

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Gary Dean Schindler

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ABSTRACT

According to research conducted from 2002-1012 by the International Center for Academic Integrity, 43% of graduate and 68% of undergraduate students admitted to cheating on written assignments or tests. However, minimal research exists on physical therapy (PT) students' perceptions of academic dishonesty. Moral reasoning has been investigated throughout medical programs with PT students having displayed lower levels than other professional students. However, no studies investigating the relationship between academic integrity and moral reasoning in PT students exist. Therefore, the purpose of this study was to investigate moral reasoning and academic integrity among PT students.

Data from seven Midwest PT programs (three private and four public) was collected for this study. Student physical therapists (N = 474) completed McCabe's Academic Integrity Survey and the Defining Issues Test (DIT-2). Online surveys were available for off-campus students unable to attend in person. Data were analyzed using descriptive statistics and differences between groups (two-way ANOVA, independent *t*-tests). Correlations, regressions, and factor analysis were used to identify potential predictors of scores.

A significant relationship between moral reasoning and academic integrity was found. As moral reasoning levels elevated, cheating frequencies reduced while perceived seriousness of cheating increased. No significant differences were noted among PT students regarding moral reasoning. However, second- and third-year students perceived and reported witnessing greater cheating in their professional programs than first-year students.

PT students attending private institutions reported fewer cheating frequencies, higher perceived seriousness of cheating, and higher moral reasoning scores than PT students attending public institutions. PT students attending public institutions reported witnessing increased cheating in their pre-professional coursework. Predictors of academic integrity included perception of cheating within professional programs, perceived seriousness of cheating, moral reasoning scores, and cheating frequency; predictors of moral reasoning included frequency of cheating, gender, political views, and religion.

This study highlighted the relationship between moral reasoning and academic integrity in PT students. These findings may inspire educators to implement additional ethical development and academic integrity training within their PT curriculae. Academic dishonesty has been linked to workplace dishonesty in multiple professions. Therefore, advanced training during PT education may impact workplace integrity in the future.

CHAPTER I

BACKGROUND

Introduction

"I hope I shall always possess firmness and virtue enough to maintain what I consider the most enviable of all titles, the character of an honest man" (George Washington, August 28, 1788). Honesty is a characteristic which is strived for and sought after from most individuals and is praised when it is fully attained. This highly sought after characteristic is important in many situations and can occur in and out of academics. Academic integrity is an important concept to consider in all realms of education and according to McCabe, Butterfield, and Trevino (2012):

> We should care about academic integrity because we believe it is one of the issues that students face in college for which colleges and universities can make a difference, providing society's future leaders with an experience of living within a community of integrity- a touchstone for their future. (p. 5)

Academic Integrity

The majority of educators are aware that academic dishonesty is a serious and persistent problem in higher education over the past four decades (Harding, Carpenter, Finelli, & Passow, 2004a). Academic dishonesty has been traditionally defined as "the act of giving or receiving unauthorized assistance in an academic task or receiving credit

for plagiarized work" (Storch & Storch, 2002, p. 247). According to Underwood and Szabo (2003), academic dishonesty typically includes acts of plagiarism, the use of concealed notes, exchanging work with other students, buying essays, or in some extreme cases, asking others to sit examinations for you.

Academic dishonesty in the classroom is not a new problem with rates of students admitting to academic dishonesty steadily rising throughout all realms of education (Bertram Gallant, Van Den Einde, Ouellette, & Lee, 2014) and have ranged from 13% to as high as 95% (McCabe & Trevino, 1997). Three years of data, consisting of 50,000 college and 18,000 high-school students in the United States, collected by Duke University's Center for Academic Integrity, illustrated more than 70 percent of students having admitted to cheating (McCabe, 2005). That is elevated from 52% in 1993 and just 26% in 1963 (McCabe & Trevino, 1993; McCabe & Trevino, 2002; Vencat, Overdorf, & Adams, 2006). A good description of student cheating and/or misconduct was provided by Davis, Drinan, and Bertram Gallant (2009). "When we talk about student cheating, academic cheating, or academic misconduct, we are referring to acts committed by students that deceive, mislead, or fool the teacher into thinking that the academic work submitted by the student was a student's own work" (p. 2).

Research has not only identified academic dishonesty as a rising problem in undergraduate studies, but in graduate studies as well. Academic dishonesty has been studied in multiple professional programs such as pharmacy, engineering, business, dentistry, medical school, and nursing. Austin, Collins, Remillard, Kelcher, and Chui (2006) completed a study which involved four pharmacy schools in Canada. Their

results identified widespread academic dishonesty among pharmacy students in Canada. Further studies of American pharmacy students supported their conclusions and indicated pharmacy students having admitted to cheating up to 16 % of the time and 74 to 90% stated they believed classmates cheated, but that academic dishonesty is not a problem (Rabi, Patton, Fjortoft, & Zgarrick, 2006; Whitley, & Starr, 2010).

Cheating is not only prevalent within individual students, but has been evident among groups of individuals, including faculty. Cheating scandals have occurred, are prevalent in education, and routinely make national headlines. For example, in 2013 a grand jury indicted 35 Atlanta Public School employees engaged in the conspiracy of artificially inflating students' standardized test scores to give a false sense that struggling schools were improving. Specific examples in higher education included 15 Chinese nationals in a scheme in which they paid up to $6,000 for other people in the United States to take the SAT, the GRE, and other college and graduate school standardized entrance exams. In addition, Harvard University students were stripped of four quiz bowl tournament titles between 2009-2011 for accessing the competition website. Hence, even though higher education is attempting to improve academic integrity across campuses, cheating still persists. The prevalence of cheating places the leaders in education on notice that something needs to be done to reduce the incidence of cheating.

Whereas the rate of academic dishonesty has elevated throughout the years, great strides have been made to combat this behavior. The International Center for Academic Integrity (ICAI) was formed in March of 1992 by Donald McCabe of Rutgers

University. "ICAI was founded to combat cheating, plagiarism, and academic dishonesty in higher education" (International Center for Academic Integrity, 2015a). The ICAI provides assessment services, resources, and consultations to its member institutions, and facilitates conversations on academic integrity topics each year at its annual conference (International Center for Academic Integrity, 2015). Such services may help improve students' overall academic integrity by influencing and providing educational supports that impact moral reasoning (Kohlberg & Hersh, 1977).

Moral Reasoning

Moral reasoning can be identified as moral judgment, ethical reasoning, or by other terms. Wesleyan University (2015) defines moral reasoning as the ability to reflect on moral issues in the abstract and in historical narratives within particular traditions. Moral reasoning is the ability to identify, assess, and develop ethical arguments from a variety of ethical positions that concern right and wrong, good and bad, as well as matters of justice, fairness, virtue, and social responsibility (Wesleyan University, 2015). Walker (2002) defines moral judgment as a process which:

> Entails deliberation regarding the various considerations relevant to different courses of action and making a judgement regarding which of the available actions would be most morally justifiable. The process of justification involves determining what the moral ideal is and integrating shared moral norms and individual moral principles. (p. 355)

A wide range of ethical and regulatory issues can confront healthcare professionals today, especially in the field of physical therapy. Due to the advances in

technology, reimbursement by insurance companies, and managed care, “health care professionals may be exposed to more ethical dilemmas than ever before, placing them in positions in which ethical decisions must be made” (Dieruf, 2004, p. 24). These ethical and regulatory issues, which may be due to fiscally driven rules, regulations, and limited benefits (Richardson, 2015), could prompt healthcare providers to compromise what is best for their patients.

As physical therapists expanded their scope of responsibilities, the need to address moral development and ethical education of these professionals became more critical (Swisher, 2002). In healthcare, one of the main goals regarding professional ethics is to provide a caring response in situations encountered while performing professional roles and functions (Purtillo & Doherty, 2010). Specifically related to physical therapy, Gabbard and Martin (2011) stated:

> Ethics is the heart of professionalism. Just as much as technical skill, moral commitment enables physical therapists to provide quality services for patients, work effectively with colleagues, and maintain the trust of the public. At a more personal level, moral commitment motivates, guides, and gives meaning to work. (p. ix)

Physical therapists’ special expertise and roles, working closely and at length with patients, brings a unique perspective to healthcare and can, according to Gabbard and Martin (2011), promote professionalism and health care ethics that encourage a trusting and caring relationship with patients.

Recognizing the importance of moral reasoning, most undergraduate and graduate programs include ethical and moral reasoning in their curricula (Edwards, Van Kessel, Jones, Beckstead, & Swisher, 2012; Geddes, Salvatori, & Eva, 2008). Several researchers (Dieruf, 2004; Edwards et al., 2012; Geddes et al., 2008; Kim, Park, Son, & Han, 2004; King & Mayhew, 2002) identified a positive correlation between levels of education and levels of moral reasoning. King and Mayhew (2002) for example, noted the best predictors of enhancing moral judgment were age and level of education. These authors reviewed 172 studies in order to investigate the moral development of undergraduate college students and provide a framework for analyzing educational contexts in higher education. Their findings suggested that dramatic gains in moral judgment were associated with collegiate participation, even after controlling for age and level of moral judgment entering college (King & Mayhew, 2002). As age and educational level increased, so did the individual level of moral reasoning.

Multiple researchers (Kim et al., 2004; King & Mayhew, 2002) agree that increased education may predict university students' improved levels of moral judgment and reasoning, including students in the field of physical therapy (Dieruf, 2004; Edwards et al., 2012; Geddes et al., 2008). Conversely, while a significant amount of research identifies education as an important contributor to moral reasoning, Dieruf (2004) reported no change in physical and occupational student therapists' moral reasoning following ethics education at New Mexico University. However, Dieruf (2004) did acknowledge a small sample size (N = 94) and lack of institutional generalizability as limitations and concluded that occupational therapy and physical therapy programs

must “take the responsibility for evaluating students and implementing curricula that facilitate ethical decision making” (p. 24).

Need for the Study

One only needs to pick up a newspaper or watch the national or local news to become aware of reports of multiple scandals. Questionable workplace practices have occurred for years and appear to be becoming more prevalent. For example, there are previous Oval Office (the official office of the president of the United States) scandals, such as sexual harassment, infidelity, lying under oath, and illegal campaign contributions to name a few (Nonis & Swift, 2001).

Other scandals may also include Enron, Benghazi, and the Iraq War as additional scandals that have occurred more recently. Scandals seem to occur more frequently in the news regarding business and politics, but are also prevalent in the field of healthcare. For example, CNN (July 30, 2014) reported multiple stories regarding instances where United States armed forces veterans died while waiting for care at the Phoenix, AZ Veterans Health Administration facilities (VA). According to Devine, Turk, and Bronstein (2014), roughly half the schedulers at multiple VA hospitals said they received instructions from supervisors to falsify data and hide the true time it took patients to be seen by a doctor after making an appointment. Furthermore, schedulers stated supervisors directed them to manipulate information so their centers could meet performance goals which would help top officials get bonuses, according to documents obtained by CNN (Devine et al., 2014).

It appears that today's college students are growing up in a society where ethical values are declining and scandals involving dishonesty in government, business, and other organizations are frequent occurrences (Graves & Austin, 2008). What then, if any, is the relationship among moral reasoning, decision-making, and academic dishonesty?

Moral reasoning may be impacted by many influences that affect several decision-making processes. Kohlberg (1981) supports that developing moral reasoning may lead to appropriate decision-making and that individuals' moral reasoning may dictate good rather than bad decisions or behaviors. Many studies have identified a growing prevalence of academic dishonesty among undergraduate and graduate students. Whereas many studies have been conducted in business (Klein, Levenburg, McKendall, & Mothersell, 2007; Smyth & Davis, 2004), engineering (Bertram Gallant et al., 2014; Carpenter, Harding, Finelli, Montgomery, & Passow, 2006; Harding et al., 2004a; Passow, Mayhew, Finelli, Harding, & Carpenter, 2006;), nursing (Arhin & Jones, 2009; Brown, 2002), pharmacy (Rabi et al., 2006), and accounting (Burke, Polimeni, & Slavin, 2007), only three research articles that pertained to physical therapy were identified (Bates, Davies, Murphy, & Bone, 2005; Mohr, Ingram, Fell, & Mabey, 2011; Montuno et al., 2012). For example, Montuno et al. (2012) surveyed 174 eligible physical therapy students and 250 physical therapy educators in order to investigate academically dishonest behaviors based on physical therapy students' current practices and educators' prior behaviors as physical therapy students. Montuno et al. (2012) found results similar to those of earlier studies in which academic dishonesty was

significantly prevalent in professional programs (Aggarwal, Bates, Davies, & Khan, 2002; Austin, Simpson, & Reynen, 2005; Bates et al., 2005). Therefore, there is a significant need for further research regarding academic dishonesty and physical therapy students.

If a student is prone to cheating in college, will that student also exhibit lower levels of moral reasoning or higher prevalence of workplace dishonesty compared to the student who is not prone to cheating (Nonis & Swift, 2001)? As described in previous paragraphs, significant concerns exist regarding academic dishonesty in higher education, including professional programs. Several studies (Burke et al., 2007; Graves and Austin, 2008; Harding et al., 2004a) have found correlations between academic dishonesty and work place dishonesty. Other studies (Harding et al., 2004b; Blankenship & Whitley, 2000; Hilbert, 1985; Kerkvliet, 1994) have found correlations between academic dishonesty and certain deviant behaviors, such as careless driving, theft from employers, and alcohol abuse.

Research from a variety of fields supports the theory that students who exhibit academic dishonesty in college are more likely to behave unethically in the workplace (Burke et al., 2007; Graves & Austin, 2008; Harding et al., 2004b; Lucas & Friedrich, 2005; Nonis & Swift, 2001; Sims, 1993). This unethical practice may be associated with individuals' overall moral reasoning levels. Moral reasoning has been investigated in multiple professions; however, currently no research has investigated the relationship between academic dishonesty and moral reasoning of physical therapy students. One could argue if academic dishonesty has been shown to lead to unethical behavior in the workplace in the fields of nursing, medicine, engineering, business, accounting,

psychology, and pharmacy, then a similar relationship between academic dishonesty and workplace dishonesty might be found among physical therapy students as well.

Therefore, this study addressed the gaps in the literature by investigating relationships between student physical therapists' perceptions of academic integrity and moral reasoning. This study added to the literature a deeper insight as to the perceptions of student physical therapists regarding moral reasoning and academic integrity. Multiple researchers have identified a strong correlation among academic dishonesty, moral reasoning, and workplace dishonesty. For example, Graves and Austin (2008) surveyed 124 undergraduate and graduate business students and investigated the students' cheating habits and deviant behaviors. Their research indicated that "students who cheat in high school and/or college are more likely to engage in certain deviant behaviors in the workplace" (Graves & Austin, 2008, p. 15). Many researchers who have found similar results, and although this topic is concerning, it has never been studied (to the best of this authors knowledge) in the physical therapy profession.

This study provided information which investigated whether a correlation existed between academic dishonesty and moral reasoning. If correlations exist, there may be concern for a potential overflow of dishonesty and lower moral reasoning into the workplace. Deeper investigation of workplace dishonesty, as it relates to academic dishonesty and moral reasoning, has potential to be a topic of future research in physical therapy.

Purpose of the Study

The purpose of this study was to quantitatively investigate the perceptions of physical therapy students at seven Midwest universities regarding academic integrity and moral reasoning to determine whether a relationship existed. The research hypothesis of this study was that a positive correlation existed between students' perceptions of academic integrity and moral reasoning. This study also attempted to identify academic integrity and moral reasoning predictors, while assessed differences between institutions and among first-year, second-year, and third-year students.

Multiple studies indicate prevalence of student academic dishonesty throughout undergraduate and graduate studies; however, limited to no research exists regarding the relationship between moral reasoning and academic dishonesty among physical therapy students. Investigating this relationship might influence developing or modifying curriculum that may subsequently result in reduction in academic dishonesty and improve moral reasoning for physical therapy students.

Study Rationale

Academic dishonesty research, regarding prevalence, factors, and prevention techniques, is found in multiple programs including medicine (Baldwin, Daugherty, Rowley, & Schwarz, 1996), engineering (Bertram Gallant et al., 2014), nursing (Arhin & Jones, 2009), accounting (Burke et al., 2007), pharmacy (Rabi et al., 2006), psychology (Lucas & Friedrich, 2005), and business (Klein et al., 2007). However, only three studies have investigated academic dishonesty regarding physical therapy students (Bates et al., 2005, Mohr et al., 2011, Montuno et al., 2012).

In addition to academic dishonesty, moral reasoning has been investigated within the medical professions; however, only minimal amounts of research have been conducted specifically regarding the moral reasoning of physical therapy students. Moreover, to the best of this author's knowledge, no research has investigated the relationship between physical therapy students' perceptions of academic integrity and moral reasoning. Since no current research is available, this study offered new information which pertained to the field of physical therapy.

If a correlation existed between student perceptions of academic integrity and moral reasoning, then one might argue for the importance of continued education and possible modification of physical therapy curriculum, making this study significant. According to Theory of Planned Behavior (TPB) [see Theoretical Framework section pp. 13-18], academic dishonesty stems from attitudes, subjective norms, and perceived behavioral controls. Therefore, if education can influence understandings regarding the importance of academic integrity and moral reasoning, it might be argued that the incidence of cheating will be reduced and the improvement of overall moral development of physical therapy students will be realized. This result, according to research, should have a direct effect on ethical decision making and workplace behaviors (Callahan, 2008; Harding et al., 2004b; LaDuke, 2013; Swisher, 2010).

It is difficult to determine if academic dishonesty would lead to workplace dishonesty in physical therapy, because no such study has been completed; however, studies have found significant correlations between academic dishonesty and workplace dishonesty in the field of engineering, business, accounting, and nursing. Therefore, one

may assume that since a correlation has been found in multiple professional programs, there is a high likelihood that they may be present in physical therapy as well.

Research Questions

This study attempted to answer four specific research questions. Each question pertained specifically to physical therapy students. The following research questions include:

Research Question 1

Is there a significant relationship between physical therapy students' perceptions of academic integrity and moral reasoning?

Research Question 2

Is there a significant difference among first-year, second-year, and third-year physical therapy students in regard to their perceptions of academic integrity and moral reasoning?

Research Question 3

Is there a significant difference between physical therapy students at public versus private institutions in regard to their perceived academic integrity and moral reasoning?

Research Question 4

Are there specific predictors of academic integrity and moral reasoning in first-year, second-year, and third-year physical therapy students?

Research Hypotheses

The following research hypotheses were utilized to support the research questions for this study.

H1: There will be a significant correlation between student physical therapists' perceptions of academic integrity and moral reasoning (Harding, Mayhew, Finelli, & Carpenter, 2007; Meng, Othman, Lawrence, and Omar, 2014; Lin & Ding, 2003).

H2: There will be significant differences in academic integrity and moral reasoning perceptions among first-, second-, and third-year physical therapy students. (King & Mayhew, 2002).

H3: There will be significant differences in academic integrity and moral reasoning perceptions between physical therapy students attending private and public institutions (Brown & Choong, 2003; McCabe & Pavela, 2000).

H4: Moral reasoning will be a significant predictor of academic integrity in physical therapy students (Ajzen, 2006; Meng et al., 2014; Lin & Ding, 2003).

Theoretical Framework

The Theory of Planned Behavior (TPB) provides the theoretical framework for this study. Ajzen (1991) showed that individuals make decisions to engage in specific behaviors based on their own beliefs about their behavior and their expectations of a positive outcome. Three components, according to Meng et al. (2014), predict intention to engage in a specific behavior: a) attitudes toward the behavior, b) subjective norm, and c) perceived behavioral control. Intention is what occurs prior to the behavior with

favorable attitude and supportive group values resulting in remarkable intention to carry out the behavior (Meng et al., 2014). Overall:

> Intentions to perform behaviors of different kinds can be predicted with high accuracy from attitudes toward the behavior, subjective norms, and perceived behavioral control; and these intentions, together with perceptions of behavioral control, account for considerable variance in actual behavior. (Ajzen, 1991, p. 179)

The components of TPB directly affect the individual's intention to complete behaviors while intention, in turn, influences whether an individual ultimately engages in that behavior (Meng et al., 2014).

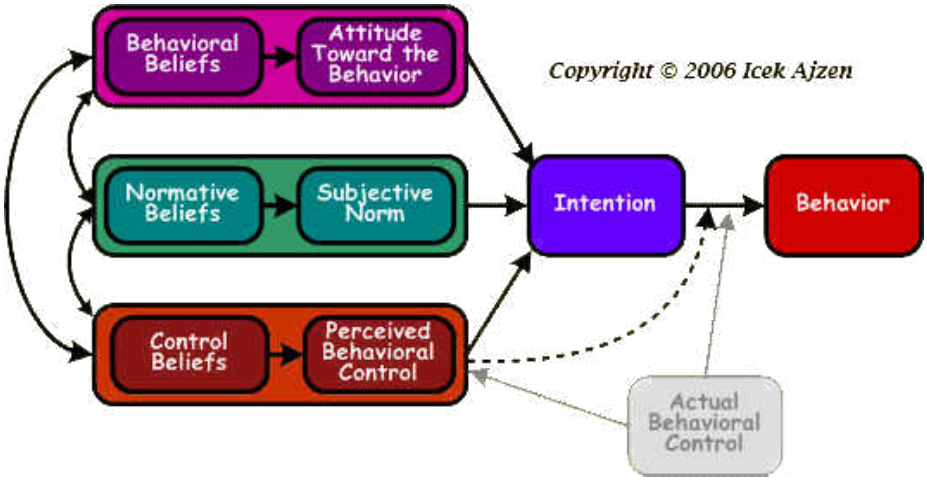

Figure 1. Theory of Planned Behavior Diagram.

According to Beck and Ajzen (1991), intention occurs prior to the behavior and intentions to engage in unethical behavior are highly correlated with actual unethical behavior. Beck, a colleague of Ajzen, assisted in further research regarding moral obligations as being a potential determinant of intentions. Furthermore, Beck and Ajzen (1991) argued the importance of past behavior being included in the model. Attitude

towards behavior is characterized by the extent to which students agree or do not agree with academic dishonesty. This attitude may create a more or less likelihood of forming intentions to engage in cheating or other forms of academic dishonesty (Beck & Ajzen, 1991). One theory which may predict whether or not students commit academic dishonesty is social (subjective) norm theory, also known as Social Norms Theory (SNT).

According to literature regarding SNT, people use their beliefs about other people's behavior to make their own decisions regarding participating in similar behaviors (Engler, Landau, & Epstein, 2008; Perkins, 2003). SNT is the individual's perceptions of the belief of others as it pertains to whether or not a certain behavior of interest should be performed (Ajzen, 1991). Social (subjective) norms theory assists in supporting what Ajzen was identifying regarding attitude and intention. Ajzen (1991) illustrated that people make decisions regarding performed behaviors based on their beliefs and expectations of positive outcomes. Therefore, the components of TPB directly affect one's intention to complete behavior and intention, which in turn, influences whether an individual ultimately engages in the behavior (Meng et al., 2014).

Engler et al. (2008) suggested that people use their beliefs about other people's behavior to make decisions about their participation in similar behaviors. However, they found that students are notoriously inaccurate when it comes to judging the norm. Whitley (1998) adds, students who perceive that social norms permit cheating, will cheat to a greater extent than students who perceive cheating as a non-supportive norm. Therefore, subjective norm has a strong effect on cheating, such that students who perceive cheating is common are more likely to cheat than those who believe

cheating is not common. McCabe, Butterfield, and Trevino (2003) found consistencies in their study, regarding subjective norm and prevalence of cheating, by identifying that student perceptions of peers' behaviors were the most significant predictor of academic dishonesty.

Additionally, perceived behavioral control is a component of TPB in order to "enhance prediction in situations where behavior may be constrained and/or violates norms or rules, such as academic integrity policies" (Meng et al., 2014, p. 130). It is suggested that when individuals perceive intended behavior constraints, perceived behavioral control could help to explain discrepancies between intentions and behavior (Ajzen, 1991). Therefore, students have a greater likelihood of committing academic dishonesty if they perceive fewer barriers being present or if they perceive the level of consequences to be less than the reward to be achieved. Previous studies identify a strong indication that perceived behavioral control is able to enhance the prediction where behavior is not completely under a person's volitional control (Meng et al., 2014; Passow et al., 2006; Stone, Jawahar, & Kisamore, 2009).

In a study based on the TPB, Beck and Ajzen (1991) concluded past and future behavior are only correlated to the extent to which attitudes, subjective norms, perceptions of behavioral control, and intentions have not changed over time. For example, if a correlation exists between high school cheating and college cheating, "one would presume that the underlying determinants, what some would refer to as the morality of the individual, have not changed from one context to the other" (Harding et al., 2004a, p. 2). Thus, if such a correlation does exist, one may argue that situational

factors may have a less significant influence than the underlying moral determinants (Harding et al., 2004a).

Meng et al. (2014) supported this theory and found that an individual's personal moral philosophy and intention may interact. Therefore, moral philosophy may serve as a mediating factor in influencing students' intention to engage in academic dishonesty (Meng et al., 2014). Other studies (Forsyth, 1985; Lin & Ding, 2003), suggested that the processing of information, regarding individual or peer wrong doing, may be affected by the difference in ethical ideology. In addition, Lin and Ding (2003) indicated ethical judgments significantly influencing behavioral intention formation. This research, supporting the importance of moral reasoning when discussing intentions and behavior, is what prompted the modification of the TPB to include personal moral philosophy (see Figure 2).

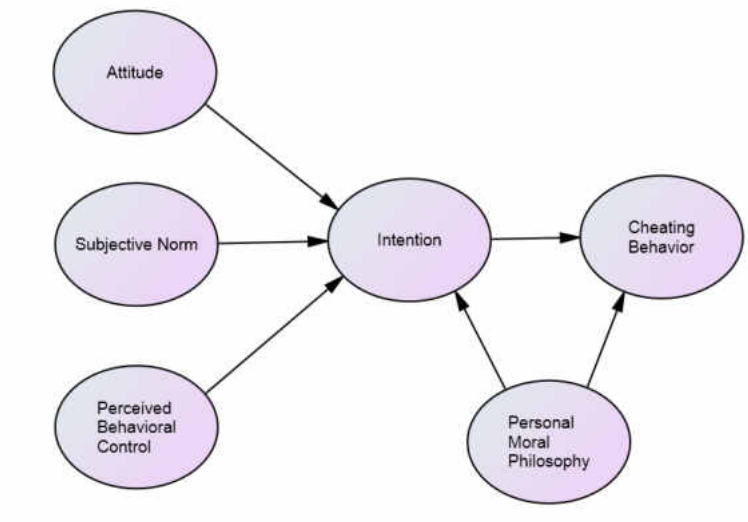

Figure 2. Modified Theory of Planned Behavior.

In an additional study based on the TPB, Harding et al. (2007) surveyed 527 engineering and humanities students regarding the use of the TPB in understanding the decisions of undergraduate students to engage in cheating. The model demonstrated how:

> Certain variables (gender, discipline, high school cheating, education level, international student status, participation in Greek organizations, or other clubs) and moral constructs related to intention to cheat, attitudes toward cheating, perceptions of norms with respect to cheating, and ultimately, cheating behaviors. (Harding et al., 2007, p. 255)

The results of their study provided significant evidence of moral reasoning as it pertained to academic dishonesty.

Data suggest that disciplines with higher self-reported levels of academic dishonesty are producing professionals with seriously compromised morals who are more likely to participate in professional dishonesty (Blankenship & Whitley, 2000; Harding et al., 2004b; Hilbert, 1985; Kerkvliet, 1994). Studies, having utilized the TPB as their theoretical framework when researching a correlation between academic dishonesty and workplace dishonesty, support this claim. For example, Chang (1998) surveyed 181 graduate students to investigate the influence of the three components (attitude, subjective norms, and perceived behavior control) of TPB on intentions to behave unethically. The results indicated that TPB was an effective theoretical

framework in predicting intention to commit unethical behavior and that it "provides a solid theoretical basis for the study of unethical behavior" (Chang, 1998, p. 1833).

These results were also supported by more recent studies, including Buchan (2005), Carpenter and Reimers (2005), and McMillan and Conner (2003). For example, Carpenter and Reimers (2005) surveyed 73 MBA students to examine the effects of attitude, subjective norm and perceived control on managers' decisions to violate accounting principles. The results provided strong evidence that the TPB can explain ethical decision-making by business managers and that "the combination of attitude, subjective norms and perceived behavioral control explained a significant amount of the variance in behavioral intent" (p. 125). This evidence supports that the TPB is an "appropriate tool for the researcher, who needs better understanding to diagnose the influences of ethical ideology and unethical behavior" (Meng et al., 2014, p. 126). Therefore, one may assume effectiveness utilizing the TPB as it relates to the investigation of moral reasoning and workplace honesty.

This study utilized the TPB as its theoretical framework to investigate the perceptions of physical therapy students regarding academic dishonesty and moral reasoning to determine if relationships existed. This study sought to determine whether a relationship existed between academic dishonesty and moral reasoning, but also desired to identify predictors of both moral reasoning academic integrity. If a significant relationship exists among physical therapy students' perceptions of academic integrity and moral reasoning, then one may assume as moral reasoning increases cheating frequency decreases. Since research identified academic dishonesty carrying over to

clinical practice, then one could assume that higher levels of moral reasoning would relate to less academic dishonesty, which may ultimately lead to less unethical clinical practice.

Assumptions and Delimitations

This study focused on physical therapy students from both public and private institutions within the Midwest region. Multiple assumptions were present when formulating this study. The first assumption was cheating did occur in physical therapy programs to the extent that the limited related literature identified. The second assumption was all participants would answer the surveys in an honest manner with the understanding that complete anonymity would be maintained. The students were made aware that their identity would be secured with no possibility of identification via their personal identification code. Although the author assumed the participants would answer honestly, related to the sensitive nature of the survey, it was assumed some underreporting may occur. The third assumption was academic dishonesty is harmful to education and can have a negative relationship with moral reasoning, and ultimately, with ethical practice. Finally, since the majority of surveys were distributed in paper form, the author anticipated a greater number of completed surveys would be returned than would occur with the sole use of online surveys.

Researcher Bias

This author is currently an assistant professor in physical therapy and a licensed physical therapist and may have exhibited personal and professional bias regarding physical therapy students' moral reasoning and academic integrity. This author desired

to investigate whether or not relationships exist between academic dishonesty and moral reasoning, and therefore, may have been biased toward seeing a connection that otherwise was not present. This author also desired to identify predictors of academic dishonesty and moral reasoning as it pertained to physical therapy students in order to potentially redirect physical therapy curriculum and program planning. Because of this desire, this researcher may have been biased toward wanting to see results that may not have been clearly identifiable.

Operational Definitions

Academic Dishonesty. This term is defined in many ways throughout the literature; however, academic dishonesty has been traditionally defined as "the act of giving or receiving unauthorized assistance in an academic task or receiving credit for plagiarized work" (Storch & Storch, 2002, p. 247). According to Underwood and Szabo (2003), "the offense of academic dishonesty typically includes acts of plagiarism, using concealed notes to cheat on tests, exchanging work with other students, buying essays, or in some extreme and notorious cases, asking others to sit examinations for you" (p. 468).

Academic Integrity. A commitment, even in the face of adversity, to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage (International Center for Academic Integrity, 2015).

Moral Reasoning/Moral Judgement/Ethical Reasoning. Moral reasoning has been identified as ethical reasoning, moral judgment, or by other terms: However, Wesleyan University (2015) defines moral reasoning as the ability to reflect on

moral issues in the abstract and in historical narratives within particular traditions. Moral reasoning is the ability to identify, assess, and develop ethical arguments from a variety of ethical positions that concern right and wrong, good and bad, as well as matters of justice, fairness, virtue, and social responsibility (Wesleyan University, 2015). According to Walker (2002), moral judgement entails "deliberation regarding the various considerations relevant to different courses of action and making a judgement regarding which of the available actions would be most morally justifiable" (p. 355).

Cheating. Cheating is acting dishonestly or unfairly in order to gain an advantage, especially in a game or examination.

Plagiarism. Plagiarism refers to the practice of taking and using somebody else's work or ideas and passing them off as one's own.

Private University. A private college is an independent school that sets its own policies and goals, and is privately funded.

Public University. A public university is a university that is predominantly funded by public means through a national or subnational government.

Perception. Perception is the way of regarding, understanding, or interpreting something.

Summary

In summary, academic integrity has been a growing concern over the past four decades and has been on the rise in both undergraduate and graduate studies. Although physical therapy programs are not immune to cheating, limited research has

been conducted to note the prevalence of academic integrity as it pertains to physical therapy programs. In addition to academic integrity, moral reasoning is an important aspect for any medical profession, most notably physical therapy. As responsibilities of physical therapists grow, so do potential ethical dilemmas pertaining to patient care, reimbursement, and practice requirements. Research identifies how academic dishonesty may lead to impaired moral reasoning and ultimately workplace dishonesty. Although research identifies strong links between academic dishonesty and moral reasoning in nursing, engineering, and business, no similar studies have been conducted in the area of physical therapy. Therefore, this study investigated whether a relationship existed between student physical therapists' perceptions of academic dishonesty and moral reasoning.

CHAPTER II

LITERATURE REVIEW

Over the decades, the prevalence of academic dishonesty has increased at the high school, college, and professional program levels, including national licensure examinations (McCabe, Trevino, & Butterfield, 2001; Mohr et al., 2011). Although there has been an increased effort to recognize and prevent academic dishonesty, more recognition and effort is needed. Academic integrity is the foundation upon which universities commit to education and truth. Therefore, when colleges and universities commit to academic integrity as their foundation, they help provide students with a framework that combats the thinking, "so who really cares if I cheat?" (McCabe & Pavela, 2004). Combatting this thinking is important since some believe "the process of truth-seeking is grounded in certain core values, starting with a commitment to honesty and integrity in academic work" (McCabe & Pavela, 2004, p. 12).

This literature review includes a discussion of the prevalence of academic dishonesty in undergraduate studies, graduate studies, health professions, additional professional programs, and physical therapy. It also includes factors leading to academic dishonesty, academic dishonesty prevention strategies, research regarding moral reasoning in physical therapy, academic dishonesty and moral reasoning relationship, theorists (Kohlberg, Gilligan, and Rest), and an overall summary of the literature reviewed.

Prevalence of Academic Dishonesty

Undergraduate Studies

To illustrate the prevalence of academic dishonesty, Bowers (1964) completed a landmark study which involved more than 5,000 students on 99 campuses of all sizes and descriptions. Bowers (1964) found 26% of students copied from another student, 49% copied material without footnoting, 11% collaborated on assignments requiring individual work, and three-fourths, or 3,750, of the respondents had engaged in one or more incidents of academic dishonesty. McCabe and Trevino (1993) surveyed more than 6,000 students at 31 academic institutions and found the percentage of students who copied from others had doubled (52%) and the number of students who collaborated on assignments requiring individual work had quadrupled from 11% to 49%, when compared to Bower's (1964) previous study. In 1997, McCabe and Trevino replicated Bower's (1964) study at nine of the schools which had participated in Bowers' (1964) original study. Their study identified a modest increase in overall cheating; however, significant increases were found in test or exam cheating, cheating by women, and collaborative cheating. In addition, according to research conducted by Dr. Donald McCabe and the International Center for Academic Integrity (ICAI), 68% of undergraduate students (71,300), surveyed from 2002-2012, admitted to cheating on written assignments or tests (International Center of Academic Integrity, 2015b).

According to Vencat et al. (2006), the rates of academic cheating had increased, including undergraduate and graduate studies. Therefore, the impact of academic dishonesty on future professionals and educators needed to be analyzed. The incidence

of academic dishonesty among undergraduate students continues to grow and is so prevalent that it is becoming second nature, resulting in students viewing academic dishonesty as normal (Bates et al., 2005). Further evidence of this rise in academic dishonesty was identified in a study where data from 80,000 students and 12,000 faculty were collected and analyzed over a three-year period of time (McCabe, 2005). The results of this study showed that a) 21% of undergraduates engaged in serious cheating, b) 33% learned what was on a test from someone who had already taken it, and c) 40% of undergraduates did not feel that cut-and-paste plagiarism is moderate or serious cheating.

Smyth and Davis (2004) reported similar results in their study of 265 two-year college students. The results of their survey showed that "almost 46% of the respondents report that they have cheated in college at least once" (p. 66). This value is similar to what Grimes (2004) identified in his study of business and economics undergraduate students from Eastern Europe, Central Asia, and the Unites States. Results indicated that 50.2% of United States undergraduates surveyed admitted to cheating in college and identified that "students indicated that academic cheating is socially acceptable and not ethically wrong" (Grimes, 2004, p. 273). Furthermore, data showed that males (52%) reported a higher incidence of cheating than females (44%), and business majors (50%) reported a higher incidence of cheating than did non-business majors (41%). This result is much larger than the 26% of business majors and 20% of all other undergraduates who reported cheating in a study conducted by McCabe (2005).

Prevalence of academic dishonesty may also be dependent upon the type of institution. McCabe and Pavela (2000) surveyed 2,100 students on 21 campuses at one community college, seven state universities and 13 private institutions. Results identified that participants at private campuses with an honor code reported cheating on a test 23% of the time and at large public universities 33% of the time (McCabe & Pavela, 2000). Furthermore, cheating on written work and self-reported serious cheating was 5% higher in public compared to private institutions. In contrast, Calabrese and Cochran (1990) surveyed students in one private and one public school and found a higher incidence of cheating was noted in students who attended private school compared to public. Although some studies identified differences in academic dishonesty in private/public institutions, multiple studies (Brown & Choong, 2003; Graham, Monday, O'Brien, & Steffen, 1994) indicated no difference in attitudes toward cheating, or the amount of perceived cheating on campus with the overall level of academic dishonesty being similar. Since literature illustrates both similar and different levels of academic dishonesty between private and public institutions, further investigation of private versus public institutions and academic integrity in this study may be beneficial.

Graduate Studies and Health Professions

Unfortunately, academic dishonesty does not stop at the undergraduate level. Multiple studies have identified academic dishonesty in graduate school and health professions. For example, according to research conducted by Dr. Donald McCabe and

the ICAI, 43% of graduate students (17,000), surveyed from 2002-2012, admitted to cheating on written assignments or tests (ICAI, 2015b).

Nursing. Hilbert (1987) completed a study of 210 senior nursing students from four universities. She found that 51.9% of the students acknowledged copying sentences from a reference without footnoting, 39% cited bibliographic sources that were not utilized, 23.8% obtained test questions from someone who had previously taken the test, and 20.5% allowed others to copy their own work. Brown (2002) added further evidence of cheating among nursing students by surveying 253 students. Brown (2002) found that 94% of senior nursing students had seen other students cheat, yet only 20% said they themselves had cheated. The results illustrated that "nursing students are similar to the general population of students: they cheat, and the ways in which they cheat and the consequences they would impose are similar" (Brown, 2002, p. 7).

In comparison to Brown's (2002) study, McCabe (2009) found results that expressed an increase in cheating prevalence, with 58% of undergraduate nursing students self-reporting cheating compared to 47% of graduate nursing students. Furthermore, 77% of students in accelerated undergraduate nursing programs self-reported cheating, which shows that "cheating is a significant issue in all disciplines today, including nursing" (McCabe, 2009, p. 614). In addition to cheating, Arhin (2009) and Arhin and Jones (2009) identified that nursing students had engaged in academic dishonesty behaviors; however, the nursing students had difficulty identifying dishonest behaviors during classroom and laboratory assignments. Therefore, the self-reported

prevalence of nursing students cheating may have been lower related to the students being less aware of what constitutes academic dishonesty. More recently, Krueger (2014) surveyed 336 nursing students and found that the majority of participants reported engaging in some form of academic dishonesty in the classroom setting (64.7%) and in the clinical setting (54%) with plagiarism and obtaining exam items prior to taking the exam as being the most frequent offenses.

Medicine. Not only prevalent in nursing, academic dishonesty can be seen in multiple other healthcare programs. Baldwin et al. (1996) found that 39% of study participants witnessed some type of cheating among classmates during the first two years of medical education, while 66.5% reported having heard about cheating. In addition, 31.4% of medical students admitted to cheating in junior high school, 40.5% in high school, 16.5% in college, and only 4.7% in medical school (Baldwin et al., 1996). Previous studies supported the findings of Baldwin et al. (1996). Sierles, Hendrickx, and Circle (1980) surveyed 448 medical students and found that 87.6% of students reported cheating at least once in college and 58.2% cheating at least once in medical school. Dans (1996) surveyed 358 participants and found that 19% to 22% of students admitted to cheating in college, 23% admitted to cheating in medical school, and 13% to 24% reported cheating during events directly related to patient care. Further studies, in medicine, have shown cheating occurs in greater than 30% of the student responses (Dyrbye et al., 2010; Rennie & Crosby, 2001). These results should be concerning and "may have serious long-term consequences for future physicians" (Kusnoor & Falik, 2013, p. 479).

Other professional and health programs. Prevalence of academic dishonesty is not only noted in nursing and medicine but can be found in other professional programs as well. The most studied programs include dentistry (Andrews, Smith, Henzi, & Demps, 2007), business (Klein et al., 2007; Smyth & Davis, 2004), accounting (Burke et al., 2007), pharmacy (Rabi et al., 2006), and engineering (Bertram Gallant et al., 2014; Carpenter et al., 2006; Harding et al., 2004a; Passow et al., 2006;). For example, over 50% of pharmacy students admitted to being involved in activities defined as being dishonest; however, only 16% said yes, when asked if they cheated in the past or currently cheat in pharmacy school (Rabi et al., 2006). This demonstrated the acceptance of academic dishonesty behavior as the norm by pharmacy students in which more than half of the pharmacy students stated "cheating is a part of life today and that not a single examination goes by without a cheater" (Rabi et al., 2006, p. 4). Additional studies identified academic dishonesty in business and engineering programs. For example, McCabe, Butterfield, and Trevino (2006) found that 84% of undergraduate business students and 72% of engineering students admitted to cheating and that graduate business students (56%) reported more cheating than non-business graduate students (47%).

Physical therapy. Although academic dishonesty research encompasses many of the health-related professions, only three studies reported on academic dishonesty by physical therapy students (Bates et al., 2005; Mohr et al., 2011; Montuno et al., 2012). Academic dishonesty is present in physical therapy education with a history of cheating having occurred on a national level. In August of 2007, according to Mohr et al. (2011),

the Federation of State Boards of Physical Therapy (FSBPT) invalidated the National Physical Therapy Examination (NPTE) scores of 20 candidates who "benefitted unfairly from advanced access to recalled test items" (Mohr et al., 2011, p. 53). This incident led to the national licensure exam being offered four separate times during the year (every three months) as opposed to the previous process of open scheduling. Furthermore, in September 2009, the Federation of State Boards of Physical Therapy (FSBPT) suspended three candidates from taking their licensure exams for selling practice exams and posting exam items (Mohr et al., 2011). This finding illustrates how academic dishonesty is prevalent not only at the program level, but may be present at a much deeper level of being licensed to practice.

To the author's best knowledge, only three studies have investigated the prevalence of academic dishonesty within physical therapy programs and/or factors contributing to academic dishonesty in physical therapy. Bates et al. (2005) studied academic dishonesty in 1,162 students encompassing students in science, business studies, humanities, pharmacy, education, and physical therapy programs of study. The largest violation of academic honesty by physical therapy students was when 40% reported borrowing a friend's work for ideas. Education students reported the least occurrences of academic dishonesty followed by physical therapy students when compared to pharmacy students who reported the highest levels (Bates et al., 2005). Although both self-reported and perceived rates of academic dishonesty in physical therapy programs were lower than those reported in the pharmacy curriculum, it is still present (Bates et al., 2005).

Similarly, Montuno et al. (2012) surveyed 174 eligible physical therapy students and 250 physical therapy educators in order to investigate academically dishonest behaviors based on physical therapy students' current practices and educators' prior behaviors as physical therapy students. The researchers' results indicated that "AD was more prevalent in situations associated with helping peers than in those associated with personal gain" (Montuno et al., 2012, p. 245). In addition, Montuno et al. (2012) identified results similar to other researchers (Aggarwal et al., 2002; Austin et al., 2005; Bates et al., 2005) regarding academic dishonesty occurring in professional programs. For example, Aggarwal et al. (2002) surveyed two pharmacy schools to assess their students' attitudes, self-reported behaviors, and beliefs regarding the prevalence of academic dishonesty. The researchers indicated that 80% of pharmacy students admitted to at least one incident of academic dishonesty and that they claimed some forms of academic dishonesty were justifiable (Aggarwal et al., 2002). Therefore, the consistency in behaviors reported suggests some forms of cheating are accepted as the social norm and may be a function of the environment (Montuno et al., 2012).

Academic Dishonesty Factors

Studies have identified academic dishonesty as a growing concern, with multiple factors potentially leading students to participate in dishonest activities. These factors include poor academic standards, in which many faculty on campuses ignore cheating (Burke et al., 2007); gender, age, GPA, work ethic and self-esteem (McCabe, 2005; McCabe & Trevino, 1997; McCabe et al., 2001; Ruegger & King, 1992; Salleh, Alias, Hamid, & Yusoff, 2013); competitiveness of programs (Whitley, 1998); and

environmental factors, previous cheating, and moral behavior (Bates, et al., 2005). Whitley (1998) completed a systematic review of 107 studies which determined that students who reported higher workloads and higher levels of competition with others were more likely to cheat than students who reported lower workloads and lower levels of competition. This may explain why higher prevalence of cheating has been identified in programs such as engineering (Bertram Gallant et al., 2014), medicine (Baldwin et al., 1996; Dans, 1996; Dyrbye et al., 2010; Sierles et al., 1980), accounting (Burke et al., 2007), and pharmacy (Rabi et al., 2006) compared to fields such as education (Bates et al., 2005). In addition, researchers identified poor self-image, lack of character, and lower competence in a particular task as additional reasons why people may cheat (McCabe & Trevino, 2001; Whitley, 1998).

Davis, Grover, Becker, and McGregor (1992) surveyed 6,000 students at large state schools. Results indicated that "in addition to pressures for good grades, student stress, ineffective deterrents, and condoning teachers, our respondents demonstrate a diminishing sense of academic integrity" (Davis et al., 1992, p. 19). Unfortunately, these data did not vary much as the years progressed. Pulvers and Diekhoff (1999) surveyed 280 undergraduate students and reported that cheaters are typically younger, have lower GPAs, and tend to operate from less mature stages of moral development. Bates et al. (2005) and McCabe and Trevino (1997) agreed, adding that women tend to cheat less than men. Overall, cheating presence has increased; however, some authors state cheating may decline at an older age because students develop a better moral identity

and have better moral judgment as they age (King & Mayhew, 2002; Mayhew, Hubbard, Finelli, Harding, & Carpenter, 2009).

Much research provides insight into factors which may lead to academically dishonest behaviors. Unfortunately, research regarding academic integrity and the factors contributing to academic dishonesty of student physical therapists is limited. One study, to the author's best knowledge, investigated factors leading to academic dishonesty in physical therapy students. Montuno et al. (2012) investigated academic dishonesty in physical therapy students and faculty at the University of Toronto. The researchers identified that "pressure from school and associated anxiety was [sic] the contributing factor [s] most frequently reported by both Educators (24%) and Students (43%)" (Montuno et al., 2012, p. 250). Also commonly reported were disagreements with evaluation methods and an "everyone else did it" rationale regarding cheating (Montuno et al., 2012).

Academic Dishonesty Prevention

Preventing academic dishonesty can include multiple strategies; however, faculty and institutions should first become aware of the reasons students cheat. For example, many students do not know what plagiarism is or some students know what it is, but do not consider it wrong because "copying from others is merely an acceptable practice of recycling, a sort of ecological practice" (Harris, 2015, p. 1). Although many factors explain the trends of increased academic dishonesty in undergraduate and graduate students, changes in the institutional character of many schools have contributed to changing students' attitudes about cheating and their resulting behavior

(McCabe & Trevino, 1996). For example, when students "feel part of a campus community, when they believe faculty are committed to their courses, and when they are aware of the policies of their institutions concerning academic integrity, they are less likely to cheat" (McCabe & Trevino, 1996, p.33). Therefore, in many ways institutions are advised to establish themselves as "ethical communities" (McCabe et al., 2001, p. 228). An ethical community, identified by McCabe et al. (2001) is "one that includes clear communication of rules and standards, moral socialization of community members, and mutual respect between students and faculty, and one that extends certain privileges to its students (e.g., unproctored exams, self-scheduled exams, etc.)" (p. 228).

Scanlan (2006) suggested similar strategies pertaining to academic dishonesty prevention. He stated that "further reduction in student cheating and plagiarism can be achieved only via a comprehensive strategy that promotes an institutional culture of academic integrity" (p. 179). Furthermore, strategies useful in preventing or deterring dishonest behavior include early integrity training, reinforcement by faculty at the course level, faculty role modeling, decreasing opportunities for cheating, and honor pledges/honesty declarations (Scanlan, 2006).

Not only does research identify the importance of integrity training, it also suggests that classroom atmosphere significantly affects cheating behaviors. Rabi et al. (2006) surveyed 296 pharmacy students in order to investigate atmospheres which best aid in preventing academic dishonesty. The strategies identified as significant included the avoidance of giving the same examination as a make-up exam, using proctors during

examinations, and being more approachable and less intimidating. Other strategies recognized in research include imposing stronger penalties for violations, creating academic dishonesty policies, and continued development of honor codes (Arhin, 2009; Burke et al., 2007; Engler et al., 2008; McCabe & Trevino, 2002; Whitley, 1998).

Research continues to support that cheating behavior can be effectively managed in the classroom and suggests "faculty members can pursue numerous strategies including clearly communicating expectations regarding cheating behavior, establishing policies regarding appropriate conduct, and encouraging students to abide by those policies" (McCabe et al., 2001, p. 229). McCabe and Pavela (2004) introduced ten principles to assist faculty in fostering student honesty while promoting academic integrity among students. The ten principles include:

1) Recognizing and affirming academic integrity as a core institutional value.
2) Fostering a lifelong commitment to learning.
3) Affirming the role of teacher as guide and mentor.
4) Helping students understand effective and honest use of the Internet regarding research and resources.
5) Encouraging student responsibility for academic integrity.
6) Clarifying expectations for students.
7) Developing fair and creative forms of assessment.
8) Reducing opportunities to engage in academic dishonesty.
9) Responding to academic dishonesty when it occurs.
10) Helping define and support campus-wide academic integrity standards (pp. 12-15).

Strategies for prevention of academic dishonesty are no different between professional and non-professional programs. Arhin (2009) surveyed 44 senior level nursing students in order to explore their perceptions of cheating and how to best prevent cheating from occurring. Results identified best strategies to utilize in order to prevent academic dishonesty in the class and lab settings. These strategies included defining academic integrity and what constitutes dishonesty, faculty serving as role models, proctored exams with random seating assignment, developing draft papers to reduce plagiarism, and implementing honor codes (Arhin, 2009). Honor codes were found to be a significant strategy in reducing the incidence of academic dishonesty and have been documented by many researchers as being a significant tactic in decreasing academic dishonesty (Arhin, 2009; Arnold, Martin, Jinks, & Bigby, 2007; McCabe & Trevino, 2002; Scanlan, 2006).

According to Scanlan (2006), the "establishment of an honor code is an essential prerequisite for creating a climate of academic integrity and for decreasing student involvement in cheating and plagiarism" (p. 180). Incidence of serious cheating at institutions with honor codes is typically significantly less than that observed at institutions not having honor codes (McCabe & Trevino, 2002). Although most institutions display reduced academic dishonesty when honor codes were instilled, some data suggest that higher levels of academic integrity occurred at institutions without honor codes. McCabe et al. (2001) determined the reason institutions had higher integrity without instilling honor codes was because "administrators and faculty clearly conveyed their beliefs about the seriousness of cheating, communicated

expectations regarding high standard of integrity, and encouraged students to know and abide by rules of proper conduct" (p. 224). Even though data exist that questions the usefulness of honor code implementation, a large portion of the literature claims that honor codes are a very important step in creating, implementing, and enforcing academic honesty (Arhin, 2009; Arnold et al., 2007; Burke et al., 2007; Engler et al., 2008; McCabe & Trevino, 2002; Scanlan, 2006).

Moral Reasoning

Moral reasoning, similar to academic dishonesty, has been studied in multiple professions. However, in relevance to this study, the literature review will focus on healthcare professions, most notably physical therapy. For the purpose of this study, moral reasoning is identified as the ability to identify, assess, and develop ethical arguments from a variety of ethical positions that concern right and wrong, good and bad, as well as matters of justice, fairness, virtue, and social responsibility (Wesleyan University, 2015).

Physical therapists confront situations routinely in which they must determine what 'doing the right thing' means (Swisher, Van Kessel, Jones, Beckstead, & Edwards, 2012). For example, "some situations may involve competing obligation or values, and in other situations the physical therapist may believe that he/she lacks the authority to implement the morally required action" (Swisher et al., 2012, p. 1). According to Austin et al. (2005), the regulation of professional practice in most jurisdictions is premised on the trustworthiness of individual practitioners and the level of honesty expected of professionals is higher than that expected of others in society. This regulation of

practice expresses the importance of physical therapists critically analyzing ethical situations and determining the correct action. This ability to critically analyze situations that have an ethical component is called moral reasoning (Swisher et al., 2012).

Physical therapists follow the *Guide to Physical Therapy Practice* (2015a), the *American Physical Therapy Association's Code of Ethics* (2015b), *Guide for Professional Conduct* (2015c), and individual states' practice acts when providing patient care and interventions. Following these guidelines assists physical therapists in understanding what ethical requirements are needed in the field of physical therapy. Doing what is correct and right for patients can be difficult and can be influenced and compromised by internal and external factors, including rules and regulations associated with third party payment systems (Richardson, 2015). Additional internal and external factors influencing physical therapists' decision making may include limited benefits, patient double booking, working on commission, and payment caps which may affect patient care outcomes (Richardson, 2015). Furthermore, results have shown the context or setting of a dilemma has a major effect on the therapists' reasoning (Barnitt & Partridge, 1997). Therefore, recognizing the setting and identifying potential internal and external factors should help with understanding the importance moral reasoning has on any profession, especially in the healthcare field.

The goal of professional ethics is to provide a caring response to scenarios while carrying out professional roles and functions (Purtillo & Doherty, 2010). At times, this can be difficult in any profession, especially health care professions. Therefore, students entering the health professions should have optimal integrity and ethical

training, because they must deal with at least "three subgroups of morality: personal morality, societal morality, and the morality of the health professions and its institutions" (Purtillo & Doherty, 2010, p. 9). This moral reasoning enhancement should be a vital aspect of most, if not all professions. According to Gabbard and Martin (2011), "ethics is the heart of professionalism. Just as much as technical skills, moral commitment enables physical therapists to provide quality services for patients, work effectively with colleagues, and maintain trust of the public" (p. ix).

Theorists

Lawrence Kohlberg

Much of the research in moral reasoning began with the work of Lawrence Kohlberg (Swisher, 2010). Kohlberg has played a significant role regarding moral reasoning. Building on the research of Piaget regarding intellectual development, Kohlberg proposed a theory of moral development that included three levels and six stages (Kohlberg, 1969; Kohlberg, 1981). Kohlberg provided three levels of moral development: pre-conventional morality, conventional morality, and post-conventional or principled morality (Dieruf, 2004). Pre-conventional level (stages 1 and 2) focuses on the cultural rules and levels of good and bad and right or wrong, and is the level of most children younger than age nine and some adolescents (Dieruf, 2004; Kohlberg & Hersh, 1977). At the conventional level (stages 3 and 4), "maintaining the expectations of the individual's family, group, or nation is perceived as valuable in its own right, regardless of immediate and obvious consequences" (Kohlberg and Hersh, 1977, p. 55). This is the level of most adolescents and adults in the United States and other societies (Dieruf,

2004). Finally, the post-conventional level (stages 5 and 6) includes individuals making decisions based on universal moral principles and makes a clear effort to define moral values and principles that add social consensus (Dieruf, 2004; Kohlberg & Hersh, 1977).

The six stages in which moral reasoning progresses include the punishment and obedience orientation, the instrumental relativist orientation, the interpersonal concordance or "good boy-nice girl" orientation, the "law and order" orientation, the social-contract legalistic orientation, and the universal ethical-principle orientation (Kohlberg & Hersh, 1977). Kohlberg viewed moral development as moving up the six steps of development one step at a time, not being able to move to the next stage until having surpassed the previous stage (Swisher, 2010). Kohlberg's stage theory of moral development utilizes autonomy as a central feature in decision making and suggests that physical maturity and moral maturity are mutually exclusive and may potentially encompass care and justice (Kohlberg, Levine, & Hewer, 1983; McLeod-Sordjan, 2014; Skoe & Lippe, 2002). Therefore, "lower stages of moral development cannot completely grasp universal principles of justice. However, life crisis and ethical problem solving can present opportunities for moral development" (McLeod-Sordjan, 2014, p. 476).

Overall, Kohlberg was not concerned with what an individual person is doing or saying about whether or not a particular action is right, but instead, moral maturity evolves from the reasons people give why something is right or wrong (Dierckx de Casterle, Roelens, & Castmans, 1998). Looking at the reasons a person gives for moral actions can identify patterns of responses that indicate different ways of thinking, which are the basis for proposing various stages of moral reasoning (Dierckx de Casterle et al.,

1998). Kohlberg's stages appear to be ordered in a constant sequence; however, the time required to progress through each stage may vary, because each stage is derived from a prior stage and prepares the individual for a subsequent stage (Kohlberg & Turiel, 1971).

Each stage of development is a higher cognitive organization than the one before it with individuals comprehending all stages up to their own, but no more than one stage beyond their own (Dieruf, 2004). Kohlberg developed the Moral Judgment Interview (MJI), which was an instrument to evaluate individuals' stages of moral development (Kohlberg, 1969; Kohlberg, 1981). Utilizing the MJI, individuals can have a higher cognitive or logical stage than their moral stage, but few will have a higher moral stage than their cognitive stage. Therefore, moral reasoning is significantly correlated with education which can assist in predicting levels of moral reasoning (Gaul, 1987; Kohlberg, 1984).

Carol Gilligan

Kohlberg's research was based exclusively on adolescent male subjects with his theory suggesting that physical maturity and moral maturity are mutually exclusive, and lower stages of moral development cannot completely grasp universal principle of justice (McLeod-Sordjan, 2014). Gilligan, a former student of Kohlberg, was his most notable critic and challenged his theory. Gilligan challenged the validity of his work, because she believed that females were socialized differently than males (Dierckx de Casterle et al., 1998; Wilson, 1999). Gilligan believed Kohlberg's theory to be less than adequate because he focused on justice and neglected to recognize care and personal

relationships. Gilligan developed an alternative moral development stage sequence she believed women followed, derived from interviewing women who were contemplating abortion, which included pre-caring, trans-caring, and person-centered caring (McCleod-Sordjan, 2014). This caring paradigm stresses connectedness, relationships, interdependence, and attachment/detachment with outcomes of self-sacrifice, non-violence, and caring obligations (Gilligan, 1993). Therefore, "moral development is a process of understanding the interdependence of how caring benefits others and self" (McLeod-Sordjan, 2014, p. 476).

According to McCleod-Dordjan (2014), "Kohlberg's ethic of justice is focused on maintaining obligation, equity, and fairness through application of moral principles and established standards, whereas Gilligan's ethic of care is focused on interdependent relationships, needs of other, and avoiding harm" (p. 476). Because Kohlberg failed to include feminine attributes in his description of adulthood and because he mainly utilized adolescent boys as participants, Gilligan contends that Kohlberg's theory demonstrated a male bias (Gilligan, 1977).

Three levels are included in Gilligan's (1977) theory: a) orientation to individual survival, b) goodness as self-sacrifice, and c) the morality of nonviolence. Gilligan's (1977) theory of moral development includes two levels of transitions. The first transition occurs between levels one and two and is characterized by selfishness to responsibility and proposes levels of judgment that proceed from "an initial focus on the self as the first level to the discovery, in the transition to the second level, of the concept of responsibility as the basis for a new equilibrium between self and others" (p.

492). The transitional phase from level two to level three is from “goodness to truth" (Gilligan, 1977, p. 498) or developing relationships with others. Here the woman “strives to encompass the needs of both self and others, to be responsible to others and thus to be “good” but also to be responsible to herself and thus to be “honest” and “real” (Gilligan, 1977, p. 500). Gilligan (1993) challenged Kohlberg regarding his findings, questioning whether they applied to both male and female. She reported that men’s moral reasoning was privileged over women and argued men were more concerned with justice (Kohlberg), while women were more bound by the care perspective (Geddes et al., 2008)

Although Gilligan’s theory gained popularity with nurses and feminists, Rest (1994b) stated that “there is pitifully little empirical evidence for Gilligan’s theory. Gilligan phenomenon underscores the view that popularity has little to do with evidence” (p. 2). For instance, Cady (1991) studied moral reasoning in nurses and found that formal education rather than gender was a significant variable in predicting moral reasoning and that nurses incorporated both justice and caring into their moral reasoning skills. Furthermore, Walker (1984) reviewed 108 studies that compared sex differences in the development of cognitive moral reasoning using Kohlberg’s measure. He found that sex differences were present in only a small number of studies and the differences found tended to be small (Walker, 1984).

According to Walker (1984), only eight studies clearly indicated significant differences favoring males; however, “several of these studies yielding sex differences

favoring men were methodologically flawed, primarily because sex and occupational/educations differences were confounded" (p. 688). He continued:

> Unfortunately, the only data that have been presented as yet to support this proposed stage sequence have been anecdotal. None of the usual types of evidence for a stage sequence (i.e., longitudinal, cross-sectional, or experimental) has been reported. Nor has she [Gilligan] provided an explanation as to why males and females may develop different orientations to moral judgment. (Walker, 1984, p. 679)

Therefore, while gender played a significant role in differentiating Gilligan's theory from that of Kohlberg's theory, her theory will not be the basis of this study. Gilligan's theory was not included in the foundation of this study related to researchers (Cady, 1991; Rest, 1999b; Walker, 1984) identifying its lack of rigor. For example, Cady (1991) found that education was more powerful than gender in determining moral reasoning and that nurses incorporated both justice and caring into their moral reasoning skills.

James Rest

Because of the conflicting research of Gilligan's Theory and the close alignment of Rest's and Kohlberg's theory, from this point forward, these two theorists' work is discussed. Rest, also a former student of Kohlberg, continued his research and developed a paper and pencil test, known as the *Defining Issues Test,* as a way to measure Kohlberg's stages (Rest, 1979). He created the DIT multiple-choice instrument that follows Kohlberg's six-stage cognitive developmental theory which appeared to be

easier and less time consuming than Kohlberg's *Moral Judgment Interview* (MJI) (Swisher et al., 2012). The DIT-2, a multiple choice questionnaire which allowed researchers to easily use, administer, and evaluate tests on subjects, was developed (Edwards et al., 2012; Rest, Narvaez, Bebeau & Thoma, 1999).

Rest's framework regarding moral reasoning can be described through interconnected processes that comprise moral reasoning (Geddes et al., 2008). He constructed his four component model through a literature review of morality. According to Goeb (1997), the literature advocated "theories of cognitive developmental, social learning, behavioristic, psychoanalytic, and social psychological views" (p. 28). Because of this literature, Rest's model integrated all divisions into one model. This framework categorized some of Kohlberg's moral judgment scores and portrayed moral decision-making as interactive and includes: a) moral sensitivity (the ability to identify moral issues and how actions affect others), b) moral judgment (the ability to reason and determine the moral course of action), c) moral motivation (the ability to prioritize moral values relative to each other), and d) moral character (the courage and persistence to carry out a course of action) (Geddes et al., 2008; Rest, 1994a; Thoma, 2002). According to Goeb (1997), deficiencies in any one or more of the components could result in moral failure, and although each component affects another, "Rest emphasized that subjects do not follow the components in any sequential order" (p. 30).

Although there are similarities between Rest's (Minnesota perspective) and Kohlberg's theories of moral development (see Table 1), there are also significant differences (Swisher, 2010). The two differences between Kohlberg's and Rest's perspectives are the "use of stages (vs. schema) and the role of moral reasoning in moral behavior" (Swisher, 2010, p. 70). As stated previously, Kohlberg believed that each individual moves through a single stage at a time and must finish in one stage prior to advancing to the next, while Rest discusses components that incorporate schemas instead of stages. "Schemas (i.e., expectations, hypotheses, concepts, regularities) are formed as people notice similarities and recurrences in experiences" (Rest et al., 1999, p. 297). A schema consists of applying prior organized knowledge to the understanding of new information. It includes utilizing past experiences to enhance moral development and functions as "implicit processes and tacit knowledge on human decision making" (Rest et al., 1999, p. 296).

Table 1. Comparison of Kohlberg and Rest's Instruments for Evaluating Moral Reasoning.

	Lawrence Kohlberg	James Rest
Instrument	Moral Judgment Interview	Defining Issues Test
Stages or Schemas	6 Stages	3 Schemas
Basis for decisions	1. Obedience 2. Instrumental egoism 3. Interpersonal concordance 4. Law and duty 5. Consensus-building 6. Social cooperation	1. Personal interest (self-interest) 2. Maintaining norms (laws, rules, norms, and tradition) 3. Post-conventional (Ethical ideals for fair social cooperation)
Development Process	Hard staircase mode. Classifies each subject in one (and only one) stage.	Evaluates changes in the distribution of moral reasoning between schemas- not a staircase.
Progress	Progress in moral reason is moving to the next stage	Progress in moral reasoning is using a greater amount of higher schemas in cycles of transition and consolidation.
Role of Moral Reasoning	Moral reasoning is primary in moral behavior	Moral reasoning is one of four components of moral behavior (Four component model) • Moral Sensitivity • Moral Judgment (reasoning) • Moral Motivation • Moral Character

Note. Swisher et al., 2012, p. 169

The second difference between Kohlberg's and Rest's theories is in their perspectives on moral behavior (Swisher, 2010). Moral judgment is one of Rest's four components of ethical behavior; he also includes sensitivity, motivation, and character. While Kohlberg's theory weighs heavily on moral judgment, it is only one aspect of Rest's four component model on moral behavior, which he states cannot be reduced to moral judgment alone (Rest, 1994a; Rest et al., 1999). Furthermore, while Kohlberg viewed

moral development as moving up the six steps of development one step at a time, Rest's framework conceptualizes moral thinking as shifting distributions of moral reasoning (Swisher, 2010).

Defining Issues Test (DIT-2)

Moral reasoning has also been investigated in multiple medical programs. These programs include medicine (Baldwin, Adamson, & Self, 1996), dentistry (Bebeau & Thoma, 1994), pharmacy (Chaar, 2009), and nursing (Duckett et al., 1997). Baldwin et al. (1996) studied 53 orthopedic surgeons using the Defining Issues Test (DIT-2), an instrument that measures moral judgment and encompasses questions pertaining to ethical dilemmas in which participants must rate and rank in terms of their importance (Bebeau & Thoma, 2003). The researchers found that physicians with fewer malpractice claims displayed higher levels of moral reasoning compared to physicians with higher malpractice claims, which suggests higher levels of moral reasoning may provide protective elements in practice and against malpractice claims. Similar studies support the importance of ethical reasoning in medical professionals. A study of 720 dental students, utilizing the DIT-2, found students not only benefited from ethics instruction, but valued it (Bebeau & Thoma, 1994).

Chaar (2009) completed a study with 1,500 practicing pharmacists investigating moral reasoning and professional behavior. Chaar (2009) found evidence supporting moral reasoning in professional ethics in pharmacy as being a developmental process and having "profound implications for furthering the understanding of professional behavior" (p. 439). Finally, Ducket et al., (1997) utilized the DIT-2 in order to study the

entry and exit relationships of student characteristics and moral reasoning of 348 nursing students at the University of Minnesota. Their results illustrated that "admission grade point average, prior college credits, and gender accounted for 10% of the variance in DIT P% (post-conventional) scores at entry and 14% of the variance at exit from the program" (Ducket et al., 1997, p. 222). Furthermore, female students had higher moral reasoning scores than men and age did not contribute significantly to explain DIT score variance (Ducket et al., 1997). Therefore, one may conclude that moral reasoning development tends to increase more with formal education than with aging.

Although many studies illustrate the importance and impact of moral reasoning in multiple healthcare professions, limited research is found in the field of physical therapy. Geddes et al. (2008) utilized the DIT-2 in a 6-year longitudinal study investigating changes in moral reasoning of 548 occupational and physical therapy students. Results indicated that moral judgment scores increased significantly in both OT and PT students over the 2-year program of study and that no differences were found in scores across gender, program, year of entry, or previous education (Geddes et al., 2008).

Swisher et al. (2012) also utilized the DIT-2 to investigate changes among 37 physical therapy students in moral reasoning and organization of ethical knowledge following a 6-week ethics course. Swisher et al. (2012) found that "students' mean post-conventional moral reasoning score (N2) increased significantly following ethics education" (p. 7). In addition, DIT-2 was found to be successful in evaluating the

effectiveness of ethics education on moral reasoning for physical therapy students. Swisher et al. (2012) identified college education as a powerful stimulus in the development of moral reasoning. Edwards et al. (2012) also supported the importance of education in improving moral reasoning, and identified that a 6-week ethics course can "facilitate both the development of ethical reasoning ability (moral judgment) and a richer and a more integrated knowledge of ethics and reasoning" (p. 163).

This result is not found by all authors. Dieruf (2004) investigated the impact of education on moral reasoning and the effectiveness of the DIT-2. Utilizing the DIT-2, Dieruf (2004) assessed 94 OT and PT students and identified differing results. Based on the results his study, Dieruf (2004) determined that educational programs did not seem to facilitate moral development in student occupational or physical therapists. Although studies exist that both support (Geddes et al., 2008; Swisher et al., 2012; Edwards et al., 2012) and do not support (Dieruf, 2004) education as a tool for enhancing moral reasoning, they do agree that the DIT is a valid measurement tool to use within the physical therapy population. Although more studies support the hypothesis that education improves moral reasoning in physical therapy students than the alternative, what relationship moral reasoning has with academic dishonesty in physical therapy students has yet to be determined.

Studies (Callahan, 2008; Harding et al., 2004b; LaDuke, 2013; Swisher, 2010) have shown that moral reasoning scores are predictive of clinical performance; however, only a few studies regarding moral reasoning and clinical performance in physical therapy have been completed (Swisher, 2010). For example, Sisola (2000)

surveyed 58 student physical therapists utilizing the DIT-2. The purpose was to test the relationship between moral reasoning and clinical performance. The results were consistent with previous research in medicine (Sheehan, Husted, Candee, Cook, & Bargen, 1980), pharmacy (Latif, 2000), and nursing (Krichbaum, Rowan, Duckett, Ryden, & Savik, 1994) which supported moral reasoning as a predictor of clinical performance (Sisola, 2000).

Researchers have reported that few physical therapy students had high moral reasoning scores. Larin, Benson, Wessel, Martin, and Ploeg (2014) found no difference among physical therapy, nursing, and health science students regarding levels of moral reasoning. The study included 159 health science, nursing, and physical therapy students. The results of the DIT-2 indicated lower moral reasoning of physical therapy students compared to basic science students; however, it was not a significant difference. Swisher (2010) also used the DIT-2 to investigate moral reasoning within physical therapy as compared to other professional groups. Five hundred thirty-seven physical therapists were surveyed with the results indicating physical therapists ranked lower in moral reasoning than other professions including physicians, nurses, medical students, nursing students, and dental students (Swisher, 2010).

Academic Dishonesty and Ethical Decision Making

With increasing academic dishonesty and reduced levels of moral reasoning, investigating whether there is a correlation between the two is important. Studies have identified that individual behaviors and decision-making are connected with integrity. For example, Schlenker (2008) showed that:

> Integrity (a) predicts reported antisocial activities (lying, cheating, stealing) even after controlling for other individual difference measures, (b) predicts reported helping and volunteering, especially for nobler reasons and after controlling for empathy, and (c) is associated with a variety of personality and attitudinal qualities that signify greater psychological well-being, buffering from stress, and effective social functioning. (p. 1078)

Thus, according to Schlenker (2008), having higher levels of integrity would require using ethical principles in both one's personal and professional life. In addition, Williams (2012) investigated how cheating incidences and perceptions of cheating correlated with the moral development level by surveying 453 traditional aged students utilizing the DIT and McCabe Academic Integrity survey. It was found that a significant relationship between moral development levels and cheating incidences existed, with less frequent cheating having occurred among those with higher moral development level (Williams, 2012).

Academic dishonesty has been shown to be a significant problem among high school and college students and an influence on ethical practice once graduates enter the workforce. In regard to physical therapy, two studies (Bates et al., 2005; Montuno et al., 2012) were found which discussed levels of physical therapy students' academic dishonesty. However, no research has been conducted in regard to academic dishonesty or how that relates to ethical practice in physical therapy. Because of the decision making and clinical reasoning physical therapists face day-to-day, it is

important to act in the most ethical way possible. Although studies have been completed regarding student physical therapists' moral reasoning (Barnitt & Partridge, 1997; Dieruf, 2004; Edwards et al., 2012; Geddes et al., 2008; Swisher, 2010; Swisher et al., 2012), how moral reasoning of physical therapy students relates to academic dishonesty has not been researched.

Studies have been completed regarding academic dishonesty and workplace dishonesty, especially in the field of engineering (Carpenter, Harding, & Finelli, 2006; Harding, Passow, Carpenter, & Finelli, 2003; Harding et al., 2004b). Harding et al. (2004b) surveyed 130 engineering students regarding cheating in college and in the workplace. Their results showed frequent cheaters in high school reported being more likely to violate work place policies. Therefore, Harding et al. (2004b) concluded "as the amount of cheating increases among engineering undergraduates (as has been the case over the past 40 years) we should expect a related increase in dishonesty in professional practice" (p. 9).

Similar results were found in the fields of psychology (Lucas & Friedrich, 2005) and business (Callahan, 2008; Sims, 1993; Nonis & Swift, 2001). Nonis and Swift (2001) surveyed 1,051 business students to investigate the relationship between academic dishonesty and workplace dishonesty. Results indicated a high correlation between the frequency of cheating at college and frequency of cheating at work. "Students who cheated in the academic setting tended to cheat in the corporate setting also" (Nonis & Swift, 2001, p. 75). An additional study (Sims, 1993) surveyed 60 MBA students' perceptions of academic dishonesty and workplace dishonesty. The results identified a

significant positive correlation suggesting dishonest behaviors in which students engaged during college continue into professional careers and subjects who engaged in behaviors considered severely dishonest during college were more likely to engage in behaviors considered severely dishonest at work (Sims, 1993). In addition, Lucas and Friedrich (2005) surveyed 83 psychology students and found a distinct correlation between cheating in school and practicing unethically as a professional. Therefore, the research is consistent regarding academic dishonesty and workplace dishonesty, and Callahan (2008) concluded that individuals who cheat were more likely to follow unethical paths in their careers.

Specifically related to healthcare, the majority of Americans, according to the Gallup polls, place nursing as the highest profession with regard to honesty and ethical standards (Riffkin, 2014). Nurses' honesty was rated, by the public at 80%, followed by medical doctors (65%), and pharmacists (65%). Surprisingly, clergy were placed at number five with 46% (Riffkin, 2014). Although honesty and ethical considerations are significantly important for all health care professions, physical therapy was not included in the 2014 Gallup poll. Although nursing was placed at the top in terms of their ethical and honesty standards, multiple studies identify that nursing exhibits a high level of academic dishonesty (Arhin & Jones, 2009; LaDuke, 2013). Therefore, all professions and programs seem to be affected by academic dishonesty.

It is important to identify whether or not academic dishonesty is taking place in today's professional healthcare programs, both in the classroom and in the clinic. Hilbert (1985) understood this importance and attempted to identify the correlation

between classroom and clinical settings for nursing. Hilbert (1985) found that students who cheated in the classroom were more likely to behave dishonestly during the clinical component of nursing school (Hilbert, 1985). Similarily, Krueger (2014) surveyed 336 nursing students and found that the majority of participants reported engaging in some form of academic dishonesty in the classroom setting (64.7%) and in the clinical setting (54%). In contrast, through a systematic review, Laduke (2013) stated her literature review did not provide enough evidence to concretely assume nursing students who behave dishonestly in academia today will be unethical nurses tomorrow. However, the research did strongly illustrate a pattern that nurse educators should recognize prior to passing the students who "lied about missing clinical, who plagiarized only a little, and who misunderstood the directions and thought it was okay to take the on-line quiz with a partner" (Laduke, 2013, p. 405).

In medicine, authors (Baldwin et al., 1996; Papadakis, Hodgson, Teherani, & Kohatsu, 2004) identified increased rates of academic dishonesty as well, with physicians being three times more likely to be disciplined by medical boards if they had previously demonstrated academic dishonesty. For example, Papadakis et al. (2005) studied 235 graduates of three medical schools who were disciplined by state medical boards between 1990 and 2003. They found that disciplinary action by medical boards were strongly associated with prior unprofessional behavior in medical school, most notably severe irresponsibility and a diminished capacity for self-improvement (Papadakis et al., 2005).

In addition, Henning et al. (2013) explored the association between self-reported incidence of academic dishonesty and ethical reasoning in the professional student body with 433 pharmacy and medicine students participating. Findings reported students engaging in academic dishonesty may be using different ethical frameworks. Therefore, "students more likely to suggest unlawful solutions to the ethical dilemma were more likely to disclose engagement in copying information and colluding with other students" (Henning et al., 2013, p. 1211). Unfortunately, there have been no studies to correlate academic dishonesty to workplace dishonesty in the field of physical therapy.

Summary

Academic dishonesty in the classroom is not a new problem with students self-reporting prevalence academic dishonesty steadily rising throughout all realms of education (Bertram Gallant et al., 2014) and ranging as high as 95% (McCabe & Trevino, 1997). Three years of data, consisting of 50,000 college and 18,000 high-school students in the United States and collected by Duke University's Center for Academic Integrity, illustrated more than 70 percent of students have admitted to cheating (McCabe, 2005). That percentage is elevated from 52% in 1993 and just 26% in 1963 (McCabe & Trevino, 1993; McCabe & Trevino, 2002; Vencat et al., 2006).

Furthermore, regarding physical therapy and moral reasoning, Larin et al. (2014) reported that few physical therapy students had high moral reasoning scores and found no difference between physical therapy, nursing, and health science students. Since limited studies have been conducted regarding academic dishonesty and moral reasoning of physical therapy students (and no studies regarding the relationship

between the two) to this author's best knowledge, there is a significant need to determine if a relationship exists. This knowledge may influence how physical therapy programs assess their curriculum and may encourage modifications to occur to enhance academic integrity, moral reasoning, and workplace behaviors.

Since there appears to be a great need to better understand academic dishonesty and moral reasoning as it pertains to student physical therapists, this study utilized Rest's framework, incorporated into the DIT-2, based on aspects of Kohlberg's theory in order to investigate student physical therapists' perceptions of moral reasoning. Along with the DIT-2, the McCabe Academic Integrity survey was utilized to capture their perception of academic dishonesty.

Utilizing aspects of both Kohlberg and Rest's framework, the purpose of this study was to investigate the relationship between academic dishonesty and moral reasoning in first-year, second-year, and third-year physical therapy students. This study also focused on investigating factors influencing academic dishonesty and moral reasoning in student physical therapists, since limited research exists. This study did not directly assess clinical performance; however, since previous studies have associated improved moral reasoning with improved clinical performance in other health professions, similar results may be found in the profession of physical therapy.

CHAPTER III

METHODOLOGY

Multiple studies indicate prevalence of student academic dishonesty throughout undergraduate and graduate studies; however, limited to no research exists regarding the relationship between moral reasoning and academic dishonesty among physical therapy students. Therefore, the purpose of this study was to investigate the relationship between student physical therapists' perceptions of academic integrity and moral reasoning. Identifying this relationship may influence development or modification of curriculum which may result in reduction of academic dishonesty and improve moral reasoning for physical therapy students. Presented in this chapter is information regarding how this study was organized and includes: information regarding participants; the study's research design, research questions, research hypotheses, variables (independent, dependent, and confounding); human subjects and ethical consideration; validity and reliability; measures/instruments; selection criteria, participant recruitment methods; data collection strategies; and data analysis.

Participants

Prior to recruiting participants and administering the surveys, to ensure that the rights and welfare of human subjects in social behavioral and biomedical research were protected, the primary investigator obtained approval from the *Institutional Review*

Board (IRB) of all participating institutions. This approval ensured that all research participants received the highest standard of protection. A detailed elaboration regarding participant descriptions can be found in Chapter IV (see Table 7).

A sample of 474 physical therapy students at seven Midwest higher education institutions served as participants for this study. This study utilized first-year, second-year, and third-year physical therapy students at public and private institutions.

Research Design

The design methodology was nonexperimental (correlational) and investigated two variables, academic dishonesty and moral reasoning, to determine if a relationship existed. This study also investigated if differences were present within individual classes (first-, second-, and third-year students) and between institutions (public and private). Finally, a regression analysis was conducted to determine predictors of moral reasoning and academic dishonesty, as pertained to the perceptions of physical therapy students.

Each institution was contacted by the primary investigator and given an informational page describing this study and whether the institutions would be interested in participating. Only student physical therapy students enrolled in accredited programs were invited to participate in this study. Within this group, there were no exclusion factors. Each institution decided not to award participation points for student involvement. Those students willing to participate were given an informed consent statement prior to completing the surveys. Students not willing to participate were not responsible for completing the surveys.

Each participant was given an informed consent statement prior to completing McCabe's Academic Integrity and the DIT-2 surveys. By completing the surveys, the participants agreed to be a part of this study. Surveys were distributed and collected onsite by the primary investigator and/or a physical therapy program representative (e.g., Program Chairperson). Exceptions were made for those students who may have been on clinical affiliations. The participants completed the surveys via Qualtrics in which the informed consent statement was attached to the link to be read prior to completing the surveys. The online survey link was distributed by individual physical therapy program chairpersons. Following data collection from all institutions, data was analyzed by the primary investigator.

The purpose of this study was to address the gap in the literature regarding the relationship between student physical therapists' perception of academic integrity and moral reasoning. This study added to the literature a deeper insight as to the perceptions of student physical therapists regarding moral reasoning and academic integrity. The variables utilized for this study are described in the following sections.

Independent Variables

The independent variables in this study were gender, year in program (first-year, second-year, and third-year students), and type of institutions (public versus private).

Dependent Variables

The dependent variables in this study were the student physical therapists' perceptions of academic dishonesty and moral reasoning.

Confounding Variables

In this study, there were multiple potential confounding variables present which were taken into account. These included but are not limited to

- employment status;
- enrolled in a closed-cohort;
- number of total enrolled credits of first, second, and third-year students;
- types of enrolled courses;
- student status (first-, second-, third-year);
- age of participants;
- home environment;
- available study time;
- marital status/children;
- ethical courses taught at individual institutions;
- time of year for individual programs; and
- religion identification.

The above confounding variables may have impacted internal and external factors, which may have influenced the student participants' overall perceptions of moral reasoning and academic integrity.

Ethical Considerations

Data were collected from multiple (7) universities. To ensure data were collected ethically, the investigator spoke with each institution's *Institutional Review Board* to confirm specific policies, procedures, and regulations were being followed. In

addition, the investigator developed an informed consent statement. This statement was distributed by the primary investigator and/or a representative from each physical therapy program (e.g., Program Chairperson). Each participant read and was provided a personal copy of the informed consent statement prior to completing the study's surveys. The elements identified in the informed consent statement encompassed the: a) purpose of the research project, b) procedures to be followed, c) risks of the study, d) benefits of the study, e) duration of the study, f) statement of confidentiality, g) right to ask questions, h) compensation, and i) voluntary participation.

No deception occurred during this study. Students were aware, via the informed consent statement, that the purpose of the study was to investigate their perceptions of academic integrity and moral reasoning. Data was collected by the primary investigator and/or the physical therapy program representative (e.g., Program Chairperson) who were the only two individuals in contact with the completed surveys for each institution. No link was established connecting individual participants to their responses. An identification code was specific to individual participants in order to compare his/her responses to both surveys; however, it was in no way linked to their identity. During the data collection period, participants' data was stored in a locked file cabinet in the work office of the primary investigator.

The identification code was a five-digit code that was calculated as follows: The first two digits were the day of birth and the third, fourth, and fifth digits were the last three numbers of the participant's social security number (SSN). Once data was collected, it was maintained in the work office of the primary investigator and stored in

a locked file cabinet. Consent forms were not signed; therefore, no link could be made between the individual students and their responses. Data was retained in the investigator's work office indefinitely, secondary to there being no link connecting the data to the participants.

Valid and Reliable Data Collection.

Validity

Warner (2013) defines construct validity as the degree to which scores on a measure correspond to the underlying construct that the measure is supposed to assess. Construct validity may also be referred to as face or content validity. The slight difference is that content validity is the degree to which the measure covers the intended content area (Haynes, Kubany, & Richard, 1995). According to Warner (2013), factor analysis is used to describe variance among correlated variables and to determine if any questions can be reduced/combined to measure unobserved constructs. Factor analysis was utilized to ensure validity of the McCabe Academic Integrity Survey.

Reliability

Reliability refers to the "consistency of different measurements of the same thing" (Gravetter & Wallnau, 2013, p. 222). Therefore, reliability is an important item when developing scales, because it assesses the degree to which responses are consistent across a set of multiple measures of the same construct and identifies the consistency and repeatability across items (Helms, Henze, Sass, & Mifsud, 2006; Warner, 2013). Multi-item scales were used to represent a factor or construct that cannot properly be measured by a single question. According to Warner (2013), utilizing multi-

item scales provide more reliable and consistent data and allows for a greater likelihood of normal distribution and variability.

Measures/Instruments

Based on the study's goals and themes, two instruments were utilized to investigate the perceptions of student physical therapists regarding academic dishonesty and moral reasoning. McCabe's Academic Integrity instrument gathered information which encompassed students' perceptions of the academic environment, specific behaviors some may consider cheating, the prevalence of cheating, and the students perceived seriousness of cheating.

The DIT-2 instrument is a device for activating moral schemas and for assessing these schemas in terms of moral judgments. The DIT-2 has dilemmas and standard items, and the participant's task was to rate and rank the items in terms of their moral importance (University of Alabama, 2015). Individual scale descriptive statistics as they relate to high versus low perceptions of academic dishonesty and moral reasoning were evaluated.

McCabe's Academic Integrity Survey

The researcher used a pre-existing Academic Integrity Survey developed by Donald McCabe, a former professor at Rutgers University and the founder of the Center for Academic Integrity. The researcher received permission from the Center for Academic Integrity to utilize McCabe's Academic Integrity survey for this study. This survey was used to assess the perceptions of students regarding academic integrity and dishonesty. The International Center for Academic Integrity (2015d) (ICAI) provided an

assessment guide and individual student and faculty surveys. Currently, there are 239 institutional members of the ICAI who have free access to the assessment guide and faculty and student surveys for research (ICAI, 2015). For this study, only the student survey was utilized. McCabe's survey assessed multiple aspects of academic integrity. It explored the perceptions of the academic environment, specific behaviors, demographics, and included two open-ended responses.

Specific behaviors were assessed by asking individual participants how often they participated in academic dishonest behaviors and how they perceived the seriousness of each behavior (International Center for Academic Integrity, 2015d). In addition to assessing specific behaviors, two open-ended questions were asked, which included:

a) What specific changes would you like to see (University) make in support of academic integrity and what role should students play in the process?
b) Please use this space for any comments you care to make, or if there is anything else you would like to tell us about the topic of cheating (International Center for Academic Integrity, 2015d).

This survey encompassed many realms and allowed for a thorough assessment of a wide array of feelings toward and actions of academic dishonesty and integrity.

Research conducted by McCabe and the ICAI utilized this academic integrity survey to identify the perceptions of students and faculty across the country and internationally. Through this research, McCabe found that the number of university students who admit to cheating in some form is significant (ICAI, 2015b). McCabe's

Academic Integrity Survey has been utilized since 1990, with more recent data collected between 2002-2005 from 83 different campuses in the United States (67 campuses) and Canada (16 campuses) (McCabe, 2005). This data was generated as part of the Academic Integrity Assessment Project conducted by the Center for Academic Integrity at Duke University (McCabe, 2005). McCabe has utilized the Academic Integrity Survey to complete research among thousands of graduate, undergraduate, and high school students and faculty. One of the largest groups of data recently collected occurred between Fall 2002 and Spring 2015. Seventeen thousand graduate students and 71,300 undergraduate students completed the academic integrity survey, which resulted in 43% of graduate students and 68% of undergraduate students admitting to cheating on written assignments or tests (ICAI, 2015b).

McCabe's Academic Integrity survey has been utilized and vetted among a variety of schools, professions, programs, and departments (McCabe, 2005; McCabe, 2009; McCabe & Trevino, 1993; McCabe et al., 2001; McCabe et al., 2002). For example, Williams and Janosik (2007) surveyed 860 undergraduate women and found the reliability of the Academic Integrity Survey to have a Cronbach's alpha reliability in excess of .80. Furthermore, Witherspoon, Maldonado, and Lacey (2012) investigated the reliability of McCabe's Academic Integrity survey and determined that the values were at or above the acceptable consistency levels and the Cronbach's coefficient alpha ranged from .80-.85.

Defining Issues Test (DIT-2)

The DIT-2 is a paper and pencil measure of moral judgment derived from Kohlberg's theory (Kohlberg, 1984). The impact of the DIT-2 is expressed by the number of studies in which it has been used with college participants. Over 500 published articles, conference presentations, and dissertations utilized the DIT-2 when investigating college students' perceptions (King et al., 2002). Instead of scoring free-responses to hypothetical moral dilemmas in an interview, the DIT-2 presents 12 issues after a hypothetical dilemma, for a subject to rate and rank in terms of their importance (Bebeau & Thoma, 2003). The DIT-2 data consists of ratings and rankings instead of interview responses. Instead of envisioning the scoring process as classifying responses into Kohlberg's six stages, the DIT-2 analyzes responses as activating three schemas. The scores represent the degree which a subject uses the personal interest, maintaining norms, or post-conventional schema. The schemas have a close relation to Kohlberg's stages, yet they are different. As with Kohlberg's theory, the schema scores aim to measure development, in particular, how people hypothesize the occurrence of cooperation in a society. Therefore, the DIT-2 is a measure of the development of concepts of social justice (Bebeau & Thoma, 2003; Thoma, 2002). The DIT clusters items around three general moral schemas: arguments appealing to personal interest, maintaining social laws and norms, or moral ideas, and/or theoretic frameworks resolving complex moral issues (post-conventional) (Babeau et al., 2003).

Validity of the DIT has been assessed in over 400 published articles over the past four decades and has been assessed in terms of seven criteria (Bebeau & Thoma, 2003;

Rest, Narvaez, Thoma, & Bebeau, 1999c). These studies (Bebeau & Thoma, 2003; Rest et al., 1999b; Rest et al., 1999c) have identified the validity of the DIT and have shown: a) 30% to 50% of the variance of moral reasoning scores attributable to the level of education; b) effect sizes of .80 for college attenders; and c) moral reasoning scores significantly related to cognitive capacity measures of moral comprehension (*r* = .60).

Furthermore, validation studies have determined that the DIT has shown that moral reasoning skills: a) are sensitive to moral education interventions; b) are linked to many prosocial behaviors and to desired professional decision making; c) are significantly linked to political attitude and political choices (*r* = .40 to .60); and d) Cronbach's alpha of the DIT is in the high .70s or .80s with test/retest being about the same (Bebeau & Thoma, 2003; Rest et al., 1999b; Rest et al., 1999c). Additional studies (Rest, 1979), have shown the DIT's internal reliability using Cronbach's Alpha to be in the .80-.89 (Rest, 1979). Rest's data on the DIT indicate that it is a valid and reliable instrument regarding the measurement of moral development among high school or adult populations.

The DIT-2 is an updated version of the original DIT. Compared to the original DIT, DIT-2 has updated stories, is a shorter test, has clearer instructions, retains more subjects through subject reliability checks, and does not sacrifice validity (Bebeau & Thoma, 2003). In continuation, Bebeau and Thoma (2003), found that "the correlation of DIT-1 with DIT-2 is .79, nearly the test-retest reliability of DIT-1 with itself" (p. 31); however, when the new index (N2), and the new subject reliability checks are applied to DIT-1, the older and longer DIT-1 shows the same validity as DIT-2. Rest et al. (1999b)

studied 200 students composed of ninth graders, senior high graduates, college seniors and graduate students. The validity criteria consisted of discrimination of ages and education groups, prediction of opinion on controversial public policy, high correlations between DIT -1 and DIT-2, and adequate internal reliability in DIT-2 (Rest et al., 1999b). The results indicated improved analysis and power of the DIT-2 compared to the original DIT while maintaining a high correlation and internal consistency (Cronbach's alpha = .90) between the two instruments.

Overall, the DIT and DIT-2 have been utilized in hundreds of studies and presentations over the past four decades and is the most utilized instrument in measuring and assessing moral reasoning and judgment. Multiple studies have utilized DIT and DIT-2 to measure moral reasoning and judgment, with high school, undergraduate, and graduate students (King & Mayhew, 2002; Rest et al., 1999a; Rest et al., 1999b; Rest et al., 1999c; Thoma, 2002) and health professions (Dieruf, 2004; Edwards et al., 2012; Geddes et al., 2008; McLeod-Sordjan, 2014; Swisher, 2010; Swisher et al., 2012). Past validation studies and utilization, specifically for research regarding physical therapy students, makes this instrument valid and reliable for the purpose of this study.

Methods Ensuring Internal Validity

Processes were taken to ensure internal validity of the research study. First, the study utilized valid and reliable instruments in order to assess the perceptions of academic integrity (McCabe's survey) and moral reasoning (DIT-2). Both surveys have been vetted and identified as valid and reliable instruments (Bebeau & Thoma, 2003;

Rest, 1979; Rest et al., 1999b; Rest et al., 1999c; Williams & Janosik, 2007; Witherspoon et al., 2012).

Second, the online and hardcopy surveys were identical. Most surveys were distributed in hard-copy form with similar instructions as to how to complete the surveys. This assisted in avoiding researcher bias and maintained continuity in instruction and distribution of instruments. The identical one-time survey, available to all students, reduced the likelihood of testing effects, maturation, compensatory rivalry, and demoralization occurring.

Third, appropriate statistical procedures were utilized during analysis of data and were completed by a qualified individual competent in SPSS statistical software. Finally, all surveys and data were collected anonymously with no identifiable markers. Participants were able to withdraw from the study at any time and could refuse to answer questions if they so desired. This anonymity assisted in honest and trustworthy responses since answers could not be related back to the individual participants, therefore ensuring internal validity.

Plan for Analysis

The analysis involved multiple steps and items to determine whether or not there was a relationship between academic integrity and moral reasoning perceptions of physical therapy students. The steps included:

1) Reviewing the scale items for construct validity.

2) Reverse coding items as needed.

3) Analyzing the descriptive statistics of the participants as well as the individual scale items.

4) Analyzing Cronbach alpha for scale reliability.

5) Completing a factor analysis for factor extraction and removing items that do not strongly load onto a factor.

6) Testing group differences utilizing Two-Way (3 x 2) Factorial ANOVA (student status: 1st, 2nd, and 3rd year and institution: public versus private) and independent *t*-tests.

7) Investigating correlations (Spearman *r*) to assess relationships among categorical and continuous variables.

8) Completing multiple regression to identify factors that may predict academic dishonesty and moral reasoning.

Construct Validity

The primary investigator reviewed the scales included in this study to determine whether or not the scale was measuring what it is supposed to measure. Even though McCabe's Academic Integrity survey and the DIT-2 have been found to be valid and reliable instruments, the following items were assessed to determine appropriateness toward this study.

Reverse Coding

Reverse worded questions are phrased in a way that a strong level of disagreement with the statement indicates more of the trait or attitude that the test is supposed to measure (Warner, 2013). Survey items were reviewed to determine if the need for reverse coding was present.

Descriptive Statistics

Descriptive statistics were analyzed in order to summarize the characteristics of the sample and provide information about the measurement scales. They identified frequencies, skewness, kurtosis, mean, median, and mode. These data assisted in determining whether or not the sample was normally distributed. Gravetter and Wallnau (2013) describe normal distribution as "a commonly occurring shape for population distributions" (p. 170). If normal distribution is not maintained, results may be invalid and unreliable.

Means and standard deviations were analyzed to ensure that they fell within the normal scale ranges. Deviation outside of this range may represent a non-normal distribution. In addition, this author investigated the demographic variables and the overall "*N*" value. Groups being investigated maintained a healthy representation of 30 participants, which is what researchers declare is the minimal number needed per group (Button et al., 2013; Menil & Ruili, 2012); however, sample size depends on what is being studied. Groups did not exceed an 8:1 ratio and offered a large sample size which increased the power and reduced the chances of a type II error.

Reliability

Internal reliability (Cronbach's Alpha) was developed to provide a measure of the internal consistency of a test or scale and is expressed as a number between ± 1.00 (Warner, 2013). According to Tavakol and Dennick (2011) internal consistency describes the extent to which all the items in a test measure the same concept or construct and is connected to the inter-relatedness of the items within the test. Cronbach's alpha (α)

was evaluated in order to improve validity of items and scales used and to remove items that are inconsistent with the construct being measured. The investigator desired item reliability be greater than .70 but less than .95 (Warner, 2013).

Factor Analysis

To test the quality of each scale, an exploratory factor analysis was conducted using principal axis factoring and direct oblimin rotation to determine if the scales assessed distinct constructs. Factor analysis is a statistical method used to describe variance among correlated variables and would be used to determine if any questions can be reduced/combined to measure a few unobserved constructs (Warner, 2013). Direct oblimin rotation was utilized to simplify and clarify the data structure and examined the resulting pattern matrix for factor/item loadings and revealed any correlation between the factors (Costello & Osborne, 2005; Warner, 2013).

The factor analysis relied heavily on the identified scree plots. Results indicated the total number of factors for each construct and identified items to be removed due to weak or cross loadings on other factors. According to Costello and Osborne (2005), the factor analysis allows for greater generalizability to other samples and the student physical therapy population. The investigator assessed for the minimum amount of factors, along with the highest cumulative percentage possible, to promote a greater representation in the scales. The factor analysis was used to investigate the validity of the McCabe's survey. Following reliability testing and the factor analysis, the descriptive statistics of the scale distributions were analyzed and the scale items summed into their respective variables.

Testing Group Differences

The investigator utilized SPSS software for data set organization and calculations. Tests which were used to investigate the study's research questions included: a) Correlation, b) 3 x 2 Factorial ANOVA, c) Independent *t*-test, and d) Multiple regression.

Correlations. When assessing correlation between variables the two most common tests analyzed are the Pearson *r* and Spearman *r*. According to Warner (2013), "Pearson's *r* correlation is typically used to describe the strength of a linear relationship between two quantitative variables" (p. 261). In comparison, Spearman *r* is applied in situations where the scores are more ordinal in nature or when non-normal data distribution is present (Warner, 2013). Correlation is important in order to assess positive or negative relationships which may occur between variables and may be important in identifying which variables may be strongly influencing the outcomes. The greater the correlation the greater the strength is between the two variables. If two variables are positively correlated, it means that as one elevates the other elevates. For example, assessing correlations in this study, if the level of perceived academic integrity is positively correlated with perceived moral reasoning, then higher perceived moral reasoning may suggest higher levels of perceived academic integrity. Therefore, students with higher perceived moral reasoning may present with less academic dishonesty occurrences. Correlation (Spearman *r*) was investigated secondary to data being more ordinal and non-normally distributed in nature and compared to answer research question 1.

Factorial ANOVA (3 x 2). A factorial ANOVA was completed in order to identify whether significant main effects or interaction effects existed between two independent variables (student status and institution). Factorial ANOVAs (3 x 2) was completed to investigate first-, second-, and third-year students and type of institution (public versus private) as the independent variables while assessing student perceptions of academic integrity and moral reasoning. If significant main effects were present, the group means would be evaluated to determine which group had a significantly elevated score. If a significant interaction effect was identified, a simple main effect calculation would be completed to identify where the significance lies (Warner, 2013). A Bonferroni adjustment was utilized, to limit inflated risk of Type I error, when the ANOVA is significant and follow-up *t*-tests were needed to be calculated to find out the nature of the effect (Warner, 2013). Factorial ANOVA (3 x 2) was utilized to answer research questions 2 and 3.

Independent *t*-tests. Independent *t*-tests were completed in order to identify whether secondary independent variables were significant when analyzing academic integrity and moral reasoning. Independent variables such as gender, GPA, ethics course completion, previous undergraduate degree, marital status, religion, race, and political views were analyzed to determine if significance group differences existed regarding moral reasoning and academic integrity. An Independent *t*-test was also utilized and identified significant differences when answering research question 3.

Multiple regression. The final quantitative analysis examined how well categorical and continuous variables predicted academic integrity and moral reasoning. A wide variety of variables were utilized in order to investigate moral reasoning and academic dishonesty predictors. A simultaneous regression was calculated by entering all predictors as one step while controlling for all of the other variables. Since hierarchical multiple regression is stated as being more powerful and accounts for other variables (Warner, 2013), it was also utilized for this study. The variables were treated as different or unequal and were entered in steps based on theory and past research. Therefore, some variables became significant outcome predictors when secondary variables were taken into account. Multiple regression was utilized to answer research question 4.

Other data. The academic integrity and moral reasoning surveys allowed for additional data to be collected, including demographic and student variables. Such data consisted of gender, GPA, ethics course completion, previous undergraduate degree, marital status, religion, race, and political views, to name a few. Including additional questions allowed students to be placed in more specified groupings for current and future ease of comparison. The data was calculated by utilizing an Independent *t*-test to explore group differences. The qualitative data collected with the open-ended survey questions were not analyzed for this current study; however, may be explored in future analysis.

Summary

Multiple measures were taken during the design and implementation to ensure internal validity of the study. The first measure included providing operational definitions which clearly identified terms and variables associated with this study, which allowed for little room for interpretation. Multiple operational definitions were provided, which included moral reasoning and academic dishonesty. The second measure was the way in which the study was conducted. This study utilized physical therapy students from multiple institutions in which the academic integrity and moral reasoning surveys were completed one-time and simultaneously. The majority of the surveys were completed on site so that the loss of subjects would be a minimal concern. In addition, the study was strengthened by obtaining an adequate number of total participants with similar group totals.

The third measure was providing valid and reliable survey instruments to assess the dependent variables (McCabe Academic Integrity Survey and DIT-2). The appropriate choice of instruments was confirmed through conducting validation and reliability studies, as well as utilizing the instruments being utilized to assess thousands of participants. These tools have been vetted and recognized as reliable and valid instruments. Finally, the appropriate statistical measures were utilized via SPSS software to analyze and interpret the data collected from all participants.

McCabe's Academic Integrity and the DIT-2 surveys were utilized to determine if a relationship existed between student physical therapists' perceptions of academic integrity and moral reasoning. Descriptive statistics and differences between groups

were analyzed. Correlations, regression, and factor analysis were used to identify potential predictors of scores. The data analysis process was thorough and assisted the investigator in answering this study's specific research questions.

CHAPTER IV

RESULTS

Statement of Research Purpose and Questions

The purpose of this study was to fill the gap in the literature and provide additional information regarding the relationship between student physical therapists' perceptions of academic integrity and moral reasoning. In order for this study to gain significant insight regarding such perceptions, the following research questions were utilized:

1. Is there a significant relationship between physical therapy students' perceptions of academic integrity and moral reasoning?
2. Is there a significant difference among first-year, second-year, and third-year physical therapy students in regard to their perceptions of academic integrity and moral reasoning?
3. Is there a significant difference between physical therapy students at public versus private institutions in regard to their perceived academic integrity and moral reasoning?
4. Are there specific predictors of academic integrity and moral reasoning in first-year, second-year, and third-year physical therapy students?

Surveys

This study utilized McCabe's Academic Integrity Survey (see Appendix A) and the Defining Issues Test (DIT-2) (see Appendix B) to analyze the perceptions of academic integrity and moral reasoning of student physical therapists.

McCabe's Academic Integrity Survey

McCabe's survey assessed multiple aspects of academic integrity. It explored the perceptions of the academic environment, specific behaviors, demographics, and included two open-ended responses. Specific behaviors were assessed by asking the physical therapy students how often they participated in academic dishonest behaviors over the past year and how they perceive the seriousness of each behavior (International Center for Academic Integrity, 2015d). Four scales within McCabe's survey were utilized: perception of cheating frequency during pre-professional coursework (FPrP), perception of cheating frequency during professional coursework (FP), specific behavior frequency (SBF), and specific behavior seriousness (SBS). In addition, three single item questions were answered related to frequency of witnessing cheating during pre-professional coursework (PrP_wit), witnessing cheating during professional coursework (prof_wit), and seriousness of cheating with their individual programs (SP).

Identical questions were asked in the perceived cheating in pre-professional (FPrP) and professional coursework (FP) scaled items. Participants responded to the FPrP and FP on a scale of 1 = *Never*, 2 = *Very Seldom*, 3 = *Seldom/Sometimes*, 4 = *Often*, and 5 = *Very Often*. Identical questions were asked in the specific behavior frequency

(SBF) and specific behavior seriousness (SBS) scaled items. Participants responded to the SBF on a scale of 1 = *Never*, 2 = *Once,* 3 = *More than once and* 4 = *Not relevant* and SBS on a scale of 1 = *Not cheating*, 2 = *Trivial cheating*, 3 = *Moderate cheating*, and 4 = *Serious cheating*. The primary investigator identified "not relevant" as missing data secondary to only five participants marking it as a response and due to lack of clear scale definition.

Four open-ended questions were included at the end of the McCabe survey, but were not analyzed for this study. These questions included: a) what specific changes would you like to see your professional PT program make to support academic integrity and what role should students play in this process?; b) do you believe the level of academic integrity in physical therapists can influence their prevalence of workplace dishonesty, why or why not?; c) do you believe the level of moral reasoning in physical therapists can influence their prevalence of workplace dishonesty, why or why not?; and d) is there anything else you would like to tell us about the topic of cheating? See Table 2 for an overview of McCabe's academic integrity survey scales and individual items utilized for this study.

Table 2. McCabe's Academic Integrity Survey Scales and Items.

Name	Item	*M*	*SD*	*SK*	*K*
Frequency of Academic Dishonesty During Pre-Professional Coursework (FPrP)					
FPrP_1	Plagiarism on written assignments.	2.85	0.93	-.11	-.55
FPrP_2	Inappropriately sharing work in group assignments.	3.38	1.02	-.32	-.39
FPrP_3	Cheating during tests or examinations.	2.61	1.07	.20	-.54
FPrP_4	Submitting the same paper in more than one course without specific permission.	2.17	0.99	.48	-.46
FPrP_5*	Purchasing papers.	1.77	0.82	.91	.53
FPrP_6	Use of electronic/digital devices as an unauthorized aid during an in class test.	2.26	1.11	.53	-.52
FPrP_7*	Falsifying information on an exam or paper after it has been graded/submitted.	1.79	0.84	.87	.34
Frequency of Academic Dishonesty During Professional Coursework (FP)		*M*	*SD*	*SK*	*K*
FP_1	Plagiarism on written assignments.	2.00	0.73	.68	1.29
FP_2	Inappropriately sharing work in group assignments.	2.49	0.90	.41	.14
FP_3	Cheating during tests or examinations.	1.71	0.79	1.32	2.59
FP_4	Submitting the same paper in more than one course without specific permission.	1.29	0.53	2.06	6.41
FP_5*	Purchasing papers.	1.14	0.41	4.06	24.22
FP_6	Use of electronic/digital devices as an unauthorized aid during an in class test.	1.39	0.62	1.68	3.35
FP_7*	Falsifying information on an exam or paper after it has been	1.21	0.47	2.62	10.43
Past Year Specific Behavior Frequency (SBF)		*M*	*SD*	*SK*	*K*
SBF_1*	Fabricating or falsifying a bibliography.	1.11	0.45	4.73	22.33
SBF_2	Working on an assignment with others (in person) when the instructor asked for individual work.	1.85	0.83	.30	-1.44
SBF_3	Working on an assignment with others (via email or instant messaging) when the instructor asked for individual work.	1.57	0.78	.92	-.71
SBF_4	Getting questions or answers from someone who has already has taken a test.	1.25	0.58	2.24	3.79

Table 2. cont.

Past Year Specific Behavior Frequency (SBF)	*M*	*SD*	*SK*	*K*
SBF_5* In a course computer work, copying another student's program rather than writing your own.	1.25	0.80	6.90	52.11
SBF_6* Helping someone else cheat on a test.	1.09	0.39	4.34	18.50
SBF_7* Fabricating or falsifying lab data.	1.11	0.44	4.35	19.57
SBF_8* Fabricating or falsifying research data.	1.06	0.39	8.66	83.34
SBF_9* Copying from another student during a test WITH his or her knowledge.	1.05	0.28	6.57	45.05
SBF_10 Copying from another student during a test or examination WITHOUT his or her knowledge.	1.16	0.47	2.95	8.05
SBF_11* Using digital technology to get unpermitted help from someone during a test or examination.	1.03	0.21	8.17	73.99
SBF_12 Receiving unpermitted help on an assignment.	1.47	0.71	1.19	.06
SBF_13 Copying (by hand or in person) another student's homework.	1.27	0.59	2.05	3.02
SBF_14 Copying (using digital means such as Instant Messaging or email) another student's homework.	1.16	0.46	2.96	8.17
SBF_15 Paraphrasing or copying a few sentences from a book, magazine, or journal (not electronic or web-based) without footnoting them in a paper you submitted.	1.39	0.69	1.51	.87
SBF_16* Turning in a paper from a "paper mill" (a paper written and previously submitted by another student) and claiming it as your own.	1.02	0.19	11.37	142.80
SBF_17 Paraphrasing or copying a few sentences of material from an electronic source (e.g., the internet-without footnoting them in a paper you submitted.	1.44	0.71	1.30	.30
SBF_18* Submitting a paper you purchased or obtained from a website and claimed it as your own work.	1.01	0.16	12.37	151.65
SBF_19* Using unpermitted handwritten crib notes (or cheat sheets) during a test or exam.	1.02	0.19	11.32	141.55
SBF_20* Using electronic crib notes (stored in tablet, phone, or calculator) to cheat on a test or exam.	1.06	0.52	17.14	330.36
SBF_21* Using an electronic/digital device as an unauthorized aid during an exam.	1.03	0.20	7.93	67.15

Table 2. cont.

Past Year Specific Behavior Frequency (SBF)	*M*	*SD*	*SK*	*K*
SBF_22* Copying material, almost worked for word, from any written source and turning it in as your own work.	1.04	0.25	6.17	39.93
SBF_23* Turning in a paper copied, at least in part, from another student's paper, whether or not the student is currently taking the same course.	1.03	0.19	7.18	56.52
SBF_24* Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.	1.07	0.30	4.96	25.34
SBF_25* Turning in work done by someone else.	1.02	0.17	9.56	98.58
SBF_26 Receiving requests from another person (in person or using electronic means) to copy your homework.	1.54	0.80	1.02	-.63
SBF_27* Submitting the same paper in more than one course without specific permission.	1.05	0.27	5.77	36.04
SBF_28* Using Cliff Notes or Spark Notes and not citing.	1.09	0.38	4.38	18.99
SBF_29* Cheating on tests in any other way.	1.08	0.34	4.74	22.45
Past Year Specific Behavior Seriousness (SBS)	*M*	*SD*	*SK*	*K*
SBS_1* Fabricating or falsifying a bibliography.	2.70	0.87	-.18	-.66
SBS_2 Working on an assignment with others (in person) when the instructor asked for individual work.	2.39	0.74	.20	-.22
SBS_3 Working on an assignment with others (via email or instant messaging) when the instructor asked for individual work.	2.39	0.76	.10	-.34
SBS_4 Getting questions or answers from someone who has already has taken a test.	3.45	0.87	-1.59	1.67
SBS_5* In a course computer work, copying another student's program rather than writing your own.	3.26	0.91	-1.19	.59
SBS_6* Helping someone else cheat on a test.	3.65	0.82	-2.43	4.78
SBS_7* Fabricating or falsifying lab data.	3.23	0.95	-1.03	.01
SBS_8* Fabricating or falsifying research data.	3.44	0.92	-1.60	1.46
SBS_9* Copying from another student during a test WITH his or her knowledge.	3.66	0.83	-2.53	5.13
SBS_10 Copying from another student during a test or examination WITHOUT his or her knowledge.	3.69	0.80	-2.69	6.00
SBS_11* Using digital technology to get unpermitted help from someone during a test or examination.	3.68	0.81	-2.60	5.52
SBS_12 Receiving unpermitted help on an assignment.	2.76	0.87	-.24	-.62

Table 2. cont.

Past Year Specific Behavior Seriousness (SBS)	*M*	*SD*	*SK*	*K*
SBS_13 Copying (by hand or in person) another student's homework.	2.94	0.90	-.51	-.52
SBS_14 Copying (using digital means such as Instant Messaging or email) another student's homework.	2.95	0.89	-.53	-.44
SBS_15 Paraphrasing or copying a few sentences from a book, magazine, or journal (not electronic or web-based) without footnoting them in a paper you submitted.	2.87	0.92	-.33	-.82
SBS_16* Turning in a paper from a "paper mill" (a paper written and previously submitted by another student) and claiming it as your own.	3.65	0.82	-2.48	5.06
SBS_17 Paraphrasing or copying a few sentences of material from an electronic source (e.g., the internet-without footnoting them in a paper you submitted.	2.85	0.90	-.31	-.76
SBS_18* Submitting a paper you purchased or obtained from a website and claimed it as your own work.	3.65	0.83	-2.45	4.87
SBS_19* Using unpermitted handwritten crib notes (or cheat sheets) during a test or exam.	3.65	0.84	-2.45	4.77
SBS_20* Using electronic crib notes (stored in tablet, phone, or calculator) to cheat on a test or exam.	3.65	0.83	-2.46	4.86
SBS_21* Using an electronic/digital device as an unauthorized aid during an exam.	3.65	0.83	-2.43	4.71
SBS_22* Copying material, almost worked for word, from any written source and turning it in as your own work.	3.57	0.83	-2.09	3.56
SBS_23* Turning in a paper copied, at least in part, from another student's paper, whether or not the student is currently taking the same course.	3.48	0.86	-1.73	2.21
SBS_24* Using a false or forged excuse to obtain an extension on a due date or delay taking an exam.	2.98	0.94	-.64	-.45
SBS_25* Turning in work done by someone else.	3.57	0.85	-2.08	3.35
SBS_26 Receiving requests from another person (in person or using electronic means) to copy your homework.	2.97	0.92	-.63	-.42
SBS_27* Submitting the same paper in more than one course without specific permission.	2.88	1.00	-.48	-.85

Table 2. cont.

Past Year Specific Behavior Seriousness (SBS)	*M*	*SD*	*SK*	*K*
SBS_28* Using Cliff Notes or Spark Notes and not citing.	2.80	0.93	-.31	-.77
SBS_29* Cheating on tests in any other way.	3.55	0.88	-1.97	2.75
Witnessing Pre-Professional Program Cheating (PrP_wit)	*M*	*SD*	*SK*	*K*
PrP_wit How often , if ever, have you seen another student cheat during a test or examination during your pre-professional coursework?	2.63	1.20	.03	-.86
Witnessing Professional Program Cheating (Prof_wit)	*M*	*SD*	*SK*	*K*
Prof_wit How often, if ever, have you seen another student cheat during a test or examination during your professional coursework?	1.34	.72	2.15	3.89
Serious Problem in Professional Program (SP)	*M*	*SD*	*SK*	*K*
SP Cheating is a serious problem within my professional program	1.91	1.04	1.25	1.17

Note: Participants responded to the FPrP and FP on a scale of 1 = *Never* to 5= *Very often*. Participants responded to the SBF items on a scale of 1 = *Never* to 4 = *Not relevant*. Participants responded to the SBS items on a scale of 1 = *Not cheating* to 4 = *Serious cheating*. Participants responded to the PrP_wit and Prof_wit items on a scale of 1 = *Never witnessed* to 5 = *Witnessed many times*. Participants responded to the SP items on a scale of 1 = *Strongly disagree* to 5 = *Strongly agree. M* = Mean, *SD* = Standard Deviation, *SK* = Skewness, and *K* = Kurtosis. * Indicates items that were removed prior to final analyses.

Defining Issues Test (DIT-2)

The DIT-2 measured moral judgment and is derived from Kohlberg's theory (Kohlberg, 1984). Instead of scoring free-responses to hypothetical moral dilemmas in an interview, the DIT-2 presented 12 issues after a hypothetical dilemma for a subject to rate and rank in terms of their importance (Bebeau & Thoma, 2003). Instead of envisioning the scoring process as classifying responses into Kohlberg's six stages, the DIT-2 analyzed responses and classified them in accordance with three schemas. The scores represented the degree to which participants used the personal interest, maintaining norms, or post-conventional schema. As with Kohlberg's theory, the

schema scores aim to measure development, in particular, how people hypothesized the occurrence of cooperation in a society. Therefore, the DIT-2 measured the development of concepts of social justice (Bebeau & Thoma, 2003; Thoma, 2002).

Personal interest (PI) schema represents the portion of items selected that focus on the direct advantages to the individual, fairness of simple exchanges of favor for favor, good or evil intentions, maintaining friendships/relationships, and maintaining approval (Bebeau & Thoma, 2003). Maintaining norms (MN) schema represents the portion of items that focus on "maintaining the existing legal system, maintaining existing roles and formal organizational structure" (Bebeau & Thoma, 2003, p. 19). Finally, post-conventional schema (P-scores) represent the items selected that focus on due process, social arrangements and relationships in terms of intuitively appealing ideals (Bebeau & Thoma, 2003).

The DIT-2 included five separate ethical dilemmas. The dilemmas revolved around famine, ethical news reporting, a school board controversy, cancer treatment, and a political demonstration. Following reading each dilemma, the participant answered three sections of questions. The first section asked the participants what action they would take. For example, the famine dilemma involved a man's family who were dying of starvation while a rich man was hoarding food in order to sell when prices elevated. The first question posed to the participants was: would you *take the food*, *not take the food*, or *cannot decide*? Following the initial question, the participants then rated and ranked importance of items depending on the individual questions per dilemma. Based on the participants' responses and how they rated and ranked the

items, personal interest (PI), maintain norms (MN), post-conventional (P), and N2 scores were calculated and reported.

N2 scores reflect the levels of individual moral reasoning. The higher an individual's N2 score the more post-conventional moral reasoning is taking place. Therefore, higher N2 scores reflect higher and more advanced moral reasoning. N2 scores were evaluated not only because it assessed the increases in post-conventional usage, but also assessed for decreased levels of personal interest, both of which are desirable. Therefore, higher N2 scores represented more advanced post-conventional moral reasoning levels.

The N2 scores were achieved by examining when post-conventional items were prioritized over personal interest items and were then adjusted to coordinate with P-scores so comparison between the two could be made (Bebeau & Thoma, 2003). Because the N2 scores use both "rating and ranking data, and because it has more stringent rules for handling missing data than the P index", it is a more specific score to assess when investigating moral reasoning levels (Bebeau & Thoma, 2003, p. 20). This definition explains why N2 scores are important in order to investigate the levels of overall moral reasoning. Following the participants completing the DIT-2 survey, individual scantrons were submitted for scoring to the University of Alabama Center for the Study of Ethical Development for scoring. Statistical software created by the Center for the Study of Ethical Development was utilized in scoring the DIT-2 portion of the survey. Results were obtained and electronically mailed to the primary investigator.

The moral reasoning scores were compared to the norms of students at differing educational levels. In order to understand how physical therapy students in this study, as well as students attending public versus private institutions, compare to their peers, norms of graduate students' moral reasoning scores were provided. In Tables 3 and 4 the DIT-2 means and standard deviations of personal interest, maintain norms, post-conventional (p score), and N2 norms by educational levels are identified (Dong, 2009).

Table 3. DIT-2 Means and Standard Deviation Norms for Schema Scores.

Schemas Score									
Edu. Level	PI			MN			PC (P score)		
	Mean	SD	N	Mean	SD	N	Mean	SD	N
Gr. 10-12	27.70	12.60	2285	35.30	13.41	2285	31.64	14.33	2285
Voc/Tech/Jr.	26.32	11.90	986	39.97	13.08	986	27.99	13.72	986
Undergraduate	25.04	12.36	32989	35.06	13.89	32989	35.09	15.21	32989
Graduate	**20.61**	11.46	15496	**34.07**	14.36	15496	**41.06**	15.22	15496

Note: DIT-2 Means and Standard Deviation for Schema Scores were assessed by Educational Level of participants who reported as U.S. citizens in which English was their primary language. PI = Personal Interest (Stage 2 and 3): MN = Maintain Norms (Stage 4): PC = Post-Conventional (P score).

Table 4. DIT-2 Means and Standard Deviation Norms for N2 Scores.

Educational Level	N2 Score		
	Mean	SD	N
Grade 10-12	30.97	14.83	2284
Voc/Tech/Jr.	27.20	14.37	986
Undergraduate	34.76	15.45	32974
Graduate	**41.33**	14.57	15494

Note. DIT-2 Means and Standard Deviation for N2 score and Type Indicator were assessed by Educational Level of participants who reported as U.S. citizens in which English was their primary language.

Descriptive Statistics Overview

Study Participants

Invitations to participate. Ten Midwest Physical Therapy Program Chairpersons or known faculty were contacted initially by phone to solicit interest in participating in this study. Seven out of the ten programs decided to participate (4 public and 3 private). Two programs decided not to participate due to being too busy and not having time to complete their institution's IRB requirements. While one institution appeared interested, no emails to confirm involvement were received. The total number of first-, second-, and third-year physical therapy students enrolled at each institution was as follows:

- Institution One: First Year = N/A, Second Year = 62, Third Year = 59.
- Institution Two: First Year = 44, Second Year = 42, Third Year = 44.
- Institution Three: First Year = 48, Second Year = 45, Third Year = 37.
- Institution Four: First Year = 49, Second Year = 49, Third Year = 49.
- Institution Five: First Year = 52, Second Year = 48, Third Year = 51.
- Institution Six: First Year = 26, Second Year = 26, Third Year = 28.
- Institution Seven: First Year = 34, Second Year = 33, Third Year = 34.

Three of the seven institutions needed to gain individual IRB approval, three institutions needed the primary investigator's institution to gain IRB approval, and one institution did not need their own IRB approval if the primary investigator distributed and collected the hard copied surveys. Surveys were available both in hard copy and online survey form, if needed. The primary investigator strongly encouraged the

completion of hard copy surveys to improve the survey completion rate. Refer to Table 5 for methods of survey distribution for each class and institution.

Table 5. Survey Distribution Methods for Participant Institutions.

Institution	Student Status	Method
Institution 1	First-Year	N/A*
	Second-Year	On-line
	Third-Year	On-line
Institution 2	First-Year	Hard Copy
	Second-Year	Hard Copy
	Third-Year	On-line
Institution 3	First-Year	Hard Copy/On-line
	Second-Year	Hard Copy/On-line
	Third-Year	Hard Copy/On-line
Institution 4	First-Year	Hard Copy
	Second-Year	Hard Copy
	Third-Year	On-line
Institution 5	First-Year	Hard Copy
	Second-Year	Hard Copy
	Third-Year	Hard Copy
Institution 6	First-Year	Hard Copy
	Second-Year	Hard Copy
	Third-Year	On-line
Institution 7	First-Year	Hard Copy
	Second-Year	Hard Copy
	Third-Year	On-line

**Note*: Survey link was not distributed to the first-year students based on the program Chairperson's decision of involvement.

Hard copy surveys were distributed by the program chairperson or faculty contact at four of the institutions, while the primary investigator distributed and collected hard copy surveys at two institutions (refer to Table 6 for the frequency and percentage of institutional participation). All online surveys, via Qualtrics link, were distributed to six of the institutions by their respective program chairpersons. An initial email was distributed to the participant groups with follow-up email reminders given

every two weeks (four in total). Implied consent was obtained by the participants completing the survey.

Table 6. Frequency and Percentages of Institutional Participation.

Institutions	Available Number	Actual Number	% Participation
One: Private	121	11	9
Two: Public	130	51	39
Three: Private	130	47	36
Four: Public	147	95	65
Five: Public	151	147	97
Six: Public	80	34	43
Seven: Private	101	79	78
Total	**860**	**464**	**54**

Note. Percentage calculations are rounded to the nearest 10th of a percent. Ten participants did not identify institution.

Participants' demographics. The primary design of this non-experimental study was to yield descriptive data and to investigate moral reasoning and academic integrity perceptions of student physical therapists. The large number of responses and amount of data collected were sufficient to conduct analysis and provide valid and reliable outcomes of student physical therapists' perceptions within this specific population.

The population of this study involved student physical therapists from seven Midwest Doctoral Physical Therapy Programs (N = 474). The demographic data collected included the respondents' gender, age, ethnicity, employment status, student status (first-, second-, or third-year students), marital status, prior ethics education, religion beliefs, institutional status (public versus private), current living situation, political status, pre-professional GPA, professional GPA, and prior undergraduate education. Descriptive statistical analysis was conducted in the form of frequencies and percentages responded for the majority of these questions. Table 7 provides demographic data for the respondents.

Table 7. Respondents' Demographics.

Category	Subgroup	N	% Responses
Gender	Male	143	31.2
	Female	315	68.6
	Other	1	0.2
Age	20-21	23	4.9
	22-23	185	39.3
	24-25	169	36.0
	26-27	40	8.5
	28-29	11	2.4
	30-39	23	4.8
	40 +	3	0.6
Student Status	First Year	191	41.1
	Second Year	170	36.6
	Third Year	104	22.4
Institution Status	Public	327	70.5
	Private	137	29.5
Marital Status	Single	370	81.0
	Married	75	16.4
	Divorce	2	0.4
	Other	10	2.2
Current Living Situation	Dorm	3	0.7
	Apartment	283	61.9
	Home – alone/roommates	129	28.2
	Home – with parents	42	9.2
Employed	1-10 hours per week	196	41.7
	11-20 hours per week	55	11.7
	21-30 hours per week	8	1.7
	No	211	44.9
Ethics Course	No	62	13.6
	Undergraduate (UG)	82	17.9
	Graduate (G)	167	36.5
	UG and G	146	31.9

Table 7. cont.

Category	Subgroup	N	% Responses
Ethnicity	White/Caucasian	438	93.2
	African American/Black	3	0.6
	Pacific Islander	2	0.4
	American Indian/NA	4	0.9
	Asian American	12	2.6
	Mexican American	2	0.4
	Puerto Rican American	1	0.2
	Other Latino	1	0.2
	Other	3	0.6
	Prefer not to answer	2	0.4
Pre-Professional GPA	3.76 – 4.00	291	63.3
	3.51– 3.75	127	27.6
	3.26 – 3.50	36	7.8
	3.01 – 3.25	6	1.3
Current GPA	3.76 – 4.00	232	50.7
	3.51– 3.75	137	29.9
	3.26 – 3.50	61	13.3
	3.01 – 3.25	24	5.2
	2.76 – 3.00	4	0.9
Undergraduate Degree	Yes	403	88.2
	No	54	11.8
Political Views	Very Liberal	36	8.0
	Somewhat Liberal	114	25.3
	Neither	105	23.3
	Somewhat Conservative	153	33.9
	Very Conservative	43	9.5
Religion	Christianity	371	81.4
	Buddhism	1	0.2
	Mormonism	4	0.9
	Islam	1	0.2
	Atheist	13	2.9
	Agnostic	38	8.3
	Others	10	2.2
	Prefer not to answer	18	3.9

Note. *N* = 474. Percentage calculations are rounded to the nearest 10^{th} of a percent.

Age. The majority of respondents were under 30 years of age (*N* = 428, 91%), while 3% (*N* = 23) were between the ages of 30-39 and .6% (*N* = 3) were 40+ years of age. The ages of the participants ranged from 21-46 in which the majority of the students were 23-24 years of age (*N* = 235, 49.9%). Seventeen participants did not respond to this question and therefore were not included in the calculations (see Tables 7 and 8).

Table 8. Survey Response Rate by Age Group and Gender.

Age Group	Gender	*N*
20-21	Male	4
	Female	24
	Total	**28**
22-23	Male	46
	Female	138
	Other	1
	Total	**185**
24-25	Male	51
	Female	118
	Total	**169**
26-27	Male	22
	Female	18
	Total	**40**
28-29	Male	5
	Female	6
	Total	**11**
30-39	Male	12
	Female	11
	Total	**23**
40 +	Male	3
	Female	0
	Total	**3**

Gender. Females had the largest response (*N* = 315, 68.6%), while 31.2% (*N* = 143) were male and one (0.2%) identified as other. Twelve participants (2.5%) did not respond to this question and were not included in the calculations. Participation of male and female students decreased as the years in the program increased. The greatest participation occurred in first-year females (*N* = 130) and first-year males (*N* = 60). See Tables 8 and 9 for survey response rate by institution, student status, and gender.

Table 9. Survey Response Rate by Institution, Student Status, and Gender.

Category	Subgroup	*N*
Public	First Year	
	Male	45
	Female	95
	Other	1
	Second Year	
	Male	45
	Female	72
	Third Year	
	Male	22
	Female	45
Private	First Year	
	Male	15
	Female	35
	Second Year	
	Male	8
	Female	42
	Third Year	
	Male	8
	Female	25
Total	First Year	
	Male	60
	Female	130
	Other	1
	Second Year	
	Male	53
	Female	114
	Third Year	
	Male	30
	Female	70

Public versus private. The majority of the respondents for this study were from student physical therapists enrolled in public institutions (*N* = 327, 70.5%), while 29.5% (*N* = 137) of physical therapy student respondents were enrolled in private institutions (see Tables 7 and 9). Six participants (1.3%) did not respond to this question and were not included in the calculation. A greater number of publicly enrolled female students (*N* = 222) participated than male students (*N* = 112). Similarly, a greater number of privately enrolled female students (*N* = 102) participated than male students (*N* = 31).

Student status. First-year physical therapy students had the largest responses (*N* = 191, 41.1%), while 36.6% (*N* = 170) of second-year, and 22.4% (*N* = 104) of third-year students responded (see Tables 7 and 9). Five participants (1.1%) did not respond to this question and were not included in the calculations. The majority of respondents who identified as having an undergraduate degree were within the second-year students (*N* = 164, 97.6%), followed by first-year students (*N* = 160, 85.1%), and third-year students (*N* = 79, 78.2%).

In addition, the majority of students employed were first-year students (*N* = 105) followed by second-year students (*N* = 96), and third-year students (*N* =58). The most commonly identified amount of employment hours for first-year (81.0%), second-year (75%), and third-year (67.2%) physical therapy students ranged from 1-10 hours per week with the second most being 11-20 hours (*N* = 55), and third being 21-30 hours (*N* = 8).

Ethical course completion. Ethics course completion was most prevalent during physical therapy school (*N* = 167, 36.5%) followed by ethics course completion both prior to and while in physical therapy school (*N* = 146, 31.9%). Ethics coursework completed prior to physical therapy school (*N* = 82, 17.9%) was greater than the number of respondents who stated no ethics course was completed throughout their pre-professional and professional education (*N* = 62, 13.6%).

The majority of responses from year-one students (*N* = 83, 44.1%) identified as having taken an ethics course during physical therapy school; however, the majority of second-year (*N* = 57, 33.9%) and third-year (*N* = 42, 41.6%) students stated taking an ethics course both prior to and within their physical therapy programs. The majority of public institution respondents stated taking an ethics course during physical therapy school (*N* = 144, 44.6%), while the majority of private institution respondents stated taking an ethics course both prior to and within their physical therapy program (*N* = 52, 39.1%).

Scale descriptive statistics. Descriptive statistics were analyzed in order to summarize the characteristics of the sample and provide information about the measurement scales. Descriptive statistics investigated included frequencies, skewness, kurtosis, mean, median, and mode. These data assisted in determining whether or not the sample was normally distributed. Gravetter and Wallnau (2013) describe normal distribution as "a commonly occurring shape for population distributions" (p. 170). According to Warner (2013), skewness is the degree to which a distribution is asymmetric and departs from the ideal normal distribution shape. Furthermore,

"kurtosis is the degree to which a distribution deviates from the peakedness of an ideal normal distribution" (Warner, 2013, p. 1094). If normal distribution was not maintained, results may be invalid and unreliable. This section presents the overall descriptive statistical analysis of the research study, followed by an individual assessment of each research question.

Portions of the scale distributions for students' perceptions of cheating occurring in their professional coursework (FP), specific behavior frequency (SBF), and specific behavior seriousness (SBS) displayed skewness and kurtosis that were less than or equal to ± 1.00. However, portions of the items were greater than ± 1.00. Analyzing descriptive statistics identified items that questioned normal distribution. Skewness and kurtosis were less than or equal to ± 1.00 for all items related to the FPrP scale. However, elevated skewness levels were noted in multiple FP items (see Table 2). The researcher decided to remove items that displayed a skewness greater than 2.50 and a kurtosis greater than 8.00. If all items greater than 1.00 skewness had been removed, the final number of items would had equaled two, which may not have allowed for valid results. In order to maintain consistency between the FPrP and FP scales, the identical items were removed from the FPrP scale in order to allow for more valid comparisons.

Skewness was outside the ± 1.00 parameters for 27 of the 29 items while kurtosis levels were outside the parameter for 25 of the 29 items related to the SBF scale. Skewness was greater than ± 1.00 for 17 of the 29 items while kurtosis levels were outside the parameter for 15 of the 29 items related to the SBS scale. The researcher decided to remove items with a skewness above 3.00 and kurtosis above

8.20. Ten SBF items remained following the removal. In order to maintain consistency and allow valid comparisons, the identical items were removed from the SBS scale. See Table 10 for a detailed examination of retained versus removed items from individual scales.

Table 10. Items Retained and Removed from Individual Scales.

FPrP and FP

Retained

- Plagiarism on written assignments.
- Inappropriately sharing work in group assignments.
- Cheating during tests or examinations.
- Submitting the same paper in more than one course without specific permission.
- Use of electronic/digital devices as an unauthorized aid during an in class test.

Removed

- Purchasing papers.
- Falsifying information on an exam or paper after it has been graded/submitted.

SBF and SBS

Retained

- Working on an assignment with others (in person) when the instructor asked for individual work.
- Working on an assignment with others (via email or instant messaging) when the instructor asked for individual work.
- Getting questions or answers from someone who has already has taken a test.
- Copying from another student during a test or examination WITHOUT his or her knowledge.
- Receiving unpermitted help on an assignment.
- Copying (by hand or in person) another student's homework.
- Copying (using digital means such as Instant Messaging or email) another student's
- homework.
- Paraphrasing or copying a few sentences from a book, magazine, or journal (not electronic or web-based) without footnoting them in a paper you submitted.
- Receiving requests from another person (in person or using electronic means) to copy your homework.

Removed

- Fabricating or falsifying a bibliography.
- In a course computer work, copying another student's program rather than writing your own.
- Helping someone else cheat on a test.

Table 10. cont.

SBF and SBS	Removed
• Fabricating or falsifying lab data. • Fabricating or falsifying research data. • Copying from another student during a test WITH his or her knowledge. • Using digital technology to get unpermitted help from someone during a test or examination. • Turning in a paper from a "paper mill" (a paper written and previously submitted by another student) and claiming it as your own. • Submitting a paper, you purchased or obtained from a website and claimed it as your own work. • Using unpermitted handwritten crib notes (or cheat sheets) during a test or exam. • Using electronic crib notes (stored in tablet, phone, or calculator) to cheat on a test or exam. • Using an electronic/digital device as an unauthorized aid during an exam. • Copying material, almost worked for word, from any written source and turning it in as your own work. • Turning in a paper copied, at least in part, from another student's paper, whether or not the student is currently taking the same course. • Using a false or forged excuse to obtain an extension on a due date or delay taking an exam. • Turning in work done by someone else. • Submitting the same paper in more than one course without specific permission. • Using Cliff Notes or Spark Notes and not citing. • Cheating on tests in any other way.	

Note. Identical items were removed from FPrP/FP and SBF/SBS scales to allow reliable between scale comparisons.

Following the removal of non-normal data (elevated skewness and kurtosis), the average sums of the items were calculated. See Table 11 for the mean, standard deviation, skewness, and kurtosis of the summed scales prior to and following item removal.

Table 11. Grouped Summed Descriptive Statistics Before and After Item Removal.

Name	Before				*After*			
	M	*SD*	*SK*	*K*	*M*	*SD*	*SK*	*K*
FPrP	2.41	.77	.11	-.48	2.65	.85	-.05	-.60
FP	1.61	.45	1.64	6.93	1.78	.53	1.15	3.26
SBF	1.16	.18	1.88	5.21	1.40	.39	1.10	.96
SBS	3.24	.68	-2.03	3.88	2.92	.65	-.90	.83

Cronbach's Alpha for Scale Reliability

McCabe's Academic Integrity Survey. Internal reliability (Cronbach's Alpha) was assessed to measure the internal consistency of scales utilized in McCabe's Academic Integrity survey. According to Tavakol and Dennick (2011) internal consistency describes the extent to which all of the items in a scale measure the same concept or construct and is connected to the inter-relatedness of the items within the scale. Cronbach's alpha (α) was evaluated in order to improve validity of items and scales used and to consider removal of items, which may be inconsistent with the construct being measured. The investigator desired that item reliability be greater than .70 but less than .95 (Warner, 2013).

McCabe's Academic Integrity Survey allowed investigation of student perceptions not only regarding specific behavior frequency or seriousness but also current institutional policies and procedures. Previous research found the reliability of McCabe's Academic Integrity Survey to have a Cronbach's alpha reliability in excess of .80 (Williams and Janosik, 2007). Furthermore, Witherspoon et al. (2012) investigated the reliability of McCabe's Academic Integrity survey and determined that the values were at or above the acceptable consistency levels and the Cronbach's coefficient alpha

ranged from .80-.85. The Cronbach's reliability for this study's specific constructs are as follows: a) frequency of academic dishonesty during pre-professional coursework (α = .88), b) frequency of academic dishonesty during professional coursework (α = .78), c) past year specific behavior frequency (α = .80), and d) seriousness of specific behavior (α = .92).

One scale represented an adequate to good rating (FPrP = .78) of internal consistency, two of the scales represented a good rating (FP = .80: SBF = .88) and one represented a rating of great (SBS = .92) (Warner, 2013). The scale reliability is consistent with previous studies; therefore, results can be determined reliable by using the stated scales with the identified items removed.

DIT-2 Survey. DIT-2 reliability is calculated by the University of Alabama Center for the Study of Ethical Development. Participants whose rankings did not meet the reliability requirements were purged from the data set. For example, if too many inconsistencies occurred in the rating or ranking portion, or if participants left six or more rankings blank, participants were purged from the study. If the number of missing data points exceeded the established thresholds, then it was assumed that the participants did not take the measure seriously, and the participants were purged (Bebeau & Thoma, 2003). Out of the 458 participants who responded to the DIT-2 survey, 90.8% (N = 416) passed the reliability check while 9.2% (N = 42) were purged due to failing the reliability check. Sixteen participants did not respond to the DIT-2 and were not included in the calculations.

Utilizing the non-purged data, a reliability test was conducted on the rating of the five scenario stories. The Cronbach's reliability for the five specific stories are as follows: a) famine scenario (α = .82), b) reporting scenario (α = .77), c) school board scenario (α = .88), d) cancer scenario (α = .84), and the demonstration scenario (α = .87).

Four out of the five scales represented a good rating (.82, .84, .87, and .88), and one scale was represented as adequate (.77). According to Bebeau and Thoma (2003), Rest et al. (1999b), and Rest et al. (1999), Cronbach's alpha of the DIT is in the high .70s or .80s with test/retest being about the same. Other researchers have confirmed DIT reliability by identifying a Cronbach alpha reliability of .80-.89 (Rest, 1979). The DIT-2 reliability of this research data is similar to the reliability identified in previous studies; therefore, demonstrating valid and reliable data.

Exploratory Factor Analysis

To test the quality of each scale, an exploratory factor analysis was conducted using principal axis factoring and direct oblimin rotation to determine if the scales assessed distinct constructs. Results from the analysis indicated most items loaded strongly and ranged from .46 to .88 (see Table 12). Only two items loaded below .50 and were found within the Specific Behavior Frequency (SBF) and Specific Behavior Seriousness (SBS) scales.

Table 12. Exploratory Factor Analysis.

Item	FPrP	SBF		Item	FP	SBS	
FPrP_1	0.83			FP_1	0.75		
FPrP_2	0.80			FP_2	0.74		
FPrP_3	0.87	α = .88		FP_3	0.77	α = .78	
FPrP_4	0.82			FP_4	0.69		
FPrP_6	0.81			FP_6	0.74		
SBF_2		0.73		SBS_2		0.46	
SBF_3		0.73		SBS_3		0.56	
SBF_4		0.51		SBS_4		0.78	
SBF_10		0.47		SBS_10		0.88	
SBF_12		0.63		SBS_12		0.66	
SBF_13		0.67	α = .80	SBS_13		0.76	α = .92
SBF_14		0.62		SBS_14		0.77	
SBF_15		0.52		SBS_15		0.66	
SBF_17		0.56		SBS_17		0.66	
SBF_26		0.58		SBS_26		0.65	
Eigen	3.42	3.69			2.72	5.76	
% Var	68.32	36.94			54.43	57.64	

Note. Frequency of Academic Dishonesty During Pre-Professional Coursework (FPrP), Frequency of Academic Dishonesty During Professional Coursework (FP), Specific Behavior Frequency (SBF), and Specific Behavior Seriousness (SBS). The above results represent the rotated factor solution using a direct oblimin rotation. Individual constructs were assessed separately. α = Cronbach's Reliability.

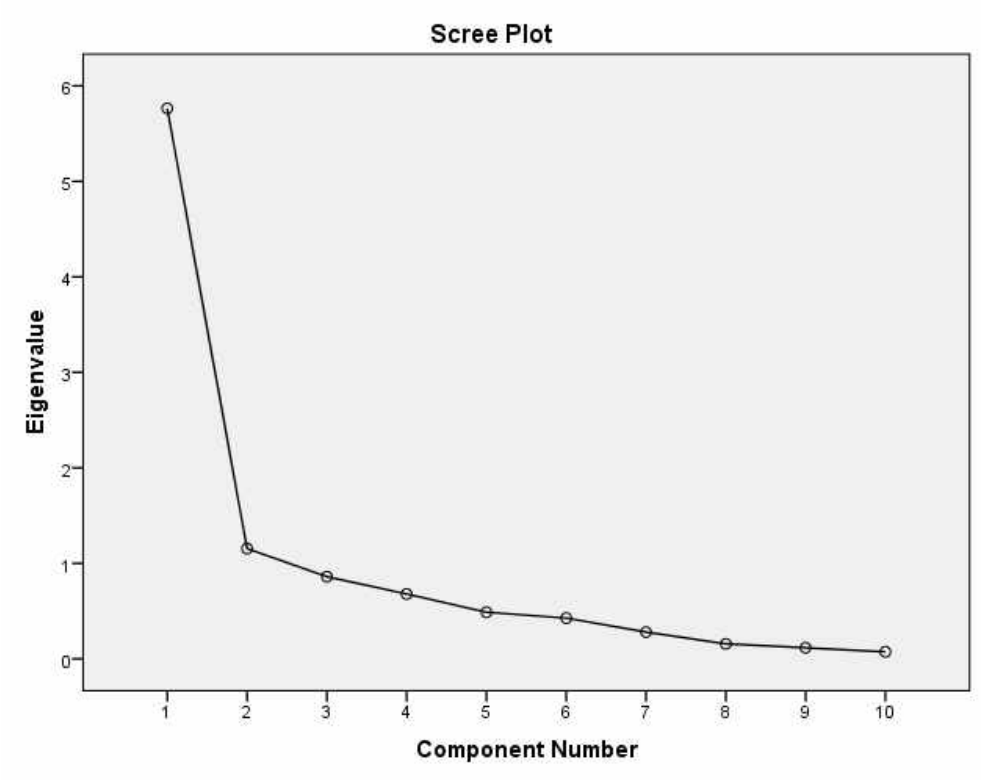

Figure 3. Exploratory Factor Analysis Scree Plot for SBS.

The scree plots clearly identified one factor for each scale. See Figure 3 for an example of the scree plot for the SBS scale. Internal reliability was found to be sufficient for all the scales (α = .78-.92).

Testing Group Differences

Research Question 1

Is there a significant relationship between physical therapy students' perceptions of academic integrity and moral reasoning?

Correlation (Spearman r). A correlational analysis (Spearman *r*) was utilized to investigate whether a relationship between academic integrity and moral reasoning existed. Moral reasoning (N2, post-conventional P-score, Personal Interest, and Maintaining Norms) was compared to scaled items of McCabe's Academic Integrity

Survey. Spearman *r* was analyzed to determine if a relationship existed between the two variables. The academic integrity scales were identified as the frequency in which students perceived specific cheating behaviors having occurred during pre-professional (FPrP) and professional coursework (FP), past-year specific behavior frequency (SBF), and specific behavior seriousness (SBS). In addition, three separate questions were incorporated and assessed how frequently students witnessed cheating in their pre-professional (PrP_wit) and professional coursework (Prof_wit) and how serious a problem (SP) they feel cheating is in their current programs.

Data identified positive correlations between how frequent student physical therapists witnessed cheating in the pre-professional program and how often they witnessed it during the professional program (.36), how frequent they felt it occurred in the professional program (.21), and their specific behaviors frequency (.26). This data suggests, the greater the cheating frequency behaviors, the greater the students witnessed cheating in their pre-professional and professional coursework, and how frequent they felt it took place in the professional program. Possibly, the more they completed specific cheating behaviors the more they perceived others completing the same behaviors. See Table 13 for detailed Spearman *r* correlational results.

A positive correlation also existed between those students who witnessed cheating in their professional program (Prof_wit) and their perceptions of cheating being a serious problem (SP) in their program (.24), how frequent (FP) they believe cheating occurred (.40), and their specific behavior frequency (SBF) (.24). This suggests the more students witnessed cheating, the greater they perceived cheating as a serious

problem within their program and the more they participated in cheating activities themselves (see Table 13).

Whether students felt cheating was a serious problem (SP) within their professional program positively correlated with how frequently they perceived cheating to take place (FP) (.33) and their specific behavior frequency (SBF) (.10). Interestingly, the students perceived seriousness of cheating as negatively correlated with the frequency of witnessing cheating in pre-professional coursework (-.19), professional coursework (Prof_wit) (-.16), and frequency of completing specific cheating behaviors (SBF) (-.43). This finding suggests that students who witness more cheating in pre-professional and professional coursework and those students who participate in cheating activities more frequently may perceive specific cheating behaviors as less serious (see Table 13).

Regarding moral reasoning, correlational analysis identified a significant correlation among N2 scores and gender (.18), whether students had an undergraduate degree or not (-.10), and whether they attended a private or public institutions (.11). This finding suggests that females, those who have an undergraduate degree, and those who attend private universities may have more elevated levels of moral reasoning than male students attending a public institution who have not yet received a degree (see Table 13).

Finally, a significant correlation existed between the student's N2 scores and witnessing cheating in their professional programs (-.16), specific behavior frequency (-.10) and specific behavior seriousness (.10). These correlations suggest that students

who have elevated levels of moral reasoning may perceive specific cheating behaviors as more serious and participate in less specific cheating behaviors compared to those students who identified with lower levels of moral reasoning (see Table 13). This finding illustrated the important role moral reasoning may play as it pertains to frequency and seriousness of academic cheating and overall academic integrity.

Table 13. Factors Affecting Descriptive Statistics and Correlations.

Scales	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Gender	-																
2. Prof_GPA	.04	-															
3. Degree	.06	-.06	-														
4. Eth_Cour	-.02	.07	**-.16****	-													
5. Stu_Status	-.01	-.04	.02	**.10***	-												
6. Pub_Pri	**.11***	-.06	**-.15****	-.01	.07	-											
7. FPrP_sc	.06	.02	**.04***	.07	.09	-.08	-										
8. FP_sc	-.01	.03	-.05	.02	**.21****	-.03	**.40****	-									
9. SBF-sc	.03	.08	.08	-.01	.07	**-.20****	**.20****	**.30****	-								
10.SBS_sc	.01	.02	-.05	-.01	.07	**.16****	**-.09***	**-.12***	**-.43****	-							
11.PrP_wit	-.07	.02	**.10***	-.02	-.01	**-.10***	**.36****	**.21****	**.26****	**-.19****	-						
12.Prof_wit	-.06	.06	-.06	.05	**.22****	-.05	**.20****	**.40****	**.24****	**-.16****	**.36****	**-**					
13.SP	.09	-.05	-.05	.01	**.27****	-.01	.05	**.33****	**.10***	-.06	.03	**.24****	-				
14.PI	**-.11***	**.14****	.04	.01	.01	.08	-.03	-.00	.06	**-.11***	.02	.07	.03	-			
15.MN	-.02	.04	.08	.01	.05	-.07	.06	.08	.03	.04	.07	.09	.04	**-0.35****	-		
16.P-Score	**.16****	-.07	**-.10***	-.01	-.06	**.12***	-.03	-.09	-.10	**.10***	-.07	**-.14****	-.07	**-0.42****	**-0.62****	-	
17.N2-Score	**.18****	-.09	**-.10***	.02	-.07	**.11***	.01	-.09	**-.10***	**.10***	-.06	**-.16****	-.06	**-0.55****	**-0.41****	**0.90****	-

Note: *$p < .05$ (2-tailed), ** $p < .01$ (2-tailed).

Research Questions 2

Is there a significant difference among first-year, second-year, and third-year physical therapy students in regard to their perceptions of academic integrity and moral reasoning?

Academic integrity. A two-way Factorial ANOVA (3 x 2) was completed in order to investigate for significant main effects and interaction effects, utilizing student status (first-, second-, and third-year) and type of institution (public or private) as the independent variables, while assessing seven separate constructs associated with academic integrity. A Tukey adjustment was calculated for significant items found among first-, second-, and third-year physical therapy students. The seven constructs included: a) frequency of cheating students perceived occurring during pre-professional coursework (FPrp), b) frequency of cheating students perceived as occurring during professional coursework (FP), c) frequency students witnessed cheating during pre-professional coursework (PrP_wit), d) frequency students witness cheating during professional coursework (Prof_wit), e) seriousness of cheating in the professional program (SP), f) frequency of specific cheating behaviors over the past year (SBF), and g) seriousness of specific cheating behaviors (SBS).

Results indicated significant main effects regarding frequency of occurrence during professional coursework (FP), frequency students witness cheating during professional coursework (Prof_wit), and how serious of a problem cheating is within their professional program (SP). First, significant main effects showed second-year (*M* = 1.84) and third-year physical therapy students (*M* = 1.89) reported higher perceptions of

cheating occurring within their professional program than first-year students (M = 1.63), $F(2,454) = 9.23$, $p < .001$.

Second, a significant difference among first-, second-, and third-year physical therapy students regarding the frequency students witnessed cheating during professional coursework was identified. The main effect showed third-year (M = 1.32) and second –year (M = 1.63) physical therapy students reported higher incidents of witnessing cheating in professional coursework compared to first-year students (M = 1.06), $F(2,456) = 25.55$, $p < .001$. In addition, second-year students (M = 1.63) reported higher levels of Prof_wit than third-year students (M = 1.32), $F(2,456) = 25.55$, $p < .001$.

Third, the two-way ANOVA identified a significant student status main effect and an interaction effect between student status and institutional type and how serious of a problem cheating is in the professional program. The main effect showed second-year (M = 2.09) and third-year students (M = 2.18) reported cheating as a more serious problem in their professional programs compared to first-year students (M = 1.60), $F(2,454) = 12.79$, $p < .001$.

An interaction effect was identified between current student status and institution type (see Table 14). Second-year public institution students (M = 2.23) reported cheating as a more serious problem within their program than first-year public institution students (M = 1.59), $F(2,454) = 3.22$, $p < .05$: $t(257) = -5.30$, $p < .001$. Similarly, third-year public institution students (M = 1.97) reported cheating as a more serious problem than first-year public institution students (M = 1.59), $F(2,454) = 3.22$, $p < .05$: $t(205) = -2.81$, $p < .01$, while third-year private institution students (M = 2.39)

reported significantly higher levels than first-year private institution students (*M* = 1.60), *F*(2,454) = 3.22, *p* < .05: *t*(81) = -3.22, *p* < .01. These findings reflect students earlier in the program may not have witnessed or perceived as much cheating having occurred compared to second and third-year students. These results may be related to not having been exposed to as many courses or assignments/activities. A Bonferroni adjustment was calculated secondary to three separate *t*-tests needing to be completed. Significance was identified secondary to *p* < .017.

Table 14. 3 x 2 Factorial ANOVA Illustrating Simple Main and Interaction Effects.

	df	*MS*	*F*	*p*	η2
Stu_Status	2	12.91	12.79**	.000	.05
Pub_Pri	1	.27	.27	.61	.001
Stu_Status x Pub_Pri	2	3.25	3.22*	.04	.01
Error	454	1.01			

Note. *p < .05, ** P < .001. Dependent variable: seriousness of cheating within the professional program (SP).

Moral reasoning. Utilizing a two-way ANOVA, no significant differences were identified among first-, second-, and third-year students and moral reasoning (personal interest, maintaining norms, P-score, and N2 scores). However, assessing mean averages, first-year students (*M* = 37.94) displayed the highest N2 scores followed by third-year (*M* = 35.88) and second-year students (*M* = 35.29) (see Figure 4).

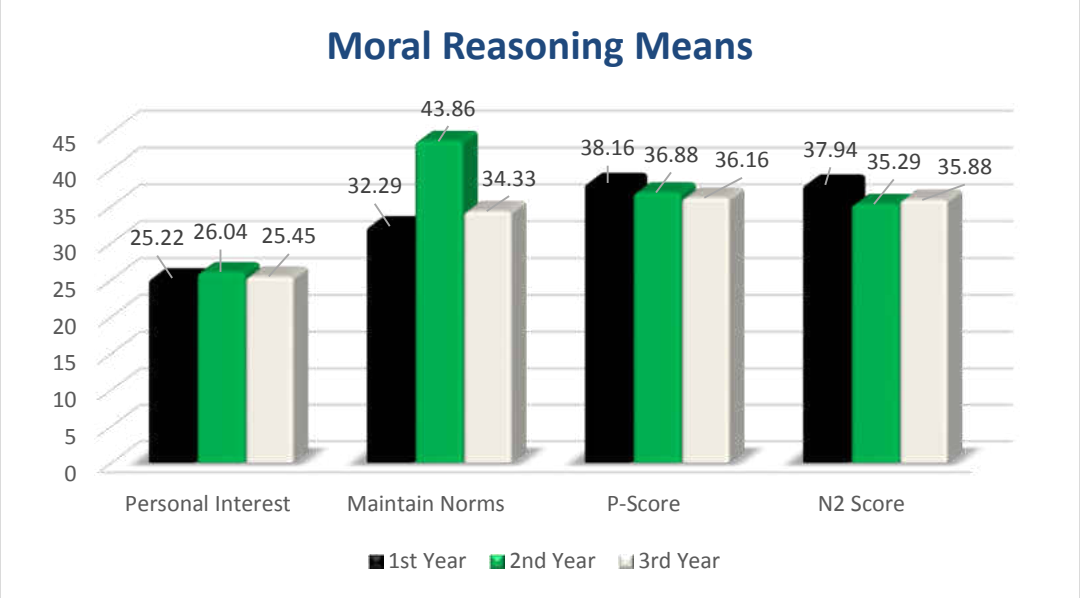

Figure 4. Moral reasoning means among first-, second-, and third-year physical therapy students. First-Year (N = 171): Second-Year (N = 156): Third-Year (N = 85).

Although first-year physical therapy students presented with higher N2 scores (more advanced post-conventional moral reasoning levels), they still fell below the graduate student national norms. The graduate student norms for N2 scores are 3.39 points higher than the first-year physical therapy N2 scores. Refer to Figure 5 for specific graduate student moral reasoning norms pertaining to personal interest (PI), maintain norms (MN), P-score, and N2 score values.

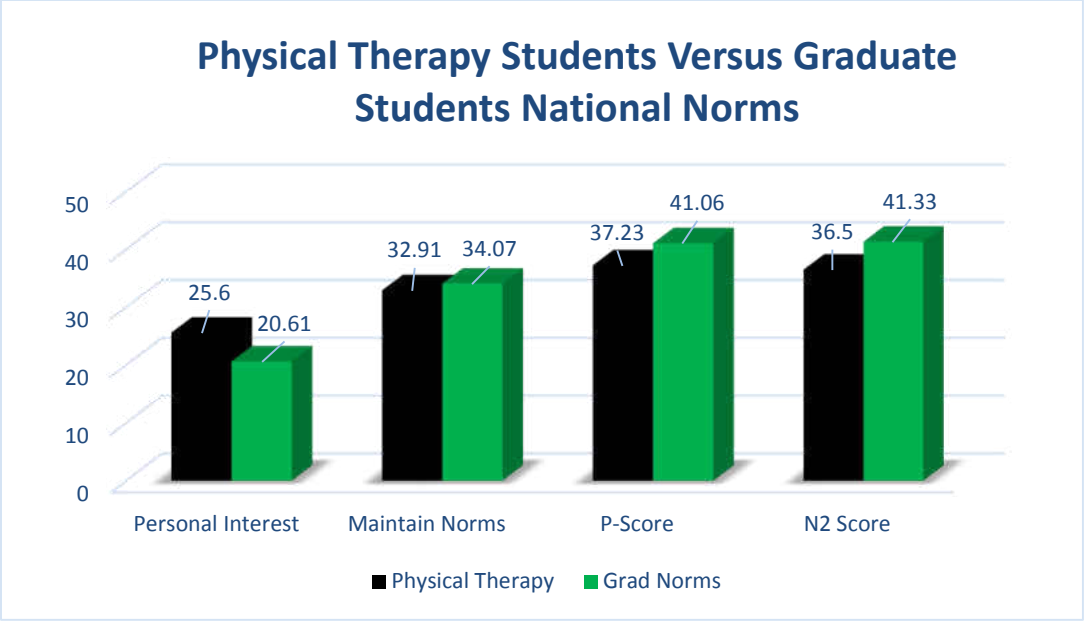

Figure 5. Physical therapy students versus graduate students national norms. DIT-2 means and standard deviations of personal interest, maintain norms, post-conventional (p score), and N2 norms by educational levels were provided by Dong (2009). Personal Interest (N = 416): Maintain Norms (N = 416): P-Score (N = 416): and N2 scores (N = 416).

Research Question 3

Is there a significant difference between physical therapy students at public versus private institutions in regard to their perceived academic integrity and moral reasoning?

Academic integrity. A two-way Factorial ANOVA (3 x 2) was completed in order to investigate significant main effects and interaction effects, utilizing student status (first-, second-, and third-year) and type of institution (public or private) as the independent variables, while assessing seven separate constructs associated with academic integrity.

Results indicated significant main effects for institution type (public versus private) regarding specific behavior frequency (SBF), specific behavior seriousness (SBS),

and frequency of witnessing pre-professional cheating (PrP_wit). First, significant main effects showed students at public institutions (M = 1.45) reported higher SBF than students at private institutions (M = 1.29), $F(1,445) = 14.25$, $p < .001$ (see Table 15). These results confirmed previous findings of McCabe and Pavela (2000) in which participants at private campuses reported cheating on a test 23% of the time and at large public universities 33% of the time. In addition, cheating on written work and self-reported serious cheating was 5% higher in public compared to private institutions (McCabe & Pavela, 2000).

Table 15. 3 x 2 Factorial ANOVA Regarding Student Status, Institutional Type, and Specific Behavior Frequency.

	df	*MS*	*F*	*p*	η2
Stu_Status	2	.211	1.40	.25	.01
Pub_Pri	1	2.15	14.25*	.000	.03
Stu_Status x Pub_Pri	2	.11	.76	.47	.003
Error	445	.15			

Note. *p < .001. Dependent variable: Specific Behavior Frequency (SBF).

Second, a significant difference existed between students who attend public versus private institutions regarding the seriousness of specific behaviors. The significant main effect showed students who attended private institutions (M = 3.10) identified specific cheating behaviors as being more serious compared those who attended public schools (M = 2.88), $F(1,435) = 10.15$, $p < .01$ (see Table 16).

Table 16. 3 x 2 Factorial ANOVA Regarding Student Status, Institutional Type, and Specific Behavior Seriousness.

	df	*MS*	*F*	*p*	η2
Stu_Status	2	1.06	2.57	.08	.01
Pub_Pri	1	4.20	10.15**	.002	.02
Stu_Status x Pub_Pri	2	.12	.28	.76	.001
Error	435	.41			

Note. *p < .05, ** P < .001. Dependent variable: Specific Behavior Seriousness (SBS).

Third, the two-way ANOVA identified a significant difference between students who attend public or private institutions and their witnessing of cheating during their pre-professional coursework. The main effect showed students who attended public institutions (*M* = 2.70) reported witnessing cheating during their pre-professional coursework to a greater extent than those students who attended private institutions (*M* = 2.45), $F(1,451) = 3.93$, $p < .05$.

Finally, a significant difference between students who attended public and private institutions was identified regarding the frequency in which students felt cheating occurred in their pre-professional coursework utilizing an independent *t*-test. Significance was not identified during the two-way ANOVA; however, utilizing the *t*-test allowed for an increased number of participants completing this portion of the survey. The *t*-test identified students who attended public institutions (*M* = 2.71) reported higher levels of perceived cheating during their pre-professional coursework compared to students attending private institutions (*M* = 2.53), $t(461) = 2.03$, $p < .05$.

Moral reasoning. A two-way Factorial ANOVA (3 x 2) was completed in order to investigate significant main effects and interaction effects, utilizing student status (first-, second-, and third-year) and type of institution (public or private) as the independent

variables, while assessing four separate constructs associated with moral reasoning. The four constructs included: a) personal interest, b) maintain norms, c) P-scores, and d) N2 scores.

The two-way ANOVA identified no significant findings regarding personal interest and maintain norms; however, a significant difference was noted between students who attended public versus private institutions and their identified P and N2 scores. The significant main effect showed students who attended private institutions (M = 39.58) displayed higher P-scores compared to those students who attended public institutions (M = 36.16), $F(1,405) = 4.45$, $p < .05$. See Figure 6 for comparison of the means between public and private institutions concerning PI, MN, Post-conventional, and N2 scores.

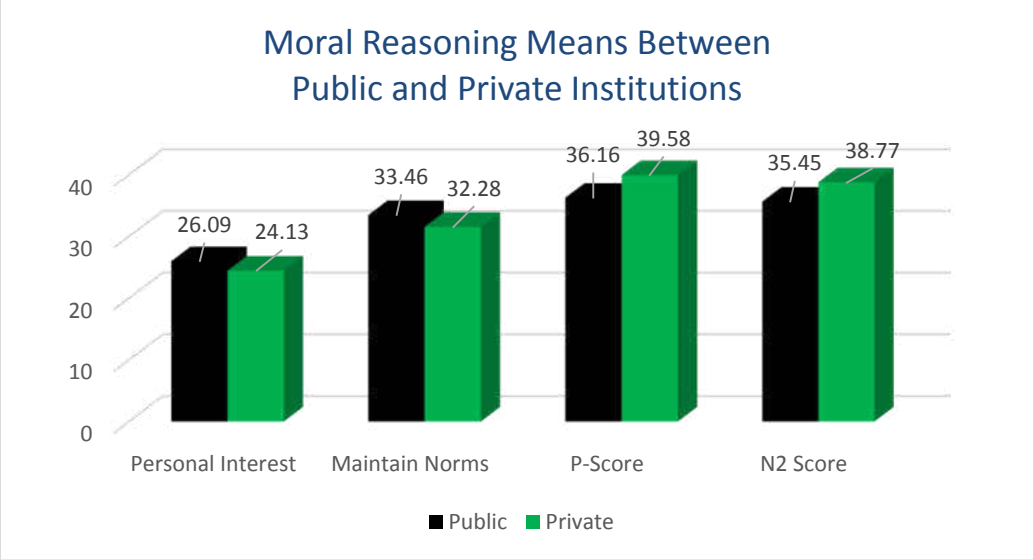

Figure 6. Moral reasoning means between public and private institutions. Physical therapy students at public institutions (N = 296): Physical therapy students at private institutions (N = 115).

Similarly, students who attended private institutions (*M* = 38.77) displayed higher N2 scores compared to those students who attended public institutions (*M* = 35.45), *F*(1,405) = 4.44, *p* < .05 (see Table 17).

Table 17. 3 x 2 Factorial ANOVA Illustrating Simple Main Institutional and N2 Score Effects.

	df	*MS*	*F*	*p*	η2
Stu_Status	2	188.30	1.03	.36	.01
Pub_Pri	1	814.61	4.44*	.04	.01
Stu_Status x Pub_Pri	2	38.07	.21	.81	.001
Error	405	183.29			

Note. *p < .05. Dependent variable: N2.

Research Question 4

Are there specific predictors of academic integrity and moral reasoning in first-year, second-year, and third-year physical therapy students?

Academic integrity multiple regression. The final quantitative analysis examined how well categorical and continuous variables can predict physical therapy students' academic integrity and moral reasoning. A variety of variables were utilized in order to investigate for academic integrity predictors. A simultaneous multiple regression was completed which identified variables that were significant for predicting cheating frequency (SBF). These variables included perception of cheating occurring in professional programs (*β* = .29, *p* < .001), perceived seriousness of cheating behaviors (*β* = -.23, *p* < .001), and N2 scores *(β* = -.29, *p* < .05, which accounted for a large proportion of the variance (R^2 = .26). Perception of cheating within the professional program (FP_sc) was the most significant predictor of cheating behavior frequency and accounted for 11% of the variance (R^2 = .11). Therefore, the more students perceived

cheating having occurred within their professional program, the lower the student moral reasoning levels, and the less serious students perceived cheating, may predict elevated cheating frequencies. This finding supports the previous research of McCabe et al. (2003) in which student perceptions of peers' behaviors were the most significant predictor of academic dishonesty.

A second simultaneous multiple regression was completed which identified variables that were significant for predicting cheating seriousness (SBS). These variables included students attending public versus private institutions (β = .11, p < .05), cheating behavior frequency (β = -.26, p < .001), personal interest scores (β = .30, p < .05), maintain norms scores (β = .45, p < .01), and P-scores (β = .59, p < .01), which accounted for a large proportion of the variance (R^2 = .16). Cheating behavior frequency (SBF) was the most significant predictor of cheating behavior seriousness and accounted for 10% of the variance (R^2 = .10). Therefore, students who attend private institutions and who have decreased cheating frequencies, along with elevated P-scores, may predict elevated perceived cheating seriousness (see Table 18).

Table 18. Simultaneous Multiple Regression of Perceived Academic Integrity and Moral Reasoning.

Variable	SBF	SBS
Student Status	.03	.09
Gender	.03	-.07
Age	-.09	-.02
Mar_Status	.02	.04
Living	.02	.01
Pre_GPA	.04	.06
Prof_GPA	.07	.04
Degree	.08	.01
Eth_Course	-.02	-.01
Religion	-.07	.03
Con_Lib	-.06	.01
Pub_Pri	-.09	.11*
FPrP	.01	.02
FP	.29**	.06
SBS	-.23**	--
SBF	--	-.26**
PrP_wit	.10	-.07
Prof_wit	.01	-.09
SP	-.04	-.10
Per_Interest	-.12	.30
Main_Norms	-.06	.45**
P-Score	.13	.59**
N2 Score	-.29*	-.17
R	.51	.40
R^2	.26	.16

Note. Numbers in table are standardized beta (β) coefficients. *p < .05, ** p < .01

A hierarchical regression was utilized to investigate specific behavior frequency (SBF) by controlling for cheating seriousness, frequency of cheating perceptions, and N2 scores. This regression identified public versus private (β = -.16, p < .001), age (β = -.10, p < .05), and witnessing cheating in pre-professional coursework (β = .21, p < .001) as significant predictors of cheating frequency, and accounted for a small amount of variance (R^2 = .09). Although the hierarchical regression identified additional variables

that may predict cheating frequency, whether students perceive cheating is occurring within the professional program and their perceived seriousness they contribute to specific cheating behaviors are the strongest predictors of cheating frequency.

In addition, hierarchical regression investigated cheating seriousness (SBS) controlling for public versus private, specific behavior frequency, maintain norms, and p-score. This measure identified student status (β = .10, p < .05) and whether students witnessed cheating in the professional program (β = -.17, p < .001) as significant predictors of specific behavior seriousness; however, it accounted for a small amount of variance (R^2 = .03). Therefore, even though it was a significant finding, specific behavior frequency appeared to be the primary predictor for how serious students perceive cheating.

Moral reasoning multiple regression. A variety of variables were utilized in order to investigate for moral reasoning predictors. A simultaneous multiple regression was completed which identified variables that were significant for predicting elevated moral reasoning levels (N2 scores). These variables included gender (β = .07, p < .05), frequency of cheating behavior (SBF) (β = -.06, p < .05), personal interest levels (β = -.83, p < .001), and maintain norms levels (β = -.70, p < .001), which accounted for 78% of the variance (R^2 = .78). Therefore, females, lower frequency of cheating, and lower levels of personal interests may help predict elevated levels of moral reasoning (N2 scores).

Hierarchical regression investigated N2 scores by controlling for SBF, personal interest, and maintain norms levels (see Table 19). The analysis illustrated liberal versus conservative views (β = -.22, p < .001), gender (β = .16, p < .001), religion (β = .12,

$p < .05$), and professional program GPA ($\beta = -.10$, $p < .05$) were significant predictors of elevated moral reasoning (N2) levels. Therefore, females, those with higher levels of professional GPA, and those who identify as more liberal were significant predictors of higher N2 values. Whether students identified as conservative or liberal ($\beta = -.22$, $p < .001$) and gender of students ($\beta = .16$, $p < .001$) contributed the most when predicting N2 scores once personal interest and maintain norms were accounted for. Gender and whether identifying as liberal or conservative account for 8% of the variance ($R^2 = .08$), while the addition of religion and professional program GPA accounted for 10% of the overall variance ($R^2 = .10$).

Table 19. Hierarchical Regression for Moral Reasoning Predictors.

Variable		β	*p*
Con_Lib		-.21***	.000
Gender		.17**	.001
R = .28	$R^2 = .09$		
Con_Lib		.16**	.003
Gender		.19***	.000
Pub_Pri		.06	.19
Religion		.13*	.02
R = .31	$R^2 = .09$		
Con_Lib		-.15**	.004
Gender		.20***	.000
Pub_Pri		.05	.37
Religion		.11*	.045
Eth_Course		.02	.72
Stu-Status		-.04	.44
Degree		-.07	.15
Age		.03	.60
Prof_GPA		-.10*	.049
R = .33	$R^2 = .11$		

Note. Numbers in table are standardized beta (β) coefficients. *$p < .05$, ** $p < .01$, *** $p < .001$. Dependent Variable: N2 Score.

Other Data

Correlational Analysis

Correlational analysis was conducted to investigate whether a relationship between approval of cheating by friends and family and academic integrity existed. Spearman *r* correlation identified a positive relationship between approval of behavior and perception of cheating having occurred during pre-professional coursework (.10), cheating having occurred during professional coursework (.16), cheating frequency (.31), having witnessed cheating during pre-professional coursework (.21) and professional coursework (.15). Cheating approval was also negatively correlated with specific cheating seriousness (-.22). Therefore, the more family and friends were perceived as having approved cheating, the more cheating actually occurred and was perceived to be less serious (see Table 20).

Table 20. Correlations Between Approval and Academic Integrity.

Scales	1	2	3	4	5	6	7	8
1. FPrP	-							
2. FP	**0.40****	-						
3. SBF	**0.20****	**0.30****	-					
4. SBS	**-0.09***	**-0.12***	**-0.43****	-				
5. PrP_wit	**0.36****	**0.21****	**0.26****	**-0.19****	-			
6. Prof_wit	**0.20****	**0.40****	**0.24****	**-0.16****	**0.36****	-		
7. SP	0.05	**0.33****	**0.10***	-0.06	0.03	**0.24****	-	
8. Approval	**0.10***	**0.16****	**0.31****	**-0.22****	**0.21****	**0.15****	0.05	-

Note: *$p < .05$ (2-tailed), ** $p < .01$ (2-tailed).

Independent *T*-Tests

Independent *t*-tests were utilized to examine the group differences between students with an undergraduate degree and those without an undergraduate degree regarding academic integrity and moral reasoning. Interestingly, those students with

undergraduate degrees (*M* = 1.39) reported lower frequencies of cheating (SBF) than those students without degrees (*M* = 1.52), *t*(445) = -2.23, *p* < .05. Students with degrees (*M* = 2.59) also reported lower incidences of witnessing cheating during pre-professional coursework (PrP_wit) than those students without undergraduate degrees (*M* = 2.94), *t*(449) = -2.21, *p* < .05.

The *t*-tests were also utilized to examine the differences between male and females moral reasoning (see Table 21). The significant findings identified that males (*M* = 27.63) displayed higher levels of personal interest than females (*M* = 24.61), *t*(406) = 2.49, *p* < .05; however, males (*M* = 34.24) scored lower than females (*M* = 38.78) as it pertained to the overall P-scores *t*(406) = -3.10, *p* < .01, and males (*M* = 33.24) scored lower than females (*M* = 38.21) as it pertained to overall N2 scores *t*(406) = -3.49, *p* < .01.

Table 21. Independent *T*-Test Illustrating Gender and Moral Reasoning Differences.

	df	*MD*	*T*	*p*
Per_Interest	406	3.02	2.49*	.01
Main_Norms	406	.004	.002	.99
P-Score	406	-4.54	3.10**	.002
N2	406	-4.97	3.49**	.001

Note. *p < .05, ** P < .01. Dependent variable: N2.

Finally, students with a pre-professional GPA between 3.01-3.25 (*M* = 22.86) reported significantly lower N2 scores compared to those with a pre-professional GPA between 3.26-3.50 (*M* = 41.85), *F*(3,406) = 3.20, *p* < .05. In addition to pre-professional GPA possibly affecting moral reasoning, students with an undergraduate degree (*M* = 37.09, n = 358) reported higher levels of N2 scores compared to those students

without an undergraduate degree (M = 32.92, N = 49), $t(405) = 2.03$, $p < .05$. Therefore, students with a degree and additional years of formal education may have higher levels of moral reasoning compared to those students without a degree or with less education.

Supplemental Analysis

A supplemental analysis was conducted utilizing the original data without removal of skewed and kurtotic items. Data were analyzed to determine if results varied with use of the original items. Supplemental analysis investigated correlations using Spearman and Pearson *r* and group differences utilizing original data from FPrP, FP, SBF, and SBS constructs.

Correlational Analysis

Using the original data, Spearman *r* results illustrated no differences in significance within the academic integrity constructs when answering the first research question. Original data correlation results were significant and similar to correlations with items removed with the exception of student perception of cheating during pre-professional coursework and whether or not an undergraduate degree was earned. No significant correlation was noted between having a degree and perception of cheating during pre-professional coursework. In addition, no significant correlations were found between SBF and SBS and N2 scores utilizing Spearman *r*. However, Pearson *r* identified identical significant correlations between moral reasoning and academic integrity with the original data compared to data removed, with the exception of N2 and SBS not being significantly correlated (.06).

Group Differences

The original data for testing group differences, compared to data with items removed, identified equivalent significance when investigating dissimilarities among first-, second-, and third-year physical therapy students and between public and private institutions regarding academic integrity and moral reasoning. Simultaneous multiple regression analysis of the original data identified identical significance compared to data with items removed. Perceived cheating within the profession (FP) and perceived seriousness of cheating behaviors (SBS) accounted for a large portion of the variance, similar to the results using data with items removed. Furthermore, specific behavior frequency was the largest predictor of SBS. The single difference was that N2 scores (β = -.22) were not found to be a significant predictor of SBF.

Finally, utilizing the original data, no significant difference was found in specific behavior frequency between students who had and those who did not have an undergraduate degree. Minimal differences utilizing the original data compared to data with item removal existed. Therefore, this investigator concluded that the majority of the findings were consistent throughout the analysis and offered a stronger study with the removal of the skewed and kurtotic items, which strengthened the overall findings of this study.

Major Findings

The goal of this study was to answer four research questions pertaining to moral reasoning and academic integrity. This researcher wanted to investigate whether there was a relationship or correlation between moral reasoning and academic integrity, while

investigating for differences among first-, second-, and third-year physical therapy students and between public and private institutions regarding the same two variables. Finally, multiple regression was conducted in order to investigate possible predictors of moral reasoning and academic integrity levels in student physical therapists.

Academic Integrity and Moral Reasoning Relationships

Many significant correlations involving moral reasoning were identified among multiple independent variables including gender, undergraduate degree, and private versus public institutions, discussed earlier in this chapter. Likewise, multiple correlations were significant regarding academic integrity and how students perceive cheating frequencies and seriousness; however, the first research question was specific to whether or not a relationship existed between moral reasoning and academic integrity.

Significant correlations existed between the students' perceptions of academic integrity and moral reasoning. A negative correlation existed between N2 scores and witnessing cheating in their professional programs (-.16) and specific behavior frequency (-.10). In addition, a positive correlation existed between N2 scores and specific behavior seriousness (.10). This finding suggests students with elevated levels of moral reasoning may perceive specific cheating behaviors as more serious and participate in less specific cheating behaviors compared to those students who reported lower levels of moral reasoning. This finding also identified the important role moral reasoning may play regarding frequency and seriousness of academic cheating and overall academic integrity.

Academic Integrity and Moral Reasoning Differences Among Students

The results of this study identified that second (*M* = 1.63) and third-year (*M* = 1.32) physical therapy students perceive cheating in a professional program and witness cheating activities in their professional programs significantly more than first-year students (*M* = 1.06), while second-year students witness cheating more than third-year students.

In addition, results identified a significant main effect and an interaction effect regarding student status and how serious of a problem cheating is in the professional program. The main effect showed second-year (*M* = 2.09) and third-year students (*M* = 2.18) reported cheating as a more serious problem in their professional programs compared to first-year students (*M* = 1.60). Investigating the interaction effect, second-year public institution students (*M* = 2.23) reported cheating as a more serious problem within their program than first-year public students (*M* = 1.59). Similarly, third-year public institution students (*M* = 1.97) reported cheating as a more serious problem than first-year public institution students (*M* = 1.59), while third-year private institution students (*M* = 2.39) reported significantly higher levels than first-year private institution students (*M* = 1.60). These findings suggest students earlier in their programs may not have witnessed as much cheating behavior or perceived cheating having occurred compared to second and third-year students. These findings may be related to reduced exposure to courses, assignments, and tests.

No significant differences were found among first-, second-, and third-year physical therapy students regarding moral reasoning. However, it was noted that

females (*M* = 38.78: *M* = 38.21) scored higher on N2 and p-scores than males (*M* = 34.24: *M* = 33.24), while males (*M* = 27.63) scored higher in personal interest levels than females (*M* = 24.61). In addition, those students with undergraduate degrees (*M* = 37.09) and those students with higher (3.26-3.50) pre-professional GPA (*M* = 41.85) had significantly higher N2 scores than those without an undergraduate degree (*M* = 32.92) and whose GPA ranged between 3.01-3.25 (*M* = 22.86).

Academic Integrity and Moral Reasoning Differences Between Institution Types

The results of this study indicated that students enrolled at public institutions (*M* = 1.45) reported higher cheating frequencies than those enrolled at private institutions (*M* = 1.29), while those at private institutions (*M* = 3.10) perceived cheating behaviors as more serious than those at public institutions (*M* = 2.88). In addition, students at public institutions (*M* = 2.70) displayed significantly higher perceptions of cheating and witness of cheating in their pre-professional coursework than those attending private institutions (*M* = 2.45).

Regarding moral reasoning, results of this study identified students attending private institutions (*M* = 39.58) as having higher P-scores compared to those students attending public institutions (*M* = 36.16). Similarly, students who attended private institutions (*M* = 38.77) displayed higher N2 scores compared to those students who attended public institutions (*M* = 35.45).

Academic Integrity and Moral Reasoning Predictors

A simultaneous multiple regression identified how students perceived frequency of cheating in their professional programs (β = .29), how serious they perceived cheating

behaviors to be (β = -.23), and N2 scores (β = -.29) to be significant predictors of whether students participated in cheating behaviors. Perception of cheating within the professional program was the most significant predictor of cheating behavior frequency and accounted for 11% of the variance (R^2 = .11). Therefore, increased perceptions of cheating occurrence, along with reduced moral reasoning skills and reduced perceived cheating seriousness, may predict increased cheating frequency among physical therapy students. In addition, self-reported cheating frequency (β = -.26) and whether students attended public or private institutions (β = .11), once P-scores, maintaining norms, and personal interest levels were accounted for, were the most significant predictors of how serious students perceived cheating to be.

Gender (β = .07), cheating behavior frequency (β = -.06), personal interest levels (β = -.83), and maintain norms levels (β = -.70) were found to be significant predictors of elevated N2 scores. Therefore, females, lower frequency of cheating, and lower levels of personal interests may predict elevated levels of moral reasoning (N2 scores). Cheating behavior frequency (SBF) was the most significant predictor of N2 scores.

CHAPTER V

DISCUSSION

The purpose of this study was to investigate whether a relationship between moral reasoning and academic integrity existed among student physical therapists. Secondary questions included whether there were significant differences among first-, second-, and third-year physical therapy students and between students attending private and public institutions regarding their perceptions of academic integrity and moral reasoning. Finally, this study investigated for possible predictors of academic integrity and moral reasoning. Data were derived from physical therapy students attending seven Midwest physical therapy programs (4-public, 3-private). The study was designed using quantitative research methods.

Presented in Chapter V presents is a brief review of the issues and significance of this study, summary of findings, discussion and implications, study limitations, future research, and final remarks.

Issues and Significance

Past studies have identified significant levels of academic dishonesty having occurred throughout higher education. Research regarding academic dishonesty prevalence, factors, and prevention techniques were investigated in multiple programs including medicine (Baldwin et al., 1996), engineering (Bertram Gallant et al., 2014), nursing (Arhin & Jones, 2009), accounting (Burke et al., 2007),

pharmacy (Rabi et al., 2006), psychology (Lucas & Friedrich, 2005), and business (Klein et al., 2007). However, only three studies investigated academic dishonesty regarding physical therapy students (Bates et al., 2005, Mohr et al., 2011, Montuno et al., 2012).

In addition to academic dishonesty, moral reasoning has been researched within the medical professions; however, minimal research investigated moral reasoning of physical therapy students. Specifically, prior to this study, no research has investigated the relationship between physical therapy students' perceptions of academic integrity and moral reasoning. Since minimal to no research exists, this study offered new information pertaining to moral reasoning and academic integrity in physical therapy students.

The Theory of Planned Behavior (TPB) provided the theoretical framework for this study. Ajzen (1991) showed that individuals made decisions to engage in specific behaviors based on their own beliefs about their behavior and their expectations of a positive outcome. Three components, according to Meng et al. (2014), help predict intention to engage in a specific behavior: a) attitudes toward the behavior, b) subjective norm, and c) perceived behavioral control. Intention is what occurs prior to the behavior with favorable attitude and supportive group values resulting in a greater intention to carry out the behavior (Meng et al., 2014).

Meng et al. (2014) supported this theory and found that an individual's personal moral philosophy and intention may interact. Therefore, moral philosophy may serve as a mediating factor in influencing students' intention to engage in academic dishonesty (Meng et al., 2014). In addition, Lin and Ding (2003) indicated ethical judgments

significantly influencing behavioral intention formation. This research supported the importance of moral reasoning when discussing intentions and behavior, and is what prompted this study to investigate the relationship between moral reasoning and academic integrity.

Summary of Findings

This study aimed to identify significant correlations between moral reasoning and academic integrity in physical therapy students. In order to better understand this relationship, seven Midwest physical therapy programs participated, including both private and public institutions. McCabe's Academic Integrity Survey was utilized, with four scales and three individual item questions utilized in this study. The scales/items specifically investigated the students' perceptions of cheating and encounters of cheating during their pre-professional and professional coursework, how serious they perceive cheating to be in their programs, and how frequently they participated in specific cheating behaviors.

The DIT-2 was utilized to measure physical therapy students' moral reasoning levels. Items were scored at the University of Alabama's Center for Ethical Development and returned to the primary investigator. Personal interest, maintain norms, post-conventional, and N2 scores (scores which reflect the level of moral reasoning) were evaluated and compared to academic integrity data. Data were utilized to answer four research questions. The research questions investigated whether or not significant relationships or group differences were found among first-, second-, and third-year physical therapy students, or between students attending public and private institutions

regarding moral reasoning and academic integrity. The final question investigated whether certain moral reasoning or academic integrity predictors existed in student physical therapists.

Relationship Between Academic Integrity and Moral Reasoning

A significant relationship was found between academic integrity and moral reasoning. A significant positive relationship existed between specific behavior seriousness and N2 scores, while a negative relationship was identified between specific behavior frequency and N2 scores. Therefore, as moral reasoning levels increased the incidence of cheating decreased, and the perception of severity of those actions elevated. In addition, witnessing cheating during their professional coursework was negatively correlated with N2 scores; therefore, those students who witnessed less cheating episodes correlated with higher levels of N2 scores. These findings are significant, because they support the importance of moral reasoning, as discussed by the modified Theory of Planned Behavior (Meng et al., 2014), and the role of ethical development as it relates to academic integrity.

Differences Among Physical Therapy Students

The perception of cheating occurring and the witnessing of cheating were significantly higher in second- and third-year physical therapy students compared to first-year students. These students also perceived cheating as a more serious problem in their program compared to first-year students. In addition, second- and third-year students perceived the seriousness of cheating significantly higher than first-year students. These findings are significant, because as one proceeds through the program,

the perception of cheating, seriousness of cheating, and actual witnessing of cheating appear to increase. However, no significant difference was noted regarding self-reported cheating frequency. Although cheating frequency differences were not significant, the frequency of cheating means elevated from "once" to "more than once" as physical therapy students progressed through their programs (first-year: *M* = 1.38, second-year: *M* = 1.41, third-year: *M* =1.42).

Regarding moral reasoning, no significant differences were found among first-, second-, and third-year students. However, females, students with undergraduate degrees, and a professional GPA of 3.26-3.50 recorded higher N2 scores than males, students without an undergraduate degree, and a professional GPA of 3.01-3.25.

Differences Between Public and Private Institutions

A significant difference existed in perceived academic integrity between students attending public versus private institutions. Students attending public institutions had a significantly higher frequency of cheating behavior and a significantly lower perceived seriousness of such activities. In addition, those students attending public institutions reported significantly greater levels of perceived cheating and witnessing of cheating in their pre-professional coursework compared to private institutions. Alternately, private institutions reported higher post-conventional (P) and N2 scores compared to those students attending public institutions. This finding confirms the correlational findings which reported type of institution as significantly correlated with cheating frequency, seriousness, and overall N2 scores.

Academic Integrity and Moral Reasoning Predictors

A simultaneous multiple regression identified how students perceived cheating occurrences in their professional programs, how serious they perceived cheating behaviors to be, and N2 scores to be significant predictors of whether students participated in cheating behaviors. Perception of cheating within the professional program was the most significant predictor of cheating behavior frequency. Therefore, increased perceptions of cheating occurrence, along with reduced moral reasoning skills and perceived cheating seriousness, may be predictors of overall cheating frequency among physical therapy students. In addition, self-reported cheating frequency and whether students attended public or private institutions, once P-scores, maintain norms, and personal interest levels were accounted for, were the most significant predictors of how serious students perceived cheating. Thus, students enrolled at private institutions who participate in less cheating behaviors, may predict higher levels of perceived cheating seriousness.

Gender, cheating behavior frequency, personal interest levels, and maintain norms levels were found to be significant predictors of elevated N2 scores. Therefore, females, lower frequency of cheating, and lower levels of personal interests may predict elevated levels of moral reasoning (N2 scores). Cheating behavior frequency (SBF) was the most significant predictor of N2 scores. Hence, students with lower number of cheating incidences may predict students with higher levels of moral reasoning (N2).

Hierarchical regression investigated N2 scores by controlling for SBF, personal interest, and maintain norms levels. The analysis illustrated liberal versus conservative

views, gender, religion, and professional program GPA were significant predictors of elevated moral reasoning (N2) levels. Therefore, females, those with higher levels of professional GPA, and those who identify as more liberal were significant predictors of higher N2 values.

Although statistical significance was noted, the practical significance was minimal. Eta-squared (η2) equals the proportion of variance in the dependent variable which is explained by group differences (Warner, 2013). Therefore, eta squared (η2 = .05) means 5% of the variance is accounted for while eta squared (η2 = .03) means 3% of the variance is accounted for. The eta-squared was assessed for SP, SBF, SBS, and N2 scores. Practical significance was highest for seriousness of cheating within the professional program among physical therapy students (η2 = .05) and was considered a medium effect (Warner, 2013). However, eta-squared for simple main effects regarding SBF, SBS, and N2 ranged from (η2 = .01-.03) and were considered small to medium effects. Eta-squared results illustrated that even though a statistical significance was present the practical significance may be lacking due to group differences having small to medium effects on academic integrity and moral reasoning.

Discussion and Implications

Academic integrity has been researched extensively in many different professional program; however, research in the field of physical therapy is limited. Factors that may cause academic dishonesty to occur have been identified as: gender, age, lower GPA, lower self-esteem, competitiveness of programs, previous cheating, moral behavior and work ethic, to name a few (Bates et al., 2005; McCabe, 2005;

McCabe & Trevino, 1997; McCabe et al., 2001; Ruegger & King, 1992; Salleh et al., 2013; Whitley, 1998).

The results of this study did not identify significant findings in regard to gender, age, ethics course completion, or GPA levels; however, students with undergraduate degrees, students who attended private institutions, and students who reported higher moral reasoning (N2) scores reported less cheating frequency and a higher cheating seriousness perception. The results of this study identified students' perceptions of whether cheating occurred in their professional programs, the seriousness of the cheating behaviors, and the overall moral reasoning (N2) levels as significant factors that may be predictive of cheating frequency. In addition, the results identified that students who witnessed cheating during pre-professional and professional coursework and students who identified cheating at increased frequencies perceived individual acts of cheating as less serious. This finding led to a conclusion that additional training and education, as to the seriousness of cheating and how detrimental it may be to one's future, may reduce the frequency of cheating among physical therapy students.

According to the Theory of Planned Behavior, whether or not to complete an intended action is dependent upon three components: a) attitude, b) subjective norms, and 3) perceived behavioral control (Meng et al., 2014). Results of this study identified the importance of student perceptions and attitude on academic integrity. For example, significant correlations were identified between how students perceive cheating and their actual cheating frequency. Those students who perceived cheating to have occurred more during their pre-professional and professional coursework and who had

lower perceptions of cheating seriousness, displayed a significant increase in cheating frequency. As students' perceived seriousness of cheating elevated and perception of cheating in their programs reduced, the frequency of cheating acts lowered. Furthermore, a correlational analysis identified as students perceived increased approval of cheating from friends and family, their cheating frequency elevated and perceived seriousness of cheating was reduced. This finding confirmed how students' attitudes and perceptions may influence whether or not cheating behaviors emerge.

A component that modified the Theory of Planned Behavior was the addition of moral reasoning. Several authors (Forsyth, 1985; Lin and Ding, 2003; Meng et al., 2014) have identified that individual's personal moral philosophy and intention may interact. Therefore, moral philosophy may serve as a mediating factor in influencing students' intention to engage in academic dishonesty (Meng et al., 2014). The results of this study supported the previously described claims. The results showed that moral reasoning (N2) levels positively correlated with how serious students perceived specific cheating behavior and negatively correlated with the frequency in which the cheating activity took place. These results identified the importance of moral reasoning as it pertained to academic dishonesty and illustrated how moral reasoning and ethical development may be a key component in reducing academic dishonesty.

Previous studies (Ducket et al., 2007; Edwards et al., 2012; Geddes et al., 2008; Swisher et al., 2012) identified females and those with advanced education as having higher levels of moral reasoning. The results of this study confirmed that finding and identified females and those with undergraduate degrees to have higher moral

reasoning (N2) scores and less participation in cheating activities. Although moral reasoning levels were higher depending on type of institution, gender, and whether or not an undergraduate degree was earned, the overall mean of the moral reasoning in physical therapy students (36.50) was still below graduate students' norms (41.33). This decrease in N2 scores may be related to an imbalanced number of participants between studies (416 versus 15,494); however, other findings have concluded physical therapy students having had lower N2 scores (N2 = 47.39) compared to other graduate health science students (Larin et al., 2014; Swisher, 2010).

The results of this study confirmed findings of previous research and concluded that the mean post-conventional scores among undergraduate students (42.3; Rest, 1993), graduate students in professional programs (53.3) (Rest, 1993), medical students (53.) (Self & Baldwin, 1998), graduate nursing students (50.6) (Duckett et al., 1997), staff nurses (45.3) (Rest, 1994), physical therapy experts in ethics (60.) (Swisher, 2010), academic employed physical therapists (51.6) (Swisher, 2010), physical therapist clinical specialists (43.8) (Swisher, 2010), and adults in general (40) (Rest, 1993) identified with higher N2 scores than the physical therapy students in this study (36.50). In addition, physical therapy students in this study scored lower N2 scores compared to students' scores in other studies which determined N2 scores to be 45.9 and 47.05 (Dieruf, 2004; Sisola, 2000), respectively.

No significant differences were found among first-, second-, and third-year physical therapy students regarding personal cheating frequency, perceived seriousness of cheating behaviors, or moral reasoning; however, second and third-year students

perceived cheating to be a more serious problem than first-year students. This finding may have been related to second- and third-year physical therapy students having been enrolled in their physical therapy programs for a longer period of time compared to that of first-year students, which exposed them to additional tests, assignments, and presentations. In addition, an interaction effect was present which identified that third-year and second-year public institution students perceived cheating activities as more serious than first-year public students, as did third-year private students in comparison to first-year private students.

This study identified that students who attended private institutions displayed less cheating frequency, higher perceived cheating seriousness, and elevated N2 scores, compared to students who attended public universities. Furthermore, the factors found to best predict specific cheating frequency included: N2 scores, perceived cheating in professional programs, perceived seriousness of cheating, and type of institution. The factors found to best predict how students perceive the seriousness of cheating are frequency of cheating, P-scores, and type of institutions. In addition, factors found to best predict moral reasoning (N2) scores included: frequency of cheating, gender, and liberal versus conservative identification. Therefore, cheating frequency and moral reasoning scores (N2) may have direct effects on one another. As one increases, the other may decrease.

Females, those with undergraduate degrees, and those attending private institutions displayed higher N2 scores. Higher N2 scores, in turn, significantly correlated with reduced cheating frequency and increased perception of seriousness.

This relationship supports the modified Theory of Planned Behavior, which acknowledges the importance of moral reasoning, perceptions, and attitudes when taking into consideration intentions and actions. Understanding the relationship of moral reasoning and academic integrity among physical therapy students may assist in understanding how individuals' perceptions, attitudes, and ethical development levels may affect behavior inside and outside of physical therapy.

In conclusion, results of this study identified students with undergraduate degrees having reported higher levels of moral reasoning (N2) and greater academic integrity (less cheating frequency with higher perception of cheating seriousness). These results may raise a concern for physical therapy programs, which do not currently require an undergraduate degree. Why students with undergraduate degrees report higher moral reasoning and academic integrity is uncertain; however, individual programs may need to evaluate to a closer extent these findings to determine whether required undergraduate degrees would be warranted and benefit the physical therapy students and the physical therapy profession as a whole.

Furthermore, the findings may raise concerns about educational approaches and program curriculum currently directed toward academic integrity and moral/ethical reasoning within professional education programs, specifically physical therapy. The significant correlations found in this study regarding moral reasoning and academic integrity between and within physical therapy students and their program institution, along with the significant group differences identified, suggests moral reasoning appears to have a significant impact on cheating frequency and students' perceived seriousness

of cheating. Therefore, the results of this study might be used by physical therapy programs to develop and implement additional academic dishonesty and program integrity policies and procedures. It may also provide foundational knowledge when designing professional development programs for faculty. In addition, the study's results may also assist faculty and administrators to enhance ethical training opportunities, which will improve awareness of potential clinical ethical situations faced by students.

These results may alter how the Commission on Accreditation in Physical Therapy Education (CAPTE) views moral reasoning and academic integrity education as part of the overall physical therapy curriculum and may cause CAPTE to increase their efforts regarding educational opportunities in those areas, not only for students, but faculty as well. Research from the field of psychology and business indicate a high correlation between the frequency of cheating at college and frequency of cheating at work and that students who cheat in the academic setting tend to cheat in the corporate setting (Callahan, 2008; Sims, 1993; Lucas & Friedrich, 2005; Nonis & Swift, 2001). Therefore, the research is consistent regarding academic dishonesty and workplace dishonesty and concludes that individuals who cheat are more likely to follow unethical paths in their careers (Callahan, 2008).

If academic dishonesty has been shown to lead to workplace dishonesty in other professions, then a similar relationship between academic dishonesty and workplace dishonesty might be found among physical therapy students. Consequently, improving training and education of students in moral reasoning and making them aware of the

correlations among academic integrity, moral reasoning, and workplace dishonesty, may impact students' perceptions and attitudes regarding academic integrity and moral reasoning and may prepare students to behave more ethically when working as licensed healthcare professionals.

Study Limitations

Although a great amount of effort was expended in creating a solid study methodology, limitations still existed. First, a portion of the items utilized from McCabe's Academic Integrity survey had a significant amount of skewness and kurtosis. Two items were removed from the "perception of cheating frequency in pre-professional and professional coursework" scales secondary to skewness and kurtosis. Although only the professional coursework scale had skewed or kurtotic items, since comparisons were made between scales, identical items were removed from both scales allowing five items to remain. Similarly, 19 of the 29 items were removed from the specific behavior frequency and seriousness scales related to significant skewness and kurtosis. Identical items were removed from both scales to allow valid comparisons to take place. Retaining the original survey was the intent of this researcher. However, related to significant skewness and kurtosis, items had to be removed to improve the validity of the results obtained. Following the removal of non-normal items, the summed skewness and kurtosis were within normal limits, with the exception of FP (1.15) and SBF (1.10) skewness.

Second, limitations of this study included a skewed number of third-year physical therapy students completing the survey with the exception of Institution Five:

- Institution One: *N* = 9
- Institution Two: *N* = 9
- Institution Three: *N* = 15
- Institution Four: *N* = 7
- Institution Five: *N* = 51
- Institution Six: *N* = 0
- Institution Seven: *N* = 12

In addition, institution 1 (private institution) displayed the lowest participation of all institutions (first-year *N* = 0, second-year *N* = 2). The reduced number of third-year students completing the survey created a more challenging process of investigating differences among first-, second-, and third-year students. This difference in the number of participants may have reduced the reliability of results identified. Also, the lower representation may not have allowed reliable analysis among public/private and student status in order to explore for interaction effects. Because of this limitation, future research might be completed with a larger more representative population to examine for main and interaction effects.

Third, not all students completed the surveys in the same manner. Four of the seven institutions allowed third-year students to complete the online version; one institution allowed only their second and third-year students to complete the online survey; one institution completed all hard copy versions; and one institution completed all hard copy, but due to a poor response (N=22), also offered the online version. The DIT-2 online version attempts to minimize reliability difficulties by adding reliability

checks to the online version by taking into consideration stop-start times, test-taking environments, and distractions (Bebeau & Thoma, 2003). Secondary to the considerable length of the survey this study received permission from the Center for the Study of Ethical Development to exclude these questions from the survey. By doing so it may have reduced the reliability of the online results compared to in-class results secondary to the altered survey-taking environment.

The institution that completed both versions offered the hard copy prior to fall finals; thus limiting completion rates. The primary investigator decided to offer the online version over semester break and during the Spring Semester, in attempts to gain further participants. Another institution completed a hard copy version for their first- and third-year students prior to Fall finals and the second-year students in the beginning of Spring Semester. This limitation may have affected the study outcomes, since surveys were not distributed and collected during similar times of the semester.

The fourth limitation included physical therapy programs being closed cohorts. Each class progresses through the program with the same classmates. Within this cohort model, it may be difficult to determine accurate perceptions of cheating frequency. For example, identifying whether individuals witnessed cheating repeatedly within various classes and/or across years within the program, may help determine how serious of a problem the behavior may be. Not identifying specifics within particular cheating incidences may affect the generalizability of the results.

The fifth limitation included the length of time it took to complete the survey. The survey was piloted (N=5) prior to distribution to students. The time it took to

complete the survey ranged from 20 to 40 minutes. However, the completion time for the physical therapy students ranged from 20 to 70 minutes, with the average length of time for completion being 45 minutes. Related to the length of the survey, the online survey completion rate witnessed a 49% drop. A reduction in survey length may have gained additional participation and further strengthened the reliability of the results.

Finally, the sixth limitation is the possibility that students did not answer questions honestly, related to the sensitivity of the topic and the fact they are currently enrolled in a physical therapy program. Although surveys were anonymous, students may not have felt inclined to answer honestly, since program identification, age, ethnicity, and class identification were a part of the demographic questioning.

Future Research

Future studies might examine the academic integrity perceptions of physical therapy faculty in order to compare how they perceive the current academic environment as well as how frequently and how seriously they perceive specific academic dishonesty behaviors. Comparing faculty perceptions to those of students may provide a better understanding of how each group identifies or defines academic dishonesty. This gained understanding may provide an opportunity for specific education or curriculum modification that includes more conversation regarding academic integrity and ethical decision-making.

Results of this study identified students with undergraduate degrees having reported higher levels of moral reasoning (N2) and greater academic integrity (less cheating frequency with higher perception of cheating seriousness). This study may

raise a concern for physical therapy programs that do not currently require an undergraduate degree. Why students with undergraduate degrees report higher moral reasoning and academic integrity is uncertain; however, further research may be needed in order to investigate to a closer extent these findings to determine whether similar results are found among greater physical therapy student populations.

In addition, future studies might investigate licensed physical therapists' perceptions of workplace dishonesty compared to academic dishonesty. Multiple studies (Carpenter et al., 2006; Harding et al., 2003; Harding et al., 2004b) showed academic dishonesty may lead to workplace dishonesty. Investigating workplace perceptions may provide significant importance as it relates to the education and training of physical therapy students. If a relationship exists in the field of physical therapy, additional academic integrity and moral reasoning training may be warranted. This study might also be extended to physical therapy programs that exist outside the Midwest. Including a variety of programs across the United States may improve the ability to generalize to the larger population and strengthen the results identified.

Finally, these results identified a significant correlation between moral reasoning and academic integrity and identified significant differences between students enrolled in private versus public institutions and among first-, second-, and third-year students. Further research regarding why differences exist may assist in deeper understanding. Including both qualitative and quantitative approaches may assist in identifying further predictors and relationships that may not have been captured during survey completion. This approach may offer a different lens when attempting to understand

the relationships between moral reasoning and academic integrity and may assist in reducing the incidence of academic dishonesty, unethical decision making, and future workplace dishonesty.

Final Remarks

This study provided additional knowledge regarding moral reasoning and academic integrity in physical therapy students and attempted to fill the present gap in research. Results did not illustrate a significant difference among first-, second-, and third-year physical therapy students; however, a significance difference between physical therapy students enrolled in public and private institutions was identified. The results illustrated a significant correlation between moral reasoning and academic integrity and displayed how both may significantly influence each other.

Moral reasoning (N2) scores were a significant predictor of cheating frequency as was cheating frequency a predictor of moral reasoning and development (N2). This finding showed the powerful impact moral reasoning and cheating frequency may have on one another. This relationship illustrates significant importance and should inspire educators to implement additional education within their physical therapy curriculum pertaining to ethical development and academic integrity.

This study illustrated how moral reasoning, along with students' attitudes and perceptions, might influence academic integrity and cheating behaviors. This suggestion is important, since academic dishonesty has been linked to workplace dishonesty in multiple professions. If academic dishonesty has been shown to lead to workplace dishonesty in the fields of nursing, medicine, engineering, business, accounting,

psychology, and pharmacy, then a similar relationship between academic dishonesty and workplace dishonesty might be found among physical therapy students as well. For this reason, it may be important for physical therapy programs to implement academic integrity and ethical education/training early and often throughout their curriculum.

APPENDICES

Appendix A:

McCabe's Academic Integrity and Demographic Survey

McCabe's Academic Integrity Survey and Defining Issues Test (DIT-2)

Thank you for participating in this survey. This study will investigate the relationship between your perceptions of academic integrity and moral reasoning. This interesting survey should take approximately 20-30 minutes to complete. The informed written consent statement is provided. By reading and completing the survey you agree to be a part of this study. You will receive a copy of the informed consent statement. Following reading the consent statement you will complete a survey regarding academic integrity moral reasoning.

Thank you for your time. Your responses are very important for not only for this study but for overall physical therapy education.

The following survey is McCabe's Academic Integrity survey developed via the International Center for Academic Integrity (http://www.academicintegrity.org/icai/home.php). The initial section will represent your perceptions of academic integrity regarding academic environment followed by a second section encompassing your perception of specific behaviors. Please provide a personal code that will allow me to compare the academic integrity survey with the moral reasoning survey. This code will not allow for personal identification but will be used to compare responses between your perceptions of academic integrity and moral reasoning.

The identification code will be a five-digit code that will be calculated to allow comparison of both surveys and will not be used as a personal identifier: The first two digits will be the day you were born and the third, fourth, and fifth digits will be the last three numbers of your SSN.

For example: Participant's birthday is 12/01/82: Participant's SSN is ***-**-*517. Therefore, the participant's ID Code is 01517. Please place code below and on the right upper corner of the DIT-2 and fill in the corresponding bubbles.

Please provide your ID Code: _____

The following section of McCabe's Academic Integrity Survey will represent your perceptions of your academic environment.

Q49 How would you rate:

	Very Low (1)	Low (2)	Average (3)	High (4)	Very High (5)
The severity of penalties for cheating at your professional program? * (1)	❍	❍	❍	❍	❍
The average student's understanding of campus policies concerning student cheating?* (2)	❍	❍	❍	❍	❍
The faculty's understanding of these policies? * (3)	❍	❍	❍	❍	❍
Student support of these policies? * (4)	❍	❍	❍	❍	❍
Faculty support of these policies? * (5)	❍	❍	❍	❍	❍
The effectiveness of these policies? * (6)	❍	❍	❍	❍	❍

Q50 Have you been informed about the academic integrity or cheating policies at your professional program?

❍ Yes (1)
❍ No (2)

Q51 Where and how much have you learned about these policies?

	Learned Little or Nothing (1)	Learned Some (2)	Learned A Lot (3)
First-year orientation program or registration program. * (1)	❍	❍	❍
Campus website. * (2)	❍	❍	❍
Student handbook. * (3)	❍	❍	❍
Program counselor, residential advisor, or faculty advisor. * (4)	❍	❍	❍
Other students. * (5)	❍	❍	❍
Faculty (e.g., discussed in class, course syllabi, or course outlines). * (6)	❍	❍	❍
Teaching assistant. * (7)	❍	❍	❍
Dean or other administrator. * (8)	❍	❍	❍

Q52 To what extent do you have a clear understanding your university's policies regarding academic honesty? *

- ❍ Not at All (1)
- ❍ A Little (2)
- ❍ Average (3)
- ❍ A Lot (4)
- ❍ Greatly (5)

Q53 Does your professional program or university have an honor code?

- ❍ Yes (1)
- ❍ No (2)
- ❍ Unsure (3)

Q54 If yes, did the fact that your professional program/university had an honor code impact your decision to attend?

- ❍ Yes (1)
- ❍ No (2)
- ❍ Unsure (3)

Q55 In the past year, how often, on average, did your instructors discuss policies concerning: *

	Never (1)	Very Seldom (2)	Seldom/Sometimes (3)	Often (4)	Very Often (5)
Plagiarism * (1)	❍	❍	❍	❍	❍
Guidelines on group work or collaboration * (2)	❍	❍	❍	❍	❍
Proper citation/referencing of written sources * (3)	❍	❍	❍	❍	❍
Proper citation/referencing of Internet sources * (4)	❍	❍	❍	❍	❍
Falsifying/fabricating course lab data * (5)	❍	❍	❍	❍	❍
Falsifying/fabricating research data * (6)	❍	❍	❍	❍	❍

Q56 How frequently do you think the following occur during your pre-professional coursework? *

	Never (1)	Very Seldom (2)	Seldom/Sometimes (3)	Often (4)	Very Often (5)
Plagiarism on written assignments. * (1)	❍	❍	❍	❍	❍
Inappropriately sharing work in group assignments. * (2)	❍	❍	❍	❍	❍
Cheating during tests or examinations. * (3)	❍	❍	❍	❍	❍
Submitting the same paper in more than one course without specific permission.* (4)	❍	❍	❍	❍	❍
Purchasing papers. * (5)	❍	❍	❍	❍	❍
Use of electronic/digital devices as an unauthorized aid during an inclass test.* (6)	❍	❍	❍	❍	❍
Falsifying information on an exam or paper after it has been graded/submitted.* (7)	❍	❍	❍	❍	❍

Q57 How frequently do you think the following occur within your professional program?

	Never (1)	Very Seldom (2)	Seldom/Sometimes (3)	Often (4)	Very Often (5)
Plagiarism on written assignments. * (1)	❍	❍	❍	❍	❍
Inappropriately sharing work in group assignments. * (2)	❍	❍	❍	❍	❍
Cheating during tests or examinations. * (3)	❍	❍	❍	❍	❍
Submitting the same paper in more than one course without specific permission.* (4)	❍	❍	❍	❍	❍
Purchasing papers. * (5)	❍	❍	❍	❍	❍
Use of electronic/digital devices as an unauthorized aid during an in class test.* (6)	❍	❍	❍	❍	❍
Falsifying information on an exam or paper after it has been graded/submitted.* (7)	❍	❍	❍	❍	❍

Q58 How often, if ever, have you seen another student cheat during a test or examination during your pre-professional coursework? *

- ❍ Never (1)
- ❍ Once (2)
- ❍ A few times (3)
- ❍ Several times (4)
- ❍ Many times (5)

Q59 How often, if ever, have you seen another student cheat during a test or examination within your professional PT program?

- ❍ Never (1)
- ❍ Once (2)
- ❍ A few times (3)
- ❍ Several times (4)
- ❍ Many times (5)

Q60 Have you ever reported another student for cheating?*

- ❍ Yes (1)
- ❍ No (2)

Q61 The following section of McCabe's Academic Integrity Survey will represent your perceptions of academic integrity regarding specific behaviors.

Q63 Please check how often, if ever, in the past year you have engaged in any of the following behaviors **AND** please rate how serious you believe each type of behavior is (**There should be two check marks per behavior**).*

	Frequency				Seriousness			
Fabricating or falsifying a bibliography. * (1)	❍	❍	❍	❍	❍	❍	❍	❍
Working on an assignment with others (in person) when the instructor asked for individual work.* (2)	❍	❍	❍	❍	❍	❍	❍	❍
Working on an assignment with others (via email or Instant Messaging) when the instructor asked for individual work.* (3)	❍	❍	❍	❍	❍	❍	❍	❍
Getting questions or answers from someone who has already taken a test. * (4)	❍	❍	❍	❍	❍	❍	❍	❍
In a course computer work, copying another student's program rather than writing your own.* (5)	❍	❍	❍	❍	❍	❍	❍	❍
Helping someone else cheat on a test. * (6)	❍	❍	❍	❍	❍	❍	❍	❍
Fabricating or falsifying lab data. * (7)	❍	❍	❍	❍	❍	❍	❍	❍
Fabricating or falsifying research data. * (8)	❍	❍	❍	❍	❍	❍	❍	❍
Copying from another student during a test WITH his or her knowledge. * (9)	❍	❍	❍	❍	❍	❍	❍	❍
Copying from another student during a test or examination WITHOUT his or her knowledge. * (10)	❍	❍	❍	❍	❍	❍	❍	❍

	Frequency				Seriousness			
Using digital technology (such as text messaging) to get unpermitted help from someone during a test or examination.* (11)	❍	❍	❍	❍	❍	❍	❍	❍
Receiving unpermitted help on an assignment. * (12)	❍	❍	❍	❍	❍	❍	❍	❍
Copying (by hand or in person) another student's homework. * (13)	❍	❍	❍	❍	❍	❍	❍	❍
Copying (using digital means such as Instant Messaging or email) another student's homework.* (14)	❍	❍	❍	❍	❍	❍	❍	❍
Paraphrasing or copying a few sentences from a book, magazine, or journal (not electronic or web-based) without footnoting them in a paper you submitted.* (15)	❍	❍	❍	❍	❍	❍	❍	❍
Turning in a paper from a "paper mill" (a paper written and previously submitted by another student) and claiming it as your own work.* (16)	❍	❍	❍	❍	❍	❍	❍	❍
Paraphrasing or copying a few sentences of material from an electronic source - e.g., the internet - without footnoting them in a paper you submitted.* (17)	❍	❍	❍	❍	❍	❍	❍	❍

	Frequency				Seriousness			
Submitting a paper you purchased or obtained from a website and claimed it as your own work.* (18)	❍	❍	❍	❍	❍	❍	❍	❍
Using unpermitted handwritten crib notes (or cheat sheets) during a test or exam. * (19)	❍	❍	❍	❍	❍	❍	❍	❍
Using electronic crib notes (stored in tablet, phone, or calculator) to cheat on a test or exam. * (20)	❍	❍	❍	❍	❍	❍	❍	❍
Using an electronic/digital device as an unauthorized aid during an exam. * (21)	❍	❍	❍	❍	❍	❍	❍	❍
Copying material, almost word for word, from any written source and turning it in as your own work.* (22)	❍	❍	❍	❍	❍	❍	❍	❍
Turning in a paper copied, at least in part, from another student's paper, whether or not the student is currently taking the same course.* (23)	❍	❍	❍	❍	❍	❍	❍	❍
Using a false or forged excuse to obtain an extension on a due date or delay taking an exam. * (24)	❍	❍	❍	❍	❍	❍	❍	❍
Turning in work done by someone else. * (25)	❍	❍	❍	❍	❍	❍	❍	❍
Receiving requests from another person (in person or using electronic means) to copy your homework.* (26)	❍	❍	❍	❍	❍	❍	❍	❍

	Frequency				Seriousness			
Submitting the same paper in more than one course without specific permission.* (27)	❍	❍	❍	❍	❍	❍	❍	❍
Using Cliff Notes or Spark Notes and not citing.* (28)	❍	❍	❍	❍	❍	❍	❍	❍
Cheating on tests in any other way.* (29)	❍	❍	❍	❍	❍	❍	❍	❍

Q66 If you indicated above that you have paraphrased or copied material from a written or electronic source without citing it, please tell us how you accessed this material.

- ❍ Internet or other electronic means only. (1)
- ❍ Have only used hard (paper) copies of sources. (2)
- ❍ Have primarily used Internet or other electronic means. (3)
- ❍ Have primarily used hard (paper) copies of sources. (4)
- ❍ Have used both methods pretty equally. (5)

Q67 Have you ever taken an online test or exam over the past 1-2 years?

- ❍ Yes (1)
- ❍ No (2)

Q69 If you have taken an online test or exam, over the past 1-2 years, have you ever (check all that apply):

- ❍ Collaborated with others during an online test or exam when not permitted? (1)
- ❍ Used notes or books on a closed book online test or exam? (2)
- ❍ Received unauthorized help from someone on an online test or exam? (3)
- ❍ Looked up information on the Internet when not permitted? (4)

Q70 Within your professional program, how likely is it that:

	Very Unlikely (1)	Unlikely (2)	Neutral (3)	Likely (4)	Very Likely (5)
You would report an incident of cheating that you observed? * (1)	❍	❍	❍	❍	❍
The typical student would report such violations? * (2)	❍	❍	❍	❍	❍
A student would report a close friend? * (3)	❍	❍	❍	❍	❍

Q71 How strongly do you agree or disagree with the following statements?*

	Disagree Strongly (1)	Disagree (2)	Not Sure (3)	Agree (4)	Agree Strongly (5)
Cheating is a serious problem within my professional program. * (1)	❍	❍	❍	❍	❍
The investigation of suspected incidents of cheating is fair and impartial within my professional program.* (2)	❍	❍	❍	❍	❍
Students should be held responsible for monitoring the academic integrity of other students.* (3)	❍	❍	❍	❍	❍
Faculty members are vigilant in discovering and reporting suspected cases of academic dishonesty.* (4)	❍	❍	❍	❍	❍
Faculty members change exams and assignments on a regular basis. * (5)	❍	❍	❍	❍	❍
The amount of course work I'm expected to complete is reasonable for my year level and program.* (6)	❍	❍	❍	❍	❍

	Disagree Strongly (1)	Disagree (2)	Not Sure (3)	Agree (4)	Agree Strongly (5)
The degree of difficulty in my exams and assignments is appropriate for my year level and program.* (7)	❍	❍	❍	❍	❍
The types of assessment used in my courses are effective at evaluating my level of understanding of course concepts. * (8)	❍	❍	❍	❍	❍
The types of assessment used in my courses are effective at helping me learn course concepts.* (9)	❍	❍	❍	❍	❍

Q72 If you had cheated in a course and the following individuals knew about it, how strongly would they disapprove?*

	Very Strongly (1)	Fairly Strongly (2)	Not Very Strongly (3)	Not At All (4)
A close friend* (1)	❍	❍	❍	❍
A casual acquaintance* (2)	❍	❍	❍	❍
Your parents* (3)	❍	❍	❍	❍
Your grandparents* (4)	❍	❍	❍	❍

Q73 What do you see as successful strategies toward combating academic dishonesty within your professional program (check all that apply)?*

- ❍ Institution of an honor code. (1)
- ❍ Better education regarding academic dishonesty in a First Year program. (2)
- ❍ Better education regarding academic dishonesty in the departments/programs. (3)
- ❍ Harsher sanctions for academic dishonesty violations. (4)
- ❍ Use of Turnitin.com or other software designed to detect plagiarism. (5)

Q27 Please provide the following demographic information about yourself:

Q90 I am currently enrolled in the professional physical therapy program at (name your institution):

_____

Q74 What year in the professional physical therapy program are you?*

- ❍ First Year (1)
- ❍ Second Year (2)
- ❍ Third Year (3)

Q28 1. Age in years: _____

Q29 2. What is your gender?*

- ❍ Male (1)
- ❍ Female (2)
- ❍ Trans or other gender identity (3)

Q75 Are you a domestic student or international student?*

- ❍ Domestic (1)
- ❍ International (2)

Q76 What is your marital status?*

- ❍ Single (1)
- ❍ Married (2)
- ❍ Divorced (3)
- ❍ Other (4)

Q77 What is your current living situation?*

- ❍ Dorm - alone or with roommates (1)
- ❍ Apartment - alone or with roommates (2)
- ❍ Home - alone or with roommates (3)
- ❍ Home - with parents (4)

Q78 What was your GPA utilized for admission to physical therapy school?*

- ❍ 3.76 - 4.00 (1)
- ❍ 3.51 - 3.75 (2)
- ❍ 3.26 - 3.50 (3)
- ❍ 3.01 - 3.25 (4)

Q79 What is your approximate GPA (2nd and 3rd year students) or expected GPA at the end of the semester (1st year students) in your professional program?*

- ❍ 3.76 - 4.00 (1)
- ❍ 3.51 - 3.75 (2)
- ❍ 3.26 - 3.50 (3)
- ❍ 3.01 - 3.25 (4)
- ❍ 2.76 - 3.00 (5)

Q80 If you actively participate in any of the following, please tell us about how much time you spend on each activity in an average week. *

	1-10 Hours per Week (1)	11-20 Hours per Week (2)	21-30 Hours per Week (3)	31-40 Hours per Week (4)	40+ Hours per Week (5)
Part-time paid employment * (1)	❍	❍	❍	❍	❍
Full-time paid employment * (2)	❍	❍	❍	❍	❍
Caring for a dependent or family member * (3)	❍	❍	❍	❍	❍
Social fraternity/sorority/club * (4)	❍	❍	❍	❍	❍
Athletics * (5)	❍	❍	❍	❍	❍
Academic club or group * (6)	❍	❍	❍	❍	❍
Student government * (7)	❍	❍	❍	❍	❍
Non-athletic organization that regularly travels (Model UN, Debate, etc.) * (8)	❍	❍	❍	❍	❍
Other club organization * (9)	❍	❍	❍	❍	❍

Q30 Which best describes your race/ethnicity? [Check all that apply]

- ❑ White/Caucasian (1)
- ❑ African American or Black (2)
- ❑ Pacific Islander (3)
- ❑ American Indian/ Other Native American (4)
- ❑ Asian American (5)
- ❑ Mexican American/Chicano (6)
- ❑ Puerto Rican American (7)
- ❑ Other Latino (8)
- ❑ Other (9)
- ❑ Prefer not to answer (10)

Q31 If you selected other please describe:

_____

Q83 Do you have an undergraduate degree?*

- ❍ Yes (1)
- ❍ No (2)

Q85 If yes, please provide the program of study in which you hold an undergraduate degree (i.e. Kinesiology, Psychology, Business, etc.)?

_____

Q86 Have you ever taken an ethics course?

- ❍ No (1)
- ❍ Yes, during coursework prior to physical therapy school (2)
- ❍ Yes, during coursework in physical therapy school (3)
- ❍ Yes, during coursework prior to and in physical therapy school (4)

Q87 What religion do you identify:

- ❍ Christianity (1)
- ❍ Buddhism (2)
- ❍ Hinduism (3)
- ❍ Judaism (4)
- ❍ Mormonism (5)
- ❍ Islam (6)
- ❍ Jehovah Witness (7)
- ❍ Atheism (Do not believe in a God) (8)
- ❍ Agnosticism (Neither believes nor disbelieves in a God) (9)
- ❍ Other (10)
- ❍ Prefer not to answer (11)

Q88 If selected other, please specify:

_____

Q34 4. In terms of your political views, how would you characterize yourself?

- ❍ Very Liberal (1)
- ❍ Somewhat Liberal (2)
- ❍ Neither Liberal nor Conservative (3)
- ❍ Somewhat Conservative (4)
- ❍ Very Conservative (5)

Q35 5. Are you a citizen of the U.S.A?

- ❍ YES (1)
- ❍ NO (2)

Q36 6. Is English your primary language?

- ❍ YES (1)
- ❍ NO (2)

Q81 What specific changes would you like to see your professional PT program make to support academic integrity? What role should students play in this process?*

Q88 Do you believe the level of academic integrity in physical therapists can influence their prevalence of workplace dishonesty?

- ❍ Yes (1)
- ❍ No (2)

Q89 Why or why not?

Q90 Do you believe the level of moral reasoning in physical therapists can influence their prevalence of workplace dishonesty?

- ❍ Yes (1)
- ❍ No (2)

Q91 Why or why not?

Q82 Please use this space for any comments you care to make, or if there is anything else you would like to tell us about the topic of cheating.

Q91 Thank you very much for taking the time to complete this survey. It is greatly appreciated. Please proceed to the DIT-2. Good luck in your education and future professional endeavors.

Gary

Appendix B
Defining Issues Test (DIT-2) Survey

DIT-2

Defining Issues Test

Version 3.1

University of Minnesota
University of Alabama
Center for the Study of Ethical Development

Instructions

This questionnaire is concerned with how you define the issues in a social problem. Several stories about social problems will be described. After each story, there will be a list of questions. The questions that follow each story represent different issues that might be raised by the problem. In other words, the questions / issues raise different ways of judging what is important in making a decision about the social problem. You will be asked to rate and rank the questions in terms of how important each one seems to you.

This questionnaire is in two parts: one part contains the **INSTRUCTIONS** (this part) and the stories presenting the social problems; the other part contains the questions (issues) and the **ANSWER SHEET** on which to write your responses.

Here is an example of the task:

Presidential Election

Imagine that you are about to vote for a candidate for the Presidency of the United States. Imagine that before you vote, you are given several questions, and asked which issue is the most important to you in making up your mind about which candidate to vote for. In this example, 5 items are given. On a rating scale of 1 to 5 (1=Great, 2=Much, 3=Some, 4=Little, 5=No) please rate the importance of the item (issue) by filling in with a pencil one of the bubbles on the answer sheet by each item.

Assume that you thought that item #1 (below) was of great importance, item #2 had some importance, item #3 had no importance, item #4 had much importance, and item #5 had much importance. Then you would fill in the bubbles on the answer sheet as shown below.

GREAT	MUCH	SOME	LITTLE	NO	Rate the following 12 issues in terms of importance (1-5)
●	②	③	④	⑤	1. Financially are you personally better off now than you were four years ago?
①	②	●	④	⑤	2. Does one candidate have a superior moral character?
①	②	③	④	●	3. Which candidate stands the tallest?
①	●	③	④	⑤	4. Which candidate would make the best world leader?
①	●	③	④	⑤	5. Which candidate has the best ideas for our country's internal problems, like crime and health care?

Further, the questionnaire will ask you to rank the questions in terms of importance. In the space below, the numbers 1 through 12, represent the item number. From top to bottom, you are asked to fill in the bubble that represents the item in first importance (of those given you to choose from), then second most important, third most important, and fourth most important. Please indicate your top four choices. You might fill out this part, as follows:

Rank which issue is the most important (item number).

Most important item ●②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③●⑤⑥⑦⑧⑨⑩⑪⑫

Second most important ①②③④●⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①●③④⑤⑥⑦⑧⑨⑩⑪⑫

Note that some of the items may seem irrelevant to you (as in item #3) or not make sense to you---in that case, **rate** the item as "No" importance and do not **rank** the item. Note that in the stories that follow, there will be 12 items for each story, not five. Please make sure to consider all 12 items (questions) that are printed after each story.

In addition you will be asked to state your preference for what action to take in the story. After the story, you will be asked to indicate the action you favor on a three-point scale (1 = strongly favor some action, 2 = can't decide, 3 = strongly oppose that action).

In short, read the story from this booklet, and then fill out your answers on the answer sheet. Please use a #2 pencil. If you change your mind about a response, erase the pencil mark cleanly and enter your new response.

[Notice the second part of this questionnaire, the Answer Sheet. The Identification Number at the top of the answer sheet may already be filled in when you receive your materials. If not, you will receive instructions about how to fill in the number. If you have questions about the procedure, please ask now.

Please turn now to the Answer Sheet.]

Famine— (Story #1)

The small village in northern India has experienced shortages of food before, but this year's famine is worse than ever. Some families are even trying to feed themselves by making soup from tree bark. Mustaq Singh's family is near starvation. He has heard that a rich man in his village has supplies of food stored away and is hoarding food while its price goes higher so that he can sell the food later at a huge profit. Mustaq is desperate and thinks about stealing some food from the rich man's warehouse. The small amount of food that he needs for his family probably wouldn't even be missed.

[If at any time you would like to reread a story or the instructions, feel free to do so. Now turn to the Answer Sheet, go to the 12 issues and rate and rank them in terms of how important each issue seems to you.]

Reporter— (Story #2)

Molly Dayton has been a news reporter for the *Gazette* newspaper for over a decade. Almost by accident, she learned that one of the candidates for Lieutenant Governor for her state, Grover Thompson, had been arrested for shop-lifting 20 years earlier. Reporter Dayton found out that early in his life, Candidate Thompson had undergone a confused period and done things he later regretted, actions which would be very out-of-character now. His shop-lifting had been a minor offense and charges had been dropped by the department store. Thompson has not only straightened himself out since then, but built a distinguished record in helping many people and in leading constructive community projects. Now, Reporter Dayton regards Thompson as the best candidate in the field and likely to go on to important leadership positions in the state. Reporter Dayton wonders whether or not she should write the story about Thompson's earlier troubles because in the upcoming close and heated election, she fears that such a news story could wreck Thompson's chance to win.

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

School Board— (Story #3)

Mr. Grant has been elected to the School Board District 190 and was chosen to be Chairman. The district is bitterly divided over the closing of one of the high schools. One of the high schools has to be closed for financial reasons, but there is no agreement over which school to close. During his election to the school board, Mr. Grant had proposed a series of "Open Meetings" in which members of the community could voice their opinions. He hoped that dialogue would make the community realize the necessity of closing one high school. Also he hoped that through open discussion, the difficulty of the decision would be appreciated, and that the community would ultimately support the school board decision. The first Open Meeting was a disaster. Passionate speeches dominated the microphones and threatened violence. The meeting barely closed without fist-fights. Later in the week, school board members received threatening phone calls. Mr. Grant wonders if he ought to call off the next Open Meeting.

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

Cancer— (Story #4)

Mrs. Bennett is 62 years old, and in the last phases of colon cancer. She is in terrible pain and asks the doctor to give her more pain-killer medicine. The doctor has given her the maximum safe dose already and is reluctant to increase the dosage because it would probably hasten her death. In a clear and rational mental state, Mrs. Bennett says that she realizes this; but she wants to end her suffering even if it means ending her life. Should the doctor give her an increased dosage?

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

Demonstration — (Story #5)

Political and economic instability in a South American country prompted the President of the United States to send troops to "police" the area. Students at many campuses in the U.S.A. have protested that the United States is using its military might for economic advantage. There is widespread suspicion that big oil multinational companies are pressuring the President to safeguard a cheap oil supply even if it means loss of life. Students at one campus took to the streets, in demonstrations, tying up traffic and stopping regular business in the town. The president of the university demanded that the students stop their illegal demonstrations. Students then took over the college's administration building, completely paralyzing the college. Are the students right to demonstrate in these ways?

[Now turn to the Answer Sheet, go to the 12 issues for this story, rate and rank them in terms of how important each issue seems to you.]

Dilemma #6

Do you favor the action?

① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO *Rate the following 12 issues in terms of importance (1-5)*

① ② ③ ④ ⑤ 1.
① ② ③ ④ ⑤ 2.
① ② ③ ④ ⑤ 3.
① ② ③ ④ ⑤ 4.
① ② ③ ④ ⑤ 5.
① ② ③ ④ ⑤ 6.
① ② ③ ④ ⑤ 7.
① ② ③ ④ ⑤ 8.
① ② ③ ④ ⑤ 9.
① ② ③ ④ ⑤ 10.
① ② ③ ④ ⑤ 11.
① ② ③ ④ ⑤ 12.

Rank which issue is the most important (item number).

Most important item ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Second most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Third most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Fourth most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

Dilemma #7

Do you favor the action?

① Strongly Favor ② Favor ③ Slightly Favor ④ Neutral ⑤ Slightly Disfavor ⑥ Disfavor ⑦ Strongly Disfavor

GREAT MUCH SOME LITTLE NO *Rate the following 12 issues in terms of importance (1-5)*

① ② ③ ④ ⑤ 1.
① ② ③ ④ ⑤ 2.
① ② ③ ④ ⑤ 3.
① ② ③ ④ ⑤ 4.
① ② ③ ④ ⑤ 5.
① ② ③ ④ ⑤ 6.
① ② ③ ④ ⑤ 7.
① ② ③ ④ ⑤ 8.
① ② ③ ④ ⑤ 9.
① ② ③ ④ ⑤ 10.
① ② ③ ④ ⑤ 11.
① ② ③ ④ ⑤ 12.

Rank which issue is the most important (item number).

Most important item ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Second most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Third most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫
Fourth most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

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Demonstration -- (Story #5)

Do you favor or oppose demonstrating in this way?

① Should continue demonstrating in these ways ② Can't decide ③ Should not continue demonstrating in these ways

Rate the following 12 issues in terms of importance (1-5)

1. **Do the students have any right to take over property that doesn't belong to them?**
2. **Do the students realize that they might be arrested and fined, and even expelled from school?**
3. **Are the students serious about their cause or are they doing it just for fun?**
4. **If the university president is soft on students this time, will it lead to more disorder?**
5. **Will the public blame all students for the actions of a few student demonstrators?**
6. **Are the authorities to blame by giving in to the greed of the multinational oil companies?**
7. **Why should a few people like Presidents and business leaders have more power than ordinary people?**
8. **Does this student demonstration bring about more or less good in the long run to all people?**
9. **Can the students justify their civil disobedience?**
10. **Shouldn't the authorities be respected by students?**
11. **Is taking over a building consistent with principles of justice?**
12. **Isn't it everyone's duty to obey the law, whether one likes it or not?**

Rank which issue is the most important (item number).

Most important item ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ Third most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

Second most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫ Fourth most important ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩ ⑪ ⑫

Please provide the following information about yourself:

1. Age in years:

   ⓪ ⓪
   ① ①
   ② ②
   ③ ③
   ④ ④
   ⑤ ⑤
   ⑥ ⑥
   ⑦ ⑦
   ⑧ ⑧
   ⑨ ⑨

2. Sex (mark one): ○ Male ○ Female

3. Level of Education (mark highest level of formal education attained, if you are currently working at that level [e.g., Freshman in college] or if you have completed that level [e.g., if you finished your Freshman year but have gone on no further].)
   - ○ Grade 1 to 6
   - ○ Grade 7, 8, 9
   - ○ Grade 10, 11, 12
   - ○ Vocational/technical school (without a bachelor's degree) (e.g., Auto mechanic, beauty school, real estate, secretary, 2-year nursing program).
   - ○ Junior college (e.g., 2-year college, community college, Associate Arts degree)
   - ○ Freshman in college in bachelor degree program.
   - ○ Sophomore in college in bachelor degree program.
   - ○ Junior in college in bachelor degree program.
   - ○ Senior in college in bachelor degree program.
   - ○ Professional degree (Practitioner degree beyond bachelor's degree) (e.g., M.D., M.B.A., Bachelor of Divinity, D.D.S. in Dentistry, J.D. in law, Masters of Arts in teaching, Masters of Education [in teaching], Doctor of Psychology, Nursing degree along with 4-year Bachelor's degree)
   - ○ Masters degree (in academic graduate school)
   - ○ Doctoral degree (in academic graduate school, e.g., Ph.D. or Ed.D.)
   - ○ Other Formal Education. (Please describe: _____)

4. In terms of your political views, how would you characterize yourself (mark one)?
   - ○ Very Liberal
   - ○ Somewhat Liberal
   - ○ Neither Liberal nor Conservative
   - ○ Somewhat Conservative
   - ○ Very Conservative

5. Are you a citizen of the U.S.A.?
   ○ Yes ○ No

6. Is English your primary language?
   ○ Yes ○ No

Thank You.

PLEASE DO NOT WRITE IN THIS AREA

School Board -- (Story #3)

Do you favor the action of calling off the next open meeting?

① Should call off the next open meeting ③ Can't decide ⑤ Should have the next open meeting

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

1. Is Mr. Grant required by law to have Open Meetings on major school board decisions?
2. Would Mr. Grant be breaking his election campaign promises to the community by discontinuing the Open Meetings?
3. Would the community be even angrier with Mr. Grant if he stopped the Open Meetings?
4. Would the change in plans prevent scientific assessment?
5. If the school board is threatened, does the chairman have the legal authority to protect the Board by making decisions in closed meetings?
6. Would the community regard Mr. Grant as a coward if he stopped the open meetings?
7. Does Mr. Grant have another procedure in mind for ensuring that divergent views are heard?
8. Does Mr. Grant have the authority to expel troublemakers from the meetings or prevent them from making long speeches?
9. Are some people deliberately undermining the school board process by playing some sort of power game?
10. What effect would stopping the discussion have on the community's ability to handle controversial issues in the future?
11. Is the trouble coming from only a few hotheads, and is the community in general really fair-minded and democratic?
12. What is the likelihood that a good decision could be made without open discussion from the community?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

Cancer -- (Story #4)

Do you favor the action of giving more medicine?

① Should give Mrs. Bennett an increased dosage to make her die ② Can't decide ③ Should not give her an increased dosage

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

1. Isn't the doctor obligated by the same laws as everybody else if giving an overdose would be the same as killing her?
2. Wouldn't society be better off without so many laws about what doctors can and cannot do?
3. If Mrs. Bennett dies, would the doctor be legally responsible for malpractice?
4. Does the family of Mrs. Bennett agree that she should get more painkiller medicine?
5. Is the painkiller medicine an active heliotropic drug?
6. Does the state have the right to force continued existence on those who don't want to live?
7. Is helping to end another's life ever a responsible act of cooperation?
8. Would the doctor show more sympathy for Mrs. Bennett by giving the medicine or not?
9. Wouldn't the doctor feel guilty from giving Mrs. Bennett so much drug that she died?
10. Should only God decide when a person's life should end?
11. Shouldn't society protect everyone against being killed?
12. Where should society draw the line between protecting life and allowing someone to die if the person wants to?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

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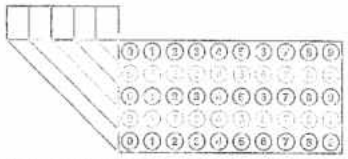
DIT 2 Answer Sheet



Please read story #1 in the INSTRUCTIONS booklet.

Famine -- (Story #1)

What should Mustaq Singh do? Do you favor the action of taking the food? (Mark one.)

① Should take the food ② Can't decide ③ Should not take the food

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

1. Is Mustaq Singh courageous enough to risk getting caught for stealing?
2. Isn't it only natural for a loving father to care so much for his family that he would steal?
3. Shouldn't the community's laws be upheld?
4. Does Mustaq Singh know a good recipe for preparing soup from tree bark?
5. Does the rich man have any legal right to store food when other people are starving?
6. Is the motive of Mustaq Singh to steal for himself or to steal for his family?
7. What values are going to be the basis for social cooperation?
8. Is the epitome of eating reconcilable with the culpability of stealing?
9. Does the rich man deserve to be robbed for being so greedy?
10. Isn't private property an institution to enable the rich to exploit the poor?
11. Would stealing bring about more total good for everybody concerned or wouldn't it?
12. Are laws getting in the way of the most basic claim of any member of a society?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

Reporter -- (Story #2)

Do you favor the action of reporting the story? (Mark one.)

① Should report the story ② Can't decide ③ Should not report the story

GREAT MUCH SOME LITTLE NO

Rate the following 12 issues in terms of importance (1-5)

1. Doesn't the public have a right to know all the facts about all the candidates for office?
2. Would publishing the story help Reporter Dayton's reputation for investigative reporting?
3. If Dayton doesn't publish the story wouldn't another reporter get the story anyway and get the credit for investigative reporting?
4. Since voting is such a joke anyway, does it make any difference what reporter Dayton does?
5. Hasn't Thompson shown in the past 20 years that he is a better person than his earlier days as a shop-lifter?
6. What would best serve society?
7. If the story is true, how can it be wrong to report it?
8. How could reporter Dayton be so cruel and heartless as to report the damaging story about candidate Thompson?
9. Does the right of "habeas corpus" apply in this case?
10. Would the election process be more fair with or without reporting the story?
11. Should reporter Dayton treat all candidates for office in the same way by reporting everything she learns about them, good and bad?
12. Isn't it a reporter's duty to report all the news regardless of the circumstances?

Rank which issue is the most important (item number).

Most important item ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Third most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Second most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫ Fourth most important ①②③④⑤⑥⑦⑧⑨⑩⑪⑫

Now please return to the Instructions booklet for the next story.

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Appendix C

Informed Consent Statement

UNIVERSITY OF NORTH DAKOTA
Institutional Review Board
Informed Consent Statement

Title of Project: Examining the Relationship between Academic Integrity and Moral Reasoning Among Physical Therapy Students

Principal Investigator: Gary Schindler; 701-777-6081; gary.schindler@med.und.edu

Co-Investigator(s): *N/A*

Advisor: Dr. Margaret Zidon; 701-777-3614; margaret.zidon@und.edu

Purpose of the Study:
You are invited to be in a research study that is interested in investigating the perception of student physical therapists as it pertains to academic integrity and moral reasoning. You are identified as a potential participant because you are a student physical therapist currently enrolled in a physical therapy program.

The purpose of this research study is to examine the relationship between student physical therapists' perceptions of academic integrity and moral reasoning. Also of interest is to determine if there is a difference among 1st, 2nd, and 3rd-year physical therapy students and between public versus private physical therapy programs. Finally, this study hopes to determine specific predictors of academic integrity and moral reasoning.

Procedures to be followed:
You will be asked to complete a one-time academic integrity and moral reasoning survey. The first survey is McCabe's Academic Integrity Survey. This survey encompasses 34 questions pertaining to the academic environment, specific behaviors, and demographics regarding your perceptions of academic integrity. The second survey is the Defining Issues Test (DIT-2). This survey involves reading a hypothetical dilemma and rating 12 issues after each hypothetical dilemma and rank in terms of their importance. There are 3-5 hypothetical dilemmas in this survey. You will be asked to complete both surveys beginning with the academic integrity survey. The completion of these surveys should take approximately 20-30 minutes.

Risks:
There are no foreseeable risks to participating in this study beyond those experienced in everyday life. The surveys are utilized to gain a better understanding of your perceptions regarding academic integrity and moral reasoning.

Benefits:
You may benefit personally from being in this study by gaining a better understanding of how you perceive academic dishonesty, moral reasoning, and the relationship between the two. In addition, the hope is in the future, others might benefit from this study because a greater understanding of the relationship between the perceptions of student physical

therapists' moral reasoning and academic integrity might be achieved. Research suggests that academic dishonesty may lead to workplace dishonesty. This study anticipates that moral reasoning will have a positive correlation with academic integrity, therefore may be a significant factor in predicting future workplace dishonesty. Understanding how student physical therapists perceive these variables will help fill the gaps in research and may lead to curriculum modifications within all physical therapy programs, which may include additional training in moral reasoning and academic integrity.

Duration:
Your participation in the study will include a one-time completion of two individual surveys (McCabe's Academic Integrity Survey and the DIT-2 survey). Survey completion should take approximately 20-30 minutes.

Statement of Confidentiality:
The surveys, do not ask for any information that would identify who the responses belong to. There is an identification code that is unique to you, so data between surveys may be analyzed and compared; however, there is no link between that number and your identification. Therefore, your responses are recorded anonymously. If this research is published, no information that would identify you will be included since your name is in no way linked to your responses.

All online survey responses will be conducted via Qualtrics and will be treated confidentially and uploaded into SPSS software. Participant identification and anonymity will be maintained via Qualtrics. However, given that the surveys can be completed from any computer (e.g., personal, work, school), we are unable to guarantee the security of the computer on which you choose to enter your responses. As a participant in this study, be aware that certain "key logging" software programs exist that can be used to track or capture data that you enter and/or websites that you visit.

Right to Ask Questions:
The researcher conducting this study is Gary Schindler. You may ask any questions you have now. If you later have questions, concerns, or complaints about the research please contact Gary Schindler at 701-777-6081 or Gary's Doctoral Advisor Dr. Margaret Zidon at 701-777-3614 during the day.

If you have questions regarding your rights as a research subject, you may contact The University of North Dakota Institutional Review Board at (701) 777-4279. You may also call this number with problems, complaints, or concerns about the research. Please call this number if you cannot reach research staff, or you wish to talk with someone who is an informed individual who is independent of the research team.

General information about being a research subject can be found on the Institutional Review Board website "Information for Research Participants"
http://und.edu/research/resources/human-subjects/research-participants.cfm

Compensation:
You will not receive compensation for your participation.

Voluntary Participation:

You do not have to participate in this research. You can stop your participation at any time. You may refuse to participate or choose to discontinue participation at any time without losing any benefits to which you are otherwise entitled.

You do not have to answer any questions you do not want to answer.

You must be 18 years of age older to consent to participate in this research study.

Completion and return of the surveys imply that you have read the information in this form and consent to participate in the research.

Please keep this form for your records or future reference.

Appendix D
UND Institutional Review Board Approval

UNIVERSITY OF NORTH DAKOTA

DIVISION OF RESEARCH & ECONOMIC DEVELOPMENT

UND.edu

Institutional Review Board
Twamley Hall, Room 106
264 Centennial Dr Stop 7134
Grand Forks, ND 58202-7134
Phone: 701.777.4279
Fax: 701.777.6708

November 24, 2015

Principal Investigators:	Gary Schindler
Project Title:	Examining the Relationship between Academic Integrity and Moral Reasoning: A Study of Physical Therapy Students
IRB Project Number:	IRB-201511-156
Project Review Level:	Exempt 2
Date of IRB Approval:	11/24/2015
Expiration Date of This Approval:	11/23/2018

The application form and all included documentation for the above-referenced project have been reviewed and approved via the procedures of the University of North Dakota Institutional Review Board.

Attached is your original informed consent statement that has been stamped with the UND IRB approval and expiration dates. Please maintain this original on file. You must use this original, stamped consent form to make copies for participant enrollment. No other consent form should be used. Each participant must be given a copy of the informed consent statement.

IRB approvals from University of Mary and St. Catherine University must be submitted to the UND IRB prior to beginning any research at these institutions.

If you need to make changes to your research, you must submit a Protocol Change Request Form to the IRB for approval. No changes to approved research may take place without prior IRB approval.

This project has been approved for 3 years, as permitted by UND IRB policies for exempt research. You have approval for this project through the above-listed expiration date. When this research is completed, please submit a Termination Form to the IRB.

The forms to assist you in filing your project termination, adverse event/unanticipated problem, protocol change, etc. may be accessed on the IRB website: http://und.edu/research/resources/human-subjects/

Sincerely,

Michelle L. Bowles, M.P.A., CIP
IRB Coordinator

MLB/sb

Enclosure

Cc: Dr. Margaret Zidon (w/o attachment)

Appendix E
Institution IRB Approval

December 3, 2015

Mr. Gary Schindler
University of North Dakota

RE: IRB Proposal 595120315, Examining the relationship between academic integrity and moral reasoning: A study of physical therapy students

Dear Investigator,

The Institutional Review Board has reviewed and approved the above referenced study. This approval is valid for 12 months from today's date.

Conditions of Approval: There are six (6) conditions attached to all approval letters. All six conditions must be met, or the IRB's approval may be suspended.

1. No subjects may be involved in any study procedure prior to the IRB approval date or after the expiration date. (Principal Investigators and Sponsors are responsible for initiating Continuing Review proceedings.)
2. All unanticipated or serious adverse events must be reported to the IRB.
3. All protocol modifications must be IRB approved prior to implementation, unless they are intended to reduce risk. This includes any change of investigator or site address.
4. All protocol deviations must be reported to the IRB within 14 calendar days.
5. All recruitment materials and methods must be approved by the IRB prior to being used.
6. The IRB must be notified upon completion of the project.

Principal investigators are responsible for making sure that studies are conducted according to the protocol and for all actions of the staff and sub-investigators with regard to the protocol. As a principal investigator, you may have multiple and possibly conflicting responsibilities to the IRB, the research subjects, and any sponsor. If you have any questions or concerns about this approval, please contact the Assistant Vice-President for Academic Affairs, the IRB Chairperson, in the Office of Academic Affairs.

Sincerely,

Appendix F
Institution Letter of Participation

January 5, 2016

Dear Dr. Schindler,

This letter is provided to confirm that the Physical Therapy Program agrees to participate in and understands its obligations related to your proposed study, "Examining the Relationship between Academic Integrity and Moral Reasoning: A Study of Physical Therapy Students". I understand that an IRB with is not required to take part in this study.

Please let me know when we may be of assistance to help advance your research. I wish you all the best with conducting the study.

Sincerely,

Appendix G
Institution Letter of Participation

November 10, 2015

To Whom It May Concern:

Gary Schindler, Assistant Professor and Program Director: UND Sports Physical Therapy Residency, has been in contact with me regarding our participation in his dissertation study. My understanding is that our 1st, 2nd, and 3rd year students will complete a survey, either in-person or via an on-line mechanism. As the program chair, I have authorized our participation.

Sincerely,

Appendix H
Institution Letter of Participation

To Whom It May Concern:

I am writing to confirm the Doctor of Physical Therapy Program's willingness to participate in the study "Examining the Relationship Between Academic Integrity and Moral Reasoning: A Study of Physical Therapy Students". Specifically, pending Institutional Review Board (IRB) approval, we are happy to distribute the consent form, McCabe Academic Integrity Survey, and Defining Issues Test (DIT-2) to our 1st, 2nd, and 3rd year students as requested. We look forward to working with Dr. Schindler.

Sincerely,

Appendix I
Institution Letter of Participation

October 28, 2015

To Whom It May Concern,

I am writing to confirm the Doctor of Physical Therapy Program's willingness to participate in the study "Examining the Relationship between Academic Integrity and Moral Reasoning: A Study of Physical Therapy Students."

Specifically, pending Institutional Review Board (IRB) approval, we are happy to distribute the consent form, McCabe Academic Integrity Survey, and Defining Issues Test (DIT-2) to our first, second, and third year students as able. We look forward to working with Dr. Schindler.

Sincerely,

Appendix J
Institution Letter of Participation

November 11, 2015

To Whom It May Concern:

I am writing to confirm the Doctor of Physical Therapy Program's willingness to participate in the study "Examining the Relationship between Academic Integrity and Moral Reasoning: A Study of Physical Therapy Students". Specifically, pending review of UND's Institutional Review Board (IRB) approval letter, we will be happy to distribute the consent form, McCabe Academic Integrity Survey, and Defining Issues Test (DIT-2) to our 1st, 2nd, and/or 3rd year students as able.

We look forward to working with Dr. Schindler.

Sincerely,

Appendix K
Institution Letter of Participation

Oct 29, 2015

Gary Schindler, PT, DPT, OCS, SCS, ATC, CSCS
Assistant Professor
Program Director: UND Sports Physical Therapy Residency
Department of Physical Therapy
University of North Dakota
Grand Forks, ND 58202

Dear Dr. Schindler,

This letter is provided to confirm that the Physical Therapy Program agrees to participate in and understands its obligations related to your proposed study, "Examining the Relationship between Academic Integrity and Moral Reasoning: A Study of Physical Therapy Students".

An IRB with the will not be required.

Please let me know when we may be of assistance to help advance your research. We wish you every success.

My best,

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