

Evaluation of the use of an academic integrity training course
as a proactive measure encouraging academic honesty

by

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DEDICATION

This dissertation is dedicated to my family . . . to my best friend, my husband, who has always steered the rudder and kept his eyes fixed on the horizon so I might dance upon the waves . . . to my children, for their many contributions and sacrifices, mommy is done . . . to my parents, who taught me the true meaning of prosperity.

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ABSTRACT

Significant research has been conducted exploring many aspects of academic integrity including the role and influence of an academic honor code. Although academic institutions have created courses and training programs detailing expected academic standards, no published empirical evidence supporting the reliability or validity of such efforts could be located. The purpose of this study was to gather evidence documenting the effectiveness of the Metropolitan Community College Academic Integrity Training Course (MCC AITC). This objective was the cornerstone influencing the research design that included the creation of a treatment mechanism (AITC) consisting of five module quizzes, one pretest, two posttests (posttest₁, posttest₂), and various evaluation tools.

The MCC Business Administration Department was selected to pilot the AITC, and, for comparative purposes, the Social Sciences Department was also asked to participate. Using student rosters from eight classes (four Finance and four Psychology), 154 students were randomly assigned to either group WA or group WB. A total of 86 students completed the AITC that was conducted during the Spring 2008 academic quarter. Pearson chi-square tests reported no significant difference between participants and nonparticipants specific to group or class; T-tests, however, revealed there were statistically significant differences between groups (WA and WB) with respect to GPA, and classes (Finance and Psychology) specific to credits attempted and completed.

The AITC was delivered online using WebCT where students were provided limited accessibility (Day₁: 1 login per student; Day₁₄: 1 login per student). Once logged in, students were expected to finish the course requirements in their entirety (Day₁: pretest, modules 1–5, and posttest₁; Day₁₄: posttest₂). Estimated completion time on Day₁ was 90 minutes and on

Day₁₄ 10 minutes. Measurement instruments assessed learning based on three constructs: knowledge, understanding, and attitude. Numerous subscales were developed to evaluate the measurement instruments (pretest, module quizzes, and posttests) created to assess the constructs of knowledge, understanding, and attitude. Cronbach's alpha results indicated the use of the subscales developed to measure attitude were reliable measures; subscales created to measure knowledge and understanding, however, may not have been reliable. Similarly, results assessing the internal consistency of the individual module scores suggested these scales may also not have been reliable. As exploratory research, the cumulative module scale was considered reliable given a lower accepted cut-off value.

Data analysis tools also included the use of Pearson chi-square tests, T-tests, repeated-measures 2 x 2 x 3 ANOVA, and pairwise comparisons. Results from pretest and posttests suggest participation in the AITC did significantly enhance student knowledge and understanding of concepts and expectations of ethical behavior in the classroom; changes specific to knowledge, however, were not sustained over time. Research also revealed a statistically significant relationship between module quiz scores and correct responses to knowledge questions (posttest₁) as well as understanding questions (posttest₁, posttest₂). Further, analysis specific to module quizzes revealed participation in the AITC did significantly enhance student knowledge and understanding of potential penalties imposed given the occurrence of a violation as well as student understanding of the relationship between academic integrity and workplace integrity.

To encourage academic integrity, colleges and universities are creating courses and training programs detailing expected academic standards. With the exception of this study, it is believed no published empirical evidence supporting the reliability or validity of these

efforts exists. Although this study can be considered valid in that it provided evidence documenting the effectiveness of the AITC, threats and biases potentially undermining the validity of this study (e.g., statistical, construct, content, and internal validity) should be considered. Consequently, the reader is advised to review these findings in consideration of said limitations. Suggested future research efforts based on these findings include those addressing identified limitations as well as studies evaluating the long-term value of an academic integrity training course. Until further research is conducted, those in the academic community are left to question the real value of academic integrity training.

CHAPTER 1. INTRODUCTION

Challenges to ethical standards and questions of moral reasoning are recurring themes addressed throughout our nation. The word ethics—from the Ancient Greek word *ēthikos*, the adjective of *ēthos*—is defined as a set of moral principles (Merriam-Webster, 2007). From business to politics, reported in small town papers and investigated by large news organizations, details of the latest fraud allegations, grand jury indictments, and insider-trading convictions appear daily, leading some to believe America is experiencing an unprecedented moral free-fall (Davis, 2000). Morals, the principles one uses to determine correct conduct, are derived from a person's values, virtues, and cognitive skills (Blimling, 1998). Moral reasoning, the application of these moral principles or ethical standards, assists an individual in resolving ambiguous moral dilemmas (Forney, Forney, & Crutsinger, 2005). Ethical decision making leading to moral behavior is based on the resolution of these moral dilemmas (Elm, Kennedy, & Lawton, 2001).

In 2004, David Callahan, author and founder of Demos, a nonprofit and nonpartisan advocacy organization committed to the establishment of a fairer America (“About,” n.d.), released his book *The Cheating Culture: Why More Americans Are Doing Wrong to Get Ahead*. In the first chapter entitled “Everybody Does It” and throughout the body of the text, Callahan details scandals and crimes involving everyday citizens and well known celebrities such as Martha Stewart. Callahan continues to voice his concerns regarding the morality in America in his latest book *The Moral Center: How Progressives Can Unite America Around Our Shared Values* (2006), where he begins the text by stating:

You don't need to be a Bush voter or an evangelical Christian to be worried about the moral climate of America. You don't need to be upset by abortion or gay

marriage or sex-ed teachers putting condoms on bananas. You don't have to be up in arms about the influence of Charles Darwin in our schools or the absence of the Ten Commandments from our courthouses. You may have none of these concerns and yet still feel that something is deeply wrong with the values of America. (p. 1)

Based on statistics gathered from the World Values Survey (WVS), a research instrument used by a global network of social scientists to survey basic values and beliefs of individuals living throughout the world ("Organization," 2006), Wayne E. Baker, Professor of Management and Organizations at the University of Michigan, argues the crisis of values is not real but illusory. Using WVS data as the foundation for his book *America's Crisis of Values: Reality and Perception*, Baker (2005) states, "America is one of the most traditional societies in the world . . . [where] traditional values have remained relatively unchanged over two decades" (p. 62). Although Baker does not agree with Callahan's assessment of the current condition of values in America, he does indicate that the perception of a crisis as chronicled by scholars, journalists, and politicians is real (Baker, 2005).

Societal Implications

As society acquires and interprets information describing recent ethical and moral challenges, it selects and organizes details to create and shape a perception of reality. These beliefs, as reported by Gallup, Inc. in May 2007, indicate that of those surveyed:

1. Forty-four percent felt the overall state of moral values in America are poor.
2. Eighty-two percent believed the moral values in this country are getting worse.

("Moral Issues," 2007)

Gallup's statistics indicate both of these numbers have been steadily increasing over the last several years. Societal sentimentality may be influenced by findings of studies

including the *Teen Ethic Survey* conducted by Deloitte Services LP in 2007 in conjunction with Junior Achievement. Results indicate of those surveyed:

1. Twenty-four percent believe cheating on a test is sometimes acceptable.
2. Thirty-eight percent feel cheating, plagiarizing, lying, or violent behavior is sometimes required to succeed.
3. Fifty-four percent think their personal aspirations for success are the norm.
4. Seventy-one percent believe they are ready to make ethical decisions when they join the labor force. (“New National Poll,” 2007)

As indicated by Baker (2005) and described by Callahan (2004), this crisis—either real or perceived—has been detailed in national and local news media including television programs, Internet websites, and various print sources. Stories featuring prominent politicians and powerful business executives who have fallen from grace seem to appear daily, reinforcing public perception. Not limited to the profit-seeking sector, nonprofit entities including religious organizations and academic institutions have also seen their share of moral challenges.

A recent *Business Week* article entitled “Where Have All the Leaders Gone?” suggests the lack of trust the public has in elected officials stems from the nation’s inability to elect individuals who are motivated by service and humility as opposed to self-gain and ego aggrandizement (George, 2007). In the last several years, numerous politicians have been forced to resign as a consequence of unethical behavior. Such individuals include Representative Randy Cunningham (Republican, California), who pleaded guilty in November 2005 to criminal charges including tax evasions, bribery, and fraud (Citizens for Responsibility and Ethics in Washington, 2006); and House Majority Leader Tom DeLay

(Republican, Texas), who was indicted in September 2005 on a charge of criminal conspiracy (Smith, 2005). Public mistrust of elected leadership is not unique to the United States, as evidenced in Romania where the integrity of politicians is assessed using academic standards relative to plagiarism and intellectual theft (Stan & Turcescu, 2004).

Although typically not prosecuted, corporate crime inflicts more damage on American society than the combined cost of all street crimes (Mokhiber, 2007). High profile cases closely followed by the public and reported in the press include those involving WorldCom, Tyco International Ltd., and Enron. Bernard J. Ebbers, former Chief Executive Officer of WorldCom, was convicted in 2005 for his participation in an \$11 billion accounting fraud, the largest such fraud in U.S. history (Latour, Young, & Yuan, 2005). Dennis Kozlowski, former Chief Executive Officer of Tyco International Ltd., was found guilty on 22 counts including grand larceny and securities fraud related to his crimes, potentially costing the large conglomerate an estimated \$150 million (Maremont & Bray, 2005). Andrew Fastow, former Chief Financial Officer of Enron, pleaded guilty in 2004 to fraudulently manipulating publicly reported financial information of the world's largest energy giant. As required in his plea bargain, Fastow was compelled to forfeit a minimum of \$23.8 million of his personal assets and cooperate with authorities for the purpose of seeking future indictments against other participants ("Enron's Fastow," 2004).

Allegations of fraud are not limited to the corporate sector or only reported by large national news organizations as evidenced by the continuing coverage of the recently alleged financial improprieties involving Oral Roberts University (ORU), a Tulsa-based charismatic Christian university enrolling approximately 5,550 students ("Oral Roberts University," 2007). As reported by the *Tulsa World*, three ORU professors were terminated or resigned

after providing detailed evidence in a report accusing administration and members of the Roberts family of misappropriating school resources for personal benefit (Marciszewski, 2007). Continual coverage of this story by the *Tulsa World* may have led to President Richard Roberts' decision to step down on November 23, 2007. As Roberts explained to students on November 28, 2007, God spoke to him one week earlier telling him to resign (Hampton, 2007). The former ORU President did not mention any connection between his departure and a \$70 million contribution—contingent on a change in ORU top leadership—from Mart Green, Oklahoma businessman and son of Hobby Lobby founder, David Green (Hampton, 2007).

Ethical challenges like those at Oral Roberts University are not new to academics as indicated by journal articles such as “Corruption Plagues Academe Around the World” (*Chronicle of Higher Education*, 2002). Kekes (1996) identifies numerous ethical challenges taking place on campuses including unethical research practices and peer evaluation methods suggesting “American higher education is in a bad state” (p. 564). Similar to the exodus from corporate America, top collegiate leaders have seen their careers cut short due to allegations of ethical improprieties. In November 2004, the University of California announced the resignation of M. R. C. Greenwood, the Provost and Senior Vice President for Academic Affairs, amidst rumors she had engaged in improper hiring practices and associated conflicts of interest (“Stepping Down,” 2005). The Reverend Eugene R. Kole relinquished his position as President of Quincy University after it was discovered he had misrepresented his academic credentials by including degrees on his biography that he had never earned (CNN, 2002). Benjamin Ladner, President of the American University,

resigned after an audit revealed that improper personal and travel expenses estimated at \$125,000 had been charged to the University (Fain, 2005).

The American Association of University Professors (AAUP) outlines ethical expectations for professors in its *Statement on Professional Ethics (1987)*. These standards should be evaluated in consideration of the multifaceted roles of faculty in teaching, research, and service. Research has identified numerous examples of unethical faculty behavior including tardiness to class, use of vulgarity, plagiarism, failure to uphold administrative duties, and irresponsible teaching and research practices (de Russey, 2003, p. B20). The case of Pulitzer Prize winner Joseph J. Ellis appears to substantiate research indicating that ethics is not the focus of college faculty when engaging in daily tasks (Roworth, 2002). Professor of History at Mount Holyoke College and author of several bestselling books including *Founding Brothers*, historian Ellis was found to have fabricated his own personal history during classroom lectures by fictionalizing his military service and civil rights activities (Gorn, 2001).

In the article “Why Students Cheat,” published in the *Journal of Higher Education* in 1941, C. A. Drake reported that 23% of students cheated (p. 419). Drake, one of the first to study academic dishonesty, explained that variables affecting cheating included stress and the pressure to receive good grades. According to Hardy (2002), research conducted in recent years indicates media coverage as well as the actual occurrence of acts and actions associated with academic dishonesty has increased significantly on college campuses (Chidley, 1997; Hollinger & Lanza-Kaduce, 1996; Lupton, Chapman, & Weiss, 2000; Peyser, 1992). Cases of dishonesty involving well respected academic institutions and large student populations widely reported in the press in recent months include those occurring at

both the Air Force Academy and Florida State University (FSU). At the Air Force Academy in May 2007, 15 cadets were expelled, three resigned, and 13 others were placed on academic probation after either confessing or being found guilty of violating the Cadet Honor Code. After a lengthy investigation involving 265 cadets, the honor board at the Academy concluded the cadets had used the Internet to share test answers (“*15 Booted*,” 2007).

In a similar event, the Office of Audit Services at Florida State University completed a six month internal investigation in September 2007 involving 23 student-athletes. Allegations focused on athletic department tutors who supposedly provided the athletes with answers to online tests during the 2006–2007 academic year. As student-athletes, those involved faced disciplinary actions from FSU, as well as from the National Collegiate Athletic Association (NCAA) upon notification of the investigation results (Carter, 2007).

Accountability

The Family and Consumer Sciences Curriculum Handbook (Laster & Johnson, 2001) identifies six major trends in Family and Consumer Sciences (FCS) including “teaching for personal and socially responsible action” (p. 3). This movement involves the use of real-life issues encouraging students to draw upon moral and ethical resources as they critically reflect on the potential consequences of their actions and behaviors. To create intellectual and moral leaders and to foster the development of personal and social responsibility, FCS teachers are advised to stimulate moral imaginations encouraging students to examine the context of various ethical issues allowing moral dimensions to emerge (pp. 7–8). In consideration of this trend, it is helpful to explore the tradition and precedence associated

with the teaching of morals and character education defined by Lickona (1991) as “knowing the good, desiring the good, and doing the good” (p. 51).

Historical evidence suggests the primary social institutions charged with character education included the home, the church, and the school (Lickona, 1991). McClellan (1999) provides a historical perspective of moral education in the school in Colonial America where children were taught to read and write in daily lessons steeped in moral imagery and where teachers were expected to cite and interpret Scripture when reinforcing the moral lessons taught in the home (p. 6). As Stokes (1950) details, by the mid 1800s many states had passed laws prohibiting sectarian teaching in public schools (pp. 491–523); Mann (2004) suggests, however, that at this time moral character was still expressed as a distinctively Christian doctrine (pp. 178–190). Historical accounts of the early 1900s indicated the Bible was read regularly in the majority of American public schools (Stokes, pp. 549–584; Michaelsen, 1970, pp. 134–159). Two landmark Supreme Court cases served to significantly change the landscape of character education: *Engel v. Vitale* (1962) that outlawed school-sponsored prayer, and *Abington School District v. Schempp* (1963) that prohibited mandatory Bible reading. After legislation resulting from these court decisions, character education adopted a more secular emphasis with the creation of values clarification programs (Raths, Merrill, & Sidney, 1966, pp. 1–14) and the introduction of the Kohlberg model of morality (Krebs & Denton, 1997).

The Character Education Partnership (CEP), a nonprofit, nonpartisan, and secular organization created for the purpose of promoting character development programs directed to K–12 students (“History,” 2005), defines character education as “knowing, caring about, and acting upon core ethical values such as caring, honesty, fairness, responsibility, and

respect for self and others” (“Defining and Understanding,” 2005). Character education has gained momentum through private and public efforts resulting in the creation of numerous programs and organizations such as the CEP. In the public sector, almost half the states have laws mandating the inclusion of character education materials in the general curriculum (Glanzer & Milson, 2006). In analysis of this trend, Lickona (1993) suggests character education—the “central desirable outcome of the school’s moral enterprise” (p. 6)—is making a comeback in schools throughout the nation. In Family and Consumer Sciences, many teachers agree character education can and should be incorporated in curriculum (Sewell & Hall, 2003). Many of the character education initiatives and much of the research advancing the educational enterprise of ethics are focused on the K–12 population (Berkowitz & Fekula, 1999; de Russey, 2003; Schwartz, 2000) leaving one to question the role of universities and colleges in creating moral character.

The view of colleges and universities as educational communities charged with the cultivation of moral character is not a new paradigm. Aristotle advanced this dialogue when he questioned if the concern of education should be intellectual or moral virtue (McKeon, 1941). Martin Luther King, Jr. (1948) argued that the purpose of education included both a utilitarian and a moral function when he stated, “We must remember that intelligence is not enough. Intelligence plus character—that is the goal of true education” (para. 6). Although some college and university educators might argue the role of character education on campus and might resist applying concepts in their own classrooms (Schwartz, 2000), many of the oldest and most prestigious institutions were founded on the precept of duality where intellectual virtues and moral virtues were seen as integral and inseparable components in the educational process (Yanikoski, 2004).

The minimization of moral virtue in favor of intellectual development during the late 1800s and early 1900s can be linked to a number of educational trends and societal factors (Yanikoski, 2004). During this period, there was a migration from classical curriculum and a movement toward the compartmentalization of curriculum as American institutions of learning began to adopt the German university model. With increased emphasis placed on educational research, faculty embraced scientific methodology and—with the emergence of national scholarly societies—began to shift loyalties away from the institution. Societal factors included a narrowing of specializations led by professional interests and the growth in enrollments of both traditional and nontraditional student populations (p. 9).

In the last several years, there has been a reemergence of interest in character education in higher education. When reviewing the importance of character development, Dahlin and Abbot (1999) discuss the responsibility of the university in educating the whole person (p. 204). Berkowitz and Fekula (1999) report “our schools are not adequately serving the moral development needs of our society and citizens” (p. 17). In his text, *Academic Ethics*, Hamilton (2002) characterizes the function of academics as a profession possessing a social contract with society whereby participants in the profession agree to uphold a number of standards including those specific to performance and ethics (p. 3). In exchange for this vigilance, society allows the profession to self-regulate and enjoy substantial autonomy. Berube (1996) notes public criticism of higher education in America has been increasing, suggesting faculty are not exempt from the cultural climate creating distrust of politicians and other professionals (p. 12). Hamilton (2002) suggests a requisite element necessary to the creation of a culture of integrity is the development of a code of ethics (p. 3).

Academic Implications

Berkowitz and Fekula (1999) identify the five elements of postsecondary character education as: (a) teaching about character, (b) displaying character, (c) demanding character, (d) practicing character, and (e) reflecting on character (p. 19). The authors suggest that demanding character involves the enforcement of policies and behaviors including a code of conduct—or academic integrity code—characterized as an integral component for promoting character development (p. 21). Timothy M. Dodd, Executive Director of the Center for Academic Integrity (CAI), characterizes an academic integrity code as a vehicle used to shape institutional dialogue around fundamental values, thus creating a culture of “trust, honesty, fairness, responsibility, respect, courage, and empathy” (“Honor Code 101,” 2007). Research also indicates the existence of such a code serves to encourage academic integrity (Fishbein, 1994; McCabe, 1993; McCabe & Trevino, 2002) and holds the greatest promise in reversing the trend of academic dishonesty (Hollinger & Lanza-Kaduce, 1996; McCabe & Trevino, 1993; Sims, 1993).

The first honor code in this country is believed to have been created as part of a student government experiment at the University of Virginia in the 1800s. By 1915, approximately 123 institutions in the U.S. were employing some sort of honor system (Brubacher & Willis, 1976). Whitley (1998) identifies colleges and universities with honor codes as “those in which students pledge to abide by [the] code that specified appropriate and inappropriate academic behavior and in which students are responsible for administering and enforcing the code” (p. 29). McCabe, Trevino, and Butterfield (2002) describe traditional honor codes as featuring four components: (a) Code of Ethics—a written policy/pledge of academic honesty; (b) Judiciary Process—a process that includes student

involvement concerning alleged acts of academic dishonesty; (c) Examinations—exams that are not proctored; and (d) Student Vigilance—an environment where students are responsible for reporting acts of academic dishonesty (p. 362).

Dufresne (2004) states that when designing codes of conduct, academic institutions must consider the tradition and culture of the student body. Berkowitz and Fekula (1999) suggest this code should be widely publicized, offer a training component, and be judicially enforced (p. 21). Further studies (Fishbein, 1994; McCabe, 1993) indicate the code should be collaboratively created, understood by a wide population, and endorsed by institutional interests (administration, faculty, students, etc.). McCabe and Trevino (2002) state the two critical elements determining the success of an academic integrity code involve effective communication of the code and judicial application (p. 37). Research indicates many institutions do not have clear and accessible academic integrity codes (McCabe & Drinan, 1999). Consequently, these educational institutions are missing an opportunity to utilize an honor code as a tool to teach professional ethics (Kidwell, 2001).

In an optimal environment, citizens would act morally responsible by demonstrating integrity and ethics and by minimizing the negative consequences and costs associated with illegal and unethical behavior. Current public perception indicates that academic and workplace communities are functioning at a threshold far from optimal. Consequently, individuals and families are not empowered to manage the challenges of living and working in a diverse society. Therefore, reform efforts that serve to integrate policies strengthening individuals and families should be considered. Brown and Paolucci (1979) suggest the mission of Family and Consumer Sciences includes empowering individuals and families to build systems of action and to encourage shared participation when assessing and devising

social goals (pp. 46–47). *The Family and Consumer Sciences Curriculum Handbook* (Laster & Johnson, 2001) identified the integration of family and consumer sciences in education reform as one of the major trends in FCS. Lichty and Johnson (2006) indicate these changes are needed as Family and Consumer Sciences focuses on the issues currently impacting families. Moreover, studies evaluating how the Family and Consumer Sciences curriculum is organized and presented reveal tomorrow's workforce will not be appropriately educated unless changes are made (Ward & Lee, 2002). As Pickard (2003) noted, input from the public, including business and industry, serves to guide curriculum changes. As a socially and morally oriented discipline (Vincenti, 2004) committed to the well-being of the peoples and populations served, it is critical Family and Consumer Sciences professionals take a leadership role in the encouragement and establishment of such educational reform that may serve to potentially improve the moral disposition of citizens (p. 67).

Research Objectives

Through the creation and facilitation of an Academic Integrity Training Course (AITC) at Metropolitan Community College (MCC) in Omaha, Nebraska, it is believed today's students will be provided a chance to embrace the concepts and expectations of ethical behavior in the classroom. Consequently, students will be afforded the opportunity to establish behaviors and attitudes that can be taken into the workplace and used to ethically advance their professional pursuits. These quality character building experiences can provide tomorrow's workforce the expertise necessary to make honest and informed decisions while participating as morally responsible citizens. Given the importance of academic honesty and the relationship between academic integrity and workplace integrity

(Nonis & Swift, 2001), MCC envisions sharing the content and structure of the AITC with any interested academic institutions.

The research reported in this dissertation evaluates the effectiveness of the Metropolitan Community College AITC. It is hypothesized that participation in this customized academic integrity training course may enhance student knowledge, understanding, and attitudes specific to concepts and expectations of ethical behavior in the classroom. Further, it is hypothesized such enhancements may be sustained over a period of 14 days. Additional objectives of the study include determining student understanding and awareness of: (a) the MCC Student Code of Conduct, (b) academic dishonesty specific to behaviors considered to be unacceptable in an educational environment (e.g., plagiarism and cheating), (c) potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct, (d) the relationship between academic and workplace integrity, and (e) proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct.

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CHAPTER 2. REVIEW OF LITERATURE

The literature search strategy focused on four methods to locate relevant research: (a) computerized searches, (b) reference list reviews, (c) dissertations and theses evaluations, and (d) academic journal article assessments. First, electronic searches included utilizing EBSCO Host Research Databases to locate articles published in scholarly peer-reviewed journals and the Educational Resources Information Service (ERIC) to identify online digital library resources. Terms employed when searching the databases included: academic integrity, academic dishonesty, cheat*, honor code, and plagiar* (the asterisk initiates a search of the stem where the “*” designates a wild card representing one or more characters in the search term). Second, reference lists of literature reviews included in Murdock and Anderman (2006), Whitley (1998), and Crown and Spiller (1998) articles were resourced to find studies not identified by electronic searches. Third, the interdisciplinary database at ProQuest was accessed to locate dissertations and theses germane to the topic of academic integrity. Finally, to identify relevant and recent publications, issues of the *Journal of Family and Consumer Sciences*, *Chronicle of Higher Education*, *Research in Higher Education*, *Journal of Educational Research*, and *Journal of Educational Psychology* were reviewed.

Definitions of major terms utilized throughout the body of this work are provided at the beginning of this review followed by a discussion of early literature focused on academic integrity. Studies exploring the relationship between workplace and academic integrity are then examined. Research concentrated on individual characteristics associated with academic integrity is then reviewed followed by a discussion of studies exploring various violations of academic integrity and a summary of measures used to detect and deter

academic dishonesty. Finally, an examination of literature exploring the similarities between a corporate code of ethics and academic honor code is presented.

The subject of research studies for many decades (Crown & Spiller, 1998; Etter, Cramer, & Finn, 2006), academic integrity is described by the Center for Academic Integrity (CAI) as an adherence to the fundamental “values of the academic process including honesty, trust, fairness, respect, and responsibility” (“Fundamental Principles,” n.d.). Early twentieth century research, focused primarily in the areas of education and educational psychology (Cummings & Romano, 2002), included correlative studies investigating cheating tendencies of students (Harthshorne & May, 1928) and comparative studies of honor systems and proctor exams (Campbell, 1931). In the early 1960s, Bill Bowers conducted a landmark survey asking students from 99 different university campuses to admit to questionable activities including unauthorized collaboration and copying answers during an exam (as cited in McCabe & Trevino, 1996). Of the 5,000 students surveyed, three out of four admitted they had engaged in one or more forms of academic dishonesty including cheating and plagiarism.

Based on the Library of Congress Subject Headings (Library of Congress Authorities, 2007), the following terms can be Used For (UF) cheating: *academic dishonesty*, *cheating in education*, *cheating in school*, *student cheating*, and *student dishonesty*. According to Kibler (1993), academic dishonesty can be defined as “forms of cheating and plagiarism that involve students giving or receiving unauthorized assistance in an academic exercise or receiving credit for work that is not their own” (p. 253). Cizek (2003) defines cheating as:

[A]ny action that violates the established rules governing the administration of a test or the completion of an assignment; any behavior that gives one student an unfair advantage over other students on a test or assignment; or any action that decreases the accuracy of the intended inferences arising from a student's performance on a test or assignment. (p. 3–4)

Nuss (1988) defined plagiarism as “the deliberate adoption or reproduction of ideas or words or statements of another person as one's own without acknowledgement” (p. 2).

Over the last several years, academic dishonesty has been the subject of various news magazine shows including ABC's *20/20* (Stossel, 2004) and *Primetime* (Gibson, 2004); the topic of numerous books such as *Cheating on Tests: How to Do It, Detect It, and Prevent It* (Cizek, 1999) and *Student Cheating and Plagiarism in the Internet Era* (Lathrop & Foss, 2000); and the theme of a number of Hollywood productions including *The Emperors Club* and *Cheaters*. Also the impetus behind the creation of the *International Journal for Educational Integrity* (Cohen, 2006), academic dishonesty has been the focus of hundreds of journal articles providing information on cheating and plagiarism specific to countries and cultures, as well as schools and students. Evidencing the global nature of this problem, the *Chronicle of Higher Education* has featured stories detailing cheating in numerous nations including Canada (Birchard, 2006), China (Mooney, 2004; Xueqin, 2002), the Philippines (Overland, 2006), and South Korea (Brender, 2004). Reviewing cross-cultural patterns related to academic dishonesty, Burns, Davis, Hoshino, and Miller (1998) suggest the form and frequency of associated behaviors may vary significantly from country to country. Other studies focused on schools describe cheating in small schools (Dawkins, 2004), rural schools (Robinson, Amburgey, Swank, & Faulkner, 2004), middle

schools (Evans & Craig, 1990; Ma, Wan, & Lu, 2008), high schools (McCabe, 1999; Schab, 1991; Taylor, Pogrebin, & Dodge, 2002), community colleges (Foster & Read, 2006; Moeck, 2002; Smyth & Davis, 2003) as well as undergraduate (Franklyn-Stokes & Newstead, 1995) and graduate programs (Mangan, 2006; Wasley, 2006). Research analyzing students who engage in academically dishonest behavior also details these activities in particular fields of study where engineering students have been the focus of numerous articles presenting issues involving plagiarism and cheating (Duff, Rogers, & Harris, 2006; Parameswaran & Devi, 2006), as have medical (Elzubeir & Rizk, 2003; Semerci, 2006; Sierles, Hendrickx, & Circle, 1980) and business students (Iyer & Eastman, 2006; Lupton, Chapman, & Weiss, 2000; Rakovski & Levi, 2007). Other studies include academic dishonesty issues associated with students studying education (Daniel, Blount, & Ferrell, 1991; Love & Simmons, 1998), psychology (Hetherington & Feldman, 1964), information technology (Sheard, Markham, & Martin, 2003), and pharmaceutical sciences (Austin, Simpson, & Reynen, 2005). Only a limited number of studies can be identified exploring the relationship between cheating in the classroom and cheating in the workplace.

Relationship between Workplace Integrity and Academic Integrity

Workplace integrity has been the topic of public discourse for many years. In a speech given to the American Sociological Society and the American Economic Association, criminologist and sociologist Edwin Sutherland coined the term *white-collar crime* which he defined as “a crime committed by a person of respectability and high status in the course of his occupation” (as cited in Geis, 1994, p. 33). Sutherland explained that

white-collar crime differed from “street” crime in that street crime was committed by the poor whereas white-collar crimes were committed by the non-poor. He argued that white-collar crime costs society more than street crime. The year was 1939.

The Association of Certified Fraud Examiners (ACFE), a nonprofit organization whose mission is to reduce the incidence of white-collar crime and fraud, defines occupational fraud in the *2006 Report to the Nation on Occupational Fraud and Abuse* as “the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets” (2006, p. 6). The ACFE first published this report in 1993 detailing fraud and abuse costs to U.S. organizations of more than \$400 billion annually. In 2006, the ACFE released the *2006 Report to the Nation on Occupational Fraud and Abuse* expanding and updating the effects of occupational fraud. This report is based on 1,134 cases of occupational fraud as reported by Certified Fraud Examiners and represents the largest and most current study on the subject of white-collar crime and fraud in our nation (p. 4). In this report, the ACFE estimates the cost of fraud and abuse to U.S. organizations is now \$652 billion annually, an increase of 63% over a twelve year period (p. 4). Based on information from the U.S. Census Bureau, this is equal to almost \$6,000 per household.

Given the information in the *2006 Report to the Nation on Occupational Fraud and Abuse*, the *typical* white-collar criminal can be described as an educated white male, over the age of 40 and with no criminal background. He is most likely an employee of the organization he victimizes, and the losses he causes are directly related to his position in the company (the higher the position, the greater the loss) and the length of time he has worked for the company (the longer his tenure, the greater the loss). Approximately 60% of the

cases described involve a single perpetrator inflicting a loss of approximately \$100,000; when collusion is involved, however, the median loss to the company increases to \$485,000.

Statistics from the National White Collar Crime Center, a nonprofit corporation funded by the U.S. Congress, indicate in its most recent *National Public Survey on White Collar Crime* (Kane & Wall, 2005) almost half the households surveyed considered themselves victims of one or more forms of white-collar crime in the previous year. These crimes included price fraud, credit card scams, and national corporate crimes. Calling for increased government efforts to combat these offenses, respondents indicate white-collar crime is more serious than other traditional types of crime and suggest the misdeeds of high-status offenders are more egregious than those carried out by non-status persons (p.14).

Similar to the increased reports of fraud and abuses perpetrated by the white-collar criminal, actions associated with academic dishonesty have increased significantly in the last several years (Chidley, 1997; Hollinger & Lanza-Kaduce, 1996; Lupton et al., 2000; Peyser, 1992) encouraging some scholars to question the relationship between workplace and academic dishonesty. One of the first to explore this subject was Sims (1993) who examined the relationship between the dishonest behaviors students engaged in as undergraduates compared to the dishonest behaviors they engaged in once employed. Based on results from surveys administered to 60 graduate students employed in the workforce, Sims determined there is a positive relationship between academic and workplace dishonesty as measured by both the range and severity of admitted unethical practices. Noting the similarity between the reasons provided for workplace and academic dishonesty, Sims suggests students who feel dishonesty is appropriate in college have a tendency to believe such behavior is

acceptable in the workplace. He also contends the consequences of dishonest behaviors are not confined to the classroom but spill over into the workforce; thus, reducing academic dishonesty in college will reduce the cost of dishonesty in the workplace.

Ogilby (1995) also questions if academic dishonesty was a precursor to workplace dishonesty. Reviewing the results of a scenario analysis involving 54 juniors and seniors enrolled in accounting, Ogilby concludes students do believe there is a relationship between academic and workplace dishonesty. Continuing this investigation, Nonis and Swift (2001) questioned 1,051 business students in six universities to determine their beliefs regarding academic dishonesty and to ascertain if students who engage in these behaviors in college are likely to continue dishonest activities in the workplace. The results of this study indicate students are more likely to commit acts of academic dishonesty if they feel it is acceptable behavior, and students who behave dishonestly in college are likely to behave dishonestly in the workforce. Affirming the findings of Nonis and Swift (2001), Sierles et al. (1980) identify a disturbing continuum involving students who cheat in medical school and take these unethical behaviors into professional practice by continuing to cheat with patient care. Michaels and Miethe (1989) suggest students who exhibit behaviors associated with cheating for the purpose of receiving institutional rewards may generalize these activities to other organizational settings including business, industry, and government. Nonis and Swift (2001) state such results indicate there is a need for moral training in colleges and universities.

Studies exploring how students feel about cheating provide interesting insight. After analyzing the results of 237 surveys administered to undergraduate and graduate students, Lawson (2004) describes students' feelings about cheating as "paradoxical." He indicates

that although most students are bothered by current cheating in their classes, the vast majority of those surveyed admit to engaging in similar activities in the past. Further, respondents believe it may be necessary to act unethically in the workplace to advance their careers. Research conducted by Smyth and Davis (2004) analyzing perceptions of dishonesty relative to academic and workplace dishonesty suggests even though students believe cheating is unethical, 45% feel it is socially acceptable.

There is considerable research advancing the premise that students who feel academic dishonesty is an acceptable norm are more likely to cheat (Beck & Ajzen, 1991; Bunn, Caudill, & Gropper, 1992; Devries & Ajzen, 1971; Enker, 1987; Forsyth & Berger, 1982; Genreux & McLeod, 1995; Graham, Monday, O'Brien, & Steffen, 1994; Haines, Diekhoff, LaBeff, Clark, Williams, Francis, & Haines, 1996; Lanza-Kaduce & Klug, 1986; Liska, 1978; McCabe & Trevino, 1993; Michaels & Miethe, 1989; Sherrill, Salisbury, Horowitz, & Friedman, 1971; Smith, Ryan, & Diggins, 1972; Stevens & Stevens, 1987; Whitley, 1996). Given a positive relationship between academic and workplace integrity (Nonis & Swift, 2001; Ogilby, 1995; Sims, 1993), coupled with students' beliefs that cheating is a socially acceptable behavior (Smyth & Davis, 2004) and a necessary activity in the workplace (Lawson, 2004), it logically follows that an increase in acts and actions associated with academic dishonesty (Chidley, 1997; Hollinger & Lanza-Kaduce, 1996; Lupton et al., 2000; Peyser, 1992) can result in an increase in fraud and abuses perpetrated by white-collar criminals.

In 1993, the Office of Research in the U.S. Department of Education issued a report (Maramark & Maline, 1993) addressing questions and describing concerns about academic dishonesty in higher education. In this report, the authors asserted the role of colleges and

universities is not just to instruct but to also participate in the moral development of students. In consideration of this objective, it is helpful to understand the factors associated with academic dishonesty.

Individual Factors Associated with Academic Dishonesty

Since the early studies (Bowers, 1964; Campbell, 1931; Drake, 1941; Harthshorne & May, 1928) of academic dishonesty were initiated, hundreds of journal articles have been published examining the causes and consequences of cheating. Past research has analyzed academic dishonesty from the perspective of individual and contextual factors as well as demographic, affective, and cognitive variables. The characteristics and methodology of this work is vast and diverse with some studies using large sample sizes involving thousands of participants (Bowers, 1964; McCabe 1993) and others working with less than 100 participants (Malinowski & Smith, 1985; Sims, 1993). Although the majority of these studies were based on research conducted with college and university students, some studies (e.g., Anderman, Griesinger, & Westerfield, 1998; Gross, 1946; Schab, 1991) focused on a K–12 environment. Many of these studies have relied on self-reports where students complete anonymous surveys and questionnaires asking them to disclose cheating behaviors and tendencies. Although the reliability and validity of studies based on this methodology have been the focus of research (Lanza-Kaduce & Klug, 1986) due to underreporting associated with anonymous questionnaires (Kerkvliet, 1994; Scheers & Dayton, 1987), direct question surveys remain the most predominant means of collecting data (Bunn et al., 1992; Franklyn-Stokes & Newstead, 1995; Genereux & McLeod, 1995; Kerkvliet, 1994; Michaels & Miethe, 1989).

Academic dishonesty research can be delineated as studies describing individual characteristics including demographics, background, parental influence, workload, academic attributes, extracurricular activities, personality characteristics, interpersonal process, behaviors and goals, morals and ethics, perceptions, and risk and return. In the interest of future research, and for the convenience of the reader, the individual factors associated with academic dishonesty, as discussed in this text, have been systematically organized in Tables 1–9. As illustrated in Table 1, demographic factors associated with academic dishonesty include individual characteristics of the student such as age, gender, ethnicity, marital status, and living arrangements. Numerous studies indicate students who are younger may be more likely to engage in academically dishonest behaviors as compared to older students (Cochran, Chamlin, Wood, & Sellers, 1999; Dawkins, 2004; Diekhoff et al., 1996; Faulkender, Range, Hamilton, Strehlow, Jackson, Blanchard, & Dean, 1994; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; McCabe & Trevino, 1997; Rawwas & Isakson, 2000; Robinson et al., 2004; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999). Studies analyzing cheating and sex-based differences have provided conflicting results with some indicating men are more likely to engage in academically dishonest behaviors as opposed to women (Aiken, 1991; Baird, 1980; Calabrese & Cochran, 1990; Davis, Noble, Zak, & Dreyer, 1994; Dawkins, 2004; Erickson & Smith, 1974; Fakouri, 1972; Faulkender et al., 1994; Huss, Curnyn, Roberts, Davis, Yandell, & Giordano, 1993; Jackson, Furnham, Levine, & Burr, 2002; McCabe & Trevino, 1997; Michaels & Mieth, 1989; Roth & McCabe, 1995; Smith et al., 1972; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999). Other research suggests females are more likely to cheat as compared to males (Graham et al., 1994; Kerkvliet, 1994). Specific to gender, Leming

(1980) indicates females cheat more than males in environments where the risk of detection is low. His research also concludes the threat of sanctions is a more effective deterrent with females as opposed to males. Similarly, Jacobson, Berger, and Millham (1970) suggest females with a lower expectancy of success, lesser aspirations, or inferior levels of social desirability, as compared to their male counterparts, tend to cheat more. Finally, other studies indicate there is no correlation between cheating behavior and gender (Faulkender et al., 1994; Genereux & McLeod, 1995; Haines et al., 1986; Houston, 1983b; Karabenick & Srull, 1978; May & Loyd, 1993; Perry, Kanen, Bemesser, & Spicker, 1990). Although demographic information describing the relationship between academic dishonesty and factors such as age and gender is plentiful, there is limited research exploring ethnicity and cheating. Only one empirical study could be located on this topic with the results suggesting Caucasian students are more likely to self-report cheating as opposed to Asian and Hispanic students (Calabrese & Cochran, 1990). Marital status and living arrangements have also been found to be related to cheating behaviors with three studies suggesting married students are less likely to cheat as compared to unmarried students (Diekhoff et al., 1996; Haines et al., 1986; Vowell & Chen, 2004). Research also indicates students living on the college campus, as opposed to students living off campus, are more likely to engage in academically dishonest behaviors (Dawkins, 2004; Graham et al., 1994).

Studies have been conducted exploring the relationship of cheating and background including factors such as affluency, public vs. private school attendance, and arrest record (Table 2). Calabrese and Cochran (1990) and Cochran et al. (1999) suggest students likely to conduct themselves dishonestly include those with a more affluent background and those who have attended private schools as opposed to public schools. This same study confirmed

earlier findings (Heisler, 1974) indicating students who have previously been taken into custody are more likely to cheat as opposed to those with no arrest record.

Research indicates a relationship between cheating and parental influence specific to financial support received from parents, the educational background of the parents, and parental pressure. Academic dishonesty was positively related to the amount of financial support received from parents (Diekhoff et al., 1996; Graham et al., 1994; Haines et al., 1986), level of parental education (Kerkvliet, 1994; McCabe & Trevino, 1997), and parental pressure (Bennett, 2005; Schab, 1991; Smith et al., 1972). Studies do not indicate a relationship between academic dishonesty and the marital status of parents (Calabrese & Cochran, 1990).

Although research suggests cheating is related to a student's workload—both academic and nonacademic—the findings of the following studies are contradictory. With respect to nonacademic workload, Haines et al. (1986) propose students who cheat tend to work few if any hours; Diekhoff et al. (1996) indicate there is a negative correlation between cheating behaviors and the number of hours per week a student works. Other research suggests students who feel working is more important than studying—or believe they do not have time to study—may be willing to cheat (Barnes, 1975; Vowell & Chen, 2004). In reference to academic workload, Cizek (1999) states students might be willing to cheat if they perceive their academic workload is too heavy.

As illustrated in Table 3, academic attributes associated with cheating include the year in college, major, intelligence, grades, scholarship recipient, class attendance, required course, task performance, dislike of school, past cheating practices, observed cheating, collaboration, study conditions, and study time. Research investigating the relationship

between academic dishonesty and a student's year in college or classification (e.g., freshmen, sophomore, etc.) provide mixed results. Although some studies indicate freshmen and sophomores tend to cheat more frequently than juniors and seniors (Baird, 1980; Dawkins, 2004; Kerkvliet, 1994; Underwood & Szabo, 2003), others (Barnes, 1975; Vowell & Chen, 2004) suggest students who are close to graduating may be more likely to cheat. Further, other research reports there is no relationship between the number of years the student has been in college and cheating (Haines et al., 1986; Tibbetts, 1998).

Academic dishonesty may also be related to a student's major field of study, intelligence, and grade point average (GPA). Studies suggest students who are majoring in business are more likely to cheat as compared to students enrolled in other majors (Smyth & Davis, 2004; Zimmerman, 1999). Baird (1980) confirms these results indicating business students tend to cheat more than students majoring in education or liberal arts. Examining the relationship between cheating and intelligence, both Gross (1946) and Hoff (1940) conclude more intelligent students are less likely to cheat as compared to less intelligent students. Using grade point average as proxy for academic aptitude, the majority of research suggests there is an inverse relationship between academic achievement and dishonesty (Antion & Michael, 1983; Baird, 1980; Barnes, 1975; Bennett, 2005; Bronzaft, Stuart, & Blum, 1973; Bunn et al., 1992; Cochran et al., 1999; Diekhoff et al., 1996; Finn & Frone, 2004; Genreux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; Kerkvliet & Sigmund, 1999; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Mixon, 1996; Robinson et al., 2004; Scheers & Dayton, 1987; Smith et al., 1972; Tibbetts, 1998). Other studies suggest there is no relationship between cheating and academic achievement as measured by GPA (Houston, 1986b; Kerkvliet, 1994; Singhal, 1982).

Other studies exploring grades and scholarship focus on pressure to achieve grades, competition for grades, grades as a motivator to cheat, and scholarship recipients. Studies indicate students who perceive external pressure to make good grades and fear they might not fulfill this expectation may be willing to cheat (Davis, Grover, Becker, & McGregor, 1992; Houston, 1976b; Michaels & Miethe, 1989; Schab, 1991; Smith et al., 1972). Similarly, students who feel they are competing for grades may be willing to cheat (Perry et al., 1990; Schab, 1991; Singhal, 1982; Smith et al., 1972). Research indicates students who are motivated by grades as opposed to the learning process may be willing to engage in academically dishonest behaviors (Anderman et al., 1998; Davis et al., 1994; Haines et al., 1986; Huss et al., 1993; Robinson et al., 2004; Weiss, Gilbert, Giordano, & Davis, 1993). Further, scholarship recipients may cheat in an effort to obtain necessary grades to maintain scholarship standing (Diekhoff et al., 1996; Haines et al., 1986).

Research examining the relationship between cheating and academic attributes also includes studies exploring class attendance, task performance, required coursework, and a dislike of school. Only one study (Michaels & Miethe, 1989) could be identified examining the relationship between cheating and class attendance. Results of this research indicate there is an inverse relationship between cheating and class attendance where students who have good attendance records are less likely to cheat. Comparable to those students who cheat as a consequence of perceived grade pressures, research indicates a positive relationship between cheating and task performance or the completion of a particular task or course assignment such as a test (Gardner, Roper, Gonzalez, & Simpson, 1988; Malinowski & Smith, 1985; Millham, 1974). Similar to a mandatory task, students may be more likely to cheat in a required course as opposed to an elective (Barnes, 1975). Finally, students who

express a dislike of school may be more inclined to cheat as compared to students who enjoy school (Calabrese & Cochran, 1990; Robinson et al., 2004; Vowell & Chen, 2004).

Studies have also provided insight into the relationship between academic dishonesty and past cheating practices, the tendencies of students who have observed others cheating, and collaboration. Research identifying cheating as a behavior pattern suggests those students who have cheated in the past at lower academic levels, in either high school or other college classes, may be more likely to cheat again (Davis et al., 1994; Nonis & Swift, 1998, Sierles et al., 1980; Sims, 1993; Tibbetts, 1998; Ward & Tittle, 1993). Research suggests as well that students who have observed others cheating are more likely to cheat (Bunn et al., 1992; Mixon, 1996). Similarly, Houston (1986a) concludes there is a positive relationship between willingness to engage in collaborative cheating and the degree of acquaintanceship where students who are encouraged or assisted by others they know may be willing to cheat (Michaels & Miethe, 1989). Acquaintanceship has been linked to cheating in that students who associate with other students who cheat may be more willing to engage in similar behaviors themselves (Mixon, 1996).

Research investigating the relationship between cheating and study habits focuses on study conditions and study time, investigating issues specific to both the quantity and quality of study. This research indicates there is an inverse relationship between the quality of study conditions—including study skills—and academic dishonesty (Bennett, 2005; Houston, 1976c, 1986b). Findings reviewing the relationship between cheating and time spent studying provide mixed results with some research indicating there is a negative relationship between the quantity of time a student spends studying and cheating, where students who

spend more time studying or feel they have had enough time to study are less likely to cheat (Haines et al., 1986; Michaels & Miethe, 1989; Robinson et al., 2004; Schab, 1991; Smith et al., 1972; Vowell & Chen, 2004). Other research suggests there is no relationship between cheating and study time (Kerkvliet, 1994).

Individual factors associated with academic integrity (Table 4) also include extracurricular activities such as membership in fraternities and sororities, participation in intramural sports, consumption of alcohol, socialization, and television viewing. All of these activities are found to have an inverse relationship with academic honesty. Numerous studies indicate there is a positive relationship between academic dishonesty and membership in fraternities and sororities (Baird, 1980; Diekhoff et al., 1996; Haines et al., 1986; Kerkvliet, 1994; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Robinson et al., 2004; Storch & Storch, 2002). Cheating has also been found to be directly correlated with participation in intramural and varsity sports (Diekhoff et al., 1996; Haines et al., 1986; McCabe & Trevino, 1997). Similar studies suggest a positive relationship between cheating and alcohol consumption (Kerkvliet, 1994; Kerkvliet & Sigmund, 1999) as well as socialization including informal networking and club activity (Dawkins, 2004; Pino & Smith, 2003; Vowell & Chen, 2004). Comparable to findings suggesting socialization serves to distract student focus, research indicates students who watch too much television may engage in procrastination behaviors conducive to cheating (Pino & Smith, 2003).

Personality characteristics (Table 4) related to academic dishonesty include self-esteem, self-efficacy, locus of control, tolerant, relativistic, and idealistic. Research examining the relationship between cheating and self-esteem provides divergent results based on the gender of the student where there is no apparent relationship between a male's

esteem and cheating behavior; findings indicate, however, there is a positive relationship between cheating behavior and esteem for females where those with high esteem as opposed to low esteem are less likely to cheat (Ward, 1986). Not delineating between sexes, studies indicate an inverse relationship between efficacy and cheating where students with low self-efficacy (Evans & Craig, 1990) or diminished academic-efficacy (Finn & Frone, 2004; Murdock, Hale, & Weber, 2001) may be likely to cheat. Similarly, there appears to be some relationship between locus of control and cheating where students with an external locus of control—who feel the outcome is a function of outside forces—may be more likely to cheat as compared to students with an internal locus of control who feel the outcome is determined by their actions (Davis et al., 1994; Forsyth & Berger, 1982; Karabenick & Srull, 1978). One study did contradict these findings, however, indicating the construct of locus of control is not correlated with cheating (Antion & Michael, 1983). Rawwas and Isakson (2000) present research examining the personality characteristics of tolerance, relativism, and idealism. These findings suggest students may be more likely to cheat who describe themselves as tolerant or having a more liberal outlook and rejecting the concept of absolute truths. Similarly, students who indicated they are relativists or focused on the consequence of their action or behaviors may be inclined to cheat. Rawwass and Isakson (2000) also found cheating behavior and idealism to be negatively correlated.

Various aspects of cheating relative to the interpersonal process have been evaluated including fear of failure, guilt proneness, conscientiousness, shame proneness, desire to manipulate, need for approval, concern regarding an impression or evaluation, temptation, laziness, and worry (Table 5). Studies do not indicate there is any relationship between cheating and a student's fear of failure (Evans & Craig, 1990; Schab, 1991), guilt proneness

(Corcoran & Rotter, 1987; Heisler, 1974; Malinowski & Smith, 1985), or desire to manipulate (Flynn, Reichard, & Slane, 1987). In contrast, studies indicate students who are conscientious (de Bruin & Rudnick, 2007) or who are prone to shame (Cochran et al., 1999; Tibbetts, 1998) may be less likely to cheat. Some research suggests students who demonstrate a greater need for approval may be more likely to cheat as compared to those without such need (Jacobson et al., 1970; Malinoski & Smith, 1985; Millham, 1974; Smith et al., 1972). Antion and Michael (1983) indicate there is no relationship between a student's need for approval and cheating. Similarly, Covey, Saladin, and Killen (1989) state there is no correlation between cheating and a student's concern regarding making a good impression. Dickstein, Montoya, and Neitlich (1977) indicate, however, there is a positive correlation between cheating and a student's concern regarding a negative evaluation. Cheating has been found to be positively correlated with temptation (Houston, 1978) and laziness (Schab, 1991) as well as tendencies to worry about school (Anderman et al., 1998).

Various studies have identified relationships between cheating and student behaviors and goals including those examining industriousness, Type A behavior patterns, expectations of success, achievement motivation, and future plans (Table 6). Research analyzing industriousness suggests students described as industrious may be more likely to cheat (Eisenberger, 1992), whereas research exploring the relationship between cheating and Type A behavior pattern is mixed. Some studies indicating those exhibiting Type A behavior patterns may be more likely to cheat (Friedman & Rosenman, 1977; Perry et al., 1990); others conclude Type-A behaviors are associated with a lower incidence of cheating (Huss et al., 1993; Weiss et al., 1993). Studies indicate there is a positive relationship between a student's expectations of success and willingness to cheat where students with

greater expectations were more likely to cheat as opposed to students with lower expectations of success (Houston, 1977a, 1978; Houston & Ziff, 1976). In contrast, other research suggests achievement motivation (Antion & Michael, 1983) including future plans (Calabrese & Cochran, 1990) is not correlated with cheating.

Various studies have attempted to categorize cheating as a deviant behavior as opposed to a situational ethic. Heisler (1974) suggests cheating may be an element of a wide-ranging pattern of deviant behavior, and Beck and Ajzen (1991) relate cheating to other deviant behaviors including shoplifting and lying. In contrast, Michaels and Mieth (1989) indicate cheating is not a deviant act but rather a learned and normative behavior considered by students as an acceptable means of grade enhancement. Other research (Covey et al., 1989; Corcoran & Rotter, 1987; Leming, 1980) suggests cheating is instead situational in nature. Roth and McCabe (1995) indicate cheating is more closely linked to a student's beliefs and values than to situational factors.

As illustrated in Table 7, research investigating the relationship between cheating and moral inclinations indicates students may be less likely to engage in academically dishonest behavior: (a) if they feel it is immoral or unethical (Beck & Ajzen, 1991; Bennett, 2005; Boling, 2004; Cochran et al., 1999; Smith et al., 1972), (b) if they adhere to a personal or moral code of honor or moral standard (Bennett, 2005; Corcoran & Rotter, 1987; Davis et al., 1992; Eisenberg, 2004; Smith et al., 1972), or (c) if they have a set of moral beliefs or standards (Tibbetts, 1998). Studies using the Kohlberg model (1981) have identified a slight negative relationship between moral development and cheating behavior where students who consider themselves less moral may be more likely to cheat (Lanza-Kaduce & Klug, 1986; Leming, 1978; Malinowski & Smith, 1985). Malinowski and Smith (1985) conclude

even students with strong moral values find it difficult not to cheat. Although Vowell and Chen (2004) suggest there is a negative relationship between church attendance and academic dishonesty, most research indicates there is not any relationship between religiosity (e.g., students who consider themselves religious or who are affiliated with a particular religion) and cheating behavior (Brown & Choong, 2003; Michaels & Miethe, 1989; Smith, Wheeler, & Diener, 1975; Smith et al., 1972). With respect to religion, however, some studies do indicate there is an inverse relationship between cheating and church attendance (Calabrese & Cochran, 1990).

The connection between cheating and perceptions has been analyzed specific to perceptions of self, others, and environment (Table 8). Perceptions of self include individual feelings of the normalcy and seriousness of cheating as well as opportunity and ability. Findings indicate students who feel cheating is an acceptable normal behavior are more likely to cheat (Beck & Ajzen, 1991; Bunn et al., 1992; Dawkins, 2004; DeVries & Ajzen, 1971; Eisenberg, 2004; Enker, 1987; Forsyth & Berger, 1982; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; Lanza-Kaduce & Klug, 1986; Liska, 1978; Michaels & Miethe, 1989; Sherrill et al., 1971; Stevens & Stevens, 1987; Underwood & Szabo, 2003; Vowell & Chen, 2004).

Studies also suggest a positive relationship between cheating and perceived opportunity and ability where students who feel they have a chance (Boling, 2004; Houston, 1977b; Michaels & Miethe, 1989; Robinson et al., 2004) and/or the ability (Beck & Ajzen, 1991; Ward & Tittle, 1993) may be willing to cheat. There is, however, an inverse relationship between cheating behaviors and the perceptions of seriousness of cheating where students may be less inclined to cheat if they perceive the seriousness of academically

dishonest behavior (Michaels & Miethe, 1989). Research also indicates cheating behavior is directly related to student perceptions including perception of peer academic honesty (Michaels & Miethe, 1989), peer cheating ability (McCabe & Trevino, 1993), peer feelings regarding cheating (McCabe & Trevino, 1997; Tibbetts, 1998), and the number of other students who cheat (Bunn et al., 1992; Robinson et al., 2004; Smith et al., 1972; Vowell & Chen, 2004). How students view the fairness of their environment, specific to teachers and school, may be inversely related to cheating behaviors where students who perceive faculty and/or school to be unfair may be more likely to cheat (Calabrese & Cochran, 1990). In contrast, Houston (1986b) indicates there is no relationship between cheating behaviors and perceptions of the world as a difficult place.

Researchers such as Bunn et al. (1992), Kerkvilet (1994), and Mixon (1996) have examined the economics of cheating in the classroom using econometric tools. Mixon (1996), viewing cheaters as rational actors making decisions at the margin based on cost/benefit analysis, delineated degrees of cheating by separating habitual and occasional cheaters and concluded students' expectations of imposed penalties had significant deterrent effects. Using the concepts of risk and return, studies have identified various factors related to cheating and the student's perception of risk and return. With respect to risk, as illustrated in Table 9, research indicates students are more willing to cheat if they feel there is only a small risk of being caught (Corcoran & Rotter, 1987; Covey et al., 1989; Eisenberg, 2004; Heisler, 1974; Houston, 1977b; Leming, 1978, 1980; McCabe & Trevino, 1993; Michaels & Miethe, 1989; Schab, 1991; Singhal, 1982; Smith et al., 1972; Tittle & Rowe, 1973; Underwood & Szabo, 2003). Similarly, students may be more likely to cheat who consider academic dishonesty an exciting and risky venture. Other research indicates students may be

less likely to behave dishonestly if they expect and/or fear sanctions or penalties in the event they are caught (Cochran et al., 1999; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993, 1997; Mixon, 1996; Tittle & Rowe, 1973; Ward & Tittle, 1993). Some research (Michaels & Miethe, 1989; Tibbetts, 1998) indicates official sanctions do not discourage cheating, but rather unofficial internal sanctions such as shame are effective deterrents. Only one study could be identified suggesting there is no relationship between cheating and the expectation of punishment (Bunn et al., 1992). In contrast, Flynn et al. (1987) suggest cheating behavior is more closely associated with the avoidance of punishment as opposed to the attainment of a reward. Other studies focused on the perceived potential benefits or returns gained from cheating indicate there is a positive relationship between cheating and the expected reward (Covey et al., 1989; Houston, 1977b) where students who believe the outcome is important are more likely to cheat (Barnes, 1975; Eisenberg, 2004).

Violations of Academic Integrity

Similar to the research analyzing individual factors associated with academic dishonesty, numerous journal articles have been published reviewing the various violations of academic integrity and explaining the tools and techniques students use to cheat. Recently Rakovski and Levy (2007) surveyed 1,255 business students from a Northeastern business college to determine their perceptions of academic dishonesty. Participants were asked to identify penalties and degree of deceit and to indicate how often they have engaged in a listing of 15 different dishonest behaviors. Of the activities listed, students identified the most serious collaborate acts involved students taking exams for each other (i.e., falsifying identity) and communicating in the classroom (e.g., hand signals) for the purpose of providing answers to another test taker. Individual behaviors students distinguished as

serious involved misrepresenting written assignments as original work, plagiarism, falsifying university documents, using cheat sheets, and stealing tests.

In a similar study conducted a number of years before Rakovski and Levy (2007), Stevens and Stevens (1987) studied the cheating behaviors of 210 business majors, comparing student beliefs to the perceived beliefs of their faculty and peers. Summarizing the results of these findings, the authors provide a listing of 17 behaviors associated with academic dishonesty. Confirming Rakovski and Levy's (2007) research, the results indicate students believe the most unethical behaviors involve taking exams for others, communicating in the classroom during an exam, misrepresenting written assignments as original work, plagiarism, having cheat sheets, and using an unauthorized copy of an exam to study. Other studies examining academic dishonesty specific to business students (Iyer & Eastman, 2006; Nonis & Swift, 2001; Rawwas & Isakson, 2000; Smyth & Davis, 2004) provide similar results. Reports suggesting business students may be more likely to cheat than students enrolled in other majors (Baird, 1980; Smyth & Davis, 2004; Zimmerman, 1999) emphasize the relevancy and importance of research examining the perceptions and behaviors of these students (Rakovski & Levy, 2007; Stevens & Stevens, 1987).

In a large study involving 850 students at a four-year Michigan university, Lambert, Hogan, and Barton (2003) examined 20 forms of academic dishonesty using a non-random convenience sampling design. Results from this voluntary and anonymous survey obtained from students enrolled in various classes including required general education courses indicate the two most frequent violations of academic honesty involved collaborative actions associated with assignments and exams. Although students admit to individual acts of

academic dishonesty including defacing school and faculty resources (e.g., test banks, library materials, etc.), they state such acts are far less common.

Graham et al. (1994) provide another example of a research effort involving Midwestern institutions—one private Catholic college and one community college. This study involved the use of voluntary and confidential surveys administered to 480 students and 48 faculty members. Respondents were provided a listing of behaviors and asked to identify the actions they considered to be cheating and to indicate which of these violations they had previously committed. The vast majority of those surveyed believed looking at notes during an exam was cheating (99.6% of student respondents; 100% of faculty respondents). Similar results are evidenced in identified actions involving other methods used to cheat during an exam including giving or receiving answers and copying. All students surveyed indicate the actions they qualify as cheating are dishonest acts they themselves had committed. The most common violations involved allowing another student to copy homework (63.1%), turning in an assignment previously completed and submitted in another class (53.6%), and providing test questions to students who have not taken the exam (46.2%).

Using 17 behaviors associated with academic dishonesty, as previously identified in research conducted by Graham et al. (1994), Cummings and Romano (2002) surveyed 89 undergraduate students enrolled at a small private institution to ascertain their beliefs and perceptions about cheating. Using a Likert-type scale, students were asked to identify the actions they considered to be cheating. Similar to the findings of Graham et al. (1994), students strongly agreed giving or receiving answers during an exam and copying during an exam constituted cheating.

Seeming to confirm a relationship between academic dishonesty and year in college (Baird, 1980; Kerkvliet, 1994), Sheard et al. (2003) examined cheating behaviors of 602 undergraduate and graduate information technology students. Similar to research conducted by Graham et al. (1994), in an anonymous questionnaire students were asked to identify the practices they considered to be “questionable” and to indicate the violations they had previously committed. These findings indicate undergraduates admit to cheating more than graduate students, and the most common dishonest act practiced by both graduates and undergraduates involves the unauthorized collaboration of students working together to complete a task meant to be an individual effort.

One of the largest academic dishonesty studies presenting information specific to cheating techniques involved more than 6,000 students (Davis et al., 1992). Results from anonymous surveys were used to create a listing of nine common methods students use to cheat. Approximately 80% of respondents admitted they had copied from the paper of someone sitting nearby or had used unauthorized crib notes. Of the methods identified, three involved collaborative acts where more than one student participated in the activity (e.g., using hand signals during an exam to indicate answer selections) and seven involved premeditation where some effort (e.g., constructing crib notes) was required prior to engaging in the dishonest act. Other extensive studies examining the tools and techniques used by students who engage in academically dishonest behavior include research conducted by Maramark and Maline (1993). In their monograph, the authors review a number of large scale journal articles containing the results of questionnaires and surveys from thousands of student respondents (Davis et al., 1992; McCabe, 1993). Using these sources, the authors created a list of 23 examples of cheating activities.

Research analyzing the various violations of academic integrity also includes studies examining the changes in student attitudes and behaviors over time. In 1996, Diekhoff et al. conducted a follow-up study to previous research carried out by Haines et al. (1986) examining basic issues associated with academic dishonesty. Reviewing variations over a 10 year period from 1984 to 1994, Diekhoff et al. (1996) analyzed the extent of cheating, the methods used to cheat, and the effectiveness of various deterrents. Based on anonymous survey results from 380 students, these findings suggest the largest percentage of students cheat by copying from someone sitting nearby (25.5%). Other identified methods include allowing another student to copy an exam (16.5%), cheat sheets (13.5%), plagiarism (8.4%), using a stolen exam (4.6%), and misrepresenting the work of others as original effort (3.8%).

Genereux and McLeod (1995) similarly concluded that academic dishonesty frequently involves exams and writing assignments. Based on research reviewing the circumstances surrounding cheating, Genereux and McLeod identify 12 forms of cheating where six acts of academic dishonesty are related to examinations and six involve written assignments and research. Those methods reviewed associated with exams include: students who have taken the exam exchanging answers with those who have not yet taken the exam; copying answers during the exam; using unauthorized crib notes during the exam; and inflating the grade of a self-graded exam. Other cheating methods described involve dishonest acts related to written assignments and research including: falsifying research data; including fictitious references in a paper; plagiarizing part of a paper; and students acquiring a paper from another source and falsely submitting it as original work. These findings suggest that of the methods described the two most popular forms of cheating

involve examination questions; survey results indicate 58% of students reported they had given someone test questions before an exam, and 49% of students surveyed reported they had received test questions from someone prior to taking an exam.

Cizek (1999) categorizes cheating behaviors as: (a) exchanging information contrary to assignment or exam guidelines, (b) using materials disallowed on an assignment or exam, and (c) gaining an unfair advantage through the exploitation of processes, procedures, or persons (p. 42). As described, students exchanging information usually involves collaboration on an exam either in or out of the classroom. Similar to Genereux and McLeod (1995), Cizek indicates the use of prohibited materials typically involves students referencing unauthorized crib notes during tests. Examples of students gaining unfair advantages range from simple mischievous acts to prosecutable criminal activities.

Studies examining the violations of academic integrity have been conducted for many years. In 1980, Baird investigated the frequency and methods used to cheat in college using an anonymous questionnaire administered to 200 students who were asked to rank the frequency of various cheating methods. Based on these results, students indicated acquiring test information from another student was the method used most often to cheat. Allowing students to copy or copying from another student ranked second and third, respectively, with plagiarism listed as the fourth most frequently used method. Students indicated the least most common acts were bribery, blackmail, and falsifying identity during an exam.

When Baird (1980) conducted his research over 25 years ago, there was no reference made to violations of academic integrity involving the use of technology. Today, academic dishonesty in both traditional on-campus classes and online or distance learning courses frequently involves the use of technical tools such as the Internet. With the expansion and

commercialization of the World Wide Web in the late 1990s, academic institutions have been faced with new challenges to academic integrity (McMurtry, 2001); given that the Internet is a relatively recent phenomenon, however, empirical research dedicated to analyzing these violations is limited (Ercegovac & Richardson, 2004; Etter et al., 2006; Grijalva, Nowell, & Kerkvliet, 2006). Unethical behaviors involving information technology include various forms of plagiarism and dishonest activities associated with distance learning. Based on focus group input, Etter et al. (2006) identified 24 different unethical behaviors associated with the use of information technology. Using these identified behaviors, college students were surveyed to determine attitudes associated with each behavior. Specifically, respondents were asked to indicate those actions they thought were very serious violations of academic dishonesty and those that were only somewhat serious. The action respondents considered to be most egregious was the misrepresentation of a paper purchased online as original work, and the action considered to be least serious was manipulation of spacing and margin sizing to lengthen a paper.

With the introduction of the Internet, students now have available quick and easy access to information and resources including materials they can cut and paste into assignments claiming as their own original work (Gibelman, Gelman, & Fast, 1999; McMurtry, 2001). Numerous “paper mill” sites can also be resourced providing free or for-cost research papers (McMurtry, 2001, Swift, Denton, & Nonis, 1998). Dawkins (2004) suggests students who copy materials from the Internet may be more inclined to cheat in the classroom. Stebelman (1998) agrees the Internet has enhanced cheating opportunities; he also indicates, however, it has provided new forms of detection.

Some research (Kennedy, Nowak, Raghuraman, Thomas, & Davis, 2000) suggests web-based instruction, or distance learning, poses a significant threat to academic integrity and student learning. Rubiales, Steely, Wolner, Richardson, and Smith (1998) define distance learning as:

the process whereby the education of a student occurs in circumstances where the educator and the student are geographically separated, and the communication across this distance is accomplished by one or more forms of technology, typically electronic, such as television and computers. (p. 32)

Findings from Kennedy et al. (2000) indicate students and faculty feel cheating in a distance learning class is easier than cheating in a traditional on-campus class. They believe the occurrence of this behavior will increase as distance learning continues to expand, although Grijalva et al. (2006) suggest the incidence of cheating in web-based courses is no greater than in a traditional classroom. Other sources (Smith, Ferguson, & Caris, 2001) indicate online courses will lead to a reduction in cheating brought about by the removal of social barriers and enhancement of communication. Heberling (2002) agrees with this assessment contending cheating online is easier to detect than cheating in the classroom. Ridley and Husband (1998) state although the concern regarding online education is legitimate, it is also “exaggerated if not unfounded” (p. 184). Bunn et al. (1992) suggest distance learning may be particularly susceptible to planned cheating activities.

Cheating behavior can be distinguished as planned and unplanned actions. Planned cheating can be seen as the result of a cognitive process involving premeditation (Alschuler & Blimling, 1995; Bunn et al., 1992; Mixon, 1996). Research indicates students believe unplanned actions, or panic cheating, is the most common type of cheating (Bunn et al.,

1992). As Franklyn-Stokes and Newstead (1995) indicate, many of the cheating methods require premeditation and collaboration where planning and cooperation is required. Cooperative cheating may be a more problematic concept to grasp as research (Barrett & Cox, 2005) suggests it is difficult to delineate the boundary separating acceptable collaboration and collusive acts of academic dishonesty. The student who feels plagiarism is unacceptable may be willing to engage in unacceptable collaboration by rationalizing some learning might result (p. 107). As Houston (1976a) found, there is a positive relationship between a willingness to engage in collaborative cheating behavior and the degree of acquaintanceship. The cheating incident at Duke University where 34 graduate business students cheated on a take-home exam illustrates the systemic nature of this problem (Young, 2007). These findings reveal students are willing to commit considerable time and resources to dishonestly succeeding in the classroom.

A taxonomy of cheating behaviors has been created (Tables 10–12) detailing the various violations of academic integrity based on the research findings of Baird (1980), Cizek (1999), Cummings and Romano (2002), Davis et al. (1992), Diekhoff et al. (1996), Etter et al. (2006), Genreux and McLeod (1995), Graham et al. (1994), Iyer and Eastman (2006), Lambert et al. (2003), Rakovski and Levy (2007), Maramark and Maline (1993), Nonis and Swift (2001), Rawwas and Isakson (2000), Sheard et al. (2003), Smyth and Davis (2004), and Stevens and Stevens (1987). Reflecting the results of this varied research conducted over a time span of 27 years, this taxonomy categorizes and summarizes responses from thousands of student surveys and questionnaires as represented in the aforementioned findings. As depicted, cheating activities are divided into three categories: (a) exams (Table 10), (b) writing assignments (Table 11), and (c) other assignments and

actions (Table 12). Cheating activities involving exams have been delineated as individual and collaborative activities and those activities occurring before, during, and after the exam. Dishonest activities involving writing assignments have been categorized as individual and collaborative activities as have those activities specific to other assignments. All listed academic dishonest actions can be either individual or collaborative activities (e.g., bribery, altering faculty resources).

A review of this taxonomy is highlighted by two factors involving collaboration and premeditation. Of the 66 listed cheating behaviors, 35 involve some form of collaboration where two or more students participated in the dishonest act. Forty-seven of the listed behaviors involve premeditation where some thoughts and actions are required before the student comes into the classroom, either real or virtual. As presented, this taxonomy does not support students' beliefs indicating unplanned action or panic-cheating is the most common type of cheating (Bunn et al., 1992, p. 181) but rather suggests most cheating behaviors involve planned actions resulting from a cognitive process involving premeditation (Alschuler & Blimling, 1995; Bunn et al., 1992; Mixon, 1996). This taxonomy is reflective of the findings of Franklyn-Stokes and Newstead (1995) indicating many of the cheating methods require premeditation and collaboration where planning and cooperation is required. Further, it supports the research of Barrett and Cox (2005) suggesting students find it difficult to delineate the boundary separating acceptable collaboration and collusive acts of academic dishonesty and underscores a positive relationship between a willingness to engage in collaborative cheating and the degree of acquaintanceship (Houston, 1986a; Michaels & Miethe, 1989; Mixon, 1996).

Detecting and Deterring Academic Dishonesty

Research efforts exploring academic dishonesty have resulted in numerous articles explaining the tools and techniques students use to cheat as well as detection and deterrence mechanisms. As Heberling (2002) indicates, the introduction of the Internet and other technological advances has brought about new tools effective in detecting academic dishonesty for both the distance learning and traditional classroom environments. These resources include reverse searches using search engines such as Google or Yahoo to locate exact matches of words and phrases inserted using quotation marks (Heberling, 2002; McLafferty & Foust, 2004). Fee-based plagiarism-detection services available online include iThenticate and Turnitin.com. Experiencing rapid growth since first developed in the late 1990s by a Berkeley graduate student, Turnitin.com charges schools subscription fees ranging from \$1,000 to \$10,000 for access to its databases (Foster & Reed, 2002). Faculty can use this resource to match student work with both published and unpublished materials. As the favored plagiarism detection program (Tedford, 2003), this database continues to grow as the number of submitted papers increases along with subscribers (“Has Turnitin.com,” 2003). Plagiarism-detection computer software also includes statistical detection programs such as INTEGRITY. Developed by the Castle Rock Research Corporation, this program detects collusion by performing various answer copying functions (Wollack, 2007). Considered the best software program currently available (p. 239) commercially, this tool analyzes test answers to produce summary data identifying scoring patterns.

A number of articles presenting information on academic integrity violations also provide insight into methods and strategies faculty and institutions can use to detect and

deter academic dishonesty. As illustrated in Table 13, Maramark and Maline (1993) suggest cheating may be associated with poor detection methods. Leming (1980) relates the threat of detection to student ability where low ability students, as compared to high ability students, tend to cheat more given a threat of detection. Research indicates detection measures include schools encouraging students to report cheaters (Nonis & Swift, 1998) and instituting a cheating “hot-line” where students can call in and register violations of academic integrity (Hollinger & Lanza-Kaduce, 1996). Nonis and Swift’s research (1998) examining cheating deterrent methods at two universities involved 301 marketing students. Results gathered from anonymous surveys suggest in-class deterrents are effective in reducing cheating on exams. Other research confirms an inverse relationship between cheating and deterrent methods (Davis et al., 1992; McCabe & Trevino, 1993; Stevens & Stevens, 1987).

Sanctions as well have been the subject of significant research where numerous studies suggest academic dishonesty may diminish in environments where students expect or fear punitive responses (Cummings & Romano, 2002; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993, 1997; Mixon, 1996; Stevens & Stevens, 1987; Tittle & Rowe, 1973; Ward & Tittle, 1993). Similar to research exploring the relationship between the threat of detection and gender, Leming (1980) concludes the risk of sanctions is an effective deterrent with females but not with males. Some suggested sanctions include reporting violators to administration (Cummings & Romano, 2002; Davis et al., 1992), awarding a failing grade on the assignment (Carter & Punyanunt-Carter, 2006; Cummings & Romano, 2002; Diekhoff et al., 1996), awarding a failing grade in the course (Carter & Punyanunt-Carter, 2006; Cummings & Romano, 2002), and dropping students from the class (Diekhoff et al., 1996). Finally, Maramark and Maline (1993) suggest a number of

punitive actions including placing a notation on transcripts and requiring those students caught cheating to attend counseling or a cheating seminar discussing the importance of academic integrity.

Situational factors associated with cheating have been the topic of numerous journal articles including issues associated with the classroom environment (Table 14). Baron and Crooks (2005) discuss the use of web cams and biometrics as possible high-tech methods used by educational institutions to detect and deter academic dishonesty. The classroom has been the subject of many studies exploring the relationship between factors including class size and seating arrangements and cheating. Findings indicate students in larger classes might be more likely to cheat (Hollinger & Lanza-Kaduce, 1996; Houston, 1986b; Nowell & Laufer, 1997). Seating arrangements in the classroom also have been found to have an impact on cheating. For example, students may be more likely to cheat if they sit next to friends as opposed to strangers (Houston, 1986a, 1986b). Similarly, other research suggests students are more likely to cheat in a classroom where seating is not assigned but self-selected (Davis et al., 1992; Hollinger & Lanza-Kaduce, 1996; Houston, 1986a; Nonis & Swift, 1998). Some studies indicate spacing students by placing empty chairs between students or seating students in alternate rows may provide some deterrent to cheating during tests (Cizek, 1999; Davis et al., 1992; Harpp, Hogan, & Jennings, 1996; Houston, 1976a, 1976b; Kerkvliet, 1994; Kvam, 1996; Nonis & Swift, 1998). Findings from Kerkvliet and Sigmund (1999), however, do not support such deterrent methods. Houston, who has done extensive research on the subject, indicates there is no relationship between cheating and seating specific to a student sitting in the front of the classroom, in the back of the classroom (1976b, 1986a, 1986b), or sitting next to walls (1986b).

As illustrated in Table 14, communication has been found to be an important deterrent to academic dishonesty where discussions involving all aspects of academic honesty (Cole & Kiss, 2000) and ethics (Swift et al., 1998) are thought to be important approaches to encouraging integrity. Other important discussions involve defining academic integrity concepts (Swift et al., 1998), clarifying expectations and standards (Cole & Kiss, 2000; Saunders, 1993), and explaining acceptable and unacceptable collaborative activities (Saunders, 1993). Some research indicates deterrence mechanisms can be as simple as announcing academic honesty policies (Davis et al., 1992; Nonis & Swift, 1998) or publicizing vigilance including close observation during test session (Nonis & Swift, 1998). Findings also suggest effective deterrents include announcing penalties for cheating (Davis et al., 1992; Kerkvliet & Sigmund, 1999; Nonis & Swift, 1998; Tittle & Rowe, 1974). Finally, Saunders (1993) suggests communicative methods to encourage academic honesty should include providing students with positive feedback.

Studies find cheating is related to faculty support and credentials (Table 15). Baron and Crooks (2005) suggest faculty interaction plays a very important role in encouraging academic honesty. Stevens and Stevens (1987) indicate students who feel they have not been provided adequate leadership from faculty are more likely to cheat. Two other studies (Kerkvliet & Sigmund, 1999; Nowell & Laufer, 1997) indicate students are more likely to cheat in classes taught by adjunct faculty, non-tenure-track faculty, or graduate teaching assistants. Cole and Kiss (2000) detail how faculty need to serve as role models for students by accurately citing lecture sources and showing respect for other scholars.

Institutional factors related to cheating include size, faculty and librarian support, and subscriptions to plagiarism search services (Table 15). Research indicates students at

larger state-supported institutions are more likely to cheat as compared to students enrolled at small private colleges (Weiss et al., 1993). Faculty support involves ensuring an understanding of institutional policies and guidelines specific to academic integrity (Maramark & Maline, 1993). Wood and Warnken (2004) detailed the proactive role of librarians in the effort to encourage academic integrity specific to plagiarism. The value of subscriptions to plagiarism search services such as Turnitin.com is mentioned frequently in research (Baron & Crooks, 2005; Braumoeller & Gaines, 2001; McMurtry, 2001). Braumoeller and Gaines (2001) suggest it is not enough to simply have access to this service; schools should “advertise” to students that this deterrent mechanism is utilized by faculty. Colleges and universities also must work to clarify and affirm policies and values by the standard inclusion of the academic integrity policy on all syllabi, defining and explaining terms and concepts related to academic honesty (Kerkvliet, 1994; McCabe & Trevino, 1993; McMurtry, 2001), and emphasizing academic scholarship and honor—the basic tenets and foundation of higher education (Maramark & Maline, 1993).

Similar to the classification and organization of cheating behaviors, a taxonomy of cheating deterrents specific to exams (Table 16), writing assignments, and other assignments (Table 17) has been created based on the research findings of Baron and Crooks (2005), Cizek (1999), Cole and Kiss (2000), Covey et al. (1989), Davis et al. (1992), Hollinger and Lanza-Kaduce (1996), Houston (1976a, 1983a, 1986b), Harpp et al. (1996), Kvam (1996), Kerkvliet (1994), Kerkvliet and Sigmund (1999), McMurtry (2001), Maramark and Maline (1993), Moffatt (1990), Nonis and Swift (1998), Swift et al. (1998), and Saunders (1993). Reflecting the results of this varied conducted research, deterrent strategies are divided into

three categories as those implemented: before the exam/assignment, during the exam/assignment, and after the exam/assignment.

Studies also suggest the existence of an honor code may discourage cheating (Brooks, Cunningham, Hinson, Brown, & Weaver, 1981; Gardner et al, 1988; May & Loyd, 1993; McCabe & Trevino, 1993); McCabe and Trevino (1993) found the creation of an honor code, however, was an insufficient deterrent unless accompanied by a change in student norms associated with cheating. The deterrent method mentioned most frequently in resourced research and an important element of academic integrity, the honor code warrants further consideration (Baron & Crooks, 2005; Brock, 2004; Cole & Kiss, 2000; McMurtry, 2001; Roth & McCabe, 1995; Saunders, 1993; Swift et al., 1998; Williams, 2001).

The Code of Ethics and the Honor Code

Klynveld, Peat, Marwick, and Goerdeler (KPMG), International, an organization offering audit, tax, and advisory services, publishes the *KPMG International Fraud Report* and the *KPMG Fraud Survey*. In the *1996 International Fraud Report*, KPMG indicates establishing a code of conduct is the best method to prevent corporate crime. The *KPMG Fraud Survey 2003* reported approximately 40% of surveyed companies had recently established codes of conduct to cover all employees—not just corporate executives. Research indicates these codes can help establish a company's ethical reputation leading to consistent and increased profits (Webley & More, 2003).

Creating the ethical tone of the corporation, top management establishes a culture that descends down the corporate hierarchy (Nystrom, 1990). Similar to the universal law of gravitation, the higher vantage from which the code is established and released, the faster it descends and the greater the impact. If the code of ethics is without value or mass, it goes

nowhere—it is weightless. A code of ethics is worthless if ignored or abandoned by corporate contingents as illustrated in *The Report of Investigation by the Special Investigation Committee of the Board of Directors of Enron Corporation* (as cited in Gordon, 2002). This report described how company directors waived provisions of the corporate code of ethics allowing the chief financial officer to personally benefit from company transactions. With the passage of the Sarbanes-Oxley Act in 2002, the most sweeping anti-fraud and corporate reform legislation since the 1930s, companies are now required to disclose if they have a written code of ethics and detail to whom it applies (employees, principal officers, Board of Director, etc.). Corporations must also describe any waivers or changes in the code. As mandated in the legislation, if a company does not have a code of ethics, it must explain why.

Comparable to the corporate code of ethics, the honor code is believed to have been created at the University of Virginia in the 1800s as part of a student government experiment. By 1915, approximately 123 institutions in the U.S. were employing some sort of honor system (Brubacher & Willis, 1976). The academic equivalent of the Sarbanes-Oxley Act, the landmark case of *Dixon v. Alabama State Board of Education* (1961) established that public educational institutions were governmental bodies and were therefore required to create standards that ensured the students' due process rights in situations of suspected academic dishonesty. In the 1980s, Brian Melendez prepared a report for the Dean of the Faculty of Arts and Sciences at Harvard that detailed the desired elements of an effective honor code (Garlow, 2007; McCabe & Drinan, 1999). Continuing these efforts, in 2002 McCabe, Trevino, and Butterfield described traditional honor codes as featuring four components: (a) Code of Ethics: a written policy/pledge of academic honesty;

(b) Judiciary Process: a process that includes student involvement concerning alleged acts of academic dishonesty; (c) Examinations: exams that are not proctored; and, (d) Student Vigilance: an environment where students are responsible for reporting acts of academic dishonesty.

In 1986, Haines et al. used a 49-item questionnaire to examine the cheating behaviors of 380 students at universities without honor codes. The purpose of this research was to discover basic issues associated with academic dishonesty. The three main factors identified were a student's immaturity, lack of commitment to academics, and ability to justify behavior in an effort to protect against self-blame. A number of years later, May and Loyd (1993) conducted similar research involving 17,000 students at institutions with honor codes, comparing the results of their findings with those of Haines et al. (1986). May and Loyd found 54.1% of the students attending universities without an honor system reported cheating on major exams, quizzes, and/or assignments, as compared to only 23.7% of the students attending a university with an honor system. This research further indicated the purposeful advantages of an honor system include: (a) providing a cheating deterrent, (b) instilling honesty and integrity, (c) increasing student freedoms, and (d) creating a trusting and communal environment. Based on these findings, May and Loyd suggest colleges and universities should establish and communicate institutional norms and policies emphasizing the role of the honor codes where academic integrity is included in orientation sessions and student handbooks. The authors also assert academic integrity courses should be incorporated as part of the curriculum.

In the early 1990s, Donald L. McCabe, Professor of Organization Management at Rutgers, began researching the topic of academic integrity (McCabe, 1993). What followed

was a number of academic journal articles addressing topics such as faculty responses to academic dishonesty, honor codes, and the principles of academic integrity. In 1993, McCabe conducted research involving 789 faculty at 16 different colleges and universities throughout the United States to determine responses to cheating and the influences of an honor code. Results from his research based on mailed survey responses indicate faculty teaching at institutions with honor codes are more likely to report student cheating as compared to faculty who teach at schools with no honor codes. This research, as well as work by McCabe, Butterfield, and Trevino (2003), suggests the existence of an honor code may influence how faculty handle cheating incidents; faculty at code vs. non-code institutions were found more likely to utilize established institutional procedures and perceive such systems as fair.

In a comprehensive study involving more than 6,000 students from 31 colleges and universities located throughout the U.S., McCabe and Trevino (1993) found students in honor code environments cheat significantly less than students in non-honor code environments. McCabe and Trevino determined the highest incidences of cheating occur in institutions where students do not understand or do not accept existing policies. In a comparative qualitative investigation involving honor code and non-honor code institutions, McCabe et al. (2002) found students in honor code environments frame the concept of academic integrity differently than students attending institutions without honor codes.

In 2002, McCabe and Trevino introduced the concept of a modified honor code as a code not containing all four features of the traditional honor code typically existing at small private institutions. McCabe et al. (2002) examined the influence of a modified honor code by reviewing data from 21 different colleges and universities. Of the schools participating,

eight had traditional honor codes, four had modified honor codes, and the remaining nine had no honor codes at all. Research findings indicate academic dishonesty was most significant at the institutions with no honor codes at all and least significant at institutions with traditional honor codes; schools with modified honor codes fell somewhere in between. This empirical evidence suggests modified honor codes can be used as an effective deterrent to reduce cheating. Findings also confirm earlier research (McCabe & Pavela, 2000) suggesting the importance of student involvement in the development and implementation of a modified honor code.

Cummings and Romano (2002) suggest an honor code is an essential deterrent factor as it has the potential to influence students. In a micro examination of an honor code applicable in a specific classroom as opposed to an entire institution, Cummings and Romano (2002) surveyed 89 undergraduate students enrolled in four college algebra courses at a small private institution. Two courses had an imposed honor code including definitions, descriptions, and discussion related to activities involving cheating and plagiarism. Two other courses, the control group, were given no honor code. In the honor code class, students were also asked to sign a pledge stating they would not cheat in the class. Based on findings from this experiment, Cummings and Romano (2002) suggest that if the penalty for cheating is detailed and discussed, the perception of the risk of cheating will increase. Further, students in an honor code environment may be more inclined to believe faculty will use institutional resources when dealing with academic dishonesty.

Similar to Cummings and Romano (2002), McCabe and Trevino (2002) suggest most educational institutions can implement strategies to reduce cheating. Honor codes may reduce cheating because they provide clarity, explain expectations, and influence behavior

through the activation of moral norms (McCabe & Trevino, 1993). McCabe and Pavela (2000) suggest strategies effective in reducing cheating and encouraging academic integrity influence behavior and enhance ethical development. Research (McCabe & Pavela, 2000; McCabe & Trevino, 2002) suggests a student's moral development can evolve immensely over the course of four years in college if the student is engaged in a community where values such as honesty and integrity are the expected norm. In this environment, administration, faculty, and students must work together to create a culture where trust is valued, cheating is devalued, and ethical behavior is encouraged (McCabe & Trevino, 2002). Honor codes can be seen as tools used to teach professional ethics (Kidwell, 2001) where, just as the corporate code of ethics with standards is established by executive officers, university administrators are charged with creating a culture of honesty and professors—acting as moral exemplars of scholarship—are tasked with ensuring academic integrity. Dobson (1997) suggests that ethics should not be viewed as a constraint on behavior but rather as an objective of moral excellence. Dufresne (2004) indicates for honor codes to achieve an objective of reducing academic dishonesty, intervention is necessary to create a paradigm shift from an unethical culture to a community where integrity is the expected standard.

Similar to corporate codes of ethics that are drafted by top management and legal counsel with little input provided by stakeholders (Weaver, 1993), educational institutions need to take a holistic approach when creating and implementing honor codes (Dufresne, 2004). Honor codes will not effectively reduce dishonest behaviors unless they are created with an awareness and consideration of institutional and student factors relative to traditions, cultures, and values (Dufresne, 2004). Further, Dufresne suggests stimulating change in the

ethical culture through the implementation of an honor code requires an active learning process emphasizing values such as honesty and integrity. McCabe et al. (2002) indicate a precursor to a successful honor code is student involvement and understanding. Student participation should be included in the development process as well as implementation and judicial review procedures (McCabe & Trevino, 2002). Kibler (1993) suggests honor codes may fail if students are not involved in the design and implementation process.

McCabe and Drinan (1999) indicate the first step in raising awareness is to define for students what is and is not appropriate behavior. Without such guidance, students are left to make assumptions about acceptable standards where frequently these suppositions are not aligned with faculty expectation and institutional standards. The success of an honor code implementation should be assessed based on short-term and long-term goals. Short-term goals more operational in nature might include defining terminology and educating students and faculty, whereas long-term objectives should include value-laden language such as *fostering a climate of integrity and ethics* (Dufresne, 2004, p. 43). McCabe et al. (2002) caution if the introduction of an honor code is not supported by academic integrity information communicated to students regarding policies and penalties, the expectations may not be understood or perceived as real. McCabe and Trevino (2002) indicate two critical elements are communication and participation where communicating issues involving academic integrity need to be an institutional priority and participation can be accomplished through integrity seminars and awareness campaigns.

Just as an effective corporate ethos serves as the best means of preventing corporate crime, many researchers argue that an honor code holds the greatest promise in reversing the trend of academic dishonesty (Hollinger & Lanza-Kaduce, 1996; McCabe & Trevino, 1993;

Sims, 1993). Research suggests honor codes are effective because they define academic integrity and academic dishonesty, raise awareness, and help students understand risks involved including detection and penalties (Alschuler & Blimling, 1995; May & Loyd, 1993; McCabe & Trevino, 1993). Studies also indicate few institutions have devoted adequate time to issues involving academic integrity (McCabe & Drinan, 1999). Honor codes in and of themselves cannot be the sole method used to deter cheating; instead, institutions need to integrate academic integrity in all segments of the college community (McCabe & Drinan, 1999). Much like the weightless corporate code failing to make its descent down the corporate hierarchy, simply instituting an honor code does not create a climate of ethical awareness. Similar to helium balloons released at parades, spectators in the academic community might enjoy the view provided by the code; no one, however, really has an opportunity to grasp on or get their hands around it.

Summary

This literature review reveals that:

1. There exists a relationship between workplace and academic integrity.
2. Violations of workplace and academic integrity have increased over the last several years.
3. Significant research has been conducted specific to individual factors associated with academic dishonesty.
4. Significant research has been conducted specific to violations of academic integrity.
5. Significant research has been conducted specific to detecting and deterring academic dishonesty including the role and influence of an academic honor code.

However, limitations still exist in the current literature base. While findings indicate academic honesty should be an institutional priority integrated through all aspects of the academic community affirming institution values and emphasizing honesty and scholarship as the foundation of higher education, research suggests inadequate time has been devoted to the subject. Although the honor code is revealed as an essential deterrent factor influencing academic integrity, and research conducted examining the dishonest behaviors of students at institutions with honor codes suggests those students in honor code environments cheat significantly less than students attending colleges and universities that have a modified honor code or no honor code at all, studies have not examined effective means and methods used to inform and educate students of honor code content and expectations. Even though findings indicate honor codes may be effective vehicles used to activate moral norms, enhance ethical development, and teach professional ethics, studies have not suggested effective strategies for creating paradigm shifts from an unethical culture to an academic community embracing the tenets and expectations of academic integrity. While significant research has been conducted specific to individual factors associated with academic dishonesty, violations of academic integrity, and detecting and deterring academic dishonesty, empirical evidence does not exist examining proactive measures to encourage academic integrity based on this wealth of information. Although participation and communication have been identified as critical elements of an honor code, and numerous articles have called for increased communication discussing academic honesty and ethical issues including the clarification of expectations and standards, research has not been conducted examining methods and modes of effective communication techniques. Even though academicians suggest honor codes should have a training component, research could

not be identified suggesting a systematic approach to the creation or evaluation of such training. These findings suggest institutions may not be effectively cultivating moral character. Consequently, the role of Family and Consumer Sciences to draw upon the ethical resources necessary to create intellectual and moral leaders and foster the development of personal and social responsibility is jeopardized. Therefore, education reform is necessary.

CHAPTER 3. METHODOLOGY

In an effort to fulfill the mission and purpose of FCS as a morally oriented discipline, this review of literature serves as the cornerstone influencing the research design components including the treatment or intervention, hereafter referred to as the Academic Integrity Training Course (AITC); module quizzes, one pretest and two posttests, and evaluation tools. Module quizzes were created to determine student knowledge and understanding of concepts and expectations of ethical behavior in the classroom. Pre- and post-tests were created to determine student knowledge, understanding and attitude relative to the honesty or dishonesty of activities specific to ethical behavior in the classroom. Evaluation tools were utilized to assess course effectiveness and enhance the value of this study for both the MCC audience and other interested academic institutions. In consideration of the size, scale, and exploratory nature of this study, MCC administration decided the AITC would be delivered online using WebCT. Further, it was determined a subsequent decision to integrate the course into the traditional on-campus learning environment would be based on study findings and potential revisions. The purpose of this study is to gather evidence documenting the effectiveness of the Metropolitan Community College AITC. Based on stated study objectives, the following hypotheses have been developed:

1. Participation in the Metropolitan Community College Academic Integrity Training Course will enhance student knowledge, understanding, and attitude specific to concepts and expectations of ethical behavior in the classroom.
2. Aforementioned changes, evidenced specific to knowledge, understanding, and/or attitude will be sustained over a period of 14 days.

3. Module quiz scores (0–15) will serve as a predictor relative to posttest_1 and posttest_2 scores.

The null hypotheses investigated were:

1. Participation in the Metropolitan Community College Academic Integrity Training Course will not enhance student knowledge, understanding, and attitude specific to concepts and expectations of ethical behavior in the classroom.
2. Aforementioned changes, evidenced specific to knowledge, understanding, and/or attitude, will not be sustained over a period of 14 days.
3. Module quiz scores (0–15) will not serve as a predictor relative to posttest_1 and posttest_2 scores.

Additional objectives have also been established for the purpose of conducting internal analysis reviewing the treatment effectiveness relative to the stated cognitive functions (knowledge, understanding, and attitude). Based on this internal analysis, the following additional objectives have been formulated:

1. Determine if student knowledge, understanding, and awareness of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.
2. Determine if student knowledge and understanding of academic dishonesty specific to behaviors considered unacceptable in an educational environment (e.g. plagiarism and cheating) increased after participating in the MCC Academic Integrity Training Course.

3. Determine if student knowledge and understanding of potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.
4. Determine if student knowledge and/or understanding of the relationship between academic and workplace integrity increased after participating in the MCC Academic Integrity Training Course.
5. Determine if student knowledge and/or understanding of proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.

The need for a systematic approach to create and evaluate the Metropolitan Community College Academic Integrity Training Course (MCC AITC) was based on the information presented in the literature review specific to the limitations of the existing current literature base. This study used an experimental design to evaluate the AITC in an effort to ascertain if participation in this course enhanced or expanded knowledge, understanding, and attitudes specific to various issues associated with academic integrity. Experimental designs “test an idea (or practice or procedure) to determine whether it influences an outcome or dependent variable” (Creswell, 2005, p. 283). As opposed to a random assignment approach used in true experiments, this quasi-experiment method involved the use of an intact or select experimental group to establish possible cause and effect between the independent and dependent variables, where the independent variable was the course (treatment), and the dependent variables were student knowledge, understanding, and attitudes.

This chapter discusses the methodology used to gather evidence documenting the effectiveness of the AITC and reviews the evaluation tools utilized to assess course effectiveness and determine value-added for both the MCC audience and other interested academic institutions. This will include a detailed description of the population and a discussion of the sample reviewing the characteristics of participants and nonparticipants where Pearson chi-square tests were conducted to identify significant differences between group (WA and WB) and class (Finance and Psychology). T-tests were used to test the proposition that the means for participants and nonparticipants, groups (WA and WB), as well as classes (Finance and Psychology), did not vary as a function of age, GPA, credits attempted, or credits completed at MCC. To describe categorical data (gender, ethnicity, educational goal, and enrollment tenure), chi-square tests were completed comparing observed frequencies with expected frequencies to determine if the differences were real or occurred as a result of random variation due to the consequences of sampling. Procedures employed during the development of the AITC are then summarized followed by a description of the assessment instruments created and a discussion of data collection and analysis utilizing said tools. Cronbach's alpha was used to assess the reliability of the use of subscales created to evaluate measurement instruments (pretest, module quizzes, and posttests). Because the prediction of future observations was not a consideration, and participant selection was not based on extreme scores, regression analysis was not utilized. The chapter concludes with a discussion of issues relative to external and internal threats to validity followed by a brief summary.

Population

Metropolitan Community College (MCC), located in Omaha, is one of six comprehensive full-service public community colleges in Nebraska. Created by the Nebraska Community College System in 1974, MCC is partially supported by revenues generated from 641,120 (U.S. Census Bureau, 2007) taxpayers residing in its 1,496.4 square mile service area comprised of Dodge, Douglas, Sarpy, and Washington counties. With a state populace of 1,892,000 (U.S. Census Bureau, 2007), citizens in the MCC service area represent approximately one-third of the total state population. As detailed in the *Metropolitan Community College 2002 Self-Study Report* submitted in partial fulfillment of the requirements for continuous accreditation by the Higher Learning Commission of the North Central Association of Colleges and Schools, MCC serves an enrollment of 25,527 credit students, making it the third largest postsecondary educational institution in Nebraska. Based on statistical projections, annual credit headcounts are expected to increase to 35,000 in 2010, 40,000 in 2015, and 45,000 in 2020 (p. 140).

As included in the *Metropolitan Community College 2007–2008 Catalog*, the mission of MCC is to “provide quality learning experiences for a diverse community of life-long learners,” and the college vision “is to become the community’s number one resource for postsecondary learning . . . [exceeding] expectations for value, quality, community access, and student choice” (p. 2). As described in the *Metropolitan Community College 2002 Self-Study Report*, the core values of the college include “solving problems using solution-seeking attitudes and systems approaches; and, continuously striving to improve interpersonal and organizational communications” (p. 25). “Enhancing and expanding learning-centered education and creating and improving flexible learning support

systems” are part of the MCC strategic planning initiatives (p. 36). An overview of MCC outcomes assessments indicates “providing accountability to the community and providing data for informed decision-making” are priorities of the College (p. 127).

As detailed in the *Metropolitan Community College 2002 Self-Study Report*, MCC revenue resources include state aid (36.3%), local taxes (35.8%), tuition (25.2%), grants (0.6%) and miscellaneous other resources (2.1%) (p. 81). Expenditure categories include personnel services (72.5%), operating expenses (17.9%), capital outlays (4.2%), supplies/materials (2.9%), student aid (1.7%) and travel (0.8%) (p. 86). Included in the personnel service expenses are salaries for 176 full-time Metropolitan Community College faculty. Forty percent of faculty members enjoy credentials exceeding the minimum educational requirements as detailed in the negotiated agreement criterion where 88% have at least a bachelor’s degree, 65% have at least a master’s degree, and 7% have doctorates (p. 59). Metropolitan Community College employs 490 adjunct faculty who teach 51.7% of all credit hours (p. 61).

As an open-enrollment institution, the general admission requirements do not necessitate a formal application. Individuals interested in registering for courses must be at least 18 years of age, have a high school diploma or the equivalent, and have the ability to benefit from the educational experience. Operating on a quarter-system as opposed to a semester basis, Metropolitan Community College teaches credit courses at three campus locations, four center sites, and various other places including area high schools and community centers. The average class size is 16 students. Metropolitan Community College began teaching courses online during the 2000–2001 academic year and now has an

estimated enrollment of 3,500 online students. MCC offers students more than 100 program options and awards degrees, certificates, and diplomas. Over the nine year period of 1992–2001, MCC conferred more than 5,700 associate degrees and granted over 1,500 certificates (p. 28).

Although the Metropolitan Community College student population is comprised of a wide range of ages where the average age is 29, those between the ages of 20 and 24 represent the largest age group. Sixty-seven percent of MCC students are married, and approximately 40% consider themselves the head of household (p. 51). With respect to gender, approximately 60% of the MCC student base is female. MCC serves a minority student population comprising 21.4% of total enrollments as compared to total minority population in the state of 17%. Upon graduation, 97% of MCC alumni remain in Nebraska to work.

The *Metropolitan Community College 2002 Self-Study Report* addresses areas of communication and integrity. This document suggests communication between faculty/staff and students has been problematic due to a diverse student population largely comprised of part-time commuter students attending classes at various campus and center locations dispersed over a large geographic area. The *Self-Study Report* (2002) challenges faculty and staff to identify new and improved methods of providing student information “when and where they need it” (p. 46). Chapter 12 (p. 147) of the *Metropolitan Community College 2002 Self-Study Report*, entitled *Integrity*, discusses integrity issues specific to Board of Governors (BOG) and college employees, articulation agreements, secondary education programs, and diversity. Academic integrity concerns regarding students, such as cheating and plagiarism, are not mentioned in this section.

Participants

Participants included in the sample were delineated by both class and group where students were enrolled in either a Finance or Psychology class and were included in one of two groups labeled as “WA” and “WB.” A total of 154 students were asked to complete the AITC and were given course participation points for doing so. Points awarded were based on completion and not correlated to scores on the pretest, module quizzes, or posttests. As illustrated in Table 18, of the 154 students asked to participate, 95 (61.68%) did log into the course and completed either the entire course (pretest, module quizzes, posttest₁, and posttest₂) or some part thereof. Eighty-six of the students (55.84%) completed all course elements with no more than four questions left blank. Nine students (.06%) partially completed the course, omitting one or more entire course elements (pretest, module quizzes, posttest₁, posttest₂), and 58 students (37.66%) did not participate in the course in any capacity. Based on these results, 86 students (55.84%) have been classified as participants and 68 (44.16%) as nonparticipants.

Class and Group

Based on research suggesting business majors may be more likely to cheat as compared to students majoring in other academic areas (Baird, 1980; Smyth & Davis, 2004; Zimmerman, 1999), this study utilized purposive sampling whereby the MCC Business Administration Department (accredited by the Association of Collegiate Business Schools and Programs) was selected to pilot the AITC during the 2008 spring quarter. For comparative purposes, courses from the Social Sciences Department were also included in the sample. Four separate courses were identified to pilot the AITC: (a) FINA1200: Personal Finance; (b) FINA2200: Investments; (c) PSYC1010: Introduction to Psychology; and (d)

PSYC1120: Human Growth and Development. A total of eight classes were selected for the pilot including two sections of FINA1200: Personal Finance; two sections of FINA2200: Investments; three sections of PSYC1010: Introduction to Psychology; and one section of PSYC1120: Human Growth and Development. Of the 86 participants, 35 (40.7%) were from Finance classes, and 51 (59.3%) were from Psychology classes.

This pilot involved four faculty members where Professor A taught both sections of FINA1200: Personal Finance; Professor B taught both sections of FINA2200: Investments; Professor C taught two sections of PSYC1010: Introduction to Psychology; and Professor D taught both the PSYC1010: Introduction to Psychology and the PSYC1120: Human Growth and Development classes. The *2007–2008 MCC Catalog* describes these courses as follows:

1. FINA1200: Personal Finance—This course is designed to give the student an understanding and practical applications of the theories and concepts of how to analyze and direct one's financial affair and that of his/her family. (p. 287)
2. FINA2200: Investments—This course presents basic investment concepts such as investment markets and transactions, investment planning and information, and investment risk and return. The course also explores the environment by examining the role and scope of various investment vehicles including common stock, fixed-income securities, derivative securities, and mutual funds. (p. 287)
3. PSYC1010: Introduction to Psychology—The student learns a broad overview of the general field, fundamental principles, and methods of psychology. This course is designed to be a transferable course. Main topics include physiological psychology, learning, memory, human growth and development, personality,

motivation and emotion, social psychology, abnormal behavior, and therapeutic approaches. (p. 330)

4. PSYC1120: Human Growth and Development—This course addresses the stages of the human life span: prenatal, infancy, toddlerhood, middle childhood, adolescence, adulthood, and gerontology. With each stage of the life span, cognitive, language, emotional/social, personality, and physical development are examined. In addition, the procedures used in conducting research about human development are presented. (p. 330)

The 154 students asked to participate were randomly divided into two groups labeled “WA” and “WB.” Seventy-eight students were included in WA and 76 in WB. Of the 78 students asked to participate in group WA, 47 (60.3%) did participate, and 31 (39.7%) did not participate. Of the 76 students asked to participate in group WB, 39 (51.3%) did participate, and 37 (48.7%) did not participate. Of the 86 participants, 47 (54.7%) were from group WA, and 39 (45.3) were from group WB. Although there was a higher percentage of students who elected to participate in group WA as compared to WB, results from a Pearson chi-square test reported no significant difference between the number of participants in group WA and WB $\chi^2(1, N = 154) = 1.25, p = .26$. Of the 66 students asked to participate from Finance classes, 35 (53.03%) did participate, and 31 (47.07%) did not participate. Of the 88 students asked to participate from Psychology classes, 51 (57.95) did participate, and 37 (55.68%) did not participate. Although there was a higher percentage of students who elected to participate from Psychology classes as compared to Finance classes, results from a Pearson chi-square test reported no significant class difference $\chi^2(1, N = 154) = .37, p = .54$. Of the 47 participants from group WA, 19 (40.4%) were from Finance classes, and

28 (59.6%) were from Psychology classes. Of the 39 participants from group WB, 16 (41.0%) were from Finance classes, and 23 (59.0%) were from Psychology classes.

Although there was a higher percentage of Psychology students who elected to participate in both groups WA and WB, results from a Pearson chi-square test reported no significant difference between the number of Finance and Psychology participants in groups WA and WB $\chi^2(1, N = 86) = .003, p = .96$.

Demographic Data

Using student records, demographic information was gathered including age, GPA, credits attempted at MCC, credits completed at MCC, gender, ethnicity, educational goal, and enrollment tenure. To describe continuous data, t-tests were conducted to test the proposition that the means for participants and nonparticipants, groups (WA and WB), and classes (Finance and Psychology) did not vary as a function of age, GPA, credits attempted, or credits completed at MCC (Table 19). To describe categorical data (gender, ethnicity, educational goal, and enrollment tenure), chi-square tests were completed to compare observed frequencies with expected frequencies to determine if the differences were real or occurred as a result of random variation due to the consequences of sampling. What follows is a discussion of the results of the aforementioned tests.

Similar to the MCC student population, the age range of the sample was wide where the youngest student in the study was 18, and the oldest was 62. Findings specific to age suggests there was not a significant difference, $t(152) = .73, p = .47$, between participants and nonparticipants where the mean age of a participant was 27.00, and the mean age for a nonparticipant was 25.94. Further, there was not a significant difference for group, $t(84) = 1.79, p = .08$, where the mean age in group WA was 28.38, and the mean age in group WB

was 25.33. Finally, there was not a significant difference for class, $t(84) = 1.16, p = .25$, where the mean age for the Psychology students was 26.16, and the mean age for the Finance students was 28.23.

When determining the mean GPA, only those students who had a calculated grade point average were included in the sample resulting in a decreased sample size. Findings specific to GPA suggest there was a significant difference, $t(116) = 3.62, p = .001$, between participants and nonparticipants where the mean GPA of a participant was 3.24, and the mean GPA for a nonparticipant was 2.73. Further, there was also a significant difference for group, $t(68) = 2.19, p = .03$, where the mean GPA in group WA was 3.38, and the mean GPA in group WB was 3.07. Finally, there was not a significant difference for class, $t(84) = 1.87, p = .06$ where the mean GPA for the Psychology students was 3.15, and the mean GPA for the Finance students was 3.35.

Findings specific to credits attempted suggest there was not a significant difference, $t(152) = 1.52, p = .13$, between participants and nonparticipants where the mean number of credits attempted for a participant was 50.35, and the mean number of credits attempted for a nonparticipant was 38.11. Further, there was not a significant difference for group, $t(84) = .99, p = .32$, where the mean number of credits attempted for group WA was 55.17, and the mean number of credits attempted for group WB was 44.55. There was, however, a significant difference between classes, $t(84) = 1.99, p = 0.05$, where participants in the Finance classes had attempted more credits as compared to participants enrolled in the Psychology classes (62.93 vs. 41.73).

Findings specific to credits completed suggests there was a significant difference, $t(151) = 2.61, p = .010$, between participants and nonparticipants where the mean number of

credits completed for a participant was 41.41, and the mean number of credits completed for a nonparticipant was 24.76. Further, findings suggest there was also a significant difference between classes, $t(83) = 2.42, p = .018$, where participants in the Finance classes had completed more credits attempted as compared to participants enrolled in the Psychology classes (54.04 vs. 32.57). There was, however, not a significant difference for group, $t(83) = 1.16, p = .251$ where the mean number of credits completed for group WA was 46.17, and the mean number of credits completed for group WB was 35.80.

To further describe participants and nonparticipants, categorical data (gender, ethnicity, educational goal, and enrollment tenure), were analyzed using chi-square tests to compare observed frequencies with expected frequencies to determine if the differences were real or occurred as a result of random variation due to the consequences of sampling. Of the 86 students who participated, 55 (64.0%) were women, and 31 (36.0%) were men. Of the 68 students who did not participate, 35 (51.5%) were women, and 33 (48.5%) were men. Although there were more female participants as compared to males, results from a Pearson chi-square test reported no significant difference between participants and nonparticipants with respect to gender $\chi^2(1, N = 154) = 2.44, p = .12$. Further, results from additional Pearson chi-square tests reported no significant sex difference for group $\chi^2(1, N = 86) = 1.90, p = .17$, or class $\chi^2(1, N = 86) = 1.19, p = .28$.

Of the 154 students asked to participate, 134 students (87.02%) were White, and 20 students (12.98%) were minorities. Of the 86 students who participated, 77 (89.53%) were White, and 9 (10.47%) were minorities. Of the 68 students who did not participate, 57 (83.82%) were White, and 11 (16.18%) were minorities. Minority participation in the AITC was substantially less than minority enrollments for the MCC student population (23.35%)

and slightly below the percentage indicated of minority enrollments for online classes (12.70%). Although more White students participated than minority students, results from a Pearson chi-square test reported no significant difference between participants and nonparticipants with respect to ethnicity $\chi^2(6, N = 154) = 5.78, p = .45$. Further, results from additional Pearson chi-square tests reported no significant ethnic difference for group, $\chi^2(5, N = 86) = 7.90, p = .16$, or class, $\chi^2(5, N = 86) = 6.44, p = .27$.

The largest percentage of students who participated in the AITC (27.9%) are considered degree-seeking with a designated educational goal of Associate of Arts Degree. There was, however, no designated educational objective (indicated *undecided/undeclared* and *no information*) for 31.47% of the students who participated. Nonparticipants can be described as students pursuing an Associate of Arts Degree (17 students or 25% of nonparticipants) or as students simply taking several MCC courses (17 students or 25% of nonparticipants). Due to the large number of categories and the limited number of students in each category, chi-square results with respect to educational goals were meaningless relative to participants and nonparticipants $\chi^2(17, N = 154) = 31.53, p = .02$; group $\chi^2(14, N = 86) = 17.05, p = .254$; and class $\chi^2(14, N = 86) = 16.47, p = .29$.

Of the 154 students asked to participate, there was a 30 year range in enrollment tenure where one student had first enrolled at MCC in 1977, and 64 students had enrolled during the last academic year (2007). The largest percent of participants (39%) as well as nonparticipants (44.1%) had only been MCC students for the last academic year, and more than half (52 students; 60.47%) of the 86 participants have only been enrolled at MCC for the last two years. Due to the large number of categories and the limited number of students

in each category, chi-square results, with respect to enrollment, were meaningless relative to participants and nonparticipants $\chi^2(16, N = 154) = 11.70, p = .76$; group $\chi^2(13, N = 86) = 13.40, p = .42$; and class $\chi^2(13, N = 86) = 23.20, p = .04$

To summarize demographic data, findings indicate there were statistically significant differences between participants and nonparticipants with respect to GPA and credits completed. That is, as compared to nonparticipants, participants had higher GPAs and had completed more hours. Results also indicate there were statistically significant differences between groups (WA and WB) with respect to GPA where the mean GPA in group WA was higher than the mean GPA in group WB. Lastly, findings indicate there were statistically significant differences between classes (Finance and Psychology) with respect to credits attempted and credits completed. That is, as compared to Psychology students, Finance students had attempted and completed more hours.

Table 20 presents a summary of the demographic data. Based on these findings, the typical student who participated in the AITC can be described as a 27-year-old White female completing an Associate of Arts degree and currently enrolled in a Psychology class. She has a 3.24 GPA and has been a student at MCC for two or more years. During this time, she has attempted 50.35 credits and has successfully completed 41.41 credits (82.24%) of this course work. The nonparticipant can be described as White, age 26, and is almost equally likely to be male as female. He or she is enrolled in a Psychology class and is either completing an Associate of Arts degree or simply taking several courses at MCC. This student has a GPA of 2.72 and has been attending MCC for two or less years. During this time, this student has attempted 38.10 credits and has successfully completed 24.76 credit hours (64.99%) of this course work.

Metropolitan Community College Academic Integrity Training Course
(Treatment) Development

Metropolitan Community College operates under the authority of the Nebraska Coordinating Commission for Postsecondary Education as detailed in Nebraska Statute 85-963 and is governed by the MCC Board of Governors (BOG) as provided by the Nebraska Statute 344. Procedures memoranda exist for the purpose of supporting MCC BOG policies, standardizing human resource issues, and systematizing college operations (see Appendix C). Metropolitan Community College Procedures Memorandum V-4 is entitled *Student Conduct and Discipline* (see Appendix D). This memorandum is available online and is linked from the table of contents containing all *Procedures* listed in alphabetical order. Although this document is several pages in length, the section addressing academic misconduct (*Section I: Student Conduct and Guidelines*) is only one page long. *Section II* of this document (*Sanctions*) provides a detailed summary of sanctions imposed in the event of an occurrence of academic misconduct. *Section III* explains *Disciplinary Procedures*. Both *Sections II* and *III* account for the majority of the document. Based on Procedures Memorandum V-4: *Student Conduct and Discipline*, the *MCC Student Code of Conduct* (Appendix E) is one page in length and is available both online and in the MCC Catalog. Created by MCC Counsel, the *Metropolitan Community College Student Code of Conduct* was originally adopted in 1997 and has been revised three times with the most recent revisions (title changes only) occurring in 2006. Students were not involved in the development, implementation, or revision of this code.

The *MCC Student Code of Conduct* does not qualify as a traditional honor code, which was described by McCabe et al. (2002) as a code featuring the four following

components: (a) Code of Ethics: a written policy/pledge of academic honesty; (b) Judiciary Process: a process that includes student involvement concerning alleged acts of academic dishonesty; (c) Examinations: exams that are not proctored; and (d) Student Vigilance: an environment where students are responsible for reporting acts of academic dishonesty. A review of the *MCC Student Code of Conduct* reveals that this statement does not provide for, nor address, a code of ethics, judiciary process, examinations, or student vigilance. Analysis of Procedures Memorandum V-4, the document serving as the basis for the *MCC Student Code of Conduct*, reveals the existence of a detailed judiciary process describing possible sanctions including admonition, failing grade, failure of the course, disciplinary probation, required restitution, interim suspension, suspension, and dismissal from the college. If the *MCC Student Code of Conduct* is considered an extension of the Procedures Memorandum V-4: *Student Conduct and Discipline*, then the *MCC Student Code of Conduct* could be considered a modified honor code, described by McCabe and Trevino (2002) as an honor code not containing all four features of the traditional honor code.

In 2005, MCC, through the office of the Vice President of Academic Affairs, initiated an informal survey of all full-time faculty for the purpose of determining climate and conditions associated with academic dishonesty. Results suggested faculty considered academic dishonesty an institutional problem. Several respondents indicated they had encountered numerous occurrences of academic dishonesty over the course of the previous year. Many faculty members stated they had not read or reviewed the *MCC Student Conduct Guidelines* and indicated they would value a faculty development opportunity addressing issues specific to academic dishonesty. This informal assessment served as an impetus and motivating factor for the creation of the Metropolitan Community College AITC.

Colleges and universities interested in promoting the concept of academic integrity as an institutional standard can use various vehicles to advance dialogue including orientation sessions, student handbooks, and academic integrity classes (May & Lloyd, 1993). To encourage the development of professional ethics, expected standards of behavior should be presented to students early in their collegiate careers and remain visible throughout the course of their education as continual reminders of expectations (O'Collell & Taylor, 1994). Swift et al., (1998) suggest these efforts should include discussions where important terms and concepts are defined for students, and where cheating practices such as plagiarism are identified as serious infractions. Further, institutions need to make students aware of the efforts taken to ensure academic integrity including the use of plagiarism prevention tools such as Turnitin.com. Research (McLafferty & Foust, 2004; McMurtry, 2001) indicates the most effective means to discourage dishonest academic actions such as plagiarism involve student instruction and education.

To encourage academic integrity, many colleges and universities have created courses and training programs detailing expected standards. At the University of Alberta in Edmonton, Canada, all newly admitted graduate students are required to take a five hour web-based ethics and academic integrity training course ("Ethics Training Requirement," 2007). At the University of California-Santa Barbara, the Office of Judicial Affairs provides both students and faculty web-based academic integrity training opportunities ("Resources for Students," 2007) detailing statistics and explaining prohibited conduct ("Welcome to the Office of Judicial Affairs," 2007). At other educational institutions such as Villanova University, students who have violated the academic integrity code are required to go through an academic integrity training program reinforcing policies and procedures

(“Academic Integrity Code,” 2007). At Napier University in Edinburg, Scotland, academic integrity training is compulsory for all staff and faculty (“Teaching Fellows Journal,” 2007). No published empirical evidence supporting the reliability or validity of these efforts could be located.

The Metropolitan Community College AITC was created based on research findings gathered during the literature review as summarized in Tables 1–17. Applying knowledge gained in the research process, and in consideration of the aforementioned demographic and institutional factors associated with MCC, various areas of focus and concentration were identified during the development phase. As illustrated in Table 21, this focus included factors associated with demographics, workload, academic attributes, sanctions, faculty, communication, and various institutional factors. During course creation, considerable attention was given to information presented in the taxonomy of cheating behaviors detailing the various violations of academic integrity (Tables 10–12). Specifically, module content and assessment measures were created to reflect concerns associated with collaboration and premeditation.

To customize the course specific to the MCC student population, considerations were made relative to demographic and institutional factors. Demographic factors included student age and workload, whereas institutional factors included sanctions, size of the institution, faculty support, and the existence of an academic honor code. Specific to age, factors considered included the age range of the MCC student (20 to 24) and the significant amount of research suggesting younger students are more likely to engage in academically dishonest behaviors and/or admit to cheating (Cochran et al., 1999; Dawkins, 2004; Diekhoff et al., 1996; Faulkender et al., 1994; Genereux & McLeod, 1995; Graham et al.,

1994; Haines et al., 1986; McCabe & Trevino, 1997; Rawwas & Isakson, 2000; Robinson et al., 2004; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999). Workload was also considered an important factor given identified research suggesting students find it difficult to balance work and academics (Barnes, 1975; Cizek, 1999; Diekhoff et al., 1996; Vowell & Chen, 2004) and the fact that 40% of MCC students consider themselves head of household. Studies evaluating the relationship between academic dishonesty and year in college (Baird, 1980; Barnes, 1975; Dawkins, 2004; Kerkvliet, 1994; Underwood & Szabo, 2003; Vowell & Chen, 2004) were also reviewed and given serious consideration when creating the AITC.

The AITC placed significant emphasis on sanctions in consideration of two factors. First, the *Metropolitan Community College Student Code of Conduct* identifies and details possible sanctions for academic dishonesty. Second, research indicates students may be less likely to cheat if they expect and/or fear sanctions or penalties in the event they are caught (Cummings & Romano, 2002; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993, 1997; Mixon, 1996; Stevens & Stevens, 1987; Tittle & Row, 1973; Ward & Tittle, 1993). Considering research findings indicating students are more likely to cheat in classes taught by adjunct faculty, the most important factor relevant to faculty included consideration of the number of MCC credit courses taught by part-time instructors (51.7%). As Table 21 indicates, when developing the AITC, research identifying the importance of numerous communication factors was given extensive consideration.

Relevant institutional factors considered included the size of the institution, faculty support, and the academic honor code. Because MCC is a public college with credit enrollments of 25,527, research indicating that students at larger state-supported institutions

are more likely to cheat as compared to students enrolled at small private colleges (Weiss et al., 1993) was reviewed in detail. As discussed in the mentioned research, valuable deterrents involve faculty support such as subscriptions to plagiarism search services (Baron & Crooks, 2005; Braumoeller & Gaines, 2001; McMurtry, 2001). Consequently, an important inclusion in the AITC was the mention of MCC's subscription to Turnitin.com. The *Metropolitan Community College Student Code of Conduct* received significant coverage in the AITC based on research suggesting the importance of an academic honor code as a deterrent to cheating (Brooks et al., 1981; Gardner et al., 1988; May & Loyd, 1993; McCabe & Trevino, 1993). The developed course consisted of a pretest, five separate modules, and two posttests. The module objectives were:

1. Module 1: Review the purpose and application of the *Metropolitan Community College Student Code of Conduct*.
2. Module 2: Acquaint the student with terms and concepts associated with academic dishonesty.
3. Module 3: Identify the penalties imposed at Metropolitan Community College associated with academic dishonesty.
4. Module 4: Detail the relationship between academic and workplace integrity.
5. Module 5: Inform the student of proactive measures encouraging academic honesty.

Assessment Instruments

Instruments developed to assess the effectiveness of the AITC were created using numerous multiple-choice objective questions. These questions were based on the content of the five aforementioned modules. Measurement tools developed utilizing these questions

included a pretest, five module quizzes, and two posttests (posttest₁ and posttest₂). To determine the effectiveness and usability of the individual questions, a pilot instrument was created based on research findings from numerous peer-reviewed journal articles published over a time span of 40+ years (e.g., 1963–2007), as well as the Eve and Bromley (1981) survey tool (Table 22). This pilot was administered to 106 students at enrolled in Psychology, Economics, Finance, Mathematics, and Computer Sciences courses at Metropolitan Community College during the spring of 2008. Comprised of 62 objective multiple-choice questions, test items were categorized as those measuring knowledge, evaluating understanding, and assessing attitude. This pilot was considered appropriate for the given population with respect to readability as assessed by the Flesch-Kincaid Index at a 10.4 grade level. Further, it was believed the content of the pilot questions accurately reflected and adequately represented the area of interest; consequently, it was thought the instruments constructed that utilized these questions (module quizzes, pretest, and posttests) were adequate with respect to content validity. Based on results from this pilot, questions were added, deleted, and revised as necessary before being included in the final measurement instruments. What follows is a description of the methodology and procedures employed when developing the multiple-choice questions (knowledge, understanding, and attitude) and measurement tools (module quizzes, pretest, and posttests).

Knowledge Questions

Knowledge questions were constructed with a question stem followed by four answer options where one answer was considered correct, and three alternatives served as plausible distracters for the purpose of distracting the student who did not know the correct answer. Knowledge questions included those assessing comprehension of terminology,

specific facts, knowledge of principles, and knowledge of methods and procedures. As detailed in the Tables of Specifications (Table 23 and 24), 10 knowledge questions appeared on the module quizzes, and five were included in the pretest and each posttest. The following is an example of a knowledge question: *Students caught cheating at Metropolitan Community College _____; Answer options: (A) typically fail the assignment and are required to take the course again; (B) are subject to any and all sanctions described in the Metropolitan community College Student Code of Conduct; (C) typically fail the course and are required to make full restitution to all injured parties; (D) are seldom subject to any sanction other than having to redo an assignment.*

Understanding Questions

Understanding questions were constructed with a question stem followed by three answer options where the student could respond by selecting from the following alternatives: *agree, disagree, or don't know*. Created to evaluate high-level thinking and assess complex learning outcomes, each question stem presented a scenario where the student was asked to evaluate the situation. These questions allowed the student to transfer what was learned in the modules and to apply this understanding to situations not previously studied, providing an opportunity to assess the students' ability to identify application of facts and principles, interpret cause-and-effect relationships, and justify methods and procedures. As detailed in the Tables of Specifications (Table 23 and 24), five understanding questions appeared on the module quizzes, and 10 were included in the pretest and each posttest. The following is an example of an understanding question: *Against the advice of his counselor who is concerned about his current grade point average (GPA), Dennis is contemplating waiving the prerequisite for MATH 1420: College Algebra. Dennis tells his*

counselor he needs College Algebra now and must pass it with a grade of “A” to maintain his scholarship. Dennis should not waive the prerequisite; Answer options: (A) Agree; (B) Disagree; (C) Don’t know.

Attitude Questions

Although attitude questions did not appear on the module quizzes, as detailed in the Table of Specifications (Table 23), there were a total of eight attitude questions included on the pretest and each posttest where seven came from the Eve and Bromley (1982) survey (Table 22), and the one additional question was included to determine if attitude would change specific to the likelihood of a student cheating at MCC. The Eve and Bromley (1982) survey instrument was originally administered in 1978 to 650 undergraduates at an educational institution similar to Metropolitan Community College with respect to size and student population. Created by Eve and Bromley to determine respondents’ assessment of the relative honesty or dishonesty of specific activities or behaviors, nine of the 15 activities were identified as dishonest by 75% or more of those sampled. Used to measure cheating and to assess the efficacy of internal social control theory and culture conflict theory as sociologic traditions employed to explain scholastic dishonesty (Eve & Bromley, p. 3), these descriptive data were utilized to create four scales, two independent scales (“social control” and “culture conflict”) and two dependent scales (“last semester” and “college career”) (p. 14). The Cronbach’s alpha reliability coefficient for the two independent scales was .64 for “social control” and .71 for “culture conflict,” and for the dependent scales this measure was equal to .75 for “last semester” and .72 for “college career.” Each of the seven attitude questions adapted from the Eve and Bromley (1982) survey instrument (Table 22) asked the respondent to assess the relative honesty or dishonesty of a described activity or behavior.

These questions consisted of a question stem followed by four answer options: *very honest*, *honest*, *dishonest*, and *very dishonest*. The following is an example of an attitude question: *A student who used prohibited materials (notes, cell phones, etc.) during an exam is _____*; Answer options: (A) *very honest*; (B) *honest*; (C) *dishonest*; (D) *very dishonest*.

Given the holistic definition of academic misconduct (i.e., inclusive of both cheating and plagiarism) as detailed in the *MCC Student Code of Conduct* and represented in the AITC, a measurement tool delineating dishonest acts as those including cheating and plagiarism was considered optimal when creating assessment measures for the AITC. Consequently, of the 14 activities adapted from the Eve and Bromley (1982) survey instrument, seven related to behaviors specific to plagiarism, and seven related to behaviors specific to cheating. To the extent the Eve and Bromley measurement accurately corresponds to the theoretical constructs concerning the phenomenon of academic misconduct, the selection and utilization of this tool was appropriate with respect to construct validity.

Some adjustments were made to the Eve and Bromley (1982) survey specific to the number of activities listed, wording, and number of answer alternatives. All activities listed in the Eve and Bromley survey were utilized with the exception of the behavior assessed by respondents as the most honest of all activities listed (i.e., “submitted same term paper to several courses without permission”) (p. 8). As illustrated in Table 22, minor adaptations were made to wording on four activities to reflect current conditions. For example, the activity “Used notes or books during test when prohibited” was changed to read “Used prohibited materials (notes, cell phones, etc.) during a test. Because only four answer

options were provided on the knowledge and understanding questions, for purposes of consistency, the *undecided* alternative utilized on the Eve and Bromley survey was omitted.

To determine if attitude would change specific to the likelihood of a student cheating at MCC, one additional attitude question was included in the pretest and both posttests. The question stem, stated as *A student at Metropolitan Community College is _____*, was followed by four answer options: *very likely to cheat*, *likely to cheat*, *unlikely to cheat*, and *very unlikely to cheat*.

Measurement Instruments: Module Quizzes, Pretest, and Posttests

Using information gathered from the pilot, measurement instruments were developed by randomly dividing the questions and creating a pretest, five module quizzes, and two posttests. The module quizzes included knowledge and understanding questions whereas the pretest and posttests included knowledge, understanding, and attitude questions. As illustrated in the Tables of Specification (Tables 23 and 24), knowledge and understanding questions were based on instructional objectives and were created to assess knowledge and understanding of each of the five modules. The module quizzes were created using a pool of 15 questions consisting of 10 knowledge questions and five understanding questions. Each module quiz included two questions assessing knowledge and one measuring understanding. All student participants received the same module quizzes specific to questions, order, and so forth.

To construct the pretest and posttests each containing 23 questions, two parallel-forms tests—labeled as “Form A” and “Form B”—were created. These forms were used independent of each other and were considered equivalent measures as they reflected the same construct and measured the same domain. As illustrated in Table 24, five of the

questions on each form assessed knowledge, 10 questions evaluated understanding, and eight measured attitude. Fifteen questions on each form corresponded to the modules where three questions were based on each of the five individual modules. As previously discussed, 14 attitude questions were adapted from the Eve and Bromley (1982) survey instrument. These questions were apportioned equally between Form A and Form B where each included a total of seven questions to assess attitude. Four of the seven attitude questions on each form involved behaviors specific to cheating, and the remaining three attitude questions involved behaviors specific to plagiarism. When selecting the seven behaviors included in Form A and Form B, careful consideration was given to creating similar forms based on the Eve and Bromley results. Further, to determine if attitude changed specific to the likelihood of a student cheating at MCC, the one additional mentioned attitude question was included in the pretest and both posttests. Unlike knowledge and understanding questions, attitude questions on Forms A and B were not linked to any specific module content and were not included in the module quizzes.

Data Collection

Approval to conduct the research described and collect the data mentioned was granted by the Human Subject Review Committee at ISU (Appendix A) and the MCC Department of Institutional Research (Appendix B). Using student rosters from each participating class, students were randomly assigned to either group WA or group WB. The experiment design called for one form (either Form A or B) to be administered as the pretest followed by the other Form, not previously used as the pretest (A or B), to be administered as both posttest₁ and posttest₂. This design resulted in two unique test series denoted as ABB and BAA where Group WA was administered test series ABB, and Group WB was

administered test series BAA. The AITC was delivered online using WebCT, thus allowing students to login and complete the course at their leisure. Providing limited accessibility (Day₁: 1 login per student; Day₁₄: 1 login per student), once logged in students were expected to finish the course requirements in their entirety (Day₁: pretest, modules 1–5, and posttest₁; Day₁₄: posttest₂). Estimated completion time on Day₁ was 90 minutes and on Day₁₄ was 10 minutes. Upon entering the course (Day₁), the student first viewed necessary disclosure information and course instructions. After reading this material, the student then embarked on the course material beginning with the pretest and proceeding on to module 1. After module 1 and each subsequent modules (2 through 5), a module quiz was given summarizing the preceding content. Module quizzes included two questions assessing knowledge and one measuring understanding. Data were collected from the measurement instruments (pretest, module quizzes, posttest₁, and posttest₂) for the purpose of investigating the stated hypotheses and course objectives.

Data Analysis

In this experiment, the module quizzes, pretest, and posttests were used to measure student knowledge, understanding, and attitude specific to various issues associated with academic integrity. The pretest, administered Day₁ before module 1, established a baseline for comparative purposes. Right after completing module 5 (Day₁), participants took posttest₁ to determine immediate changes. Posttest₂, a repeated measure, was administered on Day₁₄ to determine if participation in the AITC provided lasting changes; that is, to ascertain if said change was sustained over a period of 14 days.

To determine the effects of the AITC, statistical analysis included a repeated-measures ANOVA where the repeated measure factor was the posttest (i.e.,

posttest₁ and posttest₂). In this repeated-measures design, each posttest score represented the measurement of student knowledge, understanding, and attitude (dependent variables) under different conditions. Posttest₁ results were used to determine if the AITC represented a reliable learning tool as evidenced by comparative scores of pretests. Posttest₁ scores were used as an anchor to determine if the AITC represented a reliable learning tool as evidenced by comparison of pretest and posttests₂ scores. Pairwise comparisons in post hoc analysis were used to identify significant differences between scores (pretest, posttest₁, and posttest₂).

Because the experimental design involved different groups and classes, both group and class were considered factors. Group was included as a factor because the experimental design included two groups (WA and WB) and two parallel-forms tests (A and B) administered in two different sequences (ABB or BAA). Class was also considered a factor because the experimental design included eight classes comprised of Finance and Psychology students. To evaluate measurement instruments (pretest, module quizzes, and posttests), numerous subscales were created. What follows is a discussion of these subscales and an evaluation of their reliability.

Scales

To evaluate hypotheses 1 and 2, four scales were created to assess the knowledge scores, understanding scores, overall attitude scores (specific to the Eve and Bromley instrument), and the attitude scores derived from responses to the one question involving likelihood of cheating at MCC. To evaluate hypothesis 3, a scale was created to assess the cumulative module scores. To assess the individual course modules, five separate scales were developed to evaluate additional study objectives.

Knowledge Score

To assess knowledge on the pretest and posttests, students were given one point for each correct response to a knowledge question. Because there were five knowledge questions on each of these assessments, the knowledge score range for each test was 0 to 5. Internal consistency (Cronbach's alpha) of the items belonging to the knowledge pretest, posttest₁, and posttest₂ amounted to -.23, -.34, -.30 respectively. The correlation between the five items on each knowledge assessment was low where the pretest range was .25 to .55, the posttest₁ range was .26 to .50, and the posttest₂ range was .23 to .51. These results suggest the scales do not effectively measure the construct of knowledge. Such findings can occur when coding is inconsistent, there are a small number of items included, or when the items measure different dimensions. Coding was investigated and determined to be consistent. Consequently, to increase the internal consistency reliability of this score, future research considerations might include adding more test items and increasing the correlations between the test items.

Understanding Score

To assess understanding on the pretest and posttests, students were given one point for each correct response to an understanding question. Because there were 10 understanding questions on each of these assessments, the understanding score ranged for each test was 0 to 10. Internal consistency (Cronbach's alpha) of the items belonging to the understanding pretest, posttest₁, and posttest₂ amounted to .55, .61, and .57, respectively. Whereas the low alphas for the pretest and posttest₂ suggest the scales may not be reliable measures, as an exploratory study, the alpha for posttest₁ is considered acceptable.

Attitude Score: Eve and Bromley Measure

Because attitude was being assessed, responses to these questions were not considered right or wrong. For the scale created based on the Eve and Bromley (1982) survey, one point was given for each response of *very honest*, two points were given for each response of *honest*, three points were given for each response of *dishonest*, and four points were given for each response of *very dishonest*. With a total of seven attitude questions on each the pretest, posttest₁, and posttest₂, the score range for attitude was 0–28. Because the described activities in the Eve and Bromley (1982) survey can be considered very dishonest, the optimal attitude score was 28. Internal consistency (Cronbach's alpha) of the items belonging to the attitude pretest, posttest₁, and posttest₂ amounted to .84, .86, and .67, respectively. These results indicate the created scales are reliable measures of attitude.

Attitude Score: Likelihood of Cheating at MCC

To evaluate the scale created for the one unique attitude question used to determine attitude changes specific to the likelihood of cheating at MCC, one point was given for a response of *very likely to cheat*, two points were given for a response of *likely to cheat*, three points were given for a response of *unlikely to cheat*, and four points were awarded for a response of *very unlikely to cheat*. Because this question only appeared once on the pretest and on each of the posttests, the score range was for this attitude question was 0–4.

Cumulative Module Score

All student participants received the same module quizzes specific to questions and question order where 10 questions assessed knowledge, and five questions assessed understanding. One point was awarded for each correct response resulting in a score range of 0 to 15. Internal consistency (Cronbach's alpha) of the items belonging to the cumulative

module score amounted to .64. Although this is a low alpha, a lower cut-off value may be considered acceptable due to the exploratory nature of the study. Therefore, these results indicate the created scale is a reliable measure.

Individual Module Scores (Additional Objectives)

Five separate scales were created to assess the additional study objectives designed to ascertain student knowledge and understanding specific to each of the five aforementioned modules. Because each module contained three questions, one point was awarded for each correct answer resulting in a module score ranging for 1–3. Internal consistency (Cronbach's alpha) of the items belonging to the Module 1 pretest, posttest₁, and posttest₂ amounted to .46, .26, and .10, respectively. For Module 2 items, Cronbach's alphas for the pretest, posttest₁, and posttest₂ amounted to .24, .03, and .31, respectively. For Module 3 items, Cronbach's alphas for the pretest, posttest₁, and posttest₂ amounted to .12, .06, and -.21, respectively. For Module 4 items, Cronbach's alphas for the pretest, posttest₁, and posttest₂ amounted to .31, .46, and .27, respectively. Lastly, for Module 5 items, Cronbach's alphas for the pretest, posttest₁, and posttest₂ amounted to .16, -.04, and -.02, respectively. Although low and negative alphas suggest these scales are not reliable measures, such findings should be evaluated in consideration of the number and type of questions included on these assessments. That is, each module quiz was comprised of only three questions with two of the included questions assessing knowledge. Because the knowledge scales were not considered reliable, and the majority of the questions on the module quizzes were knowledge questions (10 out of 15), these results are consistent with previous research findings.

Validity

This study is considered valid in that it provides evidence documenting the effectiveness of the AITC. Threats and biases potentially undermining the validity of this study included statistical, construct, content, and internal validity. To be considered statistically valid, research conclusions should be based on the accurate use and application of statistical tools. Cronbach's alpha results indicate the use of the subscales created to measure attitude are reliable measures; subscales created to measure knowledge and understanding, however, may not be reliable. Similar results assessing the internal consistency of the individual module scores suggest these scales may also not be reliable. As exploratory research, the cumulative module scale may be considered reliable given a lower accepted cut-off value. Future studies might address issues associated with statistical validity by exploring efforts to improve the reliability of subscales.

Questions of construct validity focused on convergent validity, criterion validity, and external issues. Cronbach's alpha was used to address issues specific to convergent validity. As evidenced, internal consistency was a concern relative to the scales created to assess knowledge, understanding, and modules scores. Future studies might address issues associated with convergent validity by exploring the scales with respect to the contents of the individual factors and the number of factors included.

Criterion validity concerns involved the likelihood that students who achieved desired scores on the AITC were those students who gained the greatest benefit from the treatment. Future studies might address issues associated with criterion validity by including in the research a longitudinal component whereby violations of academic integrity are

correlated with AITC scores. Such studies would also provide evidence of predictive validity.

Threats to external validity (e.g., interaction of selection and treatment, setting and treatment, history and treatment) concerned generalizability. The validity of using research findings to generalize beyond this study or to draw inferences from this data applicable to other situations was a relevant concern given the AITC design was based on demographic and institutional factors associated with MCC. Possible biases associated with class and group were a concern given the nonrandom nature of this sample. Whereas the purpose of this study was to gather evidence documenting the effectiveness of the AITC, said findings may imply to other educational institutions the value—or lack thereof—of such training. However, findings do not suggest that if another college or university were to employ the MCC AITC without modification, similar results could be expected. That is to say, generalizations should be made in consideration of customization as well as demographic and institutional factors. Also relevant to external validity but not essential to overall validity, this experiment was thought to possess ecological validity with respect to the utilization of the Eve and Bromley (1982) measure. That is to say, MCC and the institution used for the Eve and Bromley study can be considered similar with respect to size and student demographics where the student population in both institution was large population ($N > 20,000$) and consisted of many undergraduates who commuted to campus or attended evening classes.

Because the intervention and measurement tools were reviewed by numerous individuals at various educational institutions, they were thought to be valid with respect to content. While these subjective assessments were critical research components, input from

content experts and focus groups could have potentially improved the structure, design, and consequential validity of the study.

Internal validity concerns involved evaluation apprehension, compensatory rivalry, maturation, mortality, test experience, history, and potential biases associated with selection. Because participants in the AITC were not anonymous, evaluation apprehension was a factor in that students may have been inclined to provide responses they felt were better or more desirable to evaluators. Although points were awarded based on participation as opposed to performance, researchers can conjecture students may have been most apprehensive when answering attitude and understanding questions. Future research efforts could address this issue by contrasting results of an anonymous survey with those of an identical survey where the respondents' identities are known. Compensatory rivalry and equalization, diffusion of treatment, and resentful demoralization were not considered threats to validity as the experimental design did not involve a control group. Further, because participant selection was not based on extreme scores, regression was not considered. Given the experiment design and an average estimated completion time of only 90 minutes, maturation was also not considered a threat to validity. Because students took the final posttest (posttest₂) two weeks after completing the AITC, mortality was, however, considered a threat to internal validity. To control for this threat, randomization with respect to selection and treatment was utilized where participants were randomly placed into group WA or group WB, and they participated in one of two types of experimental design alternatives (ABB or BAA) based on the order of test form administered. Because the design utilized two different test forms (Form A and Form B), test experience was not considered a threat to validity. History was not seen as a threat in that the experiment used two designs with

respect to order of test administration (ABB or BAA); because the research involved numerous classes taught by different faculty, however, history was a factor. That is, even though group and class effects were identified, differences associated within class were not evaluated with respect to faculty, curriculum, and other potential intervening events. If such factors had an impact on the research, the validity of the results may be questioned. Future research efforts may want to consider identifying said potential events and establishing experimental controls examining the impact of said events.

Internal validity as a function of selection was questioned given the small sample size. Although the sample utilized for this pilot project was equal to less than 1% of all MCC credit enrollments, this frame is believed to be representative of the population with respect to demographic and personal characteristics. Further, because the experiment design utilized a nonrandomized sample with respect to course selection, sampling error—the likelihood that the sample was not representative of the population as a consequence of the sampling technique—was not considered. Selection was considered a potential threat to both internal and external validity given the selection process involved eight separate courses. Consequently, it was necessary to determine if there was a class or group effect. Given that the selected sample included both psychology classes and business classes, and in view of research indicating business majors may be more likely to cheat as compared to students majoring in other academic areas (Baird, 1980; Smyth & Davis, 2004; Zimmerman, 1999), sampling bias was reviewed as a potential threat to validity. Although many students who are not business majors elect to take business courses at MCC, and many business students are enrolled in psychology classes, class was a factor in the design, and comparisons were made to determine if an effect of a particular class was evidenced. Potential biases were

considered in view of findings indicating there were statistically significant differences between participants and nonparticipants with respect to GPA and credits completed; between groups (WA and WB) with respect to GPA; and between classes (Finance and Psychology) with respect to credits attempted and credits completed.

Summary

This chapter discussed the methodology used to gather evidence documenting the effectiveness of the AITC. Evaluation tools utilized to assess course effectiveness and determine value-added for both the MCC audience and other interested academic institutions were also reviewed. When describing the population and reviewing the characteristics of participants and nonparticipants, Pearson chi-square tests reported no significant difference between participants and nonparticipants specific to group or class. T-tests were conducted to test the proposition that the means for participants and nonparticipants, groups (WA and WB), and classes (Finance and Psychology) did not vary as a function of age, GPA, credits attempted, or credits completed at MCC. Results of these tests suggest there were no differences specific to age; there were, however, statistically significant differences between groups (WA and WB) with respect to GPA, and between classes (Finance and Psychology) specific to credits attempted and completed. To describe categorical data (gender, ethnicity, educational goal, and enrollment tenure), chi-square tests were completed comparing observed frequencies with expected frequencies to determine if the differences were real or occurred as a result of random variation due to the consequences of sampling. Results of these tests indicated no significant differences with respect to gender or ethnicity. Cronbach's alpha was used to determine the reliability of subscales created to evaluate measurement instruments (pretest, module quizzes, and posttests). Results specific to the

knowledge scores suggest the scales do not effectively measure the construct of knowledge. With respect to understanding, low alphas for the pretest and posttest₂ suggest the scales may also not be reliable measures; given a lower cut-off value, however, the understanding scale for posttest₁ may be considered acceptable. Results do indicate the scales created to measure attitude are reliable measures. To assess modules, a cumulative module score and individual module scores for each of the five modules were created. Although the Cronbach's alpha for the cumulative module score was low, given the exploratory nature of the study it is considered reliable. Results assessing the internal consistency of the individual module scores, however, suggest these scales are not reliable measures.

This study was considered valid in that it provided evidence documenting the effectiveness of the AITC. Validity concerns discussed focused primarily on construct validity specific to convergent validity, criterion validity, external issues, and internal validity. Threats to external validity concerned generalizability, and caution was advised when generalizing beyond this study or drawing inferences from these data applicable to other situations. Internal validity concerns involved evaluation apprehension, mortality, and history. Internal validity, as a function of selection, was questioned, and potential biases associated with selection were discussed. Further, selection was seen as a possible threat to both internal and external validity; potential biases were considered in view of findings indicating there were statistically significant differences between participants and nonparticipants with respect to GPA and credits completed; between groups (WA and WB) with respect to GPA; and between classes (Finance and Psychology) with respect to credits attempted and credits completed.

CHAPTER 4. RESULTS

An evaluation of research results begins with a review of the purpose of the study and hypotheses. Each hypothesis is then analyzed individually as are the additional objectives of the study in consideration of research findings. This discussion will include an evaluation of mean scores analyzed using a repeated measures 2 x 2 x 3 ANOVA and pairwise comparisons to determine significance between said scores. The Pearson Correlation was used to determine if the module scores were related to posttest scores, and a correlation matrix was constructed to identify said relationships. The chapter concludes with a summary of the aforementioned research findings.

Through the creation and facilitation of the AITC at MCC, students were provided a chance to embrace the concepts and expectations of ethical behavior in the classroom. The purpose of this research was to gather evidence documenting the effectiveness of the AITC. Data were collected from the four measurement instruments (pretest, module quizzes, posttest₁, and posttest₂) for the purpose of investigating the following hypotheses:

1. Participation in the Metropolitan Community College Academic Integrity Training Course will enhance student knowledge, understanding, and attitude specific to concepts and expectations of ethical behavior in the classroom.
2. Aforementioned changes, evidenced specific to knowledge, understanding, and/or attitude, will be sustained over a period of 14 days.
3. Module quiz scores (0–15) will serve as predictors relative to posttest₁ and posttest₂ scores.

Additional objectives of the study were to:

1. Determine if student knowledge, understanding, and awareness of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.
2. Determine if student knowledge, understanding, and awareness of academic dishonesty specific to behaviors considered to be unacceptable in an educational environment (e.g., plagiarism and cheating) increased after participating in the MCC Academic Integrity Training Course.
3. Determine if student knowledge, understanding, and awareness of potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.
4. Determine if student knowledge, understanding, and awareness of the relationship between academic and workplace integrity increased after participating in the MCC Academic Integrity Training Course.
5. Determine if student knowledge, understanding, and awareness of proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.

Findings

Hypothesis Testing

Data were gathered using the aforementioned measurement instruments for the purpose of testing the stated hypotheses. To investigate hypotheses 1 and 2, as well as the

additional objectives of the study, results from the pretest, posttest₁, and posttest₂ ($n = 77$) were examined using descriptive statistics and a repeated-measures $2 \times 2 \times 3$ ANOVA where the factors were group (WA and WB), class (Finance and Psychology), and time (pretest, posttest₁, and posttest₂). Post-hoc comparisons were made to contrast said findings. Due to mortality, fewer students fully participated in posttest₂; thus, available data were reduced resulting in a decrease in “ n ” from 86 to 77. To investigate hypothesis 3, results from the module quizzes, posttest₁, and posttest₂ were examined using the Pearson Correlation. What follows is a detailed summary of the results of this analysis where each hypothesis is addressed independently.

Hypothesis 1 and Hypothesis 2

To investigate hypothesis 1 and hypothesis 2, participant scores from the pretest, posttest₁, and posttest₂ were examined specific to performance on knowledge, understanding, and attitude. The results of these measurements relative to the aforementioned constructs were considered separately when examining these hypotheses. What follows is the results of said analysis.

Knowledge. Data evaluating participant performance on the knowledge questions (Table 25), where the score range was 0-5, reveal the mean pretest knowledge score for total participants was $M = 3.27$, the posttest₁ mean score was $M = 3.61$, and the posttest₂ mean score was $M = 3.21$. It is interesting to note that not only did this score decrease (from $M = 3.61$ to $M = 3.21$), the mean knowledge score for posttest₂ was actually lower than mean pretest knowledge score.

ANOVA analysis revealed no 3-way interaction was significant. However, the 2-way interactions of time x group, $[F(2, 142) = 4.63 p = .011]$, and time x class, $[F(2, 142) = 3.08 p = .049]$, were significant. Further, a significant time effect was present, $[F(2, 142) = 6.01 p = .003]$. Pairwise comparisons in post hoc analysis showed a significant difference ($p = .005$) between pretest scores and posttest₁ scores, as well as posttest₁ scores and posttest₂ scores ($p = .001$); there was not, however, a significant ($p = .968$) difference between pretest scores and posttest₂ scores. These results suggest participation in the AITC did significantly enhance student knowledge of concepts and expectations of ethical behavior in the classroom; said changes, however, were not sustained over time. Consequently, the null hypothesis stating that *participation in the Metropolitan Community College Academic Integrity Training Course will not enhance student knowledge specific to concepts and expectations of ethical behavior in the classroom* is rejected; the null hypothesis indicating said changes will not be sustained over a period of 14 days, however, is not rejected. Figures 1 through 4 illustrate the group, class, and time effect associated with this change. As depicted specific to group, students (both Finance and Psychology) in group WA demonstrated the greatest sustained changes in knowledge scores (as compared to Finance and Psychology students in group WB). With respect to class, Finance students in groups WA and WB demonstrated the greatest sustained changes in knowledge scores (as compared to Psychology students in groups WA and WB).

Understanding. Data evaluating participant performance on the understanding questions (Table 26), where the score range was 0-10, reveal the mean pretest understanding score for total participants was $M = 6.64$, the posttest₁ mean score was $M = 7.99$, and the posttest₂ mean score was $M = 7.53$. Although the posttest₂ understanding score is less than

the posttest₁ understanding score, there was still an overall increase in participant understanding of 13.25%. ANOVA analysis revealed no 3-way interaction was significant. Further, there was not a 2-way interaction of either time x group or time x class that was significant; a significant time effect, however, was present, [F(2, 138) = 19.67 $p < .000$]. Pairwise comparisons in post hoc analysis showed a significant difference between pretest and posttest₁ scores ($p = .000$), between pretest and posttest₂ scores ($p = .001$), and between posttest₁ and posttest₂ scores ($p = .004$). These results suggest participation in the AITC did significantly enhance student understanding of concepts and expectations of ethical behavior in the classroom and indicated some part of the said enhancements was sustained over a 14 day period. Consequently, the null hypothesis stating that *participation in the Metropolitan Community College Academic Integrity Training Course will not enhance student understanding specific to concepts and expectations of ethical behavior in the classroom* is rejected. Further, the null hypothesis stating the aforementioned changes evidenced specific to understanding will not be sustained over a period of 14 days is also rejected. Figure 5 illustrates the time effect associated with this change where significant differences between pretest and posttest₁ scores, pretest and posttest₂ scores, and posttest₁ and posttest₂ scores are depicted.

Attitude. Data evaluating participant performance on the attitude questions (Table 27), where the score range was 0-28, reveal the mean pretest attitude score for total participants was $M = 24.75$, the posttest₁ mean score was $M = 25.48$, and the posttest₂ mean score was $M = 25.40$. Although the posttest₂ understanding score was less than the posttest₁ attitude score, there was still an overall change in participant attitude of 2.60%. ANOVA analysis revealed no 3-way interaction was significant. As illustrated in Figure 6, there was

not a significant 2-way interaction of time x group, of time x class, nor a significant time effect present. Since there was not a significant time effect, pairwise comparisons in post hoc analysis were not considered. Even though there was an increase in mean score for attitude between the pretest and posttest₂ evidencing a positive trend, this change was not statistically significant. Consequently, the null hypothesis stating that *participation in the Metropolitan Community College Academic Integrity Training Course will not enhance student attitudes specific to concepts and expectations of ethical behavior in the classroom* is not rejected. Further, the null hypothesis stating the aforementioned changes evidenced specific to understanding will not be sustained over a period of 14 days is also not rejected.

To determine if attitude would change specific to the likelihood of a student cheating at MCC, one additional attitude question was included in the pretest and both posttests. The question stem, stated as *A student at Metropolitan Community College is _____*, was followed by four answer options: *very likely to cheat, likely to cheat, unlikely to cheat, and very unlikely to cheat*. Data evaluating participant performance on this attitude question (Table 28), where the score range was 0-4, reveal the mean pretest attitude score for total participants was $M = 3.00$, the posttest₁ mean score was $M = 2.88$, and the posttest₂ mean score was $M = 2.86$. ANOVA analysis revealed no 3-way interaction was significant. Further, there was not a significant 2-way interaction of time x group, of time x class, nor a significant time effect present. Pairwise comparisons in post hoc analysis showed no significant difference ($p = .13$) between pretest and posttest₁ scores, pretest and posttest₂ scores ($p = .127$), and posttest₁ and posttest₂ scores ($p = .733$). Consequently, research findings indicated participation in the AITC did not significantly change participant *attitudes specific to the likelihood of a student cheating at MCC*.

To further evaluate attitude, results from the AITC specific to attitude were compared to results from the Eve and Bromley (1982) survey tool (Table 22). There were a number of similarities in the research findings of this effort as compared to those of Eve and Bromley with respect to the lack of consensus, the awareness of expected academic norms, and the relative honesty of initiating—as opposed to supporting—academic dishonest behaviors. Similar to Eve and Bromley’s results, consensus on any single item was not evidenced. As with Eve and Bromley’s findings, MCC students came closest to achieving consensus on the answer response to the question asking them to assess the relative honesty of submitting a paper written by another student. Whereas over half of the Eve and Bromley’s respondents (54.9%) indicated this action was very dishonest, 83.3% of MCC students selected this answer option. Similar to the disparity evidenced on the Eve and Bromley survey, MCC students were not in agreement as to whether copying answers from another student during an exam was very dishonest (76.2%), dishonest (22.6%), or very honest (1.2%).

Comparable to the Eve and Bromley (1982) results, MCC students seemed unaware of certain academic standards or norms such as copying material without citing the source and adding items not read to the bibliography or list of references. Much like what Eve and Bromley found in 1978, many of the actions academicians would consider as major violations of academic standards, MCC students did not believe were very dishonest activities. For example, whereas faculty might view feigning an illness to avoid taking a test to be very dishonest, the majority of students did not express this position.

Another similarity between the two efforts is evidenced in how students view the relative honesty of initiating versus supporting academic dishonest behaviors. Similar to Eve

and Bromley's (1982) results, findings from this research suggest students consider initiating academic dishonest behaviors more unacceptable than supporting academic dishonest behaviors. For example, 76.2% of MCC students reported it was very dishonest to copy answers from another student during an exam as compared to 73.8% who concluded it was very dishonest to give another student answers during an exam. Similarly, 83.3% of MCC students indicated it was very dishonest to submit a paper written by another student, whereas 69% concluded it was very dishonest to write a paper for another student.

There were also a number of differences between the results from the AITC specific to attitude and the Eve and Bromley (1982) measure. These differences included the percentage of MCC students (64.88%) who identified an activity as very dishonest as compared to the percentage of Eve and Bromley respondents (35.41%). Results from chi-square tests (Table 22) indicated there was a significant difference between the Eve and Bromley survey results and those from the AITC (specific to attitude).

Hypothesis 3

Given that both the criterion and predictor variable were test scores containing continuous interval data, the Pearson Correlation was used to determine if the module scores, with a possible range of 0-15, were related to posttest₁ and posttest₂ scores. A correlation matrix was constructed (Table 29) to identify said relationships. Specific to understanding, research indicated there was a statistically significant (high) positive correlation between a participant's cumulative module quiz score and posttest₁ score, ($r = .627, p < .001$), as well as module quiz score and posttest₂ score, ($r = .640, p < .001$). That is, those with higher module quiz scores tended to answer more of the questions determining understanding correctly on posttest₁ as well as posttest₂. There was also a statistically

significant (slight) positive correlation between a participant's cumulative module quiz score and posttest₁ score specific to knowledge, ($r = .383, p < .001$). That is, those with higher module quiz scores tended to answer more of the knowledge questions correctly on posttest₁. A significant relationship between a participant's cumulative module quiz score and posttest₂ score specific to knowledge was not identified. That is, those with higher module quiz scores did not necessarily answer more of the knowledge questions correctly on posttest₂. Given the research findings, the null hypothesis stating *module quiz scores will serve as a predictor relative to posttest₁ and posttest₂ scores* is rejected with respect to posttest₂ but not posttest₁ thus indicating module quiz scores were highly associated with knowledge and understanding at posttest₂, but only understanding at posttest₁. Therefore, it can be said research findings indicated module quiz scores were highly associated with posttest₁ scores as well as participant understanding but not highly associated with posttest₂ scores specific to knowledge.

Other Objectives

Additional study objectives were designed to ascertain student knowledge and understanding specific to each of the five aforementioned modules where the score range for each module was 0-3. Review of these included an evaluation of mean scores analyzed using a repeated-measures 2 x 2 x 3 ANOVA and pairwise comparisons to determine significance between said scores. What follows is a review of findings specific to each of these individual objectives.

Objective 1: Determine if student knowledge, understanding, and awareness of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.

Data evaluating participant performance on questions based on Module 1 content (Table 30) reveal the mean pretest knowledge score for total participants was $M = 1.82$, the posttest₁ mean score was $M = 2.18$, and the posttest₂ mean score was $M = 1.88$. Although the posttest₂ score is less than the posttest₁ score, there was still an overall increase of 3.62%. ANOVA analysis revealed no 3-way interaction was significant. However, the 2-way interaction of time x group, $[F(2, 144) = 12.27 p < .001]$, and time x class, $[F(2, 144) = 7.50 p = .001]$, were significant. Further, a significant time effect was also present, $[F(2, 144) = 7.24 p = .001]$. Pairwise comparisons in post hoc analysis showed a significant difference between pretest and posttest₁ scores ($p = .001$) as well as posttest₁ and posttest₂ scores ($p = .009$); there was not, however, a significant difference between pretest scores and posttest₂ scores ($p = .160$). Research findings indicated participation in the AITC significantly enhanced student knowledge, understanding, and awareness of the MCC Student Code of Conduct. Although not statistically significant, research findings (based on mean score analysis) indicated some part of the said enhancements was sustained over a 14 day period. Figures 7 through 10 illustrate the group, class, and time effect associated with this change. As depicted specific to group, students enrolled in Finance classes who were in group WB (as opposed to group WA) demonstrated the greatest sustained changes with respect to Module 1; students enrolled in Psychology who were in group WB (as opposed to group WA) demonstrated the greatest sustained changes with respect to Module 1. With respect to class, Finance students in groups WA and WB demonstrated the greatest sustained changes with respect to Module 1 (as compared to Psychology students in groups WA and WB).

Objective 2: Determine if student knowledge and understanding of academic dishonesty specific to behaviors considered unacceptable in an educational environment (e.g.,

plagiarism and cheating) increased after participating in the MCC Academic Integrity Training Course.

Data evaluating participant performance on questions based on Module 2 content (Table 31) reveal the mean pretest knowledge score for total participants was $M = 2.06$, the posttest₁ mean score was $M = 2.17$, and the posttest₂ mean score was $M = 2.16$. Although the posttest₂ score is less than the posttest₁ score, there was still an overall increase of 4.40%. ANOVA analysis revealed no 3-way interaction was significant. Further, there was neither a significant 2-way interaction of time x class nor time effect present, $[F(2, 146) = .999 p = .371]$. There was, however, a significant 2-way interaction of time x group, $[F(2, 146) = 24.27 p < .000]$. Pairwise comparisons in post hoc analysis showed no significant difference between pretest and posttest₁ scores ($p = .173$), posttest₁ and posttest₂ scores ($p = .36$), or pretest scores and posttest₂ scores ($p = .72$). Although not statistically significant, research findings (based on mean score analysis) indicated participation in the AITC enhanced student knowledge and understanding of academic dishonesty specific to behaviors considered unacceptable in an educational environment (e.g., plagiarism and cheating), and some part of the said enhancements was sustained over a 14 day period. Figures 11 and 12 illustrate the group effect associated with this change. As depicted, students (both Finance and Psychology classes) who were in group WB (as opposed to group WA) demonstrated the greatest sustained changes with respect to Module 2.

Objective 3: Determine if student knowledge and understanding of potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.

Data evaluating participant performance on questions based on Module 3 content (Table 32) reveal the mean pretest knowledge score for total participants was $M = 1.95$, the posttest₁ mean score was $M = 2.37$, and the posttest₂ mean score was $M = 2.04$. Although the posttest₂ score is less than the posttest₁ score, there was still an overall increase of 4.80%. ANOVA analysis revealed no 3-way interaction was significant. Further, there was not a significant 2-way interaction of time x class. There was, however, a significant 2-way interaction of time x group, [$F(2, 142) = 13.54$ $p < .001$], and a significant time effect was also present, [$F(2, 142) = 8.84$ $p < .001$]. Pairwise comparisons in post hoc analysis showed a significant difference between pretest and posttest₁ scores ($p = .001$) as well as pretest scores and posttest₂ scores ($p < .001$); there was no significant difference, however, between posttest₁ and posttest₂ scores ($p = .45$) scores. Research findings indicated participation in the AITC significantly enhanced student knowledge and/or understanding of potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct; and some part of the said enhancements was sustained over a 14 day period. Figures 13 and 14 illustrate the group effect associated with this change. As depicted, students (both Finance and Psychology classes) who were in group WA (as opposed to group WB) demonstrated the greatest sustained changes with respect to Module 3.

Objective 4: Determine if student knowledge and/or understanding of the relationship between academic and workplace integrity increased after participating in the MCC Academic Integrity Training Course.

Data evaluating participant performance on questions based on Module 4 content (Table 33) reveal the mean pretest knowledge score for total participants was $M = 1.99$, the posttest₁ mean score was $M = 2.51$, and the posttest₂ mean score was $M = 2.35$. Although the

posttest₂ score is less than the posttest₁ score, there was still an overall increase of 18.30%. ANOVA analysis revealed the 3-way interaction of time x group x class was significant [F(2, 146) = 3.781 $p = .025$]. The 2-way interaction of time x group, [F(2, 146) = 12.907 $p < .001$] was significant; however, the 2-way interaction of time x class, [F(2, 146) = .309 $p = .734$], was not significant. Lastly, a significant time effect was also present [F(2, 146) = 14.736 $p < .001$]. Pairwise comparisons in post hoc analysis showed a significant difference between pretest and posttest₁ scores ($p < .001$), pretest and posttest₂ scores ($p = .002$), and posttest₁ and posttest₂ scores ($p = .036$). Research findings indicated participation in the AITC significantly enhanced student knowledge and/or understanding of the relationship between academic and workplace integrity, and said enhancements were sustained over a 14 day period. Figures 15 and 16 illustrate the group, class, and time effect associated with this change. As depicted, students (both Finance and Psychology classes) who were in group WA (as opposed to group WB) demonstrated the greatest sustained changes with respect to Module 4. With respect to class, Finance students in groups WA and WB demonstrated the greatest sustained changes with respect to Module 4 (as compared to Psychology students in groups WA and WB).

Objective 5: Determine if student knowledge and/or understanding of proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct increased after participating in the MCC Academic Integrity Training Course.

Data evaluating participant performance on questions based on Module 5 content (Table 34) reveal the mean pretest knowledge score for total participants was $M = 2.08$, the posttest₁ mean score was $M = 2.24$, and the posttest₂ mean score was $M = 2.14$. Although

the posttest₂ score is less than the posttest₁ score, there was still an overall increase of 2.60%. ANOVA analysis revealed no 3-way interaction was significant. Further, there was not a significant 2-way interaction of time x class; there was, however, a significant 2-way interaction of time x group, [F(2, 140) = 28.51 $p < .001$]. However, there was not a significant time effect present, [F(2, 140) = 1.238 $p = .293$]. Pairwise comparisons in post hoc analysis showed no significant difference between pretest and posttest₁ scores ($p = .197$), pretest and posttest₂ scores ($p = .869$), or posttest₁ and posttest₂ scores ($p = .100$) scores. Although not statistically significant, research findings (based on mean score analysis) indicated participation in the AITC enhanced student knowledge and/or understanding of proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct, and some part of the said enhancements was sustained over a 14 day period. Figures 17 and 18 illustrate the time and group effect associated with this change. As depicted, students (both Finance and Psychology classes) who were in group WA (as opposed to group WB) demonstrated the greatest sustained changes with respect to Module 5.

Summary

In this chapter, each hypothesis and additional study objective was evaluated individually in consideration of research findings. Mean scores were analyzed using a repeated measures 2 x 2 x 3 ANOVA where the factors were group (WA and WB), class (Finance and Psychology), and time (pretest, posttest₁ and posttest₂). Post-hoc comparisons were made to determine significance between said scores. The Pearson Correlation was used to determine if the module scores were related to posttest scores and a correlation matrix was constructed to identify said relationships.

Results suggest participation in the AITC did significantly enhance student knowledge of concepts and expectations of ethical behavior in the classroom; said changes, however, were not sustained over time. Study findings also indicated participation in the AITC significantly enhanced student understanding of concepts and expectations of ethical behavior in the classroom and suggested some part of the said enhancements was sustained over a 14 day period. Although not statistically significant, research results indicated (based on mean score analysis) participation in the AITC did enhance student attitudes specific to concepts and expectations of ethical behavior in the classroom, and some part of the said enhancements was sustained over a 14 day period. Further, participation in the AITC did not significantly change participant attitudes specific to the likelihood of a student cheating at MCC.

Research indicated there was a statistically significant (high) positive correlation between a participant's cumulative module quiz score and posttest₁, as well as module quiz score and posttest₂ score specific to understanding. That is, those with higher module quiz scores tended to answer more of the questions determining understanding correctly on posttest₁ as well as posttest₂. There was also a statistically significant (slight) positive correlation between a participant's cumulative module quiz score and posttest₁ score specific to knowledge. That is, those with higher module quiz scores tended to answer more of the knowledge-based questions correctly on posttest₁. This suggests that the module quiz scores are predictors for knowledge at posttest₂, understanding at posttest₁, and understanding at posttest₂. Therefore, it can be said research findings indicated module quiz scores served as a predictor relative to posttest₁ scores as well as participant understanding but not as a predictor to posttest₂ scores specific to understanding.

Findings specific to the additional study objectives indicated participation in the AITC significantly enhanced student knowledge, understanding, and awareness of the MCC Student Code of Conduct. Although not statistically significant, research findings (based on mean score analysis) indicated some part of the said enhancements was sustained over a 14 day period. Although not statistically significant, results (based on mean score analysis) indicated participation in the AITC enhanced student knowledge and understanding of academic dishonesty specific to behaviors considered unacceptable in an educational environment (e.g., plagiarism and cheating), and some part of the said enhancements was sustained over a 14 day period. Similarly, findings indicated participation in the AITC significantly enhanced student knowledge and/or understanding of potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct; and, some part of the said enhancements was sustained over a 14 day period. Research also indicated participation in the AITC significantly enhanced student knowledge and/or understanding of the relationship between academic and workplace integrity, and said enhancements were sustained over a 14 day period. Lastly, although not statistically significant, results (based on mean score analysis) indicated participation in the AITC enhanced student knowledge and/or understanding of proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct, and some part of the said enhancements was sustained over a 14 day period.

CHAPTER 5. FINDINGS, CONCLUSIONS, AND IMPLICATIONS

This chapter begins with a summary of the study providing an overview of the research. Findings are then discussed reviewing the statistical analysis of data. Study conclusions, based on research questions, are provided as are the limitations and implications of this research effort. Future research suggestions, based on aforementioned limitations and implications, are then presented followed by a brief summary of the chapter.

Summary of the Study

Over the last several years, academic dishonesty has been the subject of various studies including those focused on cheating in community colleges (Foster & Read, 2006; Moeck, 2002; Smyth & Davis, 2003) and those concentrating on issues involving undergraduate students (Franklyn-Stokes & Newstead, 1995). Research analyzing academically dishonest behavior also details these activities in particular fields of study where business students (Iyer & Eastman, 2006; Lupton et al., 2000; Rakovski & Levi, 2007) and psychology students (Hetherington & Feldman, 1964) have been the focus of numerous articles exploring plagiarism and cheating.

Studies suggest few institutions have devoted adequate time to issues involving academic integrity, and research indicates the first step in raising awareness should be to define for students what is and is not appropriate behavior (McCabe & Drinan, 1999). Other advised proactive measures include communication and participation where communicating expected standards of academic integrity is described as an institutional priority, and student participation is accomplished through integrity seminars and awareness campaigns (McCabe & Trevino, 2002). To encourage academic integrity, many colleges and universities have created courses and training programs detailing expected standards. Unfortunately,

published empirical evidence supporting the reliability and validity of these efforts could not be located.

The purpose of this study was to gather evidence documenting the effectiveness of the Metropolitan Community College Academic Integrity Training Course (MCC AITC). It was hypothesized that participation in this customized academic integrity training course would enhance student knowledge, understanding, and attitudes specific to concepts and expectations of ethical behavior in the classroom. Further, it was hypothesized that such enhancements would be sustained over a period of 14 days. Additional objectives of the study included determining student understanding and awareness of: (a) the MCC Student Code of Conduct, (b) academic dishonesty specific to behaviors considered to be unacceptable in an educational environment (e.g., plagiarism and cheating), (c) potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct, (d) the relationship between academic and workplace integrity, and (e) proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct.

Research efforts began with a literature review that provided definitions for terms and concepts associated with workplace and academic integrity. This review also explored the relationship between integrity in the classroom and workplace and included a discussion of the code of ethics and honor code. Factors associated with academic dishonesty were delineated as studies describing individual characteristics including demographics, background, parental influence, workload, academic attributes, extracurricular activities, personality characteristics, interpersonal process, behaviors and goals, morals and ethics, perceptions, and risk and return. Using research findings, taxonomies were created detailing

cheating behaviors and methods used to detect and deter academic dishonesty. Believed to represent the first nomenclature of this type, these taxonomies summarize responses from thousands of student surveys and numerous institutional questionnaires representing research conducted over many decades.

Limitations identified in the current body of knowledge included the absence of studies detailing strategies that could effectively manifest a paradigm shift in academics representing a movement toward a culture embracing the tenets of academic integrity. No findings exploring the validity of proactive measures used to encourage academic honesty or evaluate the effectiveness of academic integrity training were located. Similarly, no publications were identified that evaluated the reliability of communication techniques used to impart academic honesty expectations, and no findings were located that assessed programs used to assimilate academic honesty as an institutional policy. Lastly, no studies were found describing how information and technical resources could be used to educate students about academic honesty.

The review of literature served as impetus for research and the basis for development of the AITC. This review was the cornerstone influencing the research design that included a treatment mechanism, five module quizzes, one pretest, two posttests, and various evaluation tools. The methodology section provided a detailed summary of the population ($N = 154$) as well as the sample where participants ($n = 86$) and nonparticipants ($n = 68$) were delineated by class (Finance and Psychology) and group (WA and WB).

Findings

Although Pearson chi-square tests reported no significant difference between participants and nonparticipants specific to group or class, there were many differentiating

factors. For example, the order of treatment with respect to the pretest and posttest was different for groups WA and WB where group WA received ABB and group WB received BAA. There were also inherent differences in the classes (e.g., curriculum, faculty, requirements, etc.). Further, there were more Finance students in each group as compared to Psychology students where group WA was comprised of 19 Finance students and 28 Psychology students, and group WB had 16 Finance students and 23 Psychology students. To evaluate demographic factors, information was collected specific to age, gender, ethnicity, GPA, educational goal, enrollment tenure at MCC, and credits attempted and credits completed at MCC.

T-tests were conducted to test the proposition that the means for participants and nonparticipants, groups (WA and WB), as well as classes (Finance and Psychology), did not vary as a function of age, GPA, credits attempted, or credits completed at MCC. Although not statistically significant, it is interesting to note the group (WA) and classes (Finance) demonstrating the greatest gains from participation in the AITC were those with older students. This is relevant, with respect to age, in consideration of research suggesting students who are younger may be more likely to engage in academically dishonest behaviors as compared to older students (Cochran et al., 1999; Dawkins, 2004; Diekhoff et al., 1996; Faulkender et al., 1994; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; McCabe & Trevino, 1997; Rawwas & Isakson, 2000; Robinson et al., 2004; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999).

With respect to GPA, results indicated there were statistically significant differences between groups (WA and WB) where the GPA for WA participants was 3.38 (*M*) as compared to 3.07 (*M*) for group WB. Similar differences (although not found to be

significant) existed between Finance students ($M = 3.35$) and Psychology students ($M = 3.15$). These results were interesting considering research suggesting an inverse relationship between academic achievement and dishonesty (Antion & Michael, 1983; Baird, 1980; Barnes, 1975; Bennett, 2005; Bronzaft et al., 1973; Bunn et al., 1992; Cochran et al., 1999; Diekhoff et al., 1996; Finn & Frone, 2004; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; Kerkvliet & Sigmund, 1999; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Mixon, 1996; Robinson et al., 2004; Scheers & Dayton, 1987; Smith et al., 1972; Tibbetts, 1998).

As indicated, there was a significant difference between the number of credits attempted and credits completed at MCC for both group and class where WA participants had completed 83.69% of credits attempted, and WB participants had completed 80.36% of credits attempted. Similarly, students enrolled in Finance had completed 85.87% of credits attempted, whereas students enrolled in Psychology had completed 78.05% of credits attempted. Although no empirical evidence could be found specific to academic integrity and the ratio of credits completed to credits attempted, other relevant studies were identified. Such findings included those suggesting an inverse relationship between cheating and class attendance where students who have good attendance records are less likely to cheat (Michaels & Miethe, 1989). Other studies indicate there is a positive relationship between cheating and task performance or the completion of a particular task or course assignment such as a test (Gardner et al., 1988; Malinowski & Smith, 1985; Millham, 1974).

To describe categorical data (gender, ethnicity, educational goal, and enrollment tenure), chi-square tests were completed comparing observed frequencies with expected frequencies to determine if the differences were real or occurred as a result of random

variation due to the consequences of sampling. Results of these tests indicated no significant differences with respect to gender. Although not statistically significant, it is interesting to note the group (WA) and classes (Finance) demonstrating the greatest gains from participation in the AITC were those with a larger ratio of females to males. Findings specific to gender are relevant in view of studies suggesting men are more likely to engage in academically dishonest behaviors as opposed to women (Aiken, 1991; Baird, 1980; Calabrese & Cochran, 1990; Davis et al., 1994; Dawkins, 2004; Erickson & Smith, 1974; Fakouri, 1972; Faulkender et al., 1994; Huss et al., 1993; Jackson et al., 2002; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Roth & McCabe, 1995; Smith et al., 1972; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999). Lastly, chi-square tests revealed no significant differences with respect to educational goal, enrollment tenure, or ethnicity. Findings indicating the group (WA) and classes (Finance) demonstrating the most benefit from the AITC were those with a larger ratio of White students as compared to minority participants is considered of little value for two reasons. First, there is only limited research exploring the topic of academic integrity and ethnicity. Second, current research findings are not statistically significant with respect to ethnicity.

These results suggest the success of an academic integrity training course may be a function of a student's grade point average and the ratio of credits completed to credits attempted. That is to say, such training may have greater impact on students with higher GPAs who have successfully completed a large majority of credits attempted as opposed to students with lower GPAs who have not completed a large majority of credits attempted.

The methodology section described procedures used to construct the AITC and provided a summary of assessment instruments (pretest, module quizzes, and posttests). To

assess course effectiveness, these instruments were constructed using questions categorized as those assessing knowledge, understanding, or attitude. Data were collected and analyzed using various subscales created to evaluate measurement instruments, and Cronbach's alpha was used to determine the reliability of said subscales. Results specific to the knowledge scores indicated the scales did not effectively measure the construct of knowledge. With respect to understanding, low alphas for the pretest and posttest₂ suggested the scales also may not have been reliable measures; given a lower cut-off value, however, the understanding scale for posttest₁ was considered acceptable. Results indicated the scales created to measure attitude were reliable measures. To evaluate the modules, a cumulative module score and individual module scores for each of the five modules were created. Although the Cronbach's alpha for the cumulative module score was low, given the exploratory nature of the study it was considered reliable. Results assessing the internal consistency of the individual module scores, however, suggested these scales were not reliable measures.

Conclusions

Hypotheses and additional study objectives were analyzed using a repeated-measures 2 x 2 x 3 ANOVA where the factors were group (WA and WB), class (Finance and Psychology), and time (pretest, posttest₁ and posttest₂). Post-hoc comparisons were made to determine the significance between said scores. Results suggested participation in the AITC did significantly enhance student knowledge of concepts and expectations of ethical behavior in the classroom; said changes, however, were not sustained over time. These findings are relevant in consideration of studies suggesting stimulating change in the ethical culture requires an active learning process emphasizing values such as honesty and integrity

(Dufresne, 2004; McCabe & Drinan, 1999). In this environment, learning opportunities include defining academic integrity concepts (Swift et al., 1998), clarifying expectations and standards (Cole & Kiss, 2000; Saunders, 1993), and explaining acceptable and unacceptable collaborative activities (Saunders, 1993).

Study findings also indicated participation in the AITC significantly enhanced student understanding of concepts and expectations of ethical behavior in the classroom and suggested some part of the said enhancements was sustained over a 14 day period. These results are interesting in view of findings suggesting the highest incidences of cheating occur in institutions where students do not understand or do not accept existing policies (McCabe & Trevino, 1993).

Even though there was an increase in mean score for attitude evidencing a positive trend, this change was not statistically significant. Consequently, participation in the AITC was not found to enhance student attitudes specific to concepts and expectations of ethical behavior in the classroom. Research results specific to attitude were also compared to the Eve and Bromley (1982) measure. Chi-square tests indicated there was a significant difference between responses on these measures where a significantly larger percentage of MCC students identified activities as very dishonest as compared to Eve and Bromley respondents. These findings are particularly interesting in consideration of research efforts suggesting that students who feel academic dishonesty is an acceptable norm are more likely to cheat (Beck & Ajzen, 1991; Bunn et al., 1992; Devries & Ajzen, 1971; Enker, 1987; Forsyth & Berger, 1982; Genreux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; Lanza-Kaduce & Klug, 1986; Liska, 1978; McCabe & Trevino, 1993; Michaels &

Miethe, 1989; Sherrill et al., 1971; Smith et al., 1972; Stevens & Stevens, 1987; Whitley, 1996).

The Pearson Correlation was used to determine if the module scores were related to posttest scores, and a correlation matrix was constructed to identify said relationships. Research results indicated module quiz scores were highly associated with knowledge and understanding at posttest₂, but only with understanding at posttest₁. That is, module quiz scores were highly associated with posttest₁ scores as well as participant understanding but not highly associated with posttest₂ scores specific to knowledge.

Research results indicated participation in the AITC significantly enhanced student knowledge, understanding, and awareness of the MCC Student Code of Conduct. Although not statistically significant, findings (based on mean score analysis) indicated some part of the said enhancements was sustained over a 14 day period. These results are important in consideration of studies suggesting the effective application of an academic code of conduct requires the educational institution take a holistic approach including intervention created to effect a paradigm shift from an unethical culture to a community where integrity is the expected standard (Dufresne, 2004). Although relevant research indicates the existence of an honor code may discourage cheating (Brooks et al., 1981; Gardner et al., 1988; May & Loyd, 1993; McCabe & Trevino, 1993), other findings (McCabe and Trevino, 1993) suggest the creation of an honor code is an insufficient deterrent unless accompanied by a change in student norms associated with cheating. If the results of the repeated-measures 2 x 2 x 3 ANOVA specific to attitude serve as a proxy measure for student norms, it can be said the participation in the AITC did not change student norms specific to concepts and expectations of ethical behavior in the classroom.

Results also suggest participation in the AITC significantly enhanced student knowledge and/or understanding of potential penalties imposed at MCC given the occurrence of a violation of the MCC Student Code of Conduct; some part of the said enhancements was sustained over a 14 day period. These findings are important with respect to studies indicating students may be less likely to behave dishonestly if they expect and/or fear sanctions or penalties in the event they are caught (Cochran et al., 1999; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993, 1997; Mixon, 1996; Tittle & Rowe, 1973; Ward & Tittle, 1993). Also relevant are studies indicating academic dishonesty may diminish in environments where students expect or fear punitive responses (Cummings & Romano, 2002; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993, 1997; Mixon, 1996; Stevens & Stevens, 1987; Tittle & Rowe, 1973; Ward & Tittle, 1993). Similar relevant research includes findings suggesting effective deterrents include announcing penalties for cheating (Davis et al., 1992; Kerkvliet & Sigmund, 1999; Nonis & Swift, 1998; Tittle & Rowe, 1974).

Research findings indicated participation in the AITC significantly enhanced student knowledge and/or understanding of the relationship between academic and workplace integrity, and said enhancements were sustained over a 14 day period. These findings are relevant given research suggesting students who feel dishonesty is appropriate in college have a tendency to believe such behavior is acceptable in the workplace (Nonis & Swift, 2001; Sierles et al., 1980; Sims, 1993). Other relevant research includes findings suggesting that reducing academic dishonesty in college will reduce the cost of dishonesty in the workplace (Sims, 1993). Also noteworthy are findings specific to business students indicating these students believe there is a relationship between academic and workplace

dishonesty (Ogilby, 1995). Studies suggest business students may be more likely to commit acts of academic dishonesty if they feel it is acceptable behavior; those students who behave dishonestly in college are more inclined to behave dishonestly in the workforce (Nonis & Swift, 2001).

Lastly, although not statistically significant, results (based on mean score analysis) indicated participation in the AITC enhanced student knowledge and/or understanding of proactive and preemptive measures effective in decreasing the likelihood of an occurrence of a violation of the MCC Student Code of Conduct, and some part of the said enhancements was sustained over a 14 day period. These findings are relevant to research indicating communication is an important deterrent to academic dishonesty where discussions involving all aspects of academic honesty (Cole & Kiss, 2000) and ethics (Swift et al., 1998) are thought to be important approaches to encouraging integrity.

Limitations

Considerations of research limitations involve generalizability, sampling techniques, and sampling biases. Generalizability is considered specific to uses within MCC as well as external uses. Limitations involving use within MCC focus on the representativeness of a sample that is less than 1% of MCC credit enrollments. As the result of an experiment design that utilized a nonrandomized sample, sampling error—or the likelihood that the sample was not representative of the MCC student population—may be a variable with respect to demographic and academic factors. The AITC design was based on demographic and institutional factors associated with MCC. This customization was undertaken in consideration of research suggesting efforts intended to reduce academic dishonesty may not be effective unless they are created with an awareness and consideration of institutional and

student factors relative to traditions, cultures, and values (Dufresne, 2004). Although such adaptations may be relevant to the socio-cultural context, said customizations may make generalizability external to MCC difficult. Limitations involving external application focus on the validity of drawing inferences from this data and attempting to apply said reasoning to other environments or situations. That is, results of this study are not intended to suggest that if another academic institution were to employ the MCC Academic Integrity Training Course without modification, similar results could be expected. Consequently, generalizations should be made in consideration of demographic and institutional factors.

The experimental design utilized a nonrandomized sampling technique in which selected participants' demographic characteristics were similar to the MCC student population with respect to age, gender (MCC online enrollments), educational goals, and enrollment tenure but not relative to GPA, ethnicity, and the ratio of credits attempted to credits completed. The mean GPA for AITC participants was 3.24 as compared to 2.73 (*M*) for nonparticipants, 3.06 (*M*) for the MCC general student population, and 3.15 (*M*) for the MCC online student population. Findings specific to GPA suggest there was a significant difference, $t(116) = 3.62, p = .001$, between participants and nonparticipants. This difference may affect the generalizability of results in that the intervention may not be applicable to students with low GPAs. Another dissimilarity involved ethnicity where minority students accounted for only 10.47% of all participants as compared to 12.70% of online enrollments and 23.35% of total student enrollments at MCC. Finally, the ratio of credits completed to credits attempted was also higher for AITC participants (82.24%) as compared to the general MCC student population (75.41%). These factors should be

considered when attempts are made to generalize research findings to the MCC general student population.

Selection was considered a potential threat to both internal and external validity. Statistically significant differences in data that may be the consequence of sampling biases included differences between participants and nonparticipants with respect to GPA and credits completed where participants had higher GPAs and had completed more hours as compared to nonparticipants. Results also indicated there were statistically significant differences between groups (WA and WB) with respect to GPA where the mean GPA in group WA was higher than in group WB. Lastly, findings indicated there were statistically significant differences between classes (Finance and Psychology) with respect to credits attempted and credits completed where Finance students had attempted and completed more hours than Psychology students.

Implications

To encourage academic integrity, colleges and universities are creating courses and training programs detailing expected academic standards. At this time, no published empirical evidence supporting the reliability or validity of these efforts could be located. Those in academics concerned with issues relating to academic integrity are left to wonder how these courses were designed and administered. How is data collected, maintained, and used? Are these courses designed as proactive or punitive measures? Whom do they serve?

This research effort represents the first study providing insights into the phenomenon of academic integrity training. As such, it presents two major implications. First, these findings suggest participation in a customized academic integrity training course may significantly enhance student knowledge and understanding of concepts and expectations of

ethical behavior. Although enhancements specific to knowledge were not sustained over a period of 14 days, learning associated with understanding was long-term. Participation might enhance student attitudes, and some part of this change may be sustained, but these changes may not be significant. Further, it may not be likely to change a student's attitude with respect to the probability of cheating. Gains specific to knowledge and understanding include significant short-term and long-term enhancements specific to the potential penalties imposed as well as the relationship between academic and workplace integrity. Further, participation in an academic integrity training course may significantly enhance knowledge and understanding specific to a student code of conduct; although some part of this improvement may be sustained over a 14 day period, this change may not be statistically significant. Participation in an academic integrity training course may enhance knowledge and understanding specific to behaviors considered unacceptable in an educational environment as well as proactive measures effective in decreasing the likelihood of an academic integrity violation; these changes, however, may not be statistically significant. Research findings also suggest those students most likely to experience said gains include those with higher GPAs and those who have successfully completed a large majority of credits attempted.

The second implication involves who is most likely to benefit from this type of training. In consideration of research results, an inference is that the students who show the greatest enhancements in knowledge and understanding and who demonstrate the most favorable attitude changes are the students who receive the most benefit from said training. Much like going to the gym where everyone working out is in excellent physical health, research indicated those students who show the greatest enhancements in knowledge and

understanding and who demonstrate the most favorable attitude changes are the students who are least likely to cheat. That is, those students with higher GPAs and who have completed a number of college credits (e.g., juniors and seniors) may be less likely to cheat as compared to students with lower GPAs and who have not completed a number of college credits (e.g., freshman and sophomores). The broader implication is that institutions may be creating courses and training for students who least need them.

Although these findings should be reviewed in consideration of study limitations, this research implies academic integrity training courses may benefit students. Because empirical evidence does not exist to support the reliability and validity of such courses, however, academicians can only speculate as to their value. How much will students gain from this learning experience? How will learning occur? How long will this learning last? What institutional resources should be directed to these efforts? What is the cost/benefit analysis?

Future Research

Based on the existing body of knowledge as well as these findings, potential research efforts could include studies designed to measure the effectiveness of academic integrity training courses both as proactive and punitive measures. Further, because this study was limited to an online learning environment, future research efforts could include a similar design based in an on-campus learning environment. Such research might address concerns identified in this study including those involving the development and use of subscales. Statistical validity issues could be explored including efforts to improve the reliability of subscales whereas convergent validity issues could be addressed including attempts to enhance content specific to the individual factors and number of factors included. Further,

content experts could be consulted to improve course and assessment content thus enhancing content validity. Given that the subscales used to measure attitude were based on an existing measure (Eve and Bromley, 1981) and results indicated these were reliable measures with respect to current research, future studies might use existing measures that have been tested for reliability when creating subscales for knowledge and understanding.

To diminish threats to external validity and to enhance the potential for generalizability as well as economies of scale, future studies might involve coordinated research efforts with numerous educational institutions exhibiting similar demographic and institutional characteristics. To enhance internal validity, other researchers might consider revisions in methodology addressing issues of evaluation apprehension, selection bias, and sample size. Future studies may focus on history concerns by isolating differences associated within classes (e.g., faculty, curriculum, other intervening events) and establishing experimental controls identifying the impact of said events. Other studies could examine the relationship between student performance in an academic integrity training course and the factors found to be significant in this research effort including GPA and the ratio of courses attempted to courses completed. These efforts could address a potential paradox between previous findings and current research results. That is, O'Collell and Taylor (1994) suggest expected standards of behavior should be presented to students early in their collegiate careers if professional ethics are going to be developed; however, research results of this study indicate academic integrity training may have a greater impact on students who have successfully completed a large majority of credits attempted.

To determine the long-term value of an academic integrity training course and to address issues associated with criterion and predictive validity, future studies might include

a longitudinal component whereby the relationship between student performance in an academic integrity training course and future academic integrity violations are correlated. If the goal of this type of training course is to encourage academic integrity, there should be a negative relationship between overall student performance in a course similar to the AITC and the number of violations evidenced at the institution. This longitudinal research effort would require the institution to keep academic records detailing integrity training results as well as information about academic integrity violations with respect to types, frequency, and perpetrators. Although this sounds plausible and beneficial, the researcher must ask who would maintain these records? For what period of time would said records be stored? Who would have access to such records? Could such a database help or hurt a scholarship candidate? Could a potential employer request these records, similar to transcripts, as a condition of employment? Would the defense attorney subpoena this information when constructing the client's case? "Yes your honor, my client's actions on campus that day did result in the loss of life; however, the institution itself has records indicating my client is a person of integrity." Just because we can doesn't mean we should.

Summary

The research reported in this dissertation evaluated the effectiveness of the Metropolitan Community College (MCC) Academic Integrity Training Course (AITC). Through the creation and facilitation of the AITC, students were provided a chance to embrace the concepts and expectations of ethical behavior in the classroom. This dissertation provides the first published effort reviewing the methodology used to create such a course and details the measurement tools employed to substantiate the effectiveness of such intervention.

This course was created based on an extensive literature review that served to shape the methodology including the creation of assessment instruments (pretest, module quizzes, posttests) and selection of data analysis tools including the use of Pearson chi-square tests, T-tests, repeated-measures 2 x 2 x 3 ANOVA, and pairwise comparisons. Results from pretest and posttest suggest participation in the AITC did significantly enhance student knowledge and understanding of concepts and expectations of ethical behavior in the classroom; changes specific to knowledge, however, were not sustained over time. Research also revealed a statistically significant relationship between module quiz scores and correct responses to knowledge questions (posttest₁) as well as understanding questions (posttest₁, posttest₂). Analysis specific to module quizzes also revealed participation in the AITC did significantly enhance student knowledge and understanding of potential penalties imposed given the occurrence of a violation as well as student understanding of the relationship between academic and workplace integrity.

This chapter summarized the study and provided an overview of the research. Findings were discussed, and statistical analysis was reviewed. Study conclusions, based on research questions, were provided as were the limitations and implications of this research effort. Lastly, future research suggestions, based on aforementioned limitations and implications, were then presented. It is the hope of this author that the information contained in this document and any resultant research inspired by these efforts will benefit those we serve, our students.

Table 1

Individual Factors Associated with Academic Dishonesty: Demographics

INDIVIDUAL FACTORS: Demographics		
Age	Younger students are more likely to engage in academically dishonest behaviors and/or admit to cheating.	Cochran et al., 1999; Dawkins, 2004; Diekhoff et al., 1996; Faulkender et al., 1994; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; McCabe & Trevino, 1997; Rawwas & Isakson, 2000; Robinson et al., 2004; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999
Gender	Males are more likely to engage in academically dishonest behaviors and/or admit to cheating.	Aiken, 1991; Baird, 1980; Calabrese & Cochran, 1990; Davis et al., 1994; Dawkins, 2004; Erickson & Smith, 1974; Fakouri, 1972; Faulkender, 1994; Jackson et al., 2002; Huss et al., 1993; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Roth & McCabe, 1995; Smith et al., 1972; Vowell & Chen, 2004; Ward & Tittle, 1993; Zimmerman, 1999
	Females are more likely to cheat than males.	Graham et al., 1994; Kerkvliet, 1994
	Females cheat more than males in environments where the risk of detection is low.	Leming, 1980
	The threat of sanctions is an effective deterrent with women but not with men.	Leming, 1980
	Females demonstrating a lower expectancy of success as compared to their male counterparts tend to cheat more than males.	Jacobson et al., 1970
	Females demonstrating lesser aspirations as compared to their male counterparts tend to cheat more than males.	Jacobson et al., 1970
	Females demonstrating lower levels of social desirability tend to cheat more than males.	Jacobson et al., 1970
	There is little to no relationship between cheating behavior and gender.	Faulkender, 1994; Genereux & McLeod, 1995; Haines et al., 1986; Houston, 1983b; Karabenick & Srull, 1978; Perry et al., 1990; May & Loyd, 1993

Table 1 (continued)

INDIVIDUAL FACTORS: Demographics		
Ethnicity	Caucasian students are more likely to report cheating as opposed to Asian and Hispanic students	Calabrese & Cochran, 1990
Marital status	Married students are less likely to cheat as opposed to unmarried students.	Diekhoff et al., 1996; Haines et al., 1986; Vowell & Chen, 2004
Living arrangements	Students living on the college campus, as opposed to students living off campus, are more likely to cheat.	Dawkins, 2004; Graham et al., 1994

Table 2

Individual Factors Associated with Academic Dishonesty: Background, Parental Influence, Workload

Background		
Affluent Background	Students who come from more affluent backgrounds are more likely to engage in academic dishonest behavior.	Calabrese & Cochran, 1990; Cochran et al., 1999
Private/Public School	Students who have attended private schools (K–12), as opposed to public schools, are more likely to cheat.	Calabrese & Cochran, 1990
Arrest Record	Students who have previously been taken into custody are more likely to cheat as opposed to those with no arrest record.	Calabrese & Cochran, 1990; Heisler, 1974
Parental Influence		
Financial Support	Cheating is positively related to the parental financial support.	Diekhoff et al., 1996; Graham et al., 1994; Haines et al., 1986
Parents' Education	Cheating is positively related to parents' level of education.	Kerkvliet, 1994; McCabe & Trevino, 1997
Parental Pressure	Students who feel pressure from their parents to succeed academically are more likely to engage in academic dishonest behaviors.	Bennett, 2005; Schab, 1991; Smith et al., 1972
Parents' Marital Status	There is no relationship between cheating and parents' marital status.	Calabrese & Cochran, 1990
Workload		
Non-Academic	Students who cheat tend to work few to no hours a week.	Haines et al., 1986
	There is a negative correlation between cheating behaviors and the number of hours per week a student is working.	Diekhoff et al., 1996
	Students who feel working is more important than studying or who do not have time to study due to work obligations may be willing to cheat.	Barnes, 1975; Vowell & Chen, 2004
Academic	Students might also be willing to cheat if they perceive their academic work load is too heavy.	Cizek, 1999

Table 3

Individual Factors Associated with Academic Dishonesty: Academic Attributes

Academic Attributes		
Year in college (freshman, sophomore, junior, senior)	Students who are close to graduating (e.g., seniors) may be likely to cheat.	Barnes, 1975; Vowell & Chen, 2004
	Freshman and sophomores tend to cheat more frequently than juniors, seniors, or graduate students.	Baird, 1980; Dawkins, 2004; Kerkvliet, 1994; Underwood & Szabo, 2003
	There is no relationship between cheating and numbers of years the student has been in college.	Haines et al., 1986; Tibbetts, 1998
Major	Research indicates students who are majoring in business, as compared to students enrolled in other majors, are more likely to cheat.	Smyth & Davis, 2004; Zimmerman, 1999
	Business students may be more likely to cheat as compared to liberal arts and education majors.	Baird, 1980
	Liberal arts and education majors are more likely to disapprove of cheating as compared to business majors.	Baird, 1980
Intelligence	Some studies indicate more intelligent students are less likely to cheat.	Gross, 1946; Hoff, 1940
Grades: GPA	There is an inverse relationship between academic achievement (typically measured by GPA) and academic dishonesty.	Antion & Michael, 1983; Baird, 1980; Barnes, 1975; Bennett, 2005; Bronzaft et al., 1973; Bunn et al., 1992; Cochran et al., 1999; Diekhoff et al., 1996; Finn & Frone, 2004; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; Kerkvliet & Sigmund, 1999; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Mixon, 1996; Robinson et al., 2004; Scheers & Dayton, 1987; Smith et al., 1972; Tibbetts, 1998
	There is no relationship between academic achievement, as measured by GPA, and cheating.	Houston, 1986b; Kerkvliet, 1994; Singhal, 1982

Table 3 (continued)

Academic Attributes		
Grades: Pressure	Studies indicate students who perceive external pressure to make good grades and fear they might not fulfill this expectation may be willing to cheat.	Michaels & Miethe, 1989; Schab, 1991; Smith et al., 1972
	Studies indicate students who perceive pressure to make good grades may be willing to cheat.	Davis et al., 1992; Houston, 1976b
Grades: Competition	Studies indicate students who believe they are competing for grades may be willing to cheat.	Perry, et al., 1990; Schab, 1991; Singhal, 1982; Smith et al., 1972
Grades: Motivator	Research suggests students who are motivated by grades as opposed to the learning process are likely to cheat.	Anderman et al., 1998; Davis et al., 1994; Haines et al., 1986; Huss et al., 1993; Robinson et al., 2004; Weiss et al., 1993
Scholarship Recipients	There is a positive relationship between receipt of a scholarship and cheating.	Diekhoff et al., 1996; Haines et al., 1986
Class Attendance	There is an inverse relationship between cheating and class attendance where students who have good attendance records are less likely to cheat.	Michaels & Miethe, 1989
Task Performance	Research indicates a positive relationship between task performance, or the completion of a particular task or course assignment such as a test, and cheating.	Gardner et al., 1988; Malinowski & Smith, 1985; Millham, 1974
Required Course	Research indicates students are more likely to cheat in courses required in their major as opposed to elective courses.	Barnes, 1975
Dislike of School	Students who dislike school may be likely to cheat, as compared to those who do like school.	Calabrese & Cochran, 1990; Robinson et al., 2004; Vowell & Chen, 2004
Past Cheating Practices	Research indicates those students who have cheated in the past at lower academic levels, in either high school or other college classes, are more likely to cheat again.	Davis et al., 1994; Nonis & Swift, 1998; Sierles et al., 1980; Sims, 1993; Tibbetts, 1998; Ward & Tittle, 1993
Observed Cheating	Students who observe cheating are more likely to cheat as well.	Bunn et al., 1992; Mixon, 1996

Table 3 (continued)

Academic Attributes		
Collaboration & Degree of Acquaintance-ship	There is a positive relationship between a willingness to engage in collaborative cheating and the degree of acquaintanceship.	Houston, 1986a
	Students who have been encouraged or helped to cheat by friends may be willing to cheat.	Michaels & Miethe, 1989
	There is a positive relationship between cheating and associating with others who cheat.	Mixon, 1996
Study Conditions	There is an inverse relationship between the quality of study conditions and/or study skills and academic dishonest behavior.	Bennett, 2005; Houston, 1976c
	Poor study conditions are positively correlated with cheating.	Houston, 1986b
Study Time	There is an inverse relationship between the quantity of time a student spends studying and cheating where research indicates students who spend more time studying, or feel they have had enough time to study, are less likely to cheat.	Haines et al., 1986; Michaels & Miethe, 1989; Robinson et al., 2004; Schab, 1991; Smith et al., 1972; Vowell & Chen, 2004
	There is no relationship between cheating and study time.	Kerkvliet, 1994

Table 4

Individual Factors Associated with Academic Dishonesty: Extracurricular Activities and Personality Characteristics

Extracurricular Activities		
Fraternity/ Sorority Membership (Greek Participation)	Findings indicate a positive relationship exists between cheating and students who are members of fraternities/sororities.	Baird, 1980, Diekhoff et al., 1996; Haines et al., 1986; Kerkvliet, 1994; McCabe & Trevino, 1997; Michaels & Miethe, 1989; Robinson, et al., 2004; Storch & Storch, 2002
Intramural/ Varsity Sports	Findings indicate a positive relationship exists between cheating and students who participate in intramural and varsity sports.	Diekhoff et al., 1996; Haines et al., 1986; McCabe & Trevino, 1997
Alcohol Consumption	Research indicates a positive relationship between cheating and alcohol consumption.	Kerkvliet, 1994; Kerkvliet & Sigmund, 1999
Socialization (Club Membership)	Socialization among students (e.g., informal networking including participation in student activities/clubs, etc.) is positively correlated with cheating.	Dawkins, 2004; Pino & Smith, 2003; Vowell & Chen, 2004
Television	Research indicates students who watch too much television may engage in procrastination behaviors encouraging cheating.	Pino & Smith, 2003
Personality Characteristics		
Self-esteem	There is no relationship between esteem and cheating behavior evidenced in males.	Ward, 1986
	There is a positive relationship between esteem and cheating behavior evidenced in females where those with high esteem, as opposed to low esteem, are less likely to cheat.	Ward, 1986
Efficacy	Research indicates an inverse relationship between cheating and self-efficacy where students with low self-efficacy are more likely to cheat.	Evans & Craig, 1990
	Research indicates an inverse relationship between cheating and efficacy (i.e., self and/or academic) where student with low self-efficacy are more likely to cheat.	Finn & Frone, 2004 Murdock et al., 2001

Table 4 (continued)

Personality Characteristics		
Locus of control	Studies indicate there is a relationship between locus of control and cheating where students with an external locus of control—who feel the outcome is a function of outside forces—may be more likely to cheat as compared to students with an internal locus of control who feel the outcome is determined by their actions.	Davis et al., 1994; Forsyth & Berger, 1982; Karabenick & Srull, 1978
	Locus of control is not correlated with cheating.	Antion & Michael, 1983
Tolerant	Students who describe themselves as tolerant, those having a more liberal outlook, and those rejecting the concept of absolute truths may be more likely to cheat.	Rawwas & Isakson, 2000
Relativist	Students who describe themselves as relativist (focused on the consequences of their actions or behaviors) may be more likely to cheat.	Rawwas & Isakson, 2000
Idealist	Idealism and cheating behavior are negatively correlated.	Rawwas & Isakson, 2000

Table 5

Individual Factors Associated with Academic Dishonesty: Interpersonal Process

Interpersonal Processes		
Fear of Failure	The fear of failure has been found to motivate some students to cheat.	Evans & Craig, 1990; Schab, 1991
Guilt Proneness	Studies do not indicate a relationship between cheating and guilt proneness.	Corcoran & Rotter, 1987; Heisler, 1974; Malinowski & Smith, 1985
Conscientious	Research indicates a negative relationship between cheating and conscientiousness.	de Bruin & Rudnick, 2007
Shame Proneness (Embarrassment)	Students who are concerned about shame and/or embarrassment may be less likely to cheat.	Cochran et al., 1999; Tibbetts, 1998
Desire to Manipulate (Machiavellian)	Studies do not indicate a relationship between cheating and a student's desire to manipulate.	Flynn et al., 1987
Need for Approval	Research suggests students who demonstrate a greater need for approval may be more likely to cheat as compared to those without such need.	Jacobson et al., 1970; Malinoski & Smith, 1985; Millham, 1974; Smith et al., 1972
	A student's need for approval is not correlated with cheating	Antion & Michael, 1983
Evaluation & Impression	There is no correlation between cheating and a student's concern regarding making a good impression.	Covey et al., 1989
	There is a positive correlation between cheating and a student's concern regarding a negative evaluation.	Dickstein et al., 1977
Temptation	Temptation is positively correlated with cheating.	Houston, 1978
Lazy	Students who describe themselves as lazy may be willing to cheat.	Schab, 1991
Worry	Students who worry about school may be more likely to cheat as opposed to those students who do not worry about school.	Anderman et al., 1998

Table 6

Individual Factors Associated with Academic Dishonesty: Behaviors and Goals

Behaviors and Goals		
Industriousness	Students who may be described as industrious may be more likely to cheat.	Eisenberger, 1992
Type A Behavior Pattern	Students exhibiting a Type A behavior pattern may be more likely to cheat.	Friedman & Rosenman, 1977; Perry et al., 1990
	Type-A behaviors are associated with a lower incidence of cheating.	Huss et al., 1993; Weiss et al., 1993
Expectations of Success	There is a positive relationship between a student's expectations of success and willingness to cheat where students with greater expectations were more likely to cheat as opposed to students with lower expectations of success.	Houston, 1977b; Houston, 1978; Houston & Ziff, 1976
Achievement Motivation	Achievement motivation is not correlated with cheating	Antion & Michael, 1983
Future Plans	Research indicates there is not a correlation between cheating and a student's lack of plans for the future.	Calabrese & Cochran, 1990
Cheating as a Wide-ranging Pattern of Deviant Behavior	Research suggests cheating may be an element of a wide-ranging pattern of deviant behavior.	Beck & Ajzen, 1991; Heisler, 1974
	Cheating by college students is significantly related to other deviant behaviors such as shoplifting and lying.	Beck & Ajzen, 1991
	Cheating is not a deviant behavior, but rather, a learned and normative behavior considered by students as an acceptable means of grade enhancement.	Michaels & Miethe, 1989
Cheating is Situational in Nature	Research findings indicate cheating is situational in nature.	Covey et al., 1989; Corcoran & Rotter, 1987; Leming, 1980
Beliefs and Values vs. Situational Factors	Cheating may be more closed linked to a student's beliefs and values as opposed to situational factors	Roth & McCabe, 1995

Table 7

Individual Factors Associated with Academic Dishonesty: Morals & Ethics

Morals & Ethics		
Feel Cheating is Immoral/ Unethical	Students may be less likely to engage in academically dishonest behavior if they feel it is immoral or unethical.	Beck & Ajzen, 1991; Bennett, 2005; Boling, 2004 Cochran et al., 1999; Smith et al., 1972
Personal Code of Conduct or Moral Code	Students may be less likely to cheat if they adhere to a personal code of honor or moral standard.	Corcoran & Rotter, 1987; Davis et al., 1992; Eisenberg, 2004
	Students may be less likely to engage in academically dishonest behavior if they subscribe to a personal ethical or moral code.	Bennett, 2005; Smith et al., 1972
Moral Beliefs	Students may be less likely to cheat if they adhere to a set of moral beliefs or standards.	Tibbetts, 1998
Perception of Personal Morality	Students who consider themselves less moral may be more likely to cheat.	Lanza-Kaduce & Klug, 1986; Malinowski & Smith, 1985
Moral Development: Threat of Penalty & Supervision	Students considered high in moral development are just as likely to cheat as students considered low in moral development if the threat of penalty is low and supervision is low.	Leming, 1978
Morals and Ability Not to Cheat	Even students with strong moral values find it difficult not to cheat.	Malinowski & Smith, 1985
Religiosity	Research indicates there is not any relationship between religiosity (e.g., students who consider themselves religious, are affiliated with a particular religion, and/or who have attended a private religious institution) and cheating behavior.	Brown & Choong, 2003; Michaels & Miethe, 1989; Smith et al., 1975; Smith et al., 1972; Vowell & Chen, 2004
Church Attendance	Students who attend church are less likely to engage in academically dishonest behavior.	Vowell & Chen, 2004
	Students who attended church less than once a week are more likely to cheat.	Calabrese & Cochran, 1990

Table 8

Individual Factors Associated with Academic Dishonesty: Perceptions

Perceptions		
Perception of Normalcy or Cheating Acceptance	Students who are aware of others cheating and feel cheating is an acceptable normal behavior are more likely to cheat.	Beck & Ajzen, 1991; Bunn et al., 1992; Dawkins, 2004; DeVries & Ajzen, 1971; Eisenberg, 2004; Enker, 1987; Forsyth & Berger, 1982; Genereux & McLeod, 1995; Graham et al., 1994; Haines et al., 1986; Lanza-Kaduce & Klug, 1986; Liska, 1978; Michaels & Miethe, 1989; Sherrill et al., 1971; Stevens, 1984; Underwood & Szabo, 2003; Vowell & Chen, 2004
Perception of Opportunity (Ease of Cheating)	Students who perceived they would have the opportunity to cheat (even though this opportunity is only perceived as opposed to real) did better on an exam as opposed to those without such perception.	Boling, 2004; Houston, 1977b; Michaels & Miethe, 1989; Robinson et al., 2004
Perception of Ability	Studies indicate there is a positive relationship between perceived ability and a student's willingness to cheat where students who believe they are effective cheaters are more likely to attempt to cheat.	Beck & Ajzen, 1991; Ward & Tittle, 1993
Perception of Seriousness	Students may be less likely to cheat if they perceive the seriousness of academic dishonest behavior.	Michaels & Miethe, 1989
Perception of Peer Honesty	Research indicates cheating is directly related to the perception of peers' academic honesty.	Michaels & Miethe, 1989
Perception of Peer Cheating Ability	Students may be inclined to cheat if they feel their peers' cheating will not be detected.	McCabe & Trevino, 1993
Perception of Peer Feelings	Students may be likely to cheat if they perceive their peers feel cheating is acceptable.	McCabe & Trevino, 1997; Tibbetts, 1998

Table 8 (continued)

Perceptions		
Perception of the Number of Students Who Cheat	Studies indicate there is a direct relationship between cheating and a student's perception of the number of student who regularly cheat.	Bunn et al., 1992; Robinson et al., 2004; Smith et al., 1972; Vowell & Chen, 2004
Perceive School to be Unfair	Students who perceive school to be unfair may be more likely to cheat.	Calabrese & Cochran, 1990
Perceive Teacher to be Unfair	Students who perceive their teacher is unfair may be more likely to cheat.	Calabrese & Cochran, 1990
Perceive the World as a Difficult Place	There is no relationship between cheating and a student's perception of the world as a difficult place.	Houston, 1986b

Table 9

Individual Factors Associated with Academic Dishonesty: Risk and Return

Risk & Return		
Risk: Detection	Studies indicate there is an inverse relationship between cheating and the fear of being caught where students are more willing to cheat if they feel there is only a small risk of being caught.	Corcoran & Rotter, 1987; Covey, et al., 1989; Eisenberg, 2004; Heisler, 1974; Houston, 1977b; Leming, 1978; Leming, 1980; McCabe et al., 2001; McCabe & Trevino, 1993; Michaels & Miethe, 1989; Schab, 1991; Singhal, 1982; Smith et al., 1972; Tittle & Rowe, 1973; Underwood & Szabo, 2003
Risk: Excitement Seeking	Research indicates there is a positive relationship between excitement seeking and cheating.	De Bruin & Rudnick, 2007
Risk: Sanctions	Research indicates students may be less likely to engage in academic dishonesty if they expect and/or fear sanctions or penalties in the event they are caught.	Cochran et al., 1999; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993; McCabe & Trevino, 1997; Mixon, 1996; Tittle & Rowe, 1973; Ward & Tittle, 1993
	Official sanctions (as opposed to internal punishments such as shame) do not deter cheating.	Michaels & Miethe, 1989; Tibbetts, 1998
	There is no relationship between cheating and the expectation of punishment.	Bunn et al., 1992
Avoid Punishment vs. Attaining Reward	Cheating behavior is more closely associated with the avoidance of punishment as opposed to the attainment of a reward.	Flynn et al., 1987
Return: Reward	There is a positive relationship between the expected reward and likelihood of cheating.	Covey et al., 1989; Houston, 1977b
Return: Importance of Return	Research indicates students who believe the outcome is important were more likely to cheat.	Houston, 1977a
Return: Importance of Test	Research indicates students are more likely to cheat if they feel the outcome of their performance on the test is significant.	Barnes, 1975; Eisenberg, 2004

Table 10

Taxonomy of Cheating Behaviors: Exams

EXAMS					
Individual Activities			Collaborative Activities		
Before Exam	During Exam	After Exam	Before Exam	During Exam	After Exam
Using an unauthorized copy of a previously given exam to study	Using unauthorized materials during exam (books, notes, cheat sheets, calculators, phones, etc.)	Delaying turning in a test using a dishonest reason (e.g., death in family, personal illness, etc.)	Working with others to steal a copy of an exam	Communication in the classroom (e.g., hand signals)	Concealing a grading error
Delaying taking test using a dishonest reason (e.g., death in family, personal illness, etc.)		Inflating score on self-graded exam	Giving or receiving unauthorized support to someone before taking an exam	Communication outside the classroom (e.g., text messages, phone calls, etc.)	Inflating scores on self-graded exams
Stealing a copy of an exam			Using an unauthorized copy of a previously given exam to study	Copying answers during an exam.	
			Sharing answers for an exam already taken with students who are preparing for the same exam	Communication/ collaborating with others during an online exam meant to be an individual effort	
				Allowing another student to copy answers during an exam.	
				Exchanging tests with other students	

Table 10 (continued)

EXAMS					
Individual Activities			Collaborative Activities		
Before Exam	During Exam	After Exam	Before Exam	During Exam	After Exam
				Students taking exams for each other (falsifying identity in an on-campus or online environment)	
				Unauthorized collaboration on take-home exam	

Table 11

Taxonomy of Cheating Behaviors: Writing Assignments

WRITING ASSIGNMENTS	
Individual Activities	Collaborative Activities
Plagiarize part or all of a writing assignment (e.g., using online sources, text material, etc.)	Soliciting another student to complete a writing assignment
Listing false references in a paper (e.g., online sources, etc.)	Completing a writing assignment for another student
Falsifying or fabricating a bibliography (e.g., online sources, etc.)	Copying another student's writing assignment (e.g., copying file on disk, etc.)
Falsifying research data	Allowing another student to copy your writing assignment paper (e.g., copying file on disk, etc.)
Using unauthorized materials when completing a writing assignment (e.g., copy of another writing assignment, etc.)	Misrepresenting the work of others as original effort (e.g., copying file on disk, etc.)
Misrepresenting written assignment as original work including: <ul style="list-style-type: none"> - Papers purchased online - Papers copied/downloaded from online sources - Papers written by someone else (e.g., ghost writer) 	Collaborating on writing assignments without approval/authorization
Stealing a copy of another writing assignment	Submitting a writing assignment completed in another class without faculty permission/knowledge
Delaying completing/submitting a writing assignment using a dishonest reason (e.g., death in family, personal illness, etc.)	Giving or receiving unauthorized support when completing writing assignments
Submitting work completed in previous classes for grade consideration without faculty knowledge/authorization	Giving or receiving unauthorized copies of previously completed writing assignments
Manipulating paper layout/format (e.g., margins, line spacing, etc.) to lengthen/shorten paper length	
Using unauthorized Web resources or software to complete writing assignments including: <ul style="list-style-type: none"> - A Web site or other software to create a bibliography - A Web site or other software to format a writing assignment 	

Table 12

Taxonomy of Cheating Behaviors: Other Assignments and Actions

OTHER ASSIGNMENTS & ACTIONS		
ASSIGNMENTS		ACTIONS
Individual Activities	Collaborative Activities	Individual and/or Collaborative Activities
Not contributing a fair share in a group project	Soliciting another student to complete assignment (in the classroom and/or online)	Bribery or blackmail
Using unauthorized materials when completing an assignment (copy of another assignment, etc.)	Completing an assignment for another student	Dishonestly leverage relationship with college employee (faculty, graduate assistant, etc.)
Delaying completing/submitting an assignment using a dishonest reason (e.g., death in family, personal illness, etc.)	Collaborating on take-home assignment without approval/authorization	Gaining access to faculty resources (e.g., grade book, etc.)
Inflating a score on self-graded assignment	Working with others to inflate score on self-graded assignment	Altering faculty resources (e.g., grade book, etc.)
Submitting work completed in previous classes for grade consideration without faculty knowledge/authorization	Submitting an assignment completed in another class without faculty permission/knowledge	Gaining access to college resources without authorization (e.g., computer systems, etc.)
Reading a condensed summary/version of an assigned book/novel as opposed to the full-length text (e.g., online summaries, etc.)	Giving or receiving unauthorized support when completing assignments	Altering college resources without authorization (e.g., computer systems, etc.)
Using unauthorized Web resources or software to complete assignments including: <ul style="list-style-type: none"> - A Web site or other software to translate foreign language text as opposed to individually making said translations - A Web site or other software to perform mathematical calculations (e.g., statistics, etc.) as opposed to individually making said calculations. 	Misrepresenting/submitting the work of others as original effort including: <ul style="list-style-type: none"> - Assignments purchased online - Assignments copied/downloaded from online sources - Assignments completed by someone else - Assignments electronically copied (e.g., copying file on disk, etc.) 	

Table 12 (continued)

OTHER ASSIGNMENTS & ACTIONS		
ASSIGNMENTS		ACTIONS
Individual Activities	Collaborative Activities	Individual and/or Collaborative Activities
Claiming an assignment is attached to an e-mail message then purposefully not attaching said assignment	Giving or receiving unauthorized copies of previously completed assignments	
Stealing a copy of an assignment	Working with others to steal a copy of an assignment	
	Copying another student's assignment	
	Allowing another student to copy assignment	

Table 13

Cheating Detection, Deterrents, and Sanctions

DETECTION, DETERRENTS & SANCTIONS		
Detection		
Threat of Detection	Cheating may be associated with poor detection methods.	Maramark & Maline, 1993
	Given the threat of detection, low ability students tend to cheat more than high-ability students.	Leming, 1980
Detection Measures	Students are encouraged to report cheaters.	Nonis & Swift, 1998
	Institute a cheating "hot-line" to report violators.	Hollinger & Lanza-Kaduce, 1996
Deterrents		
Effectiveness of Deterrents	In-class deterrents are effective in reducing cheating on exams.	Nonis & Swift, 1998
	Students are less willing to cheat if they believe deterrents are effective, making it difficult to cheat.	McCabe & Trevino, 1993 Stevens, 1984
	Students are more willing to cheat if they believe deterrents are ineffective.	Davis et al., 1992
Sanctions		
Sanctions	Research indicates students may be less likely to cheat if they expect and/or fear sanctions or penalties in the event they are caught.	Cummings & Romano, 2002; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1993; McCabe & Trevino, 1997; Mixon, 1996; Stevens, 1984; Tittle & Rowe, 1973; Ward & Tittle, 1993
	The threat of sanctions is an effective deterrent with women but not with men.	Leming, 1980
	Students caught cheating are reported to administration.	Cummings & Romano, 2002; Davis et al., 1992
	Students caught cheating receive an "F" on the assignment.	Carter et al., 2006; Cummings & Romano, 2002; Diekhoff et al., 1996
	Students caught cheating receive an "F" in the course.	Carter et al., 2006; Cummings & Romano, 2002
Detection		
	Students caught cheating are dropped from the course.	Diekhoff et al., 1996
	Students caught cheating are required to attend counseling sessions.	Maramark & Maline, 1993
	Students caught cheating are required to attend a seminar about cheating.	Maramark & Maline, 1993
		Maramark & Maline, 1993

Table 14

Cheating Detection, Deterrents, and Sanctions: Classroom Situation and Communication

Classroom Situation		
High-Tech Surveillance	Web Cams & Biometrics	Baron & Crooks, 2005
Class Size	Research findings indicate students in larger classes may be more likely to cheat.	Hollinger & Lanza-Kaduce, 1996; Houston, 1986b; Nowell & Laufer, 1997
Seating Arrangements	There is no relationship between cheating and a student sitting in the front of the classroom as opposed to the back of the classroom.	Houston, 1976b; Houston, 1986a; Houston, 1986b
	Students may be more likely to cheat if they sit next to acquaintances.	Houston, 1986a; Houston, 1986b
	Students may be more likely to cheat in a classroom where seating is not assigned but where they are instead allowed to self-select their seats.	Davis et al., 1992; Hollinger & Lanza-Kaduce, 1996; Houston, 1986a; Nonis & Swift, 1998
	Research suggests spacing students (e.g., placing empty chairs between students, or seating students in alternate columns) may provide some deterrent to cheating.	Cizek, 1999; Davis et al., 1992; Harpp et al., 1996; Houston, 1976a; Houston, 1976b, Kvam, 1996; Kerkvliet, 1994; Nonis & Swift, 1998
	Research does not indicate spacing students (e.g. placing empty chairs between students, or seating students in alternate columns) provides some deterrent to cheating.	Houston, 1986b Kerkvliet & Sigmund, 1999
	Cheaters and noncheaters are equally likely to sit next to walls.	Houston, 1986b
Communication		
Academic Honesty Discussions	Talking about academic honesty with students may encourage academic honesty.	Cole & Kiss, 2000
Discuss Ethics	Discussing ethics with students may encourage academic honesty.	Swift, et al., 1998

Table 14 (continued)

Communication		
Define Academic Integrity Concepts	Defining and discussing plagiarism with students may encourage academic honesty.	Swift, et al, 1998
Clarify Expectations & Standards	Clarifying expectations and standards with students may encourage academic honesty.	Cole & Kiss, 2000; Saunders, 1993
Clarify Acceptable Collaboration	Clarifying acceptable and unacceptable collaboration with students may encourage academic honesty.	Saunders, 1993
Announced Policies	Informing student they should not cheat may encourage academic honesty.	Davis et al., 1992; Nonis & Swift, 1998
Announced Observation	Announce that student are being watched but do not identify detection methods.	Nonis & Swift, 1998
Announced Penalties	Research indicates students feel announced penalties and verbal warnings deter cheating.	Davis et al., 1994; Kerkvliet & Sigmund, 1999; Nonis & Swift, 1998; Tittle & Rowe, 1973
Positive Feedback	Provide students with positive feedback.	Saunders, 1993

Table 15

Cheating Detection, Deterrents, and Sanctions: Faculty and Institutional Factors

Faculty		
Interaction	Interact with students.	Baron & Crooks, 2005
Leadership	Students who feel they have not been provided adequate leadership from faculty are more likely to cheat.	Stevens, 1984
Credentials	Studies indicate students are more likely to cheat in classes taught by adjunct faculty, nontenure-track faculty, or graduate teaching assistants.	Kerkvliet & Sigmund, 1999 Nowell & Laufer, 1997
Faculty Approval	Research indicates students are less likely to cheat if they value and/or seek faculty approval.	Smith et al., 1972
Role Model	Properly cite lecture sources.	Cole & Kiss, 2000
	Show respect for other scholars.	Cole & Kiss, 2000
Institutional Factors		
Size of the Institution	Research indicates students at larger state-supported institutions are more likely to cheat, as compared to students enrolled at small private colleges.	Weiss et al., 1993
Faculty Support	Faculty support involves ensuring an understanding of institutional policies and guidelines specific to academic integrity.	Maramark & Maline, 1993
	Subscriptions to plagiarism search services such as Turn-it-in.com are valuable deterrents.	Baron & Crooks, 2005; Braumoeller et al., 2001; McMurtry, 2001
Librarian Support	Librarians can play a very important role in encouraging academic integrity specific to plagiarism.	Wood, 2004
Clarify Policies	Explain academic honesty policy, clarifying vague terms and concepts.	Kerkvliet, 1994; McCabe & Trevino, 1993; McMurtry, 2001
Affirm Institutional Values	Emphasize basic tenets upon which higher education was founded: academic honesty and scholarship.	Maramark & Maline, 1993
Syllabus	Require academic integrity policy inclusion in all syllabi.	Cole & Kiss, 2000

Table 15 (continued)

Institutional Factors		
Educate and Support Faculty	Make sure faculty clearly understand institutional policies.	Maramark & Maline, 1993
	Make sure clear policies and guidelines are in place to support faculty.	Maramark & Maline, 1993
Academic Honor Code	Studies also suggest the existence of an honor code may discourage cheating.	Brooks et al., 1981; Gardner et al., 1988; May & Loyd, 1993; McCabe & Trevino, 1993
	Creation of an honor code is an insufficient deterrent unless accompanied by a change in student norms associated with cheating.	McCabe & Trevino, 1993

Table 16

Taxonomy of Cheating Deterrents: Exams

EXAMS		
Before Exam	During Exam	After Exam
Providing study sheets for exam prep	Use proctors	Minimize make-up exams
Making old exams available for test preparation	Constant observation and visual surveillance	Create unique make-up exams
Prohibit personal belongings when testing	Walking up and down the rows during the test	
Require ID for test admission		
Do not allow students to leave the room once the test has begun		
Use of multiple test forms		
Scramble questions and answer options on each test version		
Create original questions/ tests		
Don't use multi-choice exams		
Use essay exam		
Require all relevant work needed to obtain a correct answer shown		
Require marked test/answer book turned in with test		
Require names on test/ answer book		

Table 17

Taxonomy of Cheating Deterrents: Written Assignments and Other Assignments

WRITING ASSIGNMENTS		
Before Assignment	During Assignment	Upon Completion of Assignment
Subscribe to a plagiarism search service like Turn-it-in.com.	Require interim evidence of progress.	Have students submit essays electronically.
Be familiar with Internet sites of pre-written reports.	Require outline be submitted three to four weeks prior to paper due date.	Require all drafts be submitted with the final paper.
Change assignments and paper topics regularly.	Provide in-class writing assignments to become familiar with student writing styles.	Ask student to turn in original copies of work.
Model approaches used to generate original ideas.	Require oral presentations of student papers.	Require photocopy of references.
Discuss how to research a paper.	Don't allow last-minute changes of topic.	Check footnotes.
Assign narrow topics.		Encourage students to come to you if they are confused about citation practices.
Specify paper topics.		Require detailed citations include page numbers
Specify format.		Use search engine for free full-text search.
Make sure students understand the reasons and the tools for avoiding plagiarism.		
Make sure students understand the tools for avoiding plagiarism.		
Explicitly explain the importance of not using published ideas in exactly the same form.		
OTHER ASSIGNMENTS		
Spend time in the beginning creating the assignment.	Give written or oral pop quizzes in class.	
Change assignments often.	Give student enough time to do an assignments.	
Assign different assignment to each student.		

Table 18

AITC Course Completion (Frequency)

Missing Course Elements	<i>f</i>	%	Valid Percent	Cumulative Percent
0 – 1 questions	84	54.5	54.5	54.5
2 – 3 questions	1	.6	.6	55.2
4 questions	1	.6	.6	55.8
Posttest ₁	2	1.3	1.3	57.1
Pretest & Module Quizzes	7	4.5	4.5	61.7
19 Pretest Questions, Module Quizzes, Posttest ₁ , Posttest ₂	1	.6	.6	62.3
Pretest, Module Quizzes, Posttest ₁ , Posttest ₂	58	37.7	37.7	100.00

(N = 154)

Table 19

Participant & Nonparticipant T-TEST

	AGE	GPA*	CREDITS ATTEMPTED	CREDITS COMPLETED*
PARTICIPANT (n = 86)				
N	86	70	86	85
Mean	27.00	3.24	50.35	41.41
Median	25.00	3.41	40.50	28.50
Minimum	18.00	1.40	.00	.00
Maximum	54.00	4.00	192.50	188.00
Range	36.00	2.60	192.50	188.00
Std. Deviation	8.15	.62	49.31	41.36
NONPARTICIPANT (n = 68)				
N	68	48	68	68
Mean	25.94	2.73	38.11	24.76
Median	22.00	2.80	25.25	12.00
Minimum	18.00	.67	.00	.00
Maximum	62.00	4.00	236.00	221.50
Range	44.00	3.33	236.00	221.50
Std. Deviation	9.81	.84	50.03	36.32
TOTAL (n = 154)				
N	154	118	154	153
Mean	26.53	3.03	44.94	34.01
Median	23.00	3.23	29.75	23.00
Minimum	18.00	.67	.00	.00
Maximum	62.00	4.00	236.00	221.50
Range	44.00	3.33	236.00	221.50
Std. Deviation	8.91	.76	49.84	39.95
GPA *P<.01				

Table 20

Demographic Summary

	PARTICIPANTS		GROUP		CLASS	
	Participants (n=86)	Nonparticipants (n=68)	WA (n=47)	WB (n=39)	FIN (n=35)	PSY (n=51)
Age (<i>M</i>)	27	26	28	25	28	26
Gender						
Female	55	35	27	28	20	35
Male	31	33	20	11	15	16
Ethnicity						
White	77	57	44	33	32	45
Minority	9	11	3	6	3	6
GPA (<i>M</i>)	3.24	2.73	3.38	3.07	3.35	3.15
Educational goal: Assoc. of Arts Degree	24	17	15	9	8	16
Enrollment Tenure (2007)	34	30	19	15	7	27
Credits attempted at MCC (<i>M</i>)	50.35	38.10	55.17	44.55	62.93	41.73
Credits completed at MCC (<i>M</i>)	41.41	24.76	46.17	35.80	54.04	32.57

Table 21

*Metropolitan Community College Academic Integrity Training Course Development:**Institutional Factors*

INSTITUTIONAL FACTORS	
Demographics	
Age	Younger students are more likely to engage in academically dishonest behaviors and/or admit to cheating. The average age of MCC students is 29. Those between the ages of 20–24 represent the largest age group.
Workload	
<ul style="list-style-type: none"> • There is a negative correlation between cheating behaviors and the number of hours per week a student is working. • Research indicates students who feel working is more important than studying are willing to cheat. • Students might also be willing to cheat if they perceive their academic work load is too heavy. Sixty-seven percent of students are married and consider themselves head of households.	
Academic Attributes	
Year in College	Underclassman tend to cheat more frequently than upperclassmen or graduate students. MCC is a 2-year institution.
Faculty	
Credentials	Studies indicate students are more likely to cheat in classes taught by adjunct faculty, nontenure-track faculty, or graduate teaching assistants. Of all credit courses, 51.7% are taught by adjunct faculty.
Communication	
Academic Honesty Discussions	Talking about academic honesty with students may encourage academic honesty.
Discuss Ethics	Discussing ethics with students may encourage academic honesty.
Define Academic Integrity Concepts	Defining and discussing plagiarism with students may encourage academic honesty.
Clarify Expectations & Standards	Clarifying expectations and standards with students may encourage academic honesty.

Table 21 (continued)

INSTITUTIONAL FACTORS	
Communication	
Clarify Acceptable Collaboration	Clarifying acceptable and unacceptable collaboration with students may encourage academic honesty.
Announced Policies	Informing student they should not cheat may encourage academic honesty.
Announced Observation	Announcing that students are being watched but not identifying detection methods may encourage academic honesty.
Announced Penalties	Research indicates students feel announced penalties and verbal warnings deter cheating.
INSTITUTIONAL FACTORS	
Size of the Institution	Research indicates students at larger state-supported institutions are more likely to cheat as compared to students enrolled at small private colleges. MCC has 25,527 credit students. Third largest postsecondary educational institution in Nebraska.
Faculty Support	Subscriptions to plagiarism search services such as Turn-it-in.com are valuable deterrents. MCC subscribes to Turn-it-in.com.
Clarify Policies	Explain academic honesty policy, clarifying vague terms and concepts.
Syllabus	Require academic integrity policy inclusion in all syllabi.
Educate & Support Faculty	Make sure faculty clearly understand institutional policies.
	Clear policies and guidelines are in place to support faculty.
Academic Honor Code	Studies also suggest the existence of an honor code may discourage cheating.

Table 22

Eve and Bromley Survey Instrument

Numbers are percentages	Very dishonest		χ^2	Dishonest		Undec	Very honest		Honest	
	E&B	MCC		E&B	MCC		E&B	MCC	E&B	MCC
Looked at stolen copy of test question ¹	44.0	69.0	19.06*	42.7	29.8	8.5	3.1	1.2	1.7	-
Developed relationship with instructor to get test information ¹	41.3	79.8	45.35*	34.2	17.9	15.6	5.9	1.2	2.9	1.2
Purchased paper from another student ^{1,2}	44.6	76.2	30.37*	37.3	20.2	10.5	5.5	1.2	2.2	2.4
Looked through previous copies of an instructor's test	37.6	54.8	9.39*	33.8	36.9	14.8	11.1	1.2	2.6	7.1
Copied material without footnoting ³	14.1	48.8	61.55*	45.6	50.0	31.2	8.3	-	0.8	1.2
Feigned illness to avoid taking test	16.4	38.1	23.30*	43.4	60.7	28.9	9.4	-	2.0	1.2
Sold paper to another student ¹	43.7	73.8	27.61*	37.2	25.0	12.2	4.1	1.2	2.8	-
Copied answers from another student during exam ¹	44.4	76.2	30.76*	45.8	22.6	7.1	1.8	1.2	0.9	-
Used notes or books during test when prohibited ^{1,4}	43.3	75.0	30.64*	48.1	22.6	5.1	2.0	1.2	1.4	1.2
Wrote paper for another student ¹	35.8	69.0	34.37*	42.1	28.6	15.6	4.5	1.2	2.0	1.2
Gave another student answers during exam ¹	33.9	73.8	51.03*	45.4	25.0	15.6	4.6	1.2	0.5	-
Added items not read to bibliography ⁵	16.0	39.3	27.09*	49.6	51.2	27.4	5.3	1.2	1.7	8.3
Studied prior copy of test when taking make-up	25.8	51.2	23.91*	42.1	28.6	17.6	11.9	4.8	2.6	15.5
Submitted paper written by other student ¹	54.9	83.3	25.18*	3.7	11.9	6.5	1.9	2.4	2.0	2.4
Average Assessment	35.41	64.88		39.36	30.79	15.47	5.67	1.37	1.86	2.98

¹Majority ($\geq 75\%$) of Eve and Bromley Respondents considered activity was very dishonest or dishonest.

²Adapted on the MCC AITC to read: Purchased paper from another source.

³Adapted on the MCC AITC to read: *Copied material without citing the source.*

⁴Adapted on the MCC AITC to read: *Used prohibited materials (notes, cell phones, etc.) during a test.*

⁵Adapted on the MCC AITC to read: *Added items not read to the bibliography or list of references.*

* $p < .001$

Permission was granted by Eve and Bromley to adapt their survey instrument for use in this dissertation (see Appendix G).

Table 23

Table of Specifications: Module Quizzes

Objective	Knowledge			Understanding (Application)		
	# of Questions	Question #s	% Module Assessment	# of Questions	Question #s	% Module Assessment
Review the purpose and application of the Metropolitan Community College Student Code of Conduct.	2	1 & 2	.67	1	3	.33
Recognize terms and concepts associated with academic dishonesty.	2	1 & 3	.67	1	2	.33
Identify the penalties imposed at Metropolitan Community College associated with academic dishonesty.	2	2 & 3	.67	1	1	.33
Detail the relationship between academic and workplace integrity.	2	1 & 2	.67	1	3	.33
Utilize proactive measures encouraging academic honesty.	2	1 & 3	.67	1	2	.33
	10		.67	5		.33

Table 24

Table of Specifications: Form A and Form B

Objective	Knowledge			Understanding (Application)			Attitudinal		
	# of Questions	Question #s	% of Assessment	# of Questions	Question #s	% of Assessment	# of Questions	Question #s	% of Assessment
Review the purpose and application of the MCC Student Code of Conduct.	1	15	4.35%	2	12 & 21	8.70%			
Recognize terms and concepts associated with academic dishonesty.	1	2	4.35%	2	8 & 17	8.70%			
Identify the penalties imposed at MCC associated with academic dishonesty.	1	20	4.35%	2	3 & 22	8.70%	8	1, 4, 7, 10, 13, 16, 19, 23	
Detail the relationship between academic and workplace integrity.	1	11	4.35%	2	9 & 18	8.70%			
Utilize proactive measures encouraging academic honesty.	1	6	4.35%	2	5 & 14	8.70%			
	5		21.74%	10		43.48%	8	16–23	34.78%

Table 25

Knowledge: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	14	2.71	.914	14	4.00	.784	14	3.57	.646
Psychology	25	3.20	.957	25	3.48	.770	25	3.08	.812
Total	39	3.03	.959	39	3.67	.806	39	3.26	.785
GROUP WB									
Finance	15	3.60	.632	15	3.80	.775	15	3.27	1.03
Psychology	21	3.48	.873	21	3.38	.973	21	3.10	.944
Total	36	3.53	.774	36	3.56	.909	36	3.17	.971
TOTAL									
Finance	29	3.17	.889	29	3.90	.772	29	3.42	.867
Psychology	46	3.33	.920	46	3.43	.860	46	3.09	.865
Total	75	3.27	.905	75	3.61	.853	75	3.21	.874

Table 26

Understanding: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	7.07	1.75	15	8.47	1.19	15	7.87	1.64
Psychology	24	6.92	2.30	24	8.08	1.77	24	7.83	1.81
Total	39	6.97	2.08	39	8.23	1.56	39	7.85	1.73
GROUP WB									
Finance	15	5.93	1.71	15	7.73	1.49	15	7.53	.99
Psychology	19	6.53	2.09	19	7.68	2.14	19	6.84	2.32
Total	34	6.26	1.93	34	7.71	1.85	34	7.15	1.86
TOTAL									
Finance	30	6.50	1.80	30	8.10	1.38	30	7.70	1.34
Psychology	43	6.74	2.19	43	7.91	1.92	43	7.40	2.08
Total	73	6.64	2.03	73	7.99	1.71	73	7.52	1.81

Table 27

Attitude: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	25.13	4.82	15	24.73	4.46	15	24.60	2.50
Psychology	24	24.54	2.55	24	25.96	2.40	24	25.17	2.87
Total	39	24.77	3.55	39	25.48	3.35	39	24.95	2.71
GROUP WB									
Finance	15	25.13	2.33	15	25.53	2.80	15	25.80	2.60
Psychology	19	24.42	2.41	19	25.42	2.85	19	26.00	2.40
Total	34	24.74	2.37	34	25.47	2.79	34	25.91	2.45
TOTAL									
Finance	30	25.13	3.72	30	25.13	3.68	30	25.20	2.58
Psychology	43	24.49	2.46	43	25.72	2.59	43	25.53	2.68
Total	73	24.75	3.04	73	25.48	3.08	73	25.40	2.62

Table 28

Additional Attitude Question: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	2.93	.594	15	2.93	.594	15	2.93	.594
Psychology	25	3.08	.640	25	2.88	.666	25	2.80	.707
Total	40	3.03	.620	40	2.90	.632	40	2.85	.662
GROUP WB									
Finance	15	2.87	.743	15	2.87	.640	15	2.87	.743
Psychology	21	3.05	.590	21	2.86	.727	21	2.86	.793
Total	36	2.97	.654	36	2.86	.683	36	2.86	.762
TOTAL									
Finance	30	2.90	.662	30	2.90	.607	30	2.90	.662
Psychology	46	3.07	.611	46	2.87	.687	46	2.83	.739
Total	76	3.00	.632	76	2.88	.653	76	2.86	.706

Table 29

Correlation Matrix: Module Score, Pretest, Posttest₁ & Posttest₂ , Posttest₂

	MOD. Score	KNO: Pretest	KNO: Posttest ₁	KNO: Posttest ₂	UND: Pretest	UND: Posttest ₁	UND: Posttest ₂
MOD. Quiz Score	1.00						
KNO: Pretest	.137	1.00					
KNO: Posttest ₁	.383**	-.059	1.00				
KNO: Posttest ₂	.146	.004	.293*	1.00			
UND: Pretest	.398**	.024	.210	-.015	1.00		
UND: Posttest ₁	.627**	-.022	.115	.077	.277*	1.00	
UND: Posttest ₂	.640**	.176	.198	.124	.439**	.710**	1.00

**Correlation is significant at the .001 level (P < .001, 2-tailed).
*Correlation is significant at the .005 level (P < .005, 2-tailed).

Table 30

Module 1: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	1.93	.962	15	2.20	.561	15	2.00	.535
Psychology	25	2.28	.843	25	1.92	.640	25	1.48	.714
Total	40	2.15	.893	40	2.03	.620	40	1.68	.694
GROUP WB									
Finance	15	1.00	.756	15	2.47	.915	15	2.20	.561
Psychology	21	1.76	.768	21	2.29	.784	21	2.05	1.02
Total	36	1.44	.843	36	2.36	.833	36	2.11	.854
TOTAL									
Finance	30	1.47	.973	30	2.33	.758	30	2.10	.548
Psychology	46	2.04	.842	46	2.09	.725	46	1.74	.905
Total	76	1.82	.934	76	2.18	.743	76	1.88	.800

Table 31

Module 2: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	2.47	.640	15	2.07	.594	15	1.73	.961
Psychology	25	2.48	.586	25	2.00	.764	25	2.04	.889
Total	40	2.48	.599	40	2.03	.698	40	1.93	.917
GROUP WB									
Finance	16	1.44	.964	16	2.38	.885	16	2.44	.892
Psychology	21	1.76	.768	21	2.29	.717	21	2.38	.670
Total	37	1.62	.861	37	2.32	.784	37	2.41	.762
TOTAL									
Finance	31	1.94	.964	31	2.23	.762	31	2.10	.978
Psychology	46	2.15	.759	46	2.13	.749	46	2.20	.806
Total	77	2.06	.848	77	2.17	.750	77	2.16	.875

Table 32

Module 3: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	1.73	.704	15	2.53	.640	15	2.33	.488
Psychology	25	1.64	.860	25	2.52	.586	25	2.20	.577
Total	40	1.68	.797	40	2.53	.599	40	2.25	.543
GROUP WB									
Finance	15	2.07	.799	15	2.33	.617	15	1.93	.704
Psychology	20	2.40	.598	20	2.10	.852	20	1.70	.801
Total	35	2.26	.701	35	2.20	.759	35	1.80	.759
TOTAL									
Finance	30	1.90	.759	30	2.43	.626	30	2.13	.629
Psychology	45	1.98	.839	45	2.33	.739	45	1.98	.723
Total	75	1.95	.804	75	2.37	.693	75	2.04	.687

Table 33

Module 4: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	15	1.60	.632	15	2.80	.561	15	2.67	.488
Psychology	25	1.92	.862	25	2.44	.917	25	2.60	.707
Total	40	1.80	.791	40	2.58	.813	40	2.63	.628
GROUP WB									
Finance	16	2.38	.806	16	2.38	.806	16	2.19	.834
Psychology	21	2.05	1.07	21	2.48	.750	21	1.95	.865
Total	37	2.19	.967	37	2.43	.765	37	2.05	.848
TOTAL									
Finance	31	2.00	.817	31	2.58	.720	31	2.42	.720
Psychology	46	1.98	.954	46	2.46	.835	46	2.30	.840
Total	77	1.99	.896	77	2.51	.788	77	2.35	.791

Table 34

Module 5: 2 x 2 x 3 (group x class x time) Repeated Measures ANOVA

	Pretest			Posttest ₁			Posttest ₂		
	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>	<i>N</i>	Mean	<i>SD</i>
GROUP WA									
Finance	14	2.07	.829	14	2.79	.426	14	2.64	.633
Psychology	24	1.75	.847	24	2.50	.659	24	2.46	.721
Total	38	1.87	.844	38	2.61	.595	38	2.53	.687
GROUP WB									
Finance	16	2.50	.516	16	1.88	.619	16	1.69	.602
Psychology	20	2.15	.745	20	1.85	.745	20	1.75	.639
Total	36	2.31	.668	36	1.86	.683	36	1.72	.615
TOTAL									
Finance	30	2.30	.702	30	2.30	.702	30	2.13	.776
Psychology	44	1.93	.818	44	2.20	.765	44	2.14	.765
Total	74	2.08	.790	74	2.24	.737	74	2.14	.764

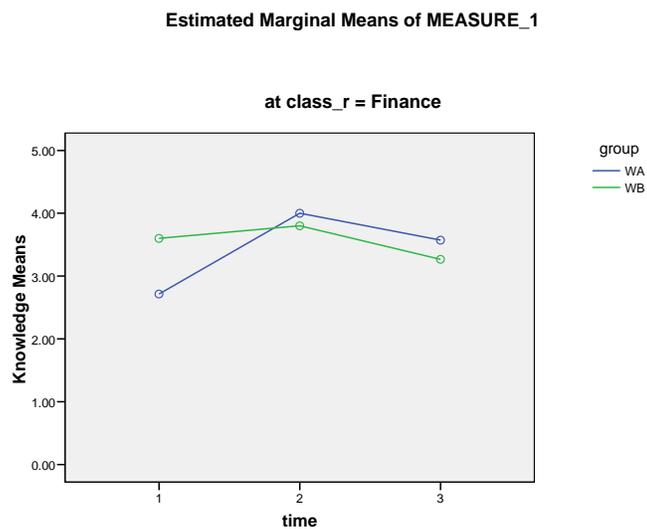
FIGURES

Figure 1. Knowledge: Group (WA/WB) Finance Class

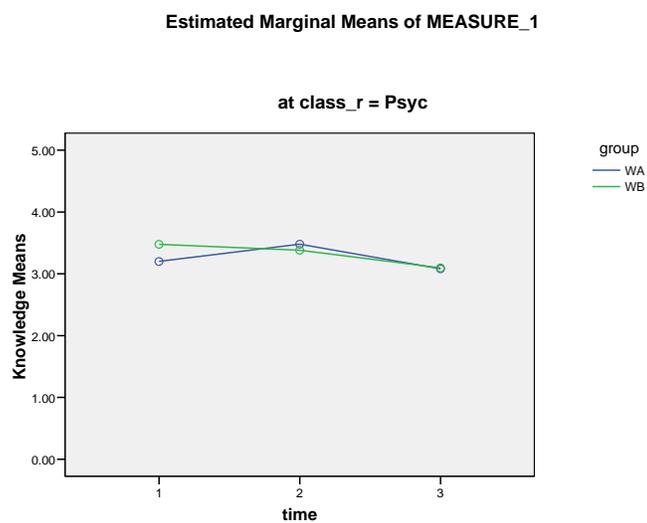


Figure 2. Knowledge: Group (WA/WB) Psychology Class

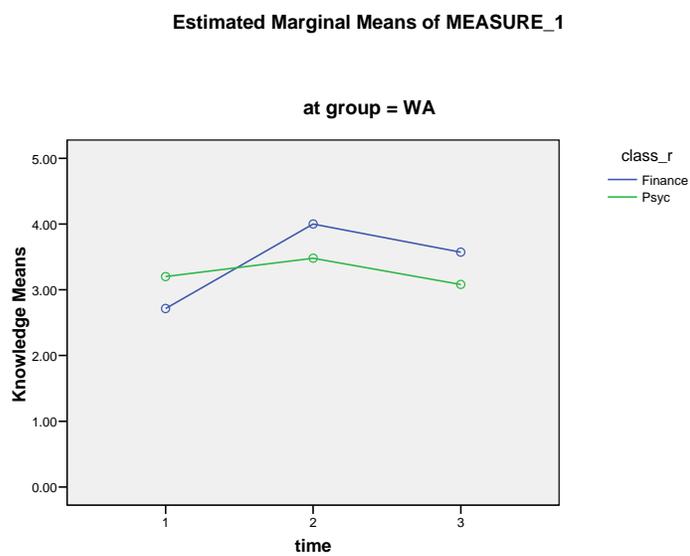


Figure 3. Knowledge: Class (Finance/Psychology) Group WA

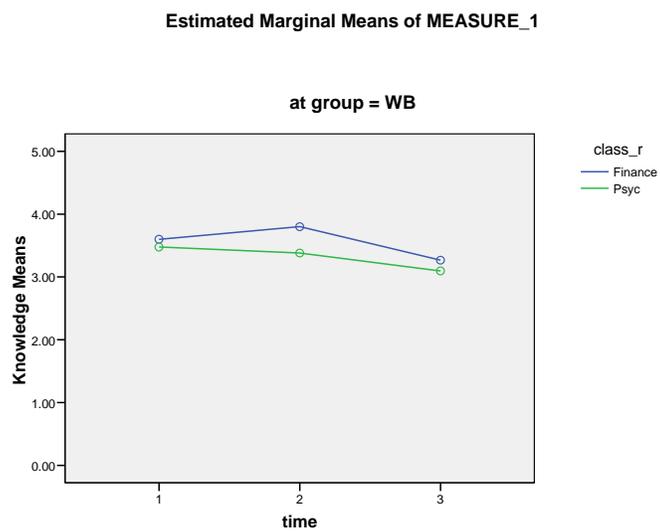


Figure 4. Knowledge: Class (Finance/Psychology) Group WB

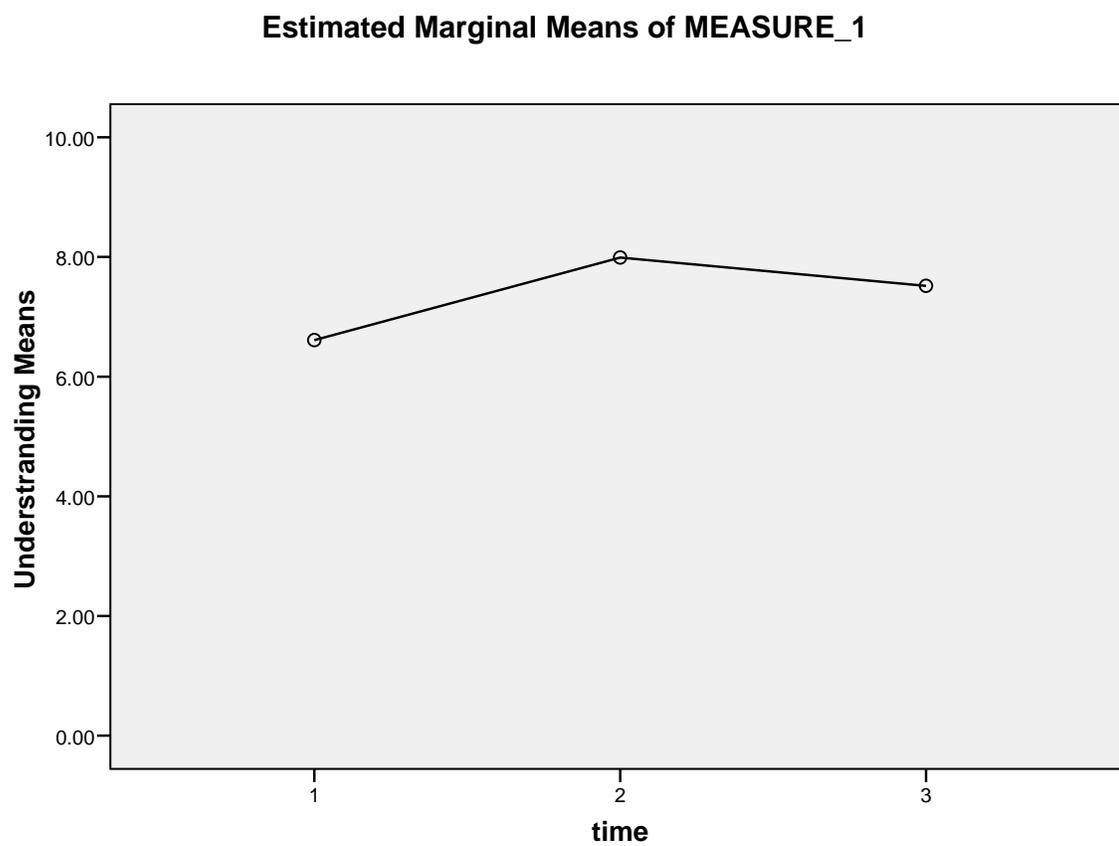


Figure 5. Understanding: Time

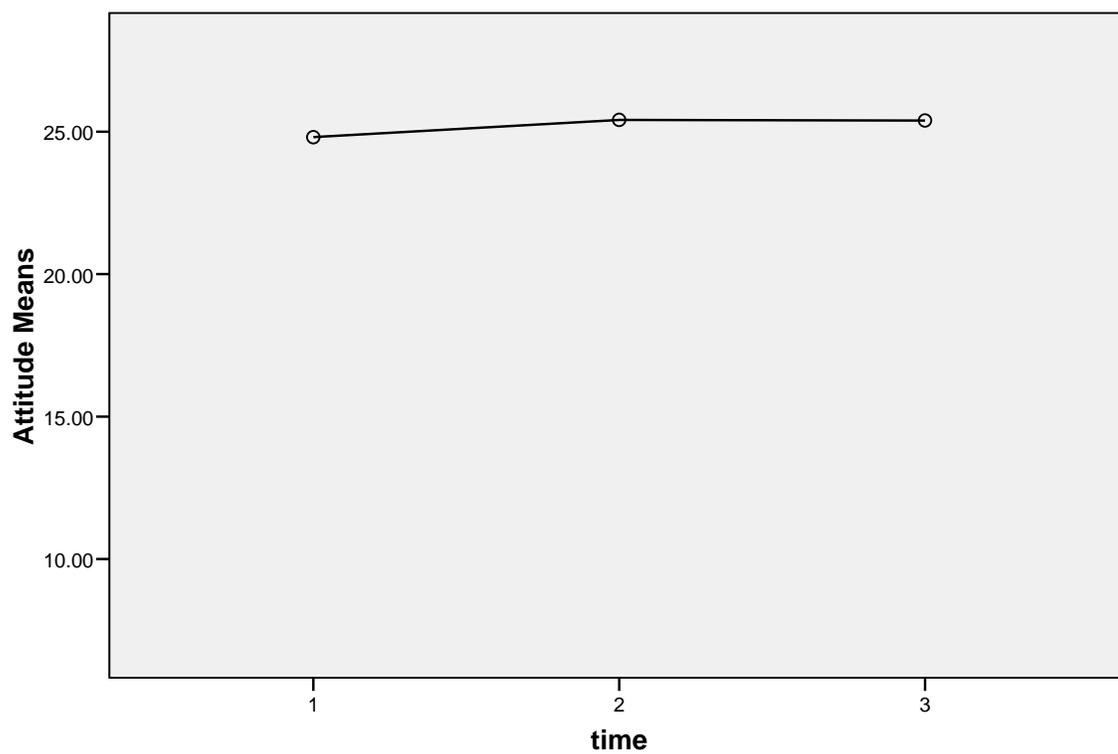
Estimated Marginal Means of MEASURE_1

Figure 6. Attitude: Time

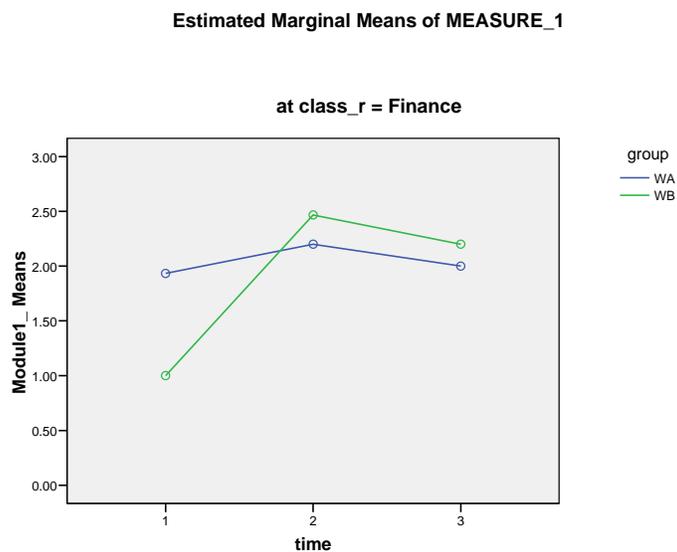


Figure 7. Module 1: Group (WA/WB) Finance

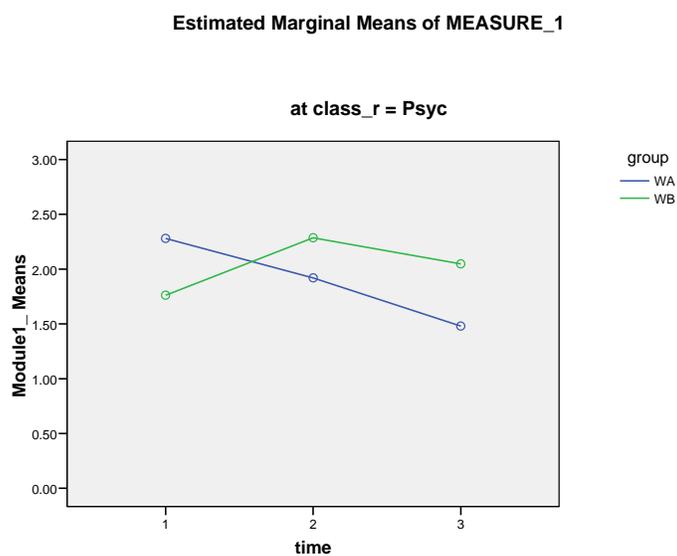


Figure 8. Module 1: Group (WA/WB) Psychology

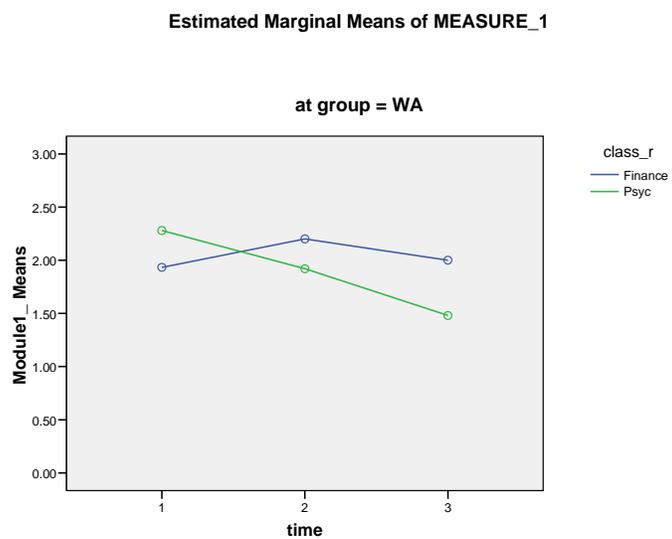


Figure 9. Module 1: Class (Finance/Psychology) Group WA

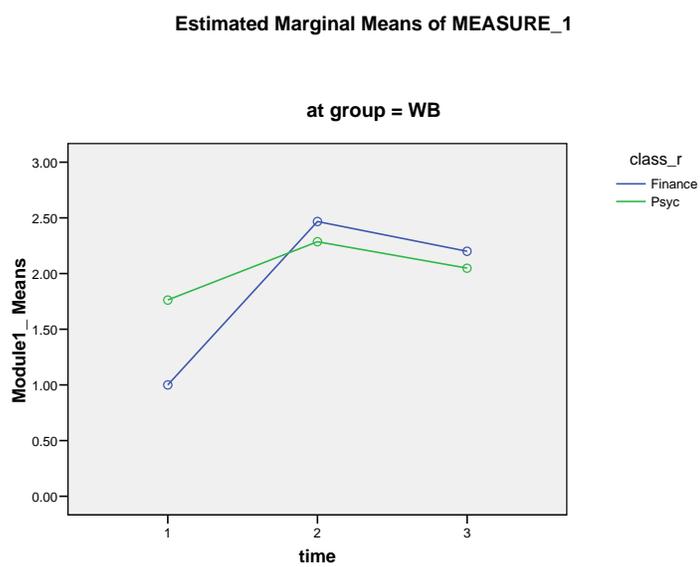


Figure 10. Module 1: Class (Finance/Psychology) Group WB

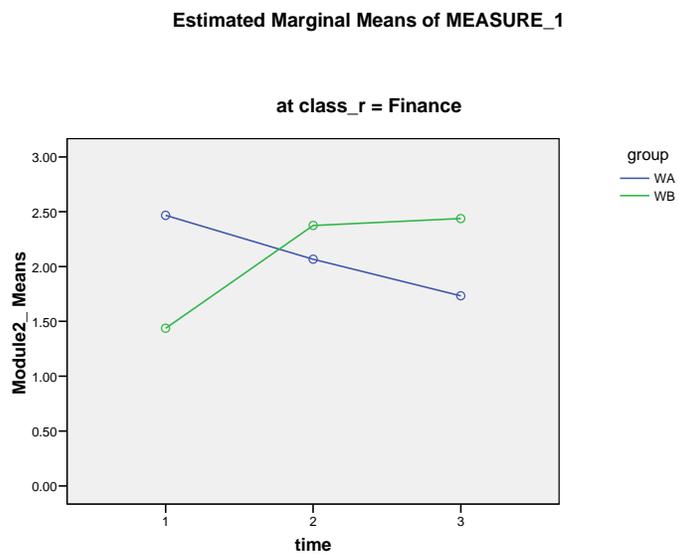


Figure 11. Module 2: Group (WA/WB) Finance

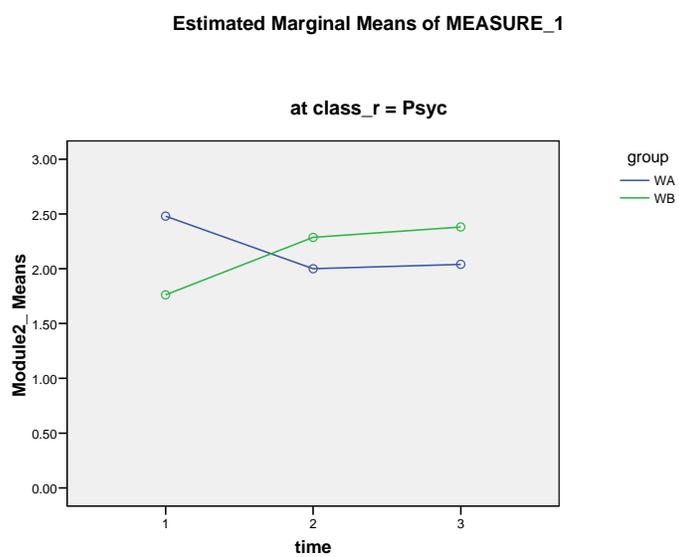


Figure 12. Module 2: Group (WA/WB) Psychology

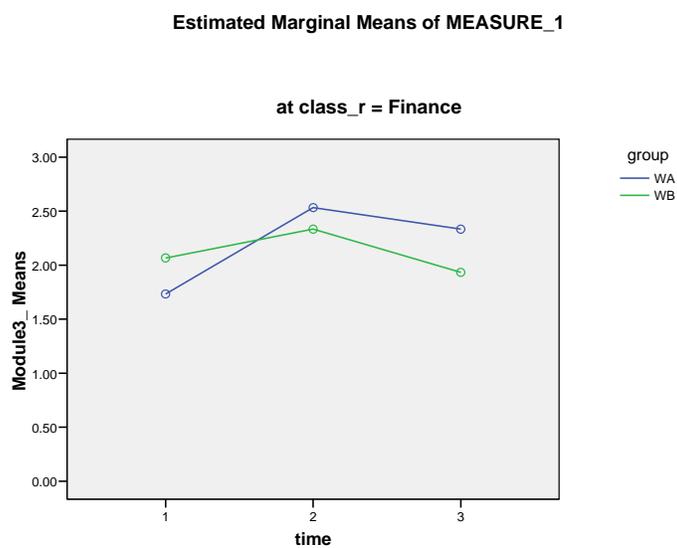


Figure 13. Module 3: Group (WA/WB) Finance

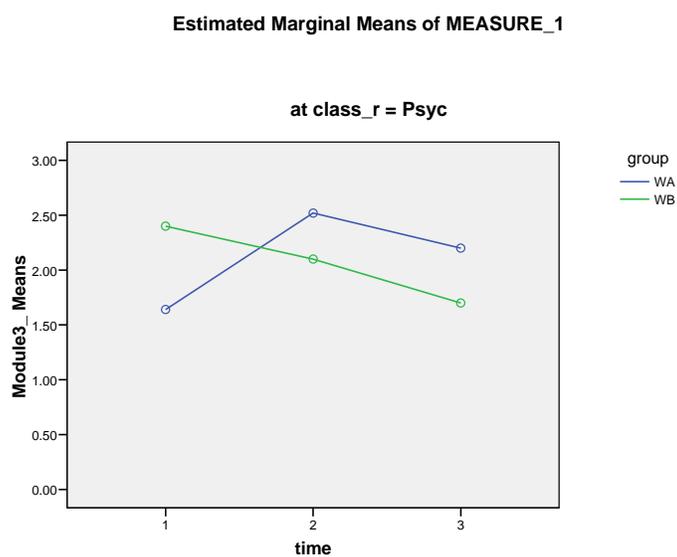


Figure 14. Module 3: Group (WA/WB) Psychology

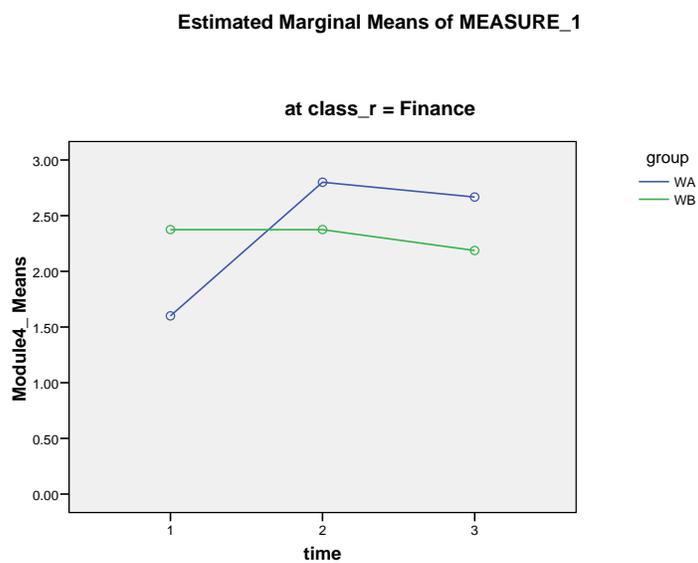


Figure 15. Module 4: Group (WA/WB) Finance

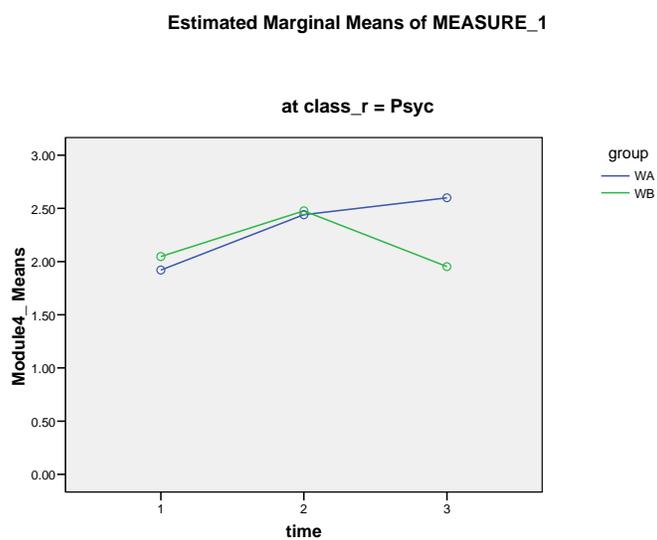


Figure 16. Module 4: Group (WA/WB) Psychology

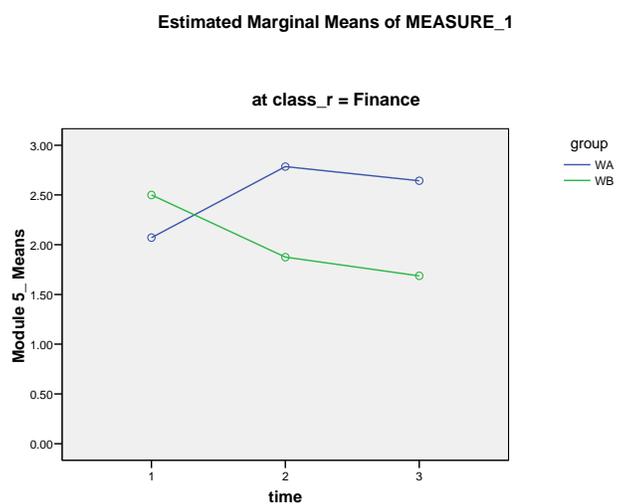


Figure 17. Module 5: Group (WA/WB) Finance

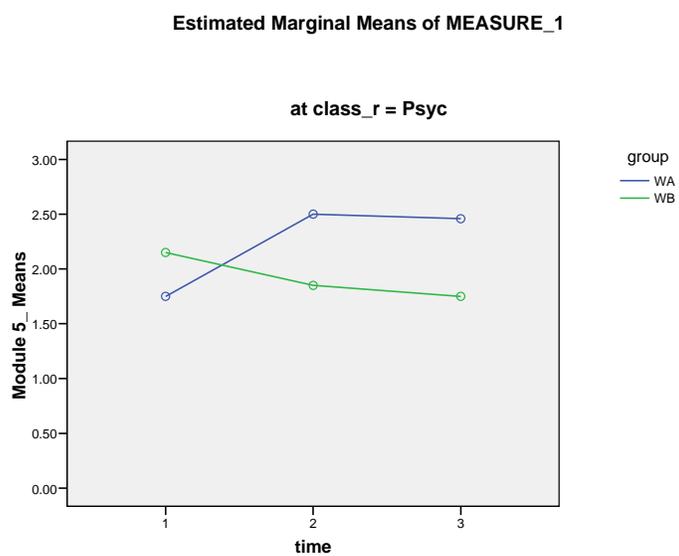


Figure 18. Module 5: Group (WA/WB) Psychology

**APPENDIX A. IOWA STATE UNIVERSITY HUMAN SUBJECTS APPROVAL
FORM**

Redacted for privacy

**APPENDIX B. METROPOLITAN COMMUNITY COLLEGE
HUMAN SUBJECTS APPROVAL**



February 28, 2008

Iowa State University
Institutional Review Board
Office of Research Compliance
1138 Pearson Hall
Ames, Iowa 50011-2207

Dear ISU Institutional Review Board Members,

The purpose of this correspondence is to provide acknowledged consent with respect to research efforts specific to the Academic Integrity Training Course (AITC) that will be piloted this spring at Metropolitan Community College (MCC). Develop by Lori Lothringer, MCC Business faculty and ISU Ph.D. candidate, the purpose of this pilot is to provide assessment measures used to investigate the effectiveness of curricula at MCC. This research will involve normal educational practices where the AITC will be part of the curriculum in the MCC online learning environment.

This pilot will serve as an evaluation of programmatic activity and, as such, is considered relative to the core values and strategic planning initiatives of our institution specific to solving problems using solution-seeking attitudes and systems approaches, providing accountability to the community, and providing data for informed decision-making. As required by the MCC research policies, steps have been taken to endure confidentiality with respect to student integrity and participation. If you should have any questions regarding the nature or scope of this effort, please feel free to contact my office to discuss.


Mary Wise
VP of Technology & Administrative Services
Interim VP of Academic Affairs

MW/jkr

**APPENDIX C. TABLE OF CONTENTS – METROPOLITAN COMMUNITY
COLLEGE PROCEDURES MEMORANDUM**

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<u>Absence</u> Without Pay	11/16/04	VI-1
Americans with Disabilities Act (<u>ADA</u>)	6/2/06	X-6
Campus <u>Administrative</u> Coverage	6/5/06	X-2
<u>Alcohol</u> Service and Consumption on MCC Property for Culinary Arts Events	3/19/07	X-17
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Source: <http://www.mccneb.edu/procedures/>

APPENDIX D. METROPOLITAN COMMUNITY COLLEGE PROCEDURES**MEMORANDUM V-4 (STUDENT CONDUCT AND DISCIPLINE)**STUDENTS
Index No. V-4

PROCEDURES MEMORANDUM

TO: MCC Staff and Students

FROM: Office of the President

SUBJECT: Student Conduct and Discipline

DATE: July 20, 2006

PURPOSE: To help ensure that every student enrolled at Metropolitan Community College is free to pursue educational objectives in a way that does not adversely affect other members of the College community. The purposes of the Student Conduct Guidelines are to: (1) specify the minimum standards of conduct expected of every Metropolitan Community College student while on College property, at cooperative agencies, and while in attendance at College-affiliated activities; and (2) specify the sanctions which may be imposed and the procedures for the imposition of sanctions when the College's standards of student conduct are violated.

SCOPE: The procedure applies to all full-time and part-time students at MCC, and to College staff members with responsibilities in regard to maintaining student conduct standards.

GENERAL PRINCIPLES

Metropolitan Community College is committed to the philosophy that people should be given an opportunity to develop their skills and knowledge, as well as an awareness of their roles and responsibilities in society. The College is devoted to serving the educational and occupational needs of the four-county area and the State of Nebraska.

Registration at the College means a commitment to seriousness of purpose, academic integrity and high standards of personal and social behavior. Students are expected to be cooperative and responsible members of the College community, to comply willingly with College regulations and to abide by local, state and federal laws.

Section I: Student Conduct Guidelines

Academic Misconduct Non-Academic Misconduct

Section II: Sanctions

Sanction A - Admonition

Sanction B - Failing Grade(s)

Sanction C - Failure of Course(s)

Sanction D - Disciplinary Probation

Sanction E - Restitution

Sanction F - Interim Suspension

Sanction G - Suspension

Sanction H - Dismissal

Special Notice Under the Drug Free Schools Act Amendment of 1989

Section III: Disciplinary Procedures

Informal Procedures Concerning Academic Misconduct

Informal Procedures Concerning Non-Academic Misconduct

Formal Disciplinary Procedures Applicable to Both Academic and Non-Academic
Misconduct

Special Procedures for Alleged Violations of Program Rules

Appeal to Vice President of Academic Affairs or Vice President of Campuses & Student
Affairs

Appeal to Executive Vice President

Section IV: Miscellaneous

Attachment I: Summary Outline of Disciplinary Procedures

SECTION I. STUDENT CONDUCT GUIDELINES

Section I sets forth standards of conduct with which students must comply. Violations of these standards are subject to sanctions as set forth in this Procedures Memorandum (PM).

Academic Misconduct

- A. Unauthorized collaboration or use of external sources during examinations, quizzes, or similar activities intended to evaluate or measure student learning or progress.
- B. Any form of plagiarizing or of representing another's ideas as one's own in connection with a matter upon which the student or another's performance is being or will be evaluated.
- C. Obtaining, soliciting, distributing, using, receiving, furnishing or offering to furnish examinations, quizzes or academic research materials without faculty or other proper authorization; for the purpose or with the intent of obtaining or conferring an unfair or improper academic advantage.

- D. Falsifying academic records, or knowingly furnishing false academic records to the College, or knowingly furnishing false information to the College respecting an academic matter.
- E. Improperly altering or inducing another to improperly alter any instructional or academic record.
- F. Engaging in any conduct which is intended or reasonably likely to confer upon one's self or another an unfair or improper advantage or benefit respecting an academic matter.
- G. Knowingly encouraging, aiding, assisting or abetting any other person(s) to do any act prohibited by the above Academic Misconduct Rules.
- H. Attempting to do any act prohibited by the above Academic Misconduct Rules.

Non-Academic Misconduct

- A. All forms of dishonesty (other than Academic Misconduct, as defined above); knowingly furnishing false non-academic information to the College; forgery or alteration of College non-academic documents or records or instruments of identification; use of College documents or instruments of identification with intent to mislead or defraud; theft of property or services; or knowingly having possession of stolen property.
- B. Disrupting or obstructing teaching, research, or administrative activities, disciplinary proceedings or other College-affiliated activities.
- C. Unauthorized entry into any College office or area or unauthorized accessing of College records.
- D. Physically and/or psychologically harassing or abusing any person on College premises or at or in the course of College activities, or engaging or threatening to engage in harassment or abuse which creates or in part creates a hostile, abusive, coercive or intimidating College or College-related educational, learning or working environment.
- E. Participating in or inciting a riot or disturbance, or a disorderly assembly, which disrupts or obstructs any College activity or function.
- F. Seizing, holding, taking, commandeering or damaging any property or facilities of the College, or threatening to do so; or refusing to depart from any property or facilities of the College upon direction to do so by any faculty or staff member, public safety officer, administrator, or other representative of the College.
- G. Using alcoholic beverages (including the purchase, consumption, possession or sale of such beverages) on College property, other than at an event where consumption of alcoholic beverages has been approved by the College Board of Governors in advance.

- H. Gambling or holding a raffle or lottery on campus or at any College or College affiliated function or premises without the approval of the College President or Executive Vice President (Executive Vice President).
- I. Intentionally initiating or causing to be initiated any false report, warning or threat of fire, explosion or other emergency.
- J. Any action or conduct which improperly or unlawfully interferes with any person's lawful and permitted personal, academic or employment pursuits.
- K. Unauthorized possession, use or duplication of keys or passwords to College vehicles, buildings, computer system(s), or other property.
- L. Possessing, using, selling or distributing, or attempting to sell or distribute, any type of controlled substance, such as drugs, on College property or at any College or College-affiliated function or activity (not including possession or use of medications pursuant to a physician's prescription). This includes, but is not limited to, unlawful possession, use or distribution of illicit drugs and/or alcohol on College property or as part of or at or during any of the College's activities.
- M. Possessing on College property, or at any College or College-affiliated function or activity, any dangerous chemical or explosive element or the component parts thereof, or any rifle, shotgun, pistol, revolver, or other firearm or weapon, not required for lawful College studies, without the authorization of the President or Executive Vice President of the College. (Pocket knives are permitted as long as no blade thereon is longer than three inches in length.)
- N. Physically detaining or restraining, however briefly, any other person against his or her will; removing any person against such person's will from any place where the person is authorized to remain; or in any way purposely obstructing the free movement of persons or vehicles on College premises or at College or College affiliated functions or activities.
- O. Littering, or willfully or recklessly defacing, destroying or damaging property of the College (or property under its jurisdiction or control), or property of another person or entity, or removing or using such property without proper authorization.
- P. Violating any local, state or federal law, ordinance or regulation (a) while on College property, or (b) while in the course of any College or College-affiliated function or activity, or (c) which violation adversely affects or adversely reflects upon the College's pursuit of its educational activities or the pursuit of educational, employment or other lawful activities of any student, or visitor, or employee of the College, or any other person.

- Q. Violating any rule or regulation not contained or referred to within the official College catalog, after notice of such rule or regulation, or after publication on College bulletin boards (or otherwise) of such rule or regulation.
- R. Violating campus or College parking regulations.
- S. Any disruptive or disorderly conduct which interferes with the rights and opportunities of those attending the College for the purpose for which the College exists.
- T. Fighting; causing or attempting to cause or threatening to cause physical injury to a College employee, official, student, visitor, or guest (not including injury caused by accident occurring despite the use of reasonable care, or self-defense or action undertaken under a reasonable belief that it was reasonably necessary to prevent serious injury or harm to some other person).
- U. Violating any policy or rule governing the conduct of students which has been adopted by the College Area Board of Governors or the College President or other authorized College official.
- V. Intentionally disrupting access of other students, faculty, or staff members to College computers and other technical resources by using these resources in an inappropriate manner; knowingly obtaining without authorization access to a computer account assigned to another person or using an account assigned to another student, faculty or staff member, or other person, or department or organization, for other than its intended purpose or without permission from the account assignee; intentionally using any unauthorized account; using college computer equipment to interfere with the lawful rights of others; falsifying or altering records; creating fraudulent documents; damaging programs belonging to the College or to another; sending harassing or threatening material or communication; duplicating software unlawfully; or using College facilities and/or resources for non-academic or personal computer programs.
- W. Using force or assisting others in any way in the use of force or counseling, recommending or urging the use of force or the threat of force or the seizure of property under the control of the College, or commission of any act or action not sanctioned by law to prevent the faculty, administrative officers, employees or students of the College from engaging in their duties in connection with the operation of the College or pursuing their studies at the College.
- X. Knowingly encouraging, aiding, assisting or abetting any other person(s) to commit any act of Non-Academic Misconduct prohibited herein.
- Y. Attempting to do any act prohibited by the above Non-Academic Misconduct Rules.
- Z. Smoking or using tobacco products in violation of Procedures Memorandum IX.

In addition to the foregoing general standards of conduct which apply to all students, individual educational programs within the College may have standards of conduct which students within those programs must observe. In addition to the Sanctions, which appear in Section II of this PM, individual educational programs may specify sanctions of their own. Individual educational program standards of conduct and sanctions appear in specific program manuals, handbooks and other program publications, and are generally discussed at program orientation.

The procedures which follow in this PM apply to any violation of standards of conduct, whether general standards of conduct set forth in this PM or specific program standards of conduct appearing in specific program manuals, handbooks or other program publications.

SECTION II. SANCTIONS

The following sanctions may be imposed for violations of the Student Conduct Guidelines. In each case, the sanction(s) to be imposed will be determined by examining the nature and severity of the violation. In each case, the cumulative effect of a student's prior violations of the Student Conduct Guidelines and the student's prior disciplinary records may also be considered in determining the appropriate sanction.

1. Sanction A - Admonition

A written statement to the student that the student is violating or has violated College rules, and may be subject thereafter to more severe disciplinary action if such behavior continues or is repeated. A copy of the admonition will be permanently retained in the College's file regarding the student.

2. Sanction B - Failing Grade(s)

An award of zero points or a grade of "F" on the particular assignment, quiz, examination, or other academic exercise/matter, where there has been academic misconduct in connection with such assignment, quiz, examination, or other academic exercise/matter.

3. Sanction C - Failure of Course(s)

Where there has been Academic Misconduct as defined in Section 1.1 in connection with such course(s).

4. Sanction D - Disciplinary Probation

Exclusion from the privilege of using specified facilities of the College or from participating in extracurricular activities of the College, including the holding of any student or student organization office, for a period of time not exceeding one school year, or other terms of disciplinary probation deemed appropriate under the circumstances. The terms of any such disciplinary probation imposed will be specified in writing, and may include the withdrawal of any privileges or services otherwise provided by the College.

5. Sanction E – Restitution
Required reimbursement for damage to or misappropriation of College or any other public or private property. Where this sanction is imposed, the decision shall direct that restitution be made in a sum certain by a certain date. The consequences of failure to make such restitution shall likewise be stated. Restitution may take the form of appropriate services or other compensation.
6. Sanction F - Interim Suspension
Immediate exclusion from attending the College or designated courses, curriculum offerings or class sections pending a hearing in accordance with subsection III.3.A.7. of this PM.
7. Sanction G - Suspension
Exclusion from attending the College or designated courses or curriculum offerings or class sections as a student for a definite period of time, not to exceed one year.
8. Sanction H - Dismissal
Termination of student status and resulting exclusion from attending the College or from attending or enrolling in designated courses, curriculum offerings, class sections or programs for an indefinite period of time. If any conditions of readmission are established, they may be stated in the order of dismissal. The President or Board of Governors may also establish, at any time, conditions upon which a dismissed student may be readmitted to the College.
9. Special Notice Under the Drug-Free Schools and Communities Act Amendment of 1989 (20 U.S.C. Section 1145g): See Procedures Memorandum X-5, Drug Prevention/Drug Free Schools Act.

SECTION III. DISCIPLINARY PROCEDURES

1. Informal Procedures Concerning Academic Misconduct

- A. Academic Deans (AD) and faculty have initial responsibility and authority regarding allegations of academic misconduct. A faculty member who discerns or suspects that academic misconduct has occurred or may have occurred should notify his or her AD of the misconduct or suspected misconduct.
- B. The authorities and responsibilities described in the following sub-paragraphs C through E are vested primarily in the faculty member. However, nothing contained in those sub-paragraphs is intended to preclude the AD having responsibility for the academic area in which the misconduct occurred or is suspected to have occurred from intervening and directly exercising the authorities and responsibilities granted to faculty members under those subparagraphs. It is expected that faculty and ADs will cooperate closely regarding such matters.

- C. Faculty may impose an admonition and/or failing grade (Sanctions A and/or B) where academic misconduct has occurred. Prior to imposing Sanction A and/or B, the faculty member shall discuss the incident(s) with the student, shall advise the student of the violation(s) alleged, and give the student an opportunity to explain his /her conduct and any mitigating circumstances. The faculty member shall allow the student a reasonable length of time (typically at least 24 hours) to prepare his or her response. If the faculty member determines that imposition of an admonition and/or failing grade is appropriate, the faculty member shall inform the student of the sanction(s) is being imposed by mailing a written notice to the student. The written notice will briefly state the violation found and the sanction(s) the faculty member is Imposing.

Exception: If the imposition of Sanction B imposed under these informal procedures would obviously cause the student to fail the course, the student shall be afforded the opportunity to have the matter handled under the formal disciplinary procedures outlined in Section 111.3. below. Under those circumstances, the mailed written notice to the student from the faculty member will indicate the faculty members intention to impose the sanction; however, it will allow the student the option to request that formal disciplinary procedures be followed in lieu of imposition of the sanction by the faculty member. Should the student elect this option, the faculty member will file a written complaint with the Campus Dean (CD) as a first step in initiating the Formal Disciplinary Procedures set forth in Section 111.3., below.

- D. No appeal is allowed from, or review provided respecting, a decision of a faculty member imposing Sanction A and/or Sanction B under these Informal Procedures Concerning Academic Misconduct.
- E. If the faculty member determines that a sanction or sanctions other than admonition and/or failing grade on the particular assignment, quiz, examination or other academic exercise/matter is or are more appropriate (i.e., Sanctions C through H), or if the faculty member determines that Sanction B would be appropriate but imposition of Sanction B would obviously cause the student to fail the course offering and the student has elected Formal Disciplinary Procedures due to this circumstance, the faculty member shall initiate proceedings under the Formal Disciplinary Procedures set forth in Section 111.3., below.
- F. Informal Procedures Concerning Academic Misconduct need not precede initiation of Formal Disciplinary Procedures.

2. Informal Procedures Concerning Non-Academic Misconduct

- A. A Campus Student Services Director (CSSD) or Campus Dean (CD) may issue an admonition (Sanction A) to a student for an act or acts of Non-Academic Misconduct. Prior to doing so, the CSSD or CD shall offer to informally meet with the student. The CSSD or CD will advise the student of the misconduct alleged and give the student the opportunity to explain his/her conduct and any mitigating circumstances. The CSSD or CD shall allow the student a reasonable time (typically at least 24 hours) to prepare

his or her response. No appeal is allowed or review provided of an Admonition imposed by the CSSD or CD.

B. Informal Procedures Concerning Academic Misconduct need not precede initiation of Formal Disciplinary Procedures.

3. Formal Disciplinary Procedures Applicable to Both Academic Misconduct and Non-Academic Misconduct

Note: If the conduct with which the student is charged includes conduct which is alleged to violate only a rule, regulation, ethical standard, program behavioral requirement or other behavioral standard promulgated or adopted by the particular educational program or field of study in which the student is enrolled, or which governs the professional behavior of persons engaged in the occupational field for which the student is preparing by participating in such particular education program or field of study, then the paragraphs of this PM which begin "Special Procedures for Alleged Violations of Program Rules" shall apply.

A. Definitions: In these Formal Disciplinary Procedures, the following definitions apply:

- 1) Academic Dean (AD) - Academic Dean reports to the Vice President of Academic Affairs.
- 2) Disciplinary Official - An AD in the case of a matter involving alleged or suspected academic misconduct, or a Campus Dean (CD) in the case of a matter involving alleged or suspected non-academic misconduct.
- 3) Any person may file a written complaint or verbal report against a student for an alleged violation of, or behaviors that may violate, any of the Student Conduct Guidelines. Complaints must be in writing and signed by the complaining person(s). Complaints should be filed with, delivered or mailed to, or initiated by, an AD (in the case of a matter involving alleged or suspected academic misconduct), or a CD (in the case of a matter involving alleged or suspected non-academic misconduct). Any AD who receives or initiates such a complaint will notify the Vice President of Academic Affairs. Any CD who receives or initiates such a complaint will notify the Vice President of Campuses & Student Affairs. Upon such notice, the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs, as the case may be, will direct whether the complaint will be handled by the AD or CD with whom the complaint was filed (or by whom the complaint was initiated) or by another AD or CD. The AD or CD who is thereby designated to handle the case is hereafter called the "Investigating Disciplinary Official (IDO)."
- 4) If the complaint alleges academic misconduct in a particular course offering and the allegation has not previously been the subject of Informal Procedures Concerning Academic Misconduct, the IDO may, at his or her option, refer a filed

complaint to the faculty member conducting such course offering, and the faculty member may then proceed under the Informal Procedures Concerning Academic Misconduct. If such faculty member subsequently determines that Formal Disciplinary Procedures are appropriate, he/she shall refer the complaint back to the IDO, who shall proceed in accordance with the following sub-paragraphs 6 through 9.

- 5) Unless the IDO refers the complaint to a faculty member for processing under the Informal Procedures Concerning Academic Misconduct, the IDO shall have authority and responsibility regarding the complaint.
- 6) The IDO will investigate the matter. The IDO may attempt to resolve the complaint by meeting with the student involved and any other persons deemed appropriate by the IDO. Group or individual meetings may be utilized for this purpose. If this process is followed but is unsuccessful in achieving a resolution of the matter which is acceptable to the IDO and the accused student, or if the IDO believes that more formal procedures should be followed in addressing the matter, the procedures outlined in the following subparagraphs will be followed.
- 7) If, after an initial investigation, the IDO deems that the presence of the student would pose a serious and immediate threat to the operation of the College or any of its programs or activities, or to the safety or well-being of any person or property, the IDO may verbally recommend to the Executive Vice President or President that the student be placed under interim suspension (Sanction F) until a hearing can be arranged. If the interim suspension is approved by the Executive Vice President or President, the IDO shall inform the student in person or by phone and in writing of the interim suspension and the expected length of this interim suspension. In such a situation, a hearing will be held by the Executive Vice President or President or a designate of the Executive Vice President or President at the earliest reasonable time, and in each case within seven (7) College business days after the interim suspension is imposed. The IDO shall inform the student in writing of the time and place of the hearing. The hearing shall be for the purpose of determining whether to continue or rescind the interim suspension and, if the interim suspension is continued, to determine the terms and conditions of the continued interim suspension. The IDO shall notify the student of the decision of the College President or Executive Vice President or designee on such matter within 24 hours following the conclusion of the hearing. If a student is suspended on an interim basis, the IDO will inform the Coordinator of Public Safety and Environmental Health of such action.

- 8) The IDO will send by certified mail to the student a written notice of the complaint made against the student, which shall:
- a) Describe the conduct with which the student is charged;
 - b) State or refer to the Student Conduct Guidelines the student is alleged to have violated;
 - c) State the names of such witnesses as are then known to the IDO;
 - d) Recite or attach a brief summary of the evidence against the student, as then known to the IDO;
 - e) Inform the student that a hearing will be scheduled at a later date, and that the student may bring witnesses to the hearing, or may bring written statements signed by such witnesses;
 - f) Inform the student that he/she may review in advance any documentary information which will be presented at the hearing, and when and where such information may be reviewed;
 - g) Inform the student that he/she may attend the hearing, and provide his/her own version of the facts through an oral or written statement; and
 - h) Inform the student that he/she may have an attorney or other advisor (or parents or relatives) attend the hearing to advise the student, but not to speak for the student; and
 - i) Provide the student a copy of this PM.
 - j) The notice will further inform the student that the IDO will personally hear and determine the matter unless, within five (5) College business days after the date of mailing the notice to the student, the IDO receives from the student a written request that the IDO appoint an adjudicating body to hear and determine the matter. The notice shall be mailed to the student at the residence address shown for the student in the College's records.

4. Special Procedures for Alleged Violations of Program Rules

In cases to which the Special Procedures for Alleged Violations of Program Rules apply, the written notice will not inform the student that the IDO will hear and determine the matter unless the student requests the appointment of an adjudicating body. Instead, the matter will automatically be heard and determined by an adjudicating body to be appointed by the IDO, and the notice will so inform the student.

- A. If the student submits a timely written request that the IDO appoint an adjudicating body to hear and determine the complaint, or in cases to which the Special Procedures for Alleged Violations of Program Rules apply, the IDO will appoint a five member adjudicating body which shall consist of the IDO, one AD, one counselor, one faculty member, and, in addition, either one additional faculty member or one student at the discretion of the IDO. The IDO shall chair the adjudicating body. No person who is to be a witness at the hearing may be appointed to the adjudicating body.

- B. The IDO will give the student at least ten (10) calendar days notice of the time and place at which the hearing will be held for the purposes of hearing and determining the complaint. No postponements will be permitted. However, once commenced, the hearing may be continued from day to day, or until another time, at the discretion of the chair. Note: If the conduct charged against the student is conduct for which expulsion or dismissal may be authorized under Section 85-601 of the Nebraska Revised Statutes C as set forth in Section I.2.W. of this PM, the IDO will give the student notice of the time and place of the hearing and a formal written statement of the charges against the student by certified mail, sent to the student's current address as shown in the records of the College, at least twenty (20) days before the date set for the hearing. The notice shall inform the student that he or she is entitled to file a written response to the charges, to be present in person and by counsel at the hearing, and to testify and produce other witnesses on his or her behalf.
- C. If an adjudicating body has been appointed, a simple majority of the appointed adjudicating body will constitute a quorum to conduct the hearing.
- D. At the outset of the hearing, or at any time during the hearing, the IDO may fix a time limit within which the hearing shall be completed, and he/she shall advise the student of the time limit thus fixed.
- E. The student may have an attorney or other advisor, and parents or relatives attend the hearing. Such persons may advise the student but may not speak for the student or examine or cross-examine witnesses, except in cases charging a violation of Section I.2.W. of this PM, in which case the accused student may be represented by counsel at the hearing, at the student's own expense. In cases in which the student is accused of an alleged sexual assault, both the accuser and the accused will be entitled to the same opportunities to have others present during the hearing.
- F. The student may call witnesses in his/her behalf. The student may confront and personally question all witnesses who testify in person against the student, but not through legal counsel or others, except as provided in the preceding subparagraph. Technical rules of evidence will not apply. However, the IDO may exclude evidence or limit testimony which is not relevant to the matter in question, or which is merely repetitive. Written statements of witnesses may be used as evidence, but copies must be provided to, or made available for inspection by, the accused student before the conclusion of the hearing.
- G. Any faculty member, AD, other administrator, official or employee of the College, the complainant, and any alleged victim of the alleged misconduct, may appear at the hearing and make a recommendation regarding the sanction to be imposed, if any, or may submit same in writing prior to or at the hearing. The accused student will be informed of any such recommendation by not later than the conclusion of the hearing.

- H. The hearing will be tape-recorded. A copy of the tape(s) will be made available to the student on the student's request and at the student's expense, in the event of appeal.
- I. A written decision will be sent by certified mail to the student and, if the original complaint alleged a sexual assault or crime of violence, a copy will be sent by certified mail to the alleged victim of such alleged assault or alleged crime, within ten (10) College business days after the conclusion of the hearing. The decision shall state the findings of ultimate facts and, if applicable, shall advise the student of the sanction(s) imposed, if any. The sanctions may include any of the sanctions deemed appropriate by the IDO (or, if an adjudicating body has been appointed, by a majority of a quorum of such body). The decision will be based upon the evidence received/heard at the hearing. In addition, the President or Executive Vice President of the College, may in appropriate cases refer matters to law enforcement officials for prosecution.
- J. Note: If the conduct charged against the student is conduct for which expulsion or dismissal may be authorized under Section 85-601 of the Nebraska Revised Statutes as set forth in Section I.2.W. of this PM, and the sanction is dismissal/expulsion, the decision of dismissal/expulsion shall be by written order, containing findings of fact upon which the dismissal/expulsion is based, and which shall be signed by the IDO or the chair of the adjudicating body. The order in such a case shall be entered within thirty days after the hearing, shall state its effective date, and shall be served on the student by certified mail to his or her current address as shown in the records of the College.
- K. If any of Sanctions D through H are imposed, the IDO shall, in writing, inform the Vice President of Academic Affairs, the Vice President of Campuses & Student Affairs, the Coordinator of Public Safety, and any other appropriate College personnel of the outcome of the hearing, as the IDO may deem necessary or appropriate.

5. Appeal to the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs

If the student is dissatisfied with a decision so made, and any sanction other than Sanction A and/or B has been imposed, the student may appeal the decision to the Vice President of Academic Affairs if the matter involves academic misconduct, or to the Vice President of Campuses & Student Affairs if the matter involves non-academic misconduct. Such appeal must be in writing, and must be filed with the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs, as applicable, not later than ten (10) College business days after the date the decision is mailed to the student.

- A. The only permitted grounds for appeal are that the decision was contrary to the facts; that there is newly discovered evidence which is material but which could not with reasonable diligence have been discovered before the original hearing; that the proper procedures were not followed; and/or that the sanction imposed was inappropriate. No procedural error shall invalidate the decision unless, in the judgment of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs, the error caused substantial prejudice to the student.
- B. The written appeal must specifically state the ground(s) of appeal, and must further specifically recite the reasons why the student believes such ground(s) for the appeal exists. If "newly discovered evidence" is the basis for such appeal, copies of such new evidence must be attached to the written appeal or summarized in detail therein, and the written appeal must state when such evidence was discovered and the reason(s) it could not have been discovered prior to the hearing. Failure to comply with these requirements may result in summary disallowance of the appeal.
- C. Postponement of the imposition of sanctions pending review by the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs is at the discretion of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs.
- D. Review by the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs will be limited to a review of the documents submitted as evidence at the hearing and review of the tape recording of the hearing. Opportunity for the student to personally discuss the matter with the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs is allowed only at the discretion of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs.
- E. The Vice President of Academic Affairs or Vice President of Campuses & Student Affairs shall send the decision on the appeal to the student by certified mail.
- F. Unless the decision of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs upholds or imposes Sanction H (Dismissal), the decision of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs shall be final.

6. Appeal to the Executive Vice President

If the student is dissatisfied with the decision of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs, the student may appeal such decision to the Executive Vice President of the College if the decision of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs imposes or upholds imposition of Sanction H. Such an appeal must be in writing, and must be filed with the

Executive Vice President's office no later than ten (10) College business days after the date the decision of the Vice President of Academic Affairs or Vice President of Campuses & Student Affairs is mailed to the student.

- A. The only permitted grounds for appeal are that the decision was contrary to the facts; that there is newly discovered evidence which is material but which could not with reasonable diligence have been discovered before the original hearing; that the proper procedures were not followed; and/or that the sanction imposed was inappropriate. No procedural error shall invalidate the decision unless, in the judgment of the Executive Vice President, the error caused substantial prejudice to the student.
- B. The written appeal must specifically state the ground(s) of the appeal on which the student relies, and must further specifically recite the reasons why the student believes such ground(s) for appeal exist. If "newly discovered evidence" is the basis for such appeal, copies of such new evidence must be attached to the written appeal or summarized in detail therein, and the written appeal must state when such evidence was discovered and the reason(s) it could not have been discovered prior to the hearing. Failure to comply with these requirements may result in summary disallowance of the appeal.
 - 1) Postponement of the imposition of Sanction H pending review by the Executive Vice President is at the discretion of the Executive Vice President.
 - 2) Review by the Executive Vice President will be limited to a review of the documents submitted as evidence at the hearing and review of the tape recording of the hearing. Opportunity for the student to personally discuss the matter with the Executive Vice President is allowed only at the discretion of the Executive Vice President.
 - 3) The decision of the Executive Vice President shall be final, and the Executive Vice President will notify the student by certified mail of the decision.

SECTION IV. MISCELLANEOUS

1. Withdrawal of the student from the College shall not suspend, terminate or otherwise affect the prerogative of the College to at any time initiate, resume or continue any disciplinary action or proceedings against a student for actions or events which occurred prior to the withdrawal.
2. Any final decision in a disciplinary matter shall be included in the student's College file. An Investigating Disciplinary Official, adjudicating body, the Vice President of Academic Affairs, Vice President of Campuses & Student Affairs, and the College Executive Vice President, in conducting or reviewing a disciplinary proceeding shall be

authorized to review the student's College file to determine the student's prior disciplinary history and may consider that history in determining appropriate sanction(s) for violations of the Student Conduct Guidelines.

Adopted 6/27/97; Revised 11/7/01; 12/19/05; 7/20/06 (title changes only)

APPENDIX E. METROPOLITAN COMMUNITY COLLEGE

STUDENT CODE OF CONDUCT

STUDENT CODE OF CONDUCT

Metro is committed to the philosophy that people should be given an opportunity to develop their skills and knowledge, as well as an awareness of their roles and responsibilities in society. The College is devoted to serving the educational and occupational needs for the four-county area and the State of Nebraska.

Registration at the College means a commitment to seriousness of purpose, academic integrity and high standards of personal and social behavior. Each student is expected to be cooperative and a responsible member of the College community, to comply willingly with College regulations and to abide by local, state and federal laws.

Student Conduct Guidelines:

Questions regarding academic misconduct should be made to the appropriate Dean; questions regarding non-academic misconduct should be made to the appropriate Director of campus and student services. Violations of these standards are subject to sanctions as set forth in Procedures Memorandum V-4.

Academic Misconduct includes:

- Unauthorized collaboration or use of external sources during exams, quizzes, or similar activities intended to evaluate or measure student learning or progress.
- Any form of plagiarizing or of representing another's ideas as one's own in connection with a matter upon which the student or another's performance is being or will be evaluated.
- Obtaining, soliciting, distributing, using, receiving, furnishing, or offering to furnish exams, quizzes or academic research materials without faculty or other proper authorization for the purpose or with the intent of obtaining or conferring an unfair or improper academic advantage.
- Falsifying academic records, or knowingly furnishing false academic records to the College, or knowingly furnishing false information to the College respecting an academic matter.
- Improperly altering or inducing another to improperly alter any instructional or academic record.

- Engaging in any conduct which is intended or reasonably likely to confer upon one's self or another an unfair or improper advantage or benefit respecting an academic matter.
- Knowingly encouraging, aiding, assisting or abetting any other person(s) to do any act prohibited by the above Academic Misconduct Rules.
- Attempting to do any act prohibited by the above Academic Misconduct Rules.

Source: <http://www.mccneb.edu/catalog0607/studentinformation.asp#codeofconduct>

APPENDIX F. ACADEMIC INTEGRITY TRAINING COURSE OUTLINE

METROPOLITAN COMMUNITY COLLEGE COURSE OUTLINE FORM

COURSE TITLE: Academic Integrity Training Course

COURSE PREFIX AND NO. FINA XXXX **LEC** 1 **LAB** 0 **CREDIT HOURS** 1

COURSE DESCRIPTION:

This course introduces the student to terms and concepts as well as activities and behaviors associated with academic dishonesty. The Metropolitan Community College Student Code of Conduct is reviewed as are potential penalties imposed for not adhering to said policy. The relationship between academic and workplace integrity is discussed and proactive measures to encourage ethical behavior are introduced.

COURSE PREREQUISITES: None

RATIONALE:

Research over the last several years has yielded the following important findings specific to academic integrity:

- The number of college students cheating has increased significantly over the last several years (Chidley, 1997; Hollinger & Lanza-Kaduce, 1996; Lupton, Chapman, & Weiss, 2000; Peyser, 1992).
- Students at large state-supported institutions are more likely to cheat as compared to student enrolled at small private colleges (Weiss et al., 1993).
- Students who have not been provided adequate leadership from faculty (Stevens, 1984) and /or do not understand existing policies (McCabe & Trevino, 1993) may be inclined to engage in academically dishonest behaviors.
- The existence of an honor code may encourage academic integrity (Brooks, et al, 1981; Gardner et al, 1988; May & Loyd, 1993; McCabe & Trevino, 1993) if it is accompanied by a change in student norms associated with cheating (McCabe & Trevino (1993).
- Expectations of imposed penalties have been found to have significant deterrent effects (Cochran et al., 1999; Heisler, 1974; Houston, 1983b; McCabe & Trevino, 1997; McCabe & Trevino, 1993; Mixon, 1996; Tittle & Rowe, 1973; Ward & Tittle, 1993).

➤ Student who engage in academically dishonest behavior are likely to engage in dishonest behavior in the workplace (Lawson, 2004; Michaels & Miethe, 1989; Nonis & Swift, 1998; Ogilby 1995; Sierles, Hendrickx, & Circle, 1980; Sims 1993).

In consideration of this empirical evidence, and in an effort to encourage academic and workplace integrity, MCC has created the Academic Integrity Training Course.

REQUIRED TEXTBOOKS:

Title: None
Edition: N/A
Author: N/A
Publisher: N/A

COURSE OBJECTIVES/TOPICAL UNIT OUTLINE/UNIT OBJECTIVES

TITLE: Academic Integrity Training Course **PREFIX/NO.** FINA XXXX

COURSE OBJECTIVES:

- I. Review the purpose and application of the Metropolitan Community College Student Code of Conduct.
- II. Acquaint the student with terms and concepts associated with academic dishonesty.
- III. Identify the potential penalties imposed at Metropolitan Community College associated with academic misconduct.
- IV. Detail the relationship between academic and workplace integrity.
- V. Inform the student of proactive measures encouraging academic honesty.

TOPICAL UNIT OUTLINE/UNIT OBJECTIVES:

- UNIT 1: Review the purpose and application of the Metropolitan Community College Student Code of Conduct.
- a. Determine where to find the Metropolitan Community College Student Code of Conduct.
 - b. Understand the purpose of the Metropolitan Community College Student Code of Conduct.
 - c. Determine the application of the Metropolitan Community College Student Code of Conduct.

- UNIT 2: Acquaint the student with terms and concepts associated with academic misconduct.
- a. Define *academic integrity* and identify various forms of academic integrity.
 - b. Define *academic misconduct* and identify various forms of academic dishonesty.
 - c. Define *cheating* and identify various forms of cheating.
 - d. Define *plagiarism* and identify various forms of plagiarism.
- UNIT 3: Identify the potential penalties imposed at Metropolitan Community College associated with academic dishonesty.
- a. Explain the implication of a sanction involving an admonition.
 - b. Explain the implication of a sanction involving a failing grade on an assignment, quiz, examination, or other academic exercise/matter.
 - c. Explain the implication of a sanction involving a failure of a course.
 - d. Explain the implication of a sanction involving disciplinary probation.
 - e. Explain the implication of a sanction involving required restitution.
 - f. Explain the implication of a sanction involving an interim suspension.
 - g. Explain the implication of a sanction involving suspension.
 - h. Explain the implication of a sanction involving dismissal.
- UNIT 4: Comprehend the relationship between academic and workplace integrity.
- a. Explore empirical research/evidence that suggests students who had previously cheated in high school may be more likely to cheat in college.
 - b. Explore empirical research/evidence that suggests academic misconduct can be considered as part of a wide-ranging pattern of deviant behavior that may include other dishonest acts.
 - c. Explore empirical research/evidence that suggests misconduct in the classroom can be viewed as a precursor to workplace misconduct where students who behave dishonestly in college are likely to behave dishonestly in the workforce.
 - d. Identify what behaviors are defined as misconduct in the classroom and what behaviors are defined as misconduct in the workplace.
 - e. Identify the perpetrators of dishonest acts in academics as well as in the workplace.
 - f. Identify the victims of dishonest acts in academics as well as in the workplace.
 - g. Identify the costs of associated with academic and workplace dishonesty.

- UNIT 5: Review proactive measures encouraging academic honesty including a students commitment to:
- a. Effectively balance academic responsibilities and:
 - workload responsibilities.
 - athletic participation.
 - social activities.
 - b. Exhibit characteristics of :
 - Intellectual intelligence
 - Emotional intelligence
 - Moral character
 - Academic integrity.
 - Self-control
 - c. Recognize
 - Not everyone cheats.
 - Cheating is an unacceptable behavior and will not be tolerated.
 - Failing an exam is better than cheating and passing the exam.
 - Students who cheat may be caught.
 - Students who get caught cheating will be severely be punished.
 - The potential negative influence of fraternity and sorority associations.
 - The importance of limiting the use of alcohol consumption.
 - d. Demonstrate an understanding of:
 - The use and application of the MCC Student Code of Conduct.
 - Of ethical behavior in other environments and activities.
 - e. Commit to:
 - Not repeating academically dishonesty behavior.
 - Dedicating sufficient time necessary to effectively prepare for exams and complete course assignments.
 - Having realistic expectations regarding personal abilities and aptitudes.
 - Bringing a best efforts approach to all academic endeavors and accepting resultant grades, evaluations, etc.
 - Being motivated by learning as opposed to grades.
 - Taking responsibility for all personal actions and activities.
 - Reporting dishonest acts observed.
 - Decline collaborative opportunities to cheat with others.

COURSE OBJECTIVES/ASSESSMENT MEASURES

COURSE OBJECTIVES	ASSESSMENT MEASURES
Review the purpose and application of the Metropolitan Community College Student Code of Conduct.	Situation/Scenario Analysis Pre-test/Post-test
Recognize terms and concepts associated with academic dishonesty.	Situation/Scenario Analysis Pre-test/Post-test
Identify the potential penalties imposed at Metropolitan Community College associated with academic dishonesty.	Situation/Scenario Analysis Pre-test/Post-test
Detail the relationship between academic and workplace integrity.	Situation/Scenario Analysis Pre-test/Post-test
Utilize proactive measures encouraging academic honesty.	Situation/Scenario Analysis Pre-test/Post-test

Attached course outline written by: *Lori Lothringer*Date: *1/08*Reviewed/Revised by: _____
Effective quarter of course outline: *08/SP*

Date: _____

Dean _____

Date: _____

APPENDIX G. EVE AND BROMLEY CORRESPONDENCE

Page 1 of 2

Lothringer, Lori

From: Lothringer, Lori
Sent: Sunday, February 10, 2008 1:39 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: Request
Attachments: Lothringer Academic Integrity Training Course Outline.doc; LDL Vitae.doc

Dear Dr. Eve and Dr. Bromley,

My name is Lori Lothringer. I am currently completing my Ph.D. in Family and Consumer Sciences Education at Iowa State University (ISU). Professionally, I work at Metropolitan Community College (Omaha, Nebraska) where I teach in the Business Department and serve as the Financial Planning Program Director. I have attached a copy of my vitae for your review. The purpose of this correspondence is to request your support in research efforts specific to the completion of my Ph.D.

My dissertation, research involves the creation and evaluation of the use of an academic integrity training course as a proactive measure encouraging academic honesty. This course will be piloted at Metropolitan Community College (MCC) this spring (2008) with the intention of making this a required part of our orientation for new students. Once MCC has had an opportunity to evaluate the effectiveness of this course, it is our intention to make this research (including the course in its entirety) available to other interested educational institutions at no cost.

A critical element of this effort will involve evaluation. I am working with my Committee members at ISU (Dr. Cheryl Hausafus (Chair), Dr. Beverly Kruempel, Dr. Gary Phye, Dr. Dan Russell, and Dr. Patricia Swanson) to ensure the instrument developed is both reliable and valid. In my research efforts, I reviewed your article, *Scholastic Dishonesty Among College Undergraduates: Parallel Tests of Two Sociological Explanations* (Eve, R. A. & Bromley, D. G. (1981). Scholastic dishonesty among college undergraduates: Parallel tests of two sociological explanations. *Youth & Society*, 13(1), 3-22). In this article, you included a summary of "students' assessments of the relative honesty or dishonesty of 15 specific behaviors" (Table 1: *Respondents' Assessment of the Relative Honesty or Dishonesty of Fifteen Activities*). With your permission, I would like to use these fifteen activities integrating them into our instrument that will be designed to measure both attitude and knowledge *gained* from participation in the academic integrity training course (course outline attached for your review).

I hope you will feel comfortable supporting these research efforts and assure you the quality of your research will be represented and the integrity of your work will be maintained. Thank you for your time and consideration.

Lori Lothringer

Lori Lothringer, Ph.D candidate
AFC, M.S., M.B.A., B.S.B.A.

3/11/2008

Metropolitan Community College Financial Planning Program
<http://wwwfp.mccneb.edu/financialplanning/>



3/11/2008

Lothringer, Lori

From: Raymond A. Eve, Ph. D. [REDACTED]
Sent: Monday, February 11, 2008 11:57 AM
To: Lothringer, Lori
Cc: [REDACTED]
Subject: Re: Request

Hello Lori,

Thanks for writing. Your work sounds fascinating, extremely useful, and greatly needed.

Please feel free to use the prior work done by Dr. Bromley and myself. (I note that Dave has already sent an email with his approval). All I'd ask is that you credit the article where appropriate in the body of your work and include the bibliographical citation to the original. I'd also be grateful if you'd let me know of the outcome. If your work ultimately proves to be valid and reliable (as seems very likely), it certainly appears to be something that we might find quite useful at UTA.

All best to you,

Ray Eve

Lothringer, Lori wrote:

> Dear Dr. Eve and Dr. Bromley,

>

> My name is Lori Lothringer. I am currently completing my Ph.D. in Family and Consumer Sciences Education at Iowa State University (ISU). Professionally, I work at Metropolitan Community College (Omaha, Nebraska) where I teach in the Business Department and serve as the Financial Planning Program Director. I have attached a copy of my vitae for your review. The purpose of this correspondence is to request your support in research efforts specific to the completion of my Ph.D.

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>

> Lori Lothringer

>

>

> Lori Lothringer, Ph.D candidate
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> <http://wwwfp.mccneb.edu/financialplanning/>

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Raymond A. Eve, Ph. D.
Professor of Sociology

[REDACTED]

"I know not with what weapons World War III will be fought, but World War IV will be fought with sticks and stones."

-- Albert Einstein

Lothringer, Lori

From: David G. Bromley [REDACTED]
Sent: Sunday, February 10, 2008 6:24 PM
To: Lothringer, Lori
Subject: RE: Request

Dear Professor Lothringer,

Thank you for your note. Your project sounds like a worthy one that will be helpful to many colleagues. You have my permission to use the research I conducted and its findings in any way that will further your project.

With best wishes for a successful conclusion of your research,

David Bromley

Dr. David G. Bromley
 Professor of Religious Studies and Sociology School of World Studies



-----Original Message-----

From: Lothringer, Lori [mailto:[REDACTED]]
Sent: Sunday, February 10, 2008 7:15 PM
To: [REDACTED]
Subject: Request

Dear Dr. Bromley,

My name is Lori Lothringer. I am currently completing my Ph.D. in Family and Consumer Sciences Education at Iowa State University (ISU). Professionally, I work at Metropolitan Community College (Omaha, Nebraska) where I teach in the Business Department and serve as the Financial Planning Program Director. I have attached a copy of my vitae for your review. The purpose of this correspondence is to request your support in research efforts specific to the completion of my Ph.D.

My dissertation, research involves the creation and evaluation of the use of an academic integrity training course as a proactive measure encouraging academic honesty. This course will be piloted at Metropolitan Community College (MCC) this spring (2008) with the intention of making this a required part of our orientation for new students. Once MCC has had an opportunity to evaluate the effectiveness of this course, it is our intention to make this research (including the course in its entirety) available to other interested educational institutions at no cost.

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Lori Lothringer

Lori Lothringer, Ph.D candidate
AFC, M.S., M.B.A., B.S.B.A.
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**APPENDIX H. METROPOLITAN COMMUNITY COLLEGE ACADEMIC
INTEGRITY TRAINING COURSE QUESTIONS**

PRE-TEST/POST-TEST: FORM A

QUESTION 1 A student who copied answers from another student during an exam is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 2 At Metropolitan Community College, cheating is defined as _____.

- A. obtaining, soliciting, distributing, using, receiving, furnishing, or offering to furnish exams, quizzes or academic research materials without the knowledge of other students
- B. any action conferring an academic advantage to students
- C. the Metropolitan Community College Student Code of Conduct does not define cheating
- D. obtaining, soliciting, distributing, using, receiving, furnishing, or offering to furnish exams, quizzes or academic research materials without faculty or other proper authorization**

QUESTION 3 Diana is contemplating receiving text messaged answers from a friend who is taking the same Microbiology exam one hour earlier. As she thinks about this option she considers what her parents might say if she fails the course. After she calculates her current grade and remembers the exam is worth only 5% of her overall grade, she decides to take the risk and use the text messages. After all she thinks, even if I get caught and receive a failing grade on the exam, I can still pass the class with a final grade of “C.”

- A. Agree
- B. Disagree**
- C. Don't know

- QUESTION 4** A student who used prohibited materials (notes, cell phones, etc.) during an exam is _____.
- A. very honest
 - B. honest
 - C. dishonest
 - D. very dishonest**
- QUESTION 5** Against the advice of his counselor who is concerned about his current grade point average (GPA), Dennis is contemplating waiving the prerequisite for MATH 1420: College Algebra. Dennis tells his counselor he needs College Algebra now and must pass it with a grade of “A” to maintain his scholarship. Dennis should not waive the prerequisite.
- A. Agree**
 - B. Disagree
 - C. Don’t know
- QUESTION 6** Important personal deterrents to cheating include _____.
- A. sitting close to the front of the classroom, studying no fewer than 10 hours for every exam, and an unwillingness to accept any grade below a B with full knowledge that grades define character
 - B. convincing parents to pay full cost of tuition so working part-time will not be necessary
 - C. taking responsibility for all personal actions and activities including a willingness to do whatever necessary to maintain a good grade point average (GPA) and keep all scholarships awarded
 - D. taking responsibility for all personal actions and activities and bringing a best efforts approach to all academic endeavors including a willingness to accept grades that may be lower than desired**
- QUESTION 7** A student who wrote a paper for another student is _____.
- A. very honest
 - B. honest
 - C. dishonest
 - D. very dishonest**

QUESTION 8 In a study group preparing for an Introduction to Spanish exam, Joseph distributes copies of the exam that has been stolen from the faculty offices. Although Sherrye has no intentions of using the stolen exam, she puts a copy in her backpack. If Sherrye does not use the exam, she will NOT violate the standards described in the MCC Student Code of Conduct.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 9 Nick is trying to find students willing to help him put together a cheat sheet to be used during the Introduction to Criminal Justice exam on Friday. Trent tells Nick he wants no part of his scheme and explains these acts of premeditation and collusion are very similar to those of white-collar criminals.

- A. Agree**
- B. Disagree
- C. Don't know

QUESTION 10 A student who gave another student answers during an exam is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 11 The annual cost of white-collar crime per U.S. household is estimated to be _____.

- A. \$60
- B. \$600
- C. \$6,000**
- D. \$600,000

QUESTION 12 Seth, a student who is auditing Macroeconomics, allowed a student sitting next to him to see his answers on a recent quiz. Because Seth did not copy from the other student and is only auditing the course, the standards described in the MCC Student Code of Conduct do not apply to him and sanctions for misconduct are not possible.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 13 A student who added items not read to the bibliography or list of references is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 14 As Charlie prepares for the last week of classes when he will be taking two very important final exams, he is reviewing his work and personal schedule. He notices during the week of these exams, he is scheduled to work extra hours at his job and will volunteer at a local children's charity. It would be in Charlie's best interest to talk with his instructors and postpone one of the exams.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 15 The number of dishonest activities described in the Metropolitan Community College Student Code of Conduct is _____.

- A. 0
- B. 5
- C. 8**
- D. 27

QUESTION 16 A student who studied prior copy of test before taking make-up _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 17 Molly, who completed Principles of Accounting in the fall quarter, provided Michael with copies of all her old tests because he was enrolled in the same class with the same teacher during the winter quarter. This is a violation of the MCC Student Code of Conduct.

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 18 Amanda, who was recently arrested for a serious crime, asked her attorney if this would have any bearing on her status as a college student, he explained it could since she had violated the MCC Student Code of Conduct.

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 19 A student who submitted a paper written by another student is _____.

- A. very honest
- B. honest
- C. dishonest
- D. **very dishonest**

QUESTION 20 Interim suspension involves _____.

- A. admonition
- B. restitution
- C. **immediate exclusion**
- D. a failing grade

QUESTION 21 Amber is enrolled at MCC taking only 1 course for 4.5 credits. Even though she is not a full-time student, the standards and guidelines described in the MCC student Code of Conduct do apply to her.

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 22 Rachel recently received an admonition from the Dean of Business indicating a violation of the MCC Student Code of Conduct had occurred and warning the described behavior would not be permitted. When Rachel thought about this reprimand, she was relieved to know this warning would only be retained in the MCC records for a period of one year.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 23 A student at Metropolitan Community College is _____.

- A. very likely to cheat**
- B. likely to cheat
- C. unlikely to cheat
- D. very unlikely to cheat

PRE-TEST/POST-TEST: FORM B

QUESTION 1 A student who looked at a stolen copy of a test question is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 2 Todd is the first person in his family to pursue a college education. His parents were very proud when he became part of the MCC Student Advisory Council. Unfortunately, he will have to give this position up since he was recently placed on disciplinary probation due to a violation of the MCC Student Code of Conduct and he will not be allowed to participate in any extracurricular activities for one year.

- A. Agree**
- B. Disagree
- C. Don't know

QUESTION 3 According to the Metropolitan Community College Student Code of Conduct, all of the following actions are considered unauthorized collaboration EXCEPT _____.

- A. obtaining answers from students who took the course last quarter.
- B. helping another student purchase a paper on the Internet.
- C. discussing an exam in the hall with other class members before going into the classroom to take the exam.**
- D. providing another student with answers to a homework assignment.

QUESTION 4 A student who developed a relationship with an instructor to get test information is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

- QUESTION 5** Stewart, who has always found math courses to be difficult, has put off taking Statistics as long as he could. When he explains this to his current Algebra instructor she tells him the more concerned he is with his grade in the course as opposed to learning, the more inclined he will be to cheat.
- A. **Agree**
 - B. Disagree
 - C. Don't know
- QUESTION 6** Students may be less likely to cheat if they _____.
- A. don't work and don't take more than one class at a time
 - B. don't work and typically take classes with friends
 - C. **balance academic, work, and personal responsibilities**
 - D. have their parents pay their tuition, don't work, and take only one class at a time
- QUESTION 7** A student who purchased a paper from another source is _____.
- A. very honest
 - B. honest
 - C. dishonest
 - D. **very dishonest**
- QUESTION 8** Max, recently promoted to assistant manager at his place of employment, found he was working more and more hours with little time left to study and prepare for class. To save some time, Max asked a friend to complete his term paper for English Composition II. Although his friend initially said yes, she became ill and was not able to write the paper. This is **not** a violation of the MCC Student Code of Conduct.
- A. Agree
 - B. **Disagree**
 - C. Don't know
- QUESTION 9** Kendra's boss realizes she has been violating the Corporate Code of Ethics by charging personal expenses to her company credit card. As he is thinking about what to do, he wonders if Kendra cheated in college. Because there is no relationship between cheating in college and cheating in the workplace, his curiosity is unwarranted.
- A. Agree
 - B. **Disagree**
 - C. Don't know

QUESTION 10 A student who looked through previous copies of an instructor's test is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 11 The white-collar criminal typically is _____.

- A. an uneducated individual with a criminal background who is not employed at the company he victimizes
- B. an educated individual with no criminal background who is employed at the company he victimizes**
- C. an uneducated individual with no criminal background who is employed at the company he victimizes
- D. an educated individual, with a criminal background who is not employed at the company he victims

QUESTION 12 Christina, a part-time MCC student, showed Melissa how to purchase a term-paper online. Because Christina did not actually purchase the paper herself, and is only a part-time student, the standards described in the MCC Student Code of Conduct do not apply to her and sanctions are not possible.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 13 A student who copied material without citing the source is _____.

- A. very honest
- B. honest
- C. dishonest
- D. very dishonest**

QUESTION 14 Samantha is talking with Melinda who will be a student at MCC next fall. Melinda tells Samantha she got caught cheating at her last school and she wants some advice on ensuring she won't get caught again. Samantha replies "it's easy... go to class, ask questions, talk with your instructor and avoid students you know are cheating."

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 15 The Metropolitan Community College (MCC) Student Code of Conduct presents student conduct guidelines describing what constitutes academic misconduct but does NOT _____.

- A. describe non-academic misconduct
- B. define misconduct
- C. **detail possible sanctions**
- D. specify who must comply with this Code

QUESTION 16 A student who feigned illness to avoid taking a test is _____.

- A. very honest
- B. honest
- C. dishonest
- D. **very dishonest**

QUESTION 17 Taylor is having difficulties completing a PowerPoint presentation for his Graphic Design class. He knows other students in the class have already turned in the assignment and have received feedback from the Professor. He decides he will ask one of these students to help him complete his work. This is **not** a violation of the MCC Student Code of Conduct.

- A. Agree
- B. **Disagree**
- C. Don't know

QUESTION 18 Lexis observed Trent cheating on Monday's exam. Later that week, Trent asked her on a date and Lexis said no. She thought to herself, if he is willing to cheat on an exam, he might also be willing to shoplift, abuse alcohol, and lie. Her concerns are justified.

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 19 A student who sold a paper to another student is _____.

- A. very honest
- B. honest
- C. dishonest
- D. **very dishonest**

QUESTION 20 What sanction involves exclusion from attending MCC for a period up to one year?

- A. Restitution
- B. Admonition
- C. **Disciplinary probation**
- D. Failure of a course

QUESTION 21 Lynn , who is enrolled in a non-credit course at MCC, also works at the Sarpy Center in Student Services. When she is processing her friend Natalie's transcript, Lynn changes the reported grade point average (GPA) from a 2.5 to a 3.5. Lynn has violated the MCC employee policy but NOT the MCC Student Code of Conduct.

- A. Agree
- B. **Disagree**
- C. Don't know

QUESTION 22 Kyle, whose grade point average (GPA) is above a 3.5, violated the MCC Student Code of Conduct. Because this is his third violation, the imposed sanction could be severe.

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 23 A student at Metropolitan Community College is _____.

- A. **very likely to cheat**
- B. likely to cheat
- C. unlikely to cheat
- D. very unlikely to cheat

MODULE 1 QUIZ

QUESTION 1 The main purpose of the Metropolitan Community College Student Code of Conduct is to _____.

- A. ensure students enrolled at Metropolitan Community College know those who violate the Student Code of Conduct will likely be suspended from the College
- B. ensure students enrolled, and faculty teaching, at Metropolitan Community College know what to do if they see others cheating
- C. ensure students enrolled at Metropolitan Community College can pursue educational objectives in a way that does not adversely affect other members of the College community**
- D. ensure students enrolled at Metropolitan Community College, who have been accused of cheating, understand their rights and privileges as a member of the College community

QUESTION 2 Most MCC students _____.

- A. have read the Student Code of Conduct and have signed a document stating they will abide by these standards.
- B. have read the Student Code of Conduct, are familiar with the content, and understand their responsibilities as a student.
- C. have not read the Student Code of Conduct but are familiar with the content and understand their responsibilities as a student.
- D. have not read the Student Code of Conduct and do not understand their responsibilities as a student.**

QUESTION 3 Britney, enrolled in Intermediate Algebra online, realizes at 11:30 p.m. Sunday night she will not have enough time to complete and submit the assignment before the 11:55 p.m. deadline. To "buy some time," Britney decides to send a message to her Professor indicating the assignment is attached, even though there is not an attachment. This is a violation of the MCC Student Code of Conduct.

- A. Agree**
- B. Disagree
- C. Don't know

MODULE 2 QUIZ

QUESTION 1 The MCC Student Code of Conduct is divided into two sections titled:

- A. Academic Misconduct & Sanctions
- B. Academic Integrity & Sanctions
- C. Academic Misconduct & Non-Academic Misconduct**
- D. Academic Integrity & Non-Academic Misconduct

QUESTION 2 Danielle is completing a paper for her Playwriting I class. She develops the plot and uses part of the script from a Polish play she reads on the Internet. Because this document is freely available online and was published in another country, this is NOT plagiarism and is NOT a violation of the MCC Student Code of Conduct.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 3 The MCC Student Code of Conduct defines plagiarism as _____.

- A. representing another's ideas as one's own in connection with a matter upon which the student or another's performance is being or will be evaluated**
- B. copying another student's paper
- C. viewing term papers online
- D. obtaining, soliciting, distributing, using, receiving, furnishing, or offering to furnish exams, quizzes or academic research materials without the knowledge of other students

MODULE 3 QUIZ

QUESTION 1 Kasandra is concerned the term-paper she purchased online and submitted as her own work may result in suspension from MCC. Her brother Marco, an MCC student in the Financial Planning Program, explains this is no big deal. He states the worst thing that will happen is that she will not be allowed to take courses at MCC for one academic quarter.

- A. Agree
- B. Disagree**
- C. Don't know

QUESTION 2 Violations of the MCC Student Code of Conduct _____.

- A. typically result in admonition
- B. may result in a number of possible sanctions where the sanction imposed is determined by the student's grade point average (GPA)
- C. may result in a number of possible sanctions where the sanction imposed is determined by the nature and severity of the violation and in consideration of prior violations**
- D. may result in two possible sanctions, failure of the assignment, or failure of the course where the sanction imposed is determined by the student's grade point average (GPA)

QUESTION 3 Students caught cheating at Metropolitan Community College _____.

- A. typically fail the assignment and are required to take the course again
- B. are subject to any and all sanctions described in the Metropolitan community College Student Code of Conduct**
- C. typically fail the course and are required to make full restitution to all injured parties
- D. are seldom subject to any sanction other than having to redo an assignment

MODULE 4 QUIZ

QUESTION 1 Students who cheat at Metropolitan Community College frequently _____.

- A. cheat alone without the assistance of any other students
- B. are caught and sanctions are imposed**
- C. do not think about cheating before they actually cheat
- D. only hurt themselves

QUESTION 2 Many students who cheat _____.

- A. do so only one time and are not likely to do so again
- B. have never cheated before but are likely to cheat again
- C. do so on a regular basis but do not engage in other deviant behavior such as shoplifting
- D. have cheated before and are likely to cheat again**

QUESTION 3 Gabe sees two students cheating during a Chemistry exam. He decides not to report the incident to the instructor. After all he thinks, it's not like my grade or future is going to be negatively impacted by this dishonest behavior.

- A. Agree
- B. Disagree**
- C. Don't know

MODULE 5 QUIZ

QUESTION 1 During periods of increased academic stress, students are advised to _____.

- A. **talk with faculty and consider limiting work hours, partying, gaming, television viewing, and the use of alcohol consumption.**
- B. talk with friends, consider quitting their job and changing enrollment status from full-time to part-time student.
- C. Consider limiting work hours, dropping all but one class, and possibly getting rid of all televisions in the home.
- D. Sleep, and find a club or social organization to join.

QUESTION 2 Although Angela frequently cheated while in high school, she feels cheating is wrong. As she thinks about beginning college in the spring, she is worried she might again resort to cheating if she does not have adequate time to study for tests. Her fears are warranted.

- A. **Agree**
- B. Disagree
- C. Don't know

QUESTION 3 The following are important personal attributes of students who embrace academic integrity:

- A. good physical health, self-esteem, and good verbal skills
- B. self-esteem, self-control, and good technical skills.
- C. emotional intelligence, good hygiene, and self-esteem.
- D. **emotional intelligence, self-control, and self-esteem.**

APPENDIX I. MCC FACULTY CORRESPONDENCE

Page 1 of 3

Lothringer, Lori

From: Lothringer, Lori **Sent:** Mon 2/25/2008 10:33 PM
To: [REDACTED]
Cc: [REDACTED]
Subject: MCC Academic Integrity Training Course
Attachments:

Greetings Faculty,

Thank you for agreeing to participate in the Metropolitan Community College Academic Integrity Training pilot project during the spring quarter (2008)! What follows is information regarding this training you might find helpful.

What is Academic Integrity Training?

Academic integrity is described by the Center for Academic Integrity (CAI) as an adherence to the fundamental "values of the academic process including honesty, trust, fairness, respect, and responsibility." To encourage academic integrity, many colleges and universities have created courses and training programs detailing expected standards. For example, at the University of California-Santa Barbara, the Office of Judicial Affairs provides both students and faculty web-based academic integrity training opportunities detailing statistics and explaining prohibited conduct. At other educational institutions such as Villanova University, students who have violated the academic integrity code are required to go through an academic integrity training program reinforcing policies and procedures. At Napier University in Edinburgh, Scotland, academic integrity is compulsory for all staff and faculty. Unfortunately, no published empirical evidence supporting the reliability or validity of these efforts could be located.

What is the purpose of this pilot project?

The purpose of the pilot is to gather information critical in the development of an Academic Integrity Training Course at MCC. Through the creation and facilitation of such a course, it is believed today's student will be provided a chance to embrace the concepts and expectations of ethical behavior in the classroom. Consequently, students will be afforded the opportunity to establish behaviors and attitudes that can be taken into the workplace and used to ethically advance their professional pursuits. These quality character experiences can provide tomorrow's workforce the foundation necessary to make honest and informed decisions while participating as morally responsible citizens. Given the importance of academic honesty and the relationship between academic integrity and workplace integrity, MCC envisions sharing freely (at no cost) the content and structure of the AITC, as well as results of this study, with any interested academic institutions.

Who will participate in this pilot?

Three separate courses, FINA1200: Personal Finance, PSYC1010: Introduction to Psychology, and PSYC1120: Human Growth and Development have been identified to include the Academic Integrity Training Course. Students enrolled in a total of four classes have been selected for the pilot including: two sections of FINA1200: Personal Finance; one section of PSYC1010: Introduction to Psychology; and one section of PSYC1120: Human Growth and Development.

<https://metropo.mccneb.edu/exchange/LLothringer/Sent%20Items/MCC%20Academic%20...> 3/12/2008

How will students participate in this pilot?

Sometime during the spring quarter (2008), your students will be asked to participate in the AITC via MCC WebCT. Your students will be asked to log-on to a separate MCC online course where it is estimated it will take them approximately 90 minutes to complete the entire course. Two weeks later, your students will again be asked to log-on to the same course and complete a brief Post-test estimated to take approximately 15 minutes.

What will my participation involve?

As participant faculty you will be asked to do the following:

- **Syllabus:** You are asked to include the following statement on your syllabus explaining the purpose and expectations of this pilot to your students.

To encourage academic integrity, Metropolitan Community College (MCC) is in the process of developing an Academic Integrity Training Course. During the spring quarter, a number of MCC classes have been selected to pilot this course. As a student enrolled in this class, you are asked to participate in this project and you will be awarded participation points for doing so.

Later this quarter, you will be asked to log-on to a separate MCC online course where it is estimated it will take you approximately 90 minutes to complete the entire course. Two weeks later, you will again be asked to log-on to the same course and complete a brief survey estimated to take approximately 15 minutes.

Please note, similar to course evaluation forms, all information collected in this study will remain confidential and will not be available to your instructor. Once you have logged-on to the course, additional information will be provided specific to your participation including how this information will be used and how confidentiality will be ensured.

- **Initial Student Participation:** At the beginning of the AITC, you will be asked to prompt students to log-on to the AITC and complete the course.
- **Final Student Participation:** At the end of the AITC, you will be asked to prompt students to log-on to the AITC and complete the follow-up survey.

How will I know students have completed the AITC?

At the conclusion of the training, I will provide you a list of all students who have completed the AITC.

What if students do not want to participate? As discussed, information gathered in this course will be used in my research at ISU in completion of my dissertation entitled *Evaluating the Use of an Academic Integrity Training Course as a Proactive Measure Encouraging Academic Honesty*; consequently, once students have logged-on to the AITC, they will have an opportunity to "opt-out" of this training. It is hoped they will not elect to do so. However -in the event they do, it will be necessary for you to provide an alternative assignment of equal significance/difficulty allowing them an opportunity to fulfill course expectations and be awarded participation points.

Will I have access to the AITC?

In the interest of student confidentiality, and to ensure a fair and equitable learning environment, faculty (with the exception of Lori Lothringer) will not have access to the AITC.

Will I have access to results?

Once this study is complete, faculty and staff at MCC will be provided comprehensive results summarizing research findings while protecting the identity of individual participants.

What if I, or my students, have questions?

If you should have any questions, please feel free to contact me directly via phone (402.537.3830) or Email (llothringer@mccneb.edu). With respect to students, once logged-on, participants will be advised to contact me (phone and/or Email) and will be provided information regarding the rights of research subjects.

How will the results from this effort be used?

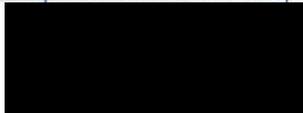
Data gathered during this process will be used to enhance and improve the AITC ensuring the reliability and validity of this tool as a means to improve the learning community in the spirit and character of the MCC mission. The expectation is to make this course available for all interested MCC faculty and students beginning in 2008-2009 academic year. All data gathered during this process will be retained for a period no longer than six months. At said time, this information will be destroyed/purged and will not be available for further use.

Thank you again for your participation in this project and your commitment to serving the needs of our students.

Lori Lothringer

Lori Lothringer, Ph.D candidate
AFC, M.S., M.B.A., B.S.B.A.

Metropolitan Community College Financial Planning Program
<http://www.fpmccneb.edu/financialplanning/>



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