Fraud prevention and employee rationalization in New York State public schools

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Fraud Prevention and Employee Rationalization in New York State Public Schools

by

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Submitted in Partial Fulfillment of the Requirements for the Degree of Doctor of Philosophy

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Abstract

Prompted by frequent media reports of school fraud and a lack of relevant K-12 literature, this research study was designed to investigate current fraud prevention practices in public school districts in New York State. Using a “fraud triangle” model, an analysis of existing legislation and professional practice guidelines reveals that an integral element is being overlooked in current fraud prevention efforts, namely employee attitudes (more formally rationalization).

In an effort to fill this gap, management and accounting literature is used to identify ten specific practices associated with a decreased likelihood of fraud rationalization in the business setting. Primary research is then used to ascertain the extent to which these business practices have been implemented in New York State public schools. HLM is used to examine the nature of the relationship between the presence of these practices within a school district and employee attitudes about rationalization, as a proxy measure of fraud risk.

Data concerning both district practices and employee attitudes about fraud were collected using an online survey of 938 employees from 56 randomly selected K-12 school districts in New York State. Findings reveal low or non-existent levels of district implementation for eight of the ten suggested fraud prevention strategies. However, where strategies have been implemented, employees are less likely to report rationalization about fraud. (As the number of strategies increases, rationalization tends to decrease.) The effect of individual
strategies is examined. Several district and employee demographic factors are also found to have mitigating effects.

Based on the results of this research and analysis, specific recommendations are presented in an attempt to improve school district fraud prevention efforts. The analysis also suggests areas where follow-up research studies are warranted in light of this new base-line data.
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I. **Introduction**

This study was designed to investigate current fraud prevention policies and practices in K-12 public schools in New York State. Both the prevalence of school district fraud, and the lack of existing K-12 public school research, provided the impetus. The intent herein is to provide baseline exploratory research to benefit both public school leaders and future researchers.

A. **Significance of the Concern**

Problems of fiscal mismanagement and fraud in public school districts are substantial in both scope and size. It is well documented that incidents of corruption and mismanagement occur frequently in public schools (McNally, 2012; Spalling, 2012; McGeehan, 2012; Riley, 2012; Dessoff, 2009; Horwitz, 2008; Fusco, 2005; Segal, 2005; Snell, 2004). In one of the most egregious cases in New York State, twenty-eight individuals were found to have profited from the embezzlement of over $11.2 million dollars from the Roslyn School District during the eight-year period from 1996 to 2004. Blame was placed not only on corrupt district officials, but also on board of education members who failed to exercise their oversight responsibilities with due rigor (Vargas and Laikin, 2005; NYS OSC, March 3, 2005). The independent auditor, who had been hired to
monitor and review the district’s financial documents and practices during the time in question, was ultimately found guilty of being in collusion with district employees in their criminal activities, and was also found to have participated in cover-up attempts (Bradley, 2005; Lambert, 2005).

Many at the time believed that the Roslyn incident was an isolated occurrence, but the public soon came to learn that the problems identified as root causes were, in fact, present in many school districts within the state. In the seven-month period (March - October of 2005) following the release of the Roslyn audit, after examining the records of 46 other New York State schools, the Office of the State Comptroller identified more than a dozen more districts where questionable spending or accounting practices were taking place (Archer, 2005).

New discoveries of allegedly fraudulent behavior by school employees appear in the news media with continued regularity. Recent examples include: three different districts each spending over $1.5 million for services never received (Sonntag, 2011; Fleisher, 2012; Riley, 2012), districts falsifying academic and financial records and netting over $7 million (Vogell, 2011; Attkisson, 2012; Woodall, 2012), schools paying for employee European vacations (McGeehan, 2012), and 18 school employees collecting fraudulent unemployment benefits (Block, 2012). In September of 2012, the New York State attorney general settled an $18 million fraud case involving dozens of New York State school districts overpaying a company for school lunches over an 8-year period (Virtanen, 2012).
These types of fiscal problems have the ability to impact nearly every member of the affected community in significant ways. The most obvious victims are the district’s children. When any form of fiscal abuse occurs within a school district, taxpayer dollars intended for student education are being diverted from their intended purpose. Students, often unknowingly, are being deprived of the materials and services for which those funds had been originally earmarked. In an age when most schools are struggling to meet the cost of unfunded state and federal mandates, higher insurance premiums, rising operational expenses and tax caps limiting income, the diversion of needed funds is a serious matter.

The unveiling of widespread corruption and mismanagement has done much to undermine public confidence in the public schools. Each and every taxpayer in the community has cause to feel financially violated. Administration and boards of education are often viewed with skepticism in the wake of a “violation of trust” discovery. For a school district, this can have a devastating impact the next time it is necessary to ask the public to support an increase in the school budget or tax levy (OSC 2005 Report, p.3).

An insidious, and often forgotten, consequence of widespread fraud in the educational arena is the fact that substantial attention is spent on the problem. This means that attention is diverted away from the main mission of schools (the academic achievement of students) at the district, state and even national levels. The lack of serious study into how to improve public schools’ systematic waste
and fraud has been cited as one of the major impediments to educational reform (Segal, 2005, Hoff 2005).

B. Overview of the Study

The review of existing research begins with an examination of literature from the fields of sociology and criminology. The intent is to present a theoretical and foundational understanding of the nature of fraud. As a result, three necessary and sufficient elements are identified as essential for a fraud act to occur: opportunity (knowledge), motive, and rationalization (justification). These three elements form the “fraud triangle.”

In 2005, in response to school district problems of fraud and mismanagement, New York State enacted School Fiscal Accountability legislation (Chapter 263), which attempted to improve financial accountability and restore public confidence. After more than seven years under this legislation, an analysis reveals that the results have been inconsistent with the original goals put forth. Further, additional examination from the perspective of the social science literature on white-collar crime, as well as current standards and practices within the accounting and business management professions, reveals that districts are only required to address two of the three necessary and sufficient elements of fraud. An integral element is absent from consideration, namely employee attitudes (or more formally “rationalization”).
In an effort to address the third missing element, and finding no literature relating to the educational organization, this study uses management and accounting literature to identify ten specific practices or policies associated with a decreased likelihood of fraud rationalization in the business setting. The first goal of this study is to ascertain the extent to which these ten business fraud prevention strategies (not required by the New York State legislation or professional practice guidelines) are currently being employed in New York State public schools.

A review of the sociology literature on Neutralization Theory follows, and is used to create an understanding of the rationalization component of the fraud triangle. From the literature, nine specific rationalization (or neutralization) techniques are identified. The Neutralization literature also provides tested instruments whereby these nine techniques can be used as a proxy measure of a school district’s relative fraud risk.

Informed by these concepts from various disciplines, the primary research undertaken in this study has two goals. The first is to establish base-line data on the implementation patterns of non-mandatory fraud prevention strategies by districts throughout New York State. The second goal is to determine if the presence of these strategies in a school district is associated with any decrease in the district’s fraud risk.

To conduct this investigation, data was collected from 1,131 individual employees from 84 randomly selected public school districts in New York State.
by means of an online survey. Basic demographic information was gathered. In addition, respondents were asked to provide information about the existence of ten specific fraud prevention strategies in their districts. The survey also contained items from which a rationalization scale could be created as a means of quantifying potential fraud risk. Respondents were asked to express agreement or disagreement with various rationalizations presented in three fictional scenarios about theft, abuse of time, and falsifying documents, respectively. Each of the three scenarios contained nine rationalizations designed to represent each of the nine techniques defined in Neutralization Theory. The survey also collected non-identifying information used to group respondents by district for HLM analysis. Two-level models were used to analyze the data from individual employees nested within school districts.

Regarding the first research goal, findings reveal low or non-existent levels of district implementation for eight of the ten suggested fraud prevention strategies. Only two of the ten strategies under investigation were present in a majority of the districts surveyed.

In addressing the second research goal, where strategies had been implemented in a district, the analysis sought to understand the nature of the relationship between the presence of the prevention strategies (individually and collectively) and the employee attitudes about fraud rationalization. In exploring the nature of that relationship, rationalization data was analyzed in three different forms: first, at the level of the 27 individual rationalization questions;
second, by combining the nine rationalization techniques for each of the three scenarios (forming a theft variable, an abuse of time variable, and a falsifying documents variable); and third, as an overall rationalization index combining the responses from all 27 rationalization questions.

Results indicate that higher strategy implementation in a district tends to be related to lower acceptance of fraud rationalization by that district’s employees. In other words, districts employing a greater number of the fraud reduction strategies tended to have employees less likely to agree with rationalizations about fraud. Several specific strategies showed strong negative relationships with employee rationalization acceptance levels, most notably, employees feeling respected and leaders exhibiting integrity. As perceived leader integrity or employee respect increased, rationalization measures decreased. The analysis also identified several district characteristics that mitigated the above effects.

Based on the results of this exploratory research and analysis, specific recommendations are presented in an attempt to improve school district fraud prevention efforts. District demographics are used to refine the specificity of the recommendations. The analysis also suggests several areas where follow-up research studies are warranted in light of this new base-line data.
C. Vocabulary

The study of financial oversight and potential criminal behavior within the educational setting necessarily includes concepts from such non-educational fields as criminal psychology, deviant sociology, criminology, forensic accounting, and business management. Creating a common vocabulary would seem to be an important procedural step at this point, especially since, in some of the academic disciplines, specific definitions differ slightly and have evolved considerably over time. In an effort to reconcile the various understandings of several key concepts and promote a more precise communication of ideas, an explanation of central terms and phrases as they are used in this study follows.

White-collar crime

This phrase has taken on several different variations in meaning since being coined by Edwin Sutherland in 1939. For our purposes, we will adhere to the definition put forth by the Federal Bureau of Investigation in 1989 (U. S. Department of Justice). According to that definition, white-collar crime refers to any one of a number of illegal acts which are characterized by concealment, deceit, or violation of trust, and which are not reliant on the use (or threatened use) of physical force or violence. In contrast to Sutherland’s original conception, this current definition involves no inferences or requirements about the socioeconomic
status of the offender. (i.e.- Blue collar workers can commit white collar crime.)

Theft

Theft is synonymous with stealing, and involves the taking of another’s property without consent. In concept, theft includes a broad range of more specific crimes such as burglary, embezzlement, larceny, fraud, robbery, and shoplifting.

Fraud

The most practical definition, for the purposes of this study, is the one provided by the Association of Certified Fraud Examiners (2004, p.1). Fraud is “…the use of one’s occupation for personal enrichment through the deliberate misuse or misapplication of the employing organization’s resources or assets.” Fraud generally includes some sort of deception.

Embezzlement

Embezzlement is a specific type of theft. In embezzlement, offenders must be in positions of trust wherein they are routinely in “lawful possession” of the property of another. For example, cashiers or clerks routinely handle cash belonging to their employers. When the property is converted or handled in such a way that its use is lost to the
rightful owner, embezzlement has occurred. The characterizing factor is that it is legal for the thief to be in physical possession or control of the property he is stealing by virtue of his position.

**Corruption**

Corruption is the criminal abuse or misuse of power. Often this abuse of power is a part of the methodology employed to commit other crimes. For example, a school business official who coerces a subordinate into concealing his salary overpayment scheme is guilty of both corruption and theft.

**Misappropriation**

Misappropriation is the intentional use of the funds or property of another, for an unauthorized purpose, by a person with a responsibility to care for and protect those funds or property. Trustees, treasurers and financial officers are examples of people who typically hold such positions of responsibility.

**Collusion**

Collusion occurs when people with rival interests cooperate for their own mutual benefit. Collusion between individuals is not a criminal act in and of itself. Crime is often the result of the collusion. In the
example of fraud in the Roslyn District (detailed in the next section), the
school business official and the independent auditor are viewed as having
rival interests, in that the auditor is hired to investigate the accuracy and
integrity of the business official’s operations. Their collusion made
possible their criminal activities, and netted them both millions of dollars.

Violation of Trust

As the term itself implies, a violation of trust is any unethical or
morally questionable act committed by a person who is expected to act
responsibly or honorably. The term was brought into common usage by
criminologist Donald Cressey in the 1950’s in his attempt to separate the
behaviors he wanted to study from the structures and discrepancies of
various legal, law enforcement, and penal systems. This enabled him to
consider the actual behavior in isolation from its legal standing or
adjudication.
II. Literature Review

Fraud in New York State public schools has been shown to be a significant concern not only because of the number of schools involved, but also because of the hundreds of thousands of students and taxpayers affected, and the fact that many of the fraud occurrences involved millions of dollars. In this study, the attempt to address the problem begins with a review of early social science and criminology literature. This serves to establish a theoretical foundation and provide an understanding of the “necessary and sufficient” elements contributing to fraud. More recent research supports the position that fraud’s essential elements can take a range of values, and that the values can be influenced by contextual factors. This forms the foundation for the hypothesis that there are risk factors that schools can control in their organizational environments. Further, the manipulation of these contextual risk factors has the potential to diminish or augment the strength of the elements of fraud, which may, in turn, reduce or increase the likelihood of the fraud act itself.

Given the previously noted lack of study into fraud and mismanagement in the educational setting, business management and accounting literature is used, in the second section of the literature review, to define accepted business and financial practices, and gain an understanding of the scope and nature of fraud in an organizational setting. This literature also identifies the necessary control variables for the study.
The third major section of the literature review analyzes the various components of the 2005 New York State legislation designed to reduce fraud in public schools within the state. The analysis reveals that the legislation fails to address “rationalization” (one of the necessary and sufficient elements of fraud). An examination of the results, after more than seven years of implementation, shows that many of the original goals are left unmet.

In the fourth section of the literature review, the foundation is laid to support the research design and methodology of the project. Social science literature relating to the study of rationalization techniques (also known as neutralization techniques) contributes to an understanding of the elements of employee attitudes about fraud. Nine specific techniques are discussed. These nine techniques constitute the dependent or indicator variables in the research design. There is also an examination of methods previously used in surveys and studies of rationalization. It is important to note the evidence indicating that people’s expressed attitudes about crime are strongly linked to actual criminal behavior. This is critical to the methodology that seeks to measure the risk of a fraud occurrence without having respondents placed in self-incriminating situations.

The last section again reviews business and accounting literature. This time the goal is to develop a list of fraud prevention strategies designed to minimize employee rationalization, and hence, reduce the risk of fraud. Three nation-wide studies, conducted by the Association of Certified Fraud Examiners
over an eight-year period, form the heart of this examination into the various practices and policies that have shown a relationship with lower fraud occurrences in the business setting. The resulting list provides the ten independent variables in the research design.

A. Theoretical Foundations in Social Science

The investigation into the current fraud problem in New York’s public schools begins by examining a foundational piece of literature often cited in current auditing, management and sociological research. Donald R. Cressey’s 1953 publication “Other People’s Money” presents the findings of a set of studies designed to address the basic question of why people commit fraud. In his research, Cressey first refutes the commonly accepted theoretical premise of the time, which had been established through the earlier work of Sutherland (1949). Sutherland’s early theory held that embezzlement occurred as a result of an employee’s knowledge or belief that certain questionable activities were not technically illegal. Cressey’s early research provided strong evidence to indicate that a person’s knowledge about the legal status of the behavior may be influential, but was not a sufficient causal explanation for the behavior itself.

Cressey’s studies ultimately conclude that there are three factors necessary and sufficient for the occurrence of “violation of trust” behaviors. First, there must be an opportunity for trust violation, in conjunction with the presence of what Cressey calls a “non-sharable financial problem.” Financial
problems include a full range of possibilities from the serious (e.g.: mounting medical bills, foreclosure or bankruptcy) to mere personal perceptions (e.g.: feeling the need to keep up with the lifestyle of the neighbors). Problems are deemed non-sharable when they result from circumstances whose disclosure would result in diminished self-esteem or loss of social standing or group approval.

The next of Cressey’s required elements is the knowledge of how to use the position of trust to alleviate the aforementioned non-shareable financial problem. Lastly, there must be the presence of rationalizations that allow the potential violators to reconcile their view of themselves as trusted individuals with their negative views of people who commit violations of public trust. These rationalizations might include perceptions of unusual circumstances, viewing the act as a temporary “borrowing” of resources, or the satisfaction of some entitlement.

Cressey’s initial research employs qualitative methods with a total of 133 cases. Interviews were conducted with inmates from three Illinois prisons who were convicted only of violation of trust offenses. Cressey attempted to control for a number of intervening variables by selecting cases where there was no prior social contact with criminal influences, no personal or family criminal history, and no indication of personality or mental disorders. In all cases, Cressey determined that the violation of trust behavior occurred in the presence of all three of the elements identified in his hypothesis.
An important additional consequence of Cressey’s work was the research paradigm it established for the field of study in general. Most later research, by Cressey as well as others, follows Cressey’s original lead and characteristically avoids legalistic terms such as embezzlement, fraud or misappropriation, and instead refers to the activities in question as “violations of trust.” Maintaining this distinction has proven critical in more recent circumstances where the behavior in question involves the use of new or emerging technologies and practices. Currently, we see examples of this as the law struggles to keep pace with cybercrime. Then, as now, the legal definition of a criminal act often takes time to be developed, and tends to change over time. There are clear advantages when comparative or longitudinal research is not tied to changing criminal definitions.

Cressey’s research sought to identify common characteristics present in the circumstances surrounding violation of trust behaviors. His definitions of these characteristics, however, are very broadly constructed and allow for great latitude in the classification of responses. It might be argued that it is the generality (non-specificity) of the concepts, rather than the veracity of the theory, which contributes to the finding that the three elements (opportunity in the presence of incentive, knowledge, and rationalization) were found to exist in all cases under examination.

The study also suffers from a lack of causal evidence. The investigation examines the presence of these defined elements in cases where violation
behaviors have already occurred. There is no attempt to ascertain if the presence of these three elements necessarily affects the probability that a violation will occur in the future. While the three factors appear to be present in all cases studied, there is little evidence of directionality or causation in this early exploratory study.

Another of the weaknesses of this research lies in the sample selection. It can certainly be argued that the process of selecting cases from the prison population actively excluded those with either the cunning to escape detection or the influence to avoid prosecution. However, given the issues of respondent self-incrimination and the difficulty of identifying secretive violators, it is easy to understand Cressey’s preference for a captive population. The selection of cases, however, must also be seen as a negation of Cressey’s own initial assertion that “violation of trust” behaviors encompassed more than the criminal behavior as defined by the legal statutes. His failure to include cases without criminal convictions represents a substantial diversion from one of his important foundational premises. These difficulties in research design may be one of the reasons that we now find, nearly sixty years after Cressey’s initial studies, that there is still very little substantive research being conducted on the subject.

Despite these limitations, Cressey’s work is valuable not only because of the significant contribution to the expansion of thought in the field of criminology at the time, but also because of the fact that his initial assertions, with only minor modification, still occupy a place of prominence in current
research and practice. His initial hypothesis has continued to be foundational, and still dominates current literature. In 1990, Shapiro’s research introduction briefly summarizes the work of Cressey, and articulates that despite years of criticism and debate “…the concept of white collar crime in general currency is virtually unchanged.” (Shapiro, p. 347)

Further, Shapiro asserts that recent attempts to investigate causal relationships between white-collar crime and violator personal characteristics such as gender, age, class or mental state have served to minimize or obscure the long hypothesized causal relationship dominated by contextual factors. Cressey’s elements (opportunity, motive, knowledge and rationalization) certainly qualify in this modern assertion of the importance of contextual conditions.

The value of Shapiro’s research is that it more fully investigates the sociological concept of “trust” and embellishes our understanding of “violation of trust behaviors” as defined by Cressey. She does this from a foundation combining the work of Coleman (1974) on principal-agent relationships with the economic concept of “moral hazard” (Arrow, 1985). By definition, agents have responsibility for the property and resources belonging to others (principals). According to Arrow, in the agent there is an inherent conflict between overseeing the resources of another (the principal) and attending to the agent’s own personal interests or needs. This conflict is the source of the moral hazard, the temptation or context for violation of trust. The nature of this trust relationship,
and the context created by the organization or principal, actually plays a very complex role in creating or minimizing both physical and ethical opportunities for violation of trust behaviors by the agent. The actions of the organization also have an ability to influence the attitudes and rationalization activities of the agent or employee. (Note that these last two points are critical to the research hypothesis.) Thus, Shapiro enriches the original concepts put forth by Cressey by allowing that these factors are not merely present or absent (as Cressey implied), but are capable of taking on a continuum of values. Further, these values can be influenced by the actions and attitudes of the principal.

To summarize, Shapiro has convincingly asserted that an organization (for the purposes herein, read a school district) has the capacity to negatively or positively influence several of the causal elements of fraud. This provides the foundation for any research study that attempts to identify specific contextual elements that might impact the causal factors in such a way as to negatively affect fraud occurrence. In other words, Shapiro tells us there is strong likelihood that we can minimize the factors contributing to fraud by manipulating the context in which they exist. Logical follow-up studies will want to know which changes hold promise in the goal of reducing the likelihood of fraud in an organization. What practices might minimize opportunity, rationalization and negative employee attitudes? Is there a way to reduce motivation to steal and assist employees with financial pressures or “non-shareable” problems?
The limitation of Shapiro’s work is that it draws heavily from the research conclusions of others, and engages in only very limited data analysis. There is also no primary data collection, but rather, the study uses data routinely collected and compiled by the federal Securities and Exchange Commission. These limitations, however, are balanced by the quality of the supporting research cited, the validity and reliability of the SEC data collection, and the strong logic in relating these and various other generalizable findings.

For the purposes of this dissertation, the most important concepts to be taken from Shapiro’s study are those that enrich and expand our understanding of the original factors identified by Cressey. First, Shapiro’s findings allow for the conceptualization of Cressey’s factors in such a way as to have each of the elements take on a range of values. For example, motive (or need) may be great or small, rather than merely being present or absent as Cressey implied. Whereas Cressey considered merely the presence or absence of the various elements in his early studies, in light of Shapiro’s enriched understanding we are allowed to consider the relative strength and influence of each of the various elements in affecting the likelihood of the violation of trust behavior. A factor need not be eliminated entirely to produce a desired effect.

Shapiro also provides strong evidence that contextual influences have the capacity to create variation in each of the factors necessary and sufficient for the violation of trust behaviors. In other words, a change in the environment has the possibility of creating a corresponding change in each of the elements necessary
and sufficient for the existence of fraud. For our purposes, this provides foundation for creating a hypothesis that the enactment of specific policies and procedures within a public school district has the potential to reduce opportunity, knowledge, motivation, and rationalization, and by extension, the likelihood of employee theft or misappropriation.

It would be misleading to focus exclusively on Cressey and his followers, and not make note of other theories of fraud and white-collar crime in this review of relevant literature. Although Cressey’s theory, with very little modification, is widely employed as foundation in current sociology literature, other schools of thought have been put forth with some acceptance. In the earliest work on the subject, Edwin Sutherland (1949) put forth his Differential Association Theory. Sutherland believed that criminal behavior occurred because of learning that came about as a result of personal interaction with others. Rephrased in the simplest terms, this concept is echoed in the admonitions many of us heard from our parents while growing up, “If you hang around with friends who get in trouble, you will get in trouble too.” In the field of sociology, it is widely held that the greatest value in Sutherland’s work is not in the theory itself, but rather, that in developing his theory of white-collar crime he successfully refuted the prevailing theories of his day which attributed criminal behavior to poverty or socioeconomic status (Merton, 1957; Shapiro 1990).
In light of the “nature versus nurture” debate that exists in most academic disciplines, it should not be surprising that many of the counter arguments to Differential Association Theory suggest that various inherited factors are responsible for criminal behavior. Here, genetic factors such as gender, race, and age become principal concerns. Many of the early researchers of this school focused on family criminal history, personality disorders and mental disturbances as significant factors in criminal behavior. These “Physical Type Theories” (Vold, 1958) all rely on the classic “structure determines function” logic.

Both Physical Type Theories and Differential Association Theory have been dismissed from relevance in this dissertation research principally because they do not negate the findings of Cressey. Instead, just the opposite is true. Cressey’s writings clearly indicate that he was well aware of various Physical Type Theories and Sutherland’s contemporary writings, and that he intentionally attempted to control for genetic factors, as well as Differential Association factors in his experimental design. Additional support for this decision is found in more contemporary scholarship. In refute of Physical Type theories, the following arguments are offered. “Crime is defined by the act... Although the attributes of the perpetrator may, on occasion, be necessary conditions, ...they are never sufficient.” (Black, 1979, p.334). Defining crimes in terms of the characteristics of their perpetrators results in “an unfortunate mixing of definition and explanation.” (Braithwaite, 1985, p.3) In the other school of the debate, Shapiro’s
entire study (1990) serves to make a convincing case for the spuriousness of the relationship between socioeconomic class and violation of trust crimes.

Added to the preceding arguments is the fact that Cressey’s work not only widely serves as foundation for current social science research, but it is also seen as fundamental to certain areas of Business, Management, and Accounting inquiry. In the next chapter, supporting literature from those disciplines is explored.

B. Accounting and Business Management Literature

In current business and management literature, a conceptual model referred to as the “fraud triangle” is commonly used as a framework for discussing the elements of fraud and the practices of fraud detection and prevention (Wells, 1997; Buckoff, 2001; Wells, 2001; AICPA, 2002; Ramos, 2003; Kaplan, 2003; Turner, 2003; Stone, 2005; McNeal, 2006; Pavio, 2011; Dunkle, 2012; Hanson, 2012). In the accounting field, the concepts represented in this simple model are widely accepted as an explanation for the fraudulent behaviors that are of concern to auditors in their work with all types of organizations. In Figure 1, it is easy to see that fraud is viewed as the result of the coming together of three factors: opportunity, incentive, and rationalization.
Opportunity usually occurs when an organization or business fails to create a set of effective internal procedural controls, or fails to provide adequate supervision and monitoring of employees. Thus, the organization leaves itself vulnerable to persons with the knowledge to take advantage of the procedural weakness.

Incentive refers to the personal pressures experienced by the potential fraud perpetrator. For some, it is accumulating debt or the desire for a more affluent lifestyle. For others, alcohol, gambling or drugs create a financial need. For others, perceived mistreatment creates a desire to “settle the score.”

Rationalization is the process by which offenders convince themselves that the fraud act is an acceptable course of action in the given set of circumstances. Excuses like “Everybody is doing it,” or “No one will be hurt by this,” are typical. Embezzlers might reason that the money is only a temporary
loan that they will repay at some future point in time. The likelihood of
detection and the severity of consequences may also play a role. Psychologically,
rationalization allows fraud perpetrators to justify their views of themselves as
respectable persons in spite of the negative implications attached to the
commission of an illegal or amoral act. Contradictory values are often reconciled
with the notion that an act that might be technically illegal has the capacity to be
moral, just, or equitable at some other level.

It is interesting to note that in Cressey’s original framework, the
relationship between these same elements is viewed from a slightly different
perspective. Cressey articulates a clear distinction between opportunity and
knowledge. In his conceptualization, opportunity exists as a factor under the
control of the organization, while knowledge resides with the employee. More
recent researchers have argued that the existence of a procedural weakness
within the organization (what Cressey would call opportunity) is really no
opportunity at all unless there is someone present in the right position with the
right knowledge to take advantage of it. The discussion seems a bit like the
classic metaphysical question about the tree falling in the forest with nobody
there to hear it. The important point is that the elements are the same, however
one chooses to group them.

In Figure 2, the fraud triangle is modified to depict Cressey’s original
conception. Notice that opportunity and motive (the non-shareable problem)
form one element, while knowledge stands alone as a second factor. The ability
to justify the violation of trust behavior (rationalization) forms the third causal element.

Figure 2. A Model of Cressey’s Conceptualization

![Diagram of the fraud triangle]

In light of this difference between contemporary iterations of the fraud triangle and Cressey’s original classification of factors, some in the accounting field have put forth the “fraud diamond” as an alternative representation (Dunkle, 2012; Rosten, 2012; Wolfe, 2004).

Figure 3. The Fraud Diamond.

![Diagram of the fraud diamond]
In Figure 3 we see an example of this four-faceted model. The key feature is that this diamond conceptualization preserves and reconciles all the elements of both the modern expression in current accounting literature, as well as Cressey’s original division of the knowledge and opportunity factors.

Despite the differences in the three models, the most important point to be taken from this comparison of the literature discussed to this point (spanning three disciplines and over fifty years) is the lasting usefulness of Cressey’s core concepts and the fact that the points of divergence in the various iterations are essentially ones of nomenclature and classification. Whether Knowledge is viewed as a partner to Opportunity or Incentive, the elements of fraud remain the same throughout the literature.

Having established the theoretical foundations for fraud in general terms, what follows next is an examination of studies that provide insight into the scope of the current problem. Much of the information about the nature and extent of the fraud committed in the United States in recent years comes from a series of studies conducted by the Association of Certified Fraud Examiners (ACFE, 1996, 2002, 2004, 2006, 2008, 2010). The goals of these studies were to:

a) estimate the revenue lost to fraud;

b) examine the characteristics of those who commit fraud;

c) determine what kind of organizations are victimized;

d) ascertain and categorize the way fraud occurs; and
e) measure the effectiveness of various controls in detecting fraud and limiting losses.

In the most recent ACFE study involving data from US sources exclusively (2004), the 508 respondents were anti-fraud experts, auditors and accountants throughout the United States. As a group they had a median experience level of 16 years. Approximately 89% of the respondents had 6 or more years of fraud-related experience prior to their participation in the study. These respondents completed an on-line qualitative survey that collected the details of one case each. These cases all occurred within the two-year period preceding the study. Organizations in the study represented both public and private companies, government entities and not-for profit institutions. Educational organizations represented 6.1% of the organizations included.

The findings of this AFCE study indicated that 62% of businesses or organizations in the study sample experienced fraud. Occupational fraud accounted for approximately 6% of a business’ total revenues on average, but small organizations tended to suffer disproportionately higher losses when compared to larger organizations.

The amount of the fraud loss also appeared to be related to the position of the person perpetrating the offense. Table 1 below shows the median financial loss for fraud acts committed by sample offenders in varying positions within the organization.
Table 1. Fraud Loss by Perpetrator Position

<table>
<thead>
<tr>
<th>Position of Perpetrator</th>
<th>Median Loss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner or Executive</td>
<td>$900,000</td>
</tr>
<tr>
<td>Manager</td>
<td>$150,000</td>
</tr>
<tr>
<td>Employee</td>
<td>$ 64,300</td>
</tr>
</tbody>
</table>

It is interesting to note that regardless of their position in the organization, the vast majority of fraud perpetrators in the study (87.4%) were first time offenders with no criminal record of any kind. Although these ACFE sample statistics cannot be generalized to a wider population in either the business or educational setting, they do provide some sense of the problems facing organizations.

There are, however, some concerns that need to be raised with respect to methodology in the ACFE study. First, it must be noted that all respondents were members of the organization that sponsored and conducted the study. Each respondent was asked to submit the details of one case from their recent experience. If each respondent selected his/her most egregious case, the sample could easily be biased and lead to an over-reporting of the problem, and the financial loss statistics might easily be inflated. In the study, all the organizations that were victimized had hired the fraud examiner respondent to investigate financial dealings within their organizations. There is no way of knowing the
number of cases where the examiner was employed because of suspected fraud in the company versus the number of cases where the examiner was retained in a preventive capacity.

Despite these rather serious drawbacks, the AFCE reports remain the best source of information available for our purposes. While the Uniform Crime Report maintained by the FBI may be more comprehensive and more sound methodologically, its usefulness is limited in our study because of the fact that its data comes exclusively from law enforcement agencies. White-collar crime, in general, and fraud, misappropriation, embezzlement, and corruption, more specifically, have a well-documented history of being grossly under-reported to law enforcement agencies. The enormity of the problem can be seen in one study of fraud involving computer use (Saari, 1987). In that particular situation, it was found that only 1% of the incidents of fraud were ever detected. Of those detected, only 15% were reported to law enforcement, and of those reported, only 3% resulted in conviction. That means that each conviction might represent well over 22,000 fraudulent acts. If these statistics are in any way representative of fraud occurrences in general, law enforcement data clearly have very little value in our study of fraud.

C. New York State School Anti-Fraud Initiatives

In the wake of the $11.2 million dollar Roslyn School District financial scandal, former New York State Comptroller Alan G. Hevesi, on January 12,
2005, joined with several NY State Senate and Assembly members, and coalitions
of educational and financial professional associations, to propose legislation that
would increase fiscal oversight in public school districts. The quote below is an
excerpt from his proposal presentation.

“The fraud that occurred on Long Island [Roslyn] represented a total failure of key safeguards to protect public
monies. It is a wake up call for schools statewide that fraud
can happen anywhere. The public must feel confident that
basic protections are in place to ensure that their tax dollars
are being spent properly and honestly. The time has come
for the State to act and improve accountability in all of our
schools statewide.” - Hevesi

The content of Hevesi’s proposal, dubbed the “Five-Point Plan,” called for

a) training for school board members in their oversight and
    fiduciary responsibilities,

b) the establishment of an internal auditor function in each
district,

c) the creation of audit committees,

d) a competitive process for the selection of an independent
    auditor at least every five years, and

e) direct school board involvement with, and a formal
    response to, all final audit reports.

In September of 2005, Governor Pataki signed the resulting legislation
into law. The School Fiscal Accountability package (Chapter 263 of the Laws of
2005; A6082-A/S5050-A) included two separate bills. The first essentially
enacted Hevesi’s Five Point Plan, and the second created the additional
requirement that all schools in the state be audited by the Office of the State
Comptroller at least once in the five year period from 2005 to 2010. Additionally, $2.9 million in funding was provided for the Comptroller to accomplish these statewide audits.

What follows is a detailed examination of the elements of the legislation in light of the social science and business management literature presented in the preceding two sections. In the excerpt above, from Hevesi’s proposal speech, we see an articulation of the goals of the legislation. The first aim is to force school districts to be more fiscally accountable, and thus protect taxpayer dollars. The second stated goal, equal to the first, is to bolster public confidence. The second bill of the legislation package, which mandated the auditing of each and every school district in the State of New York by 2010, is the primary vehicle for restoring public confidence. Since these audits investigate the records from fiscal years preceding July 2005, they are attempts at detection of previous fraud activities. The public would be reassured that no Roslyn-type abuses have gone uninvestigated in their communities.

The element of fraud prevention remains unaddressed by this component of the legislation. After a district has been under scrutiny once, there is little likelihood that auditors from the Office of the State Comptroller would return unless the first audit identified a significant risk presented by past practices.

An examination of the elements of the Hevesi “Five Point Plan” (the other legislative bill contained within the School Fiscal Accountability package) reveals the key elements of the “prevention” part of the legislation. As the details are
discussed, keeping in mind the Fraud Triangle previously discussed, it should be easy to note the great emphasis on the element of “opportunity.”

The first requirement is formal training for school board members. The New York State Education Department (SED), Office of School Operations and Management Services (SOMS), was given the responsibility of approving the curricula and the training providers. Approved curricula and providers throughout the state include the New York State Education Department itself, Boards of Cooperative Educational Services (BOCES), the New York State School Boards Association, and County School Boards Associations. The training requirement applies to all school board members elected or appointed to a term beginning on or after July 1, 2005. Training must be completed within the first year of service. The six-hour training course must cover the basics of education law 2102-a which requires the training and its documentation, the roles and responsibilities of board members (including their interaction with internal auditors and audit committees), an overview of internal controls and risk assessment, internal and external audits, the budget process, revenue sources, monitoring district financial condition and fiscal health, and preventing fraud, waste and abuse of district resources.

The second requirement of the legislation was the establishment of an internal auditor function within each school district by July 1, 2006, with the function to be in operation no later than December 31, 2006. The role of the internal auditor is to develop a risk assessment of district operations through a
review of financial policies, procedures and practices. It is required that this risk assessment be reviewed and updated annually. It also required the testing and evaluation of at least one of the district’s internal control mechanisms each year. The results of these assessments, evaluations and reviews are to be presented directly to the board of education in the form of written reports that include recommended changes and suggested timeframes for implementation. Districts with fewer than eight teachers, student enrollments of fewer than three hundred, or general fund expenditures of less than five million dollars are exempt from this portion of the regulations.

Thirdly, the 2005 legislation also required each public school district to establish an audit committee no later than January 1, 2006. The committee must include at least three people, who must not be compensated for their services, but may be reimbursed for their expenses. The committee may consist of either three or more board members, a committee of the whole board, or an advisory committee of individuals with no fiscal or family relationship to the district or its employees. The purpose of including committee members who are not board members was to insure that the committee collectively possesses a knowledge base in the areas of auditing, accounting, financial reporting and school finances. The duties of the audit committee are to provide recommendations regarding the appointment of an external auditor, meet with the external auditor prior to the annual audit, review and discuss the risk factors identified by the auditor, receive and review the final audit report and assist the board of education in
interpreting that report, review each corrective action plan and assist in its implementation, and assist in the oversight of the internal auditor function. The audit committee must develop a formal written charter, hold regular meetings, and provide a written report of its activities to the board at least once a year. The contents required to be included in this written report are specified in the legislation.

The fourth provision of 2005 School Fiscal Accountability Legislation reinforces previous requirements for an annual independent external audit, sets forth the manner in which this auditor is selected and employed, and provides additional deadlines concerning a required formal response to the audit report. A school district has four months from the conclusion of its fiscal year (June 30) to secure an audit, receive and review the audit report, pass an official resolution accepting the audit, and file a copy of the resolution with the Commissioner of Education. As of July 1, 2005, all districts are required to use a competitive Request for Proposal (RFP) process when contracting for the services of an external, independent auditor. No auditor or firm shall be engaged for a period of longer than five consecutive years.

The fifth element of the legislation package sets forth requirements for corrective action plans. Such plans must be prepared by the superintendent and approved by the board of education within ninety days of receipt of a final audit report from any United States government agency, the New York State Education Department or State Comptroller’s Office, the annual external audit,
or a report from the district’s internal auditor. The plan must include the corrective actions to be taken, together with expected implementation dates. All corrective action plans must be filed with the State Education Department.

Taken together, these five points in the legislation serve to provide specific steps to increase fiscal oversight for public school districts. Hevesi articulated his original intentions very succinctly, “The key to preventing fraud is strong internal controls…In addition to strengthening internal controls, there is clearly a need for increased external oversight” (OSC-LGSED, p.3). Board member training is intended to insure that boards of education understand their primary fiduciary responsibilities, and their obligation to protect the taxpayers of their communities from fraud and mismanagement. Audit committees provide the vehicle for board members to gather the independent expertise and assistance necessary to carry out these responsibilities. They also provide a second oversight mechanism. The clearly defined internal auditor function, together with an RFP process to insure the independence of the external auditor, serve to strengthen internal controls, reporting procedures, and monitoring. The required responses to audit reports insure that any suspected problems are dealt with in an appropriate and timely manner.

Using the concepts from the Fraud Triangle presented in the previous section, we can see that the major focus of the legislation addresses fraud through requirements designed to minimize the “opportunity” element of the model. Increased financial oversight, together with the structured processes for
monitoring and improving internal controls, serve to identify and eliminate potential fraud opportunities within the organization. The opportunities are being ferreted out and addressed by individuals from a number of different perspectives and frames of reference. Internal and external auditors serve as financial experts with no direct connection or reporting obligations to the management staff of the school district. Additionally, the RFP process is designed to insure that the independent auditor remains truly independent. In having the operations of the district examined by both an insider and an outsider, there is a greater chance of identifying a broader range of opportunities. Board members are required to take steps that demonstrate and insure their involvement with the process of minimizing opportunities for fraud. Audit committees bring in community experts. Beyond this increased local action to reduce this fraud risk factor, the New York State Education Department and Comptroller’s Office are providing increased governmental oversight. The Comptroller Office auditing of every school in the state provided the ultimate detection effort. In summary, the New York State initiatives attempt to address fraud in the public schools exclusively through the manipulation of the causal element of opportunity.

The element of motive or incentive is addressed only indirectly. An investigation of several auditing guideline publications reveals that through the auditors’ standards of professional practice, some attention likely to be paid to the causal element of motive as the various auditors routinely perform their tasks
in the school district setting. Several New York SED documents (SED-OEM 2006; SED-SBPA 2005) articulate the expectation that auditors will conduct their work in public schools in accordance with established professional standards. In addition to typical duties related to the detection of flaws in an organization’s fiscal processes and internal controls, the Statement of Auditing Standards No. 99 (AICPA, 2002; Ramos 2003) requires that an auditor adopt “a skeptical attitude and a questioning mind” when dealing with information presented by an employee in the client organization. The auditor is required to brainstorm, with fellow professionals, potential reasons for expected employee misrepresentations. Auditors are expected to consult with persons inside and outside of the organization to ascertain if there is any reason why the employee might be misrepresenting information provided to auditors (McNeal, 2006). Additionally, auditors are required to routinely investigate personnel records. Employees who abuse personal leave allotments, as well as those who have a history of no absences for a number of consecutive years, are to be viewed with suspicion and investigated further (Wells, 1997; Buckoff, 2001). Obviously, an employee with need or motive is viewed as an increased fraud risk within the organization.

This type of auditor scrutiny can never explore the full range of social or psychological (non-financial) incentives or pressures that contribute to the fraud act. And while their procedures in no way provide the efficiency or certainty of a background check or full investigation, they do bring auditors into contact, in at
least a cursory fashion, with the element of motive or incentive. In summary, because the New York State legislation requires districts to employ various types of auditing professionals, and because those various auditors are expected to operate in adherence with their standards of professional practice, the causal element of motive or incentive is addressed, even if in the most superficial of ways.

Having discussed opportunity and motive, we are left with one remaining element in the fraud model which has yet to be addressed, namely rationalization. It appears that, in attempts to prevent fraud in New York State public schools, this element has been completely ignored in both legislation and professional practice. In an attempt to fill that void, the next section of this review will examine literature that provides insight into practices that hold the potential to minimize the rationalization element.

D. Fraud Prevention Strategies

The former Comptroller’s “Five Point Plan,” and accompanying legislation and policies, have all emphasized fraud detection and the elimination of opportunity as the core strategies in the attempt to address the fiscal problems in New York’s public schools. We have seen that auditors may indirectly address the incentive element for school districts. However, the lack of attention to rationalization (as a necessary and sufficient factor in the fraud triangle) is
seen as a critical omission for any school district conscientiously seeking to minimize its fraud risk. This dissertation research is designed to test the hypothesis that fraud prevention strategies that emphasize the minimization of rationalization hold the potential to be components of a more complete solution. There is strong evidence for the validity of this hypothesis.

Once again, the lack of research in the educational setting forces the consideration of findings from the business setting. Results from the ACFE 2002 study indicate that the efforts of internal and external auditors combined are responsible for less than one-third of all the fraud that is identified. More fraud was discovered by accident (18.8%) than was uncovered by either external audits or internal controls (11.5% and 15.4% respectively). Governmental enforcement agencies were responsible for a mere 1.7% of the fraud incidents identified. These findings taken together suggest that the millions of dollars spent to have each district in the state audited by the Office of the State Comptroller might not have been the most effective strategy if the goal was anything more than the restoration of public confidence. And what of the future?

From a financial standpoint, the most effective way to address fraud appears to be through prevention rather than detection. Even when crime is detected, the organization is unlikely to cover its losses. Forty percent of organizational fraud victims recover nothing at all. Of those that do recover, the median recovery was approximately 20% of the original loss (not including the costs associated with detection and investigation) (ACFE, 2004). This means that
the taxpayers of Roslyn are unlikely to see any significant portion of their $11.2 million losses returned for the use of the district’s students.

The ACFE 2002 study also found that more cases of fraud have been identified through tips than from any other source or initiative. Reports by employees, vendors, customers and anonymous informants, taken together, accounted for the identification of 46.2% of all fraud detected. This provides a reason to investigate the use of hotlines or fraud tip lines as an anti-fraud strategy. The Sarbanes-Oxley Act of 2002 was a federal response to the major Enron corporate and accounting scandals. That legislation, much like the New York legislation we have been discussing, requires the establishment of audit committees, strengthens the external audit process, provides for more rigorous internal controls, and establishes increased reporting to government oversight agencies. Unlike the New York State legislation, however, Section 301 of the federal act includes a requirement that organizations establish a procedure for receiving anonymous complaints and tips.

The Association of Certified Fraud Examiners report that “…hotlines or other confidential reporting mechanisms are among the best tools to prevent fraud.” (Adams, 2006, p. 56). The association also recommends that these mechanisms be expanded to include third parties such as vendors, clients, service providers and members of the public (ACFE, 2004). Other experts suggest that tips be handled by trained independent interviewers in order to insure that all essential information is gathered and dealt with in an appropriate
and confidential manner (Sacchetti, 2005). In addition to increasing the likelihood of detecting existing fraud, these strategies reinforce the public message that the organization considers fraud to be a serious issue. Public knowledge of the organization’s willingness detect and prosecute offenders has the potential to act as a deterrent.

The cost for school districts to implement such a plan would seem to be minimal. The establishment of a dedicated phone line, training, and investigations resulting from tips would seem to represent the greatest expenses. These services might even be contracted for within the context of the external auditing function. In the Sarbanes-Oxley legislation, the handling of tips is under the jurisdiction of the audit committee. Under New York regulations, members of the audit committee serve in a voluntary capacity. The hotline phone number could be placed on all existing documents, correspondence and publications at negligible additional expense to the district. Purchase orders, check stubs, letterhead, newsletters, and websites could all bear the hotline information.

In addition to being an effective detection strategy, the establishment, maintenance and advertising of a hotline delivers a public message that fraud is unethical, unacceptable and harmful to the organization. Such a public statement has the ability to influence rationalization and attitudes by clearly communicating organizational values. Based on case study analyses conducted by the Association of Certified Fraud Examiners, for organizations with
confidential and anonymous reporting mechanisms, median fraud losses were only half as high as in organizations where such mechanisms did not exist (ACFE, 2004).

Case studies reveal that the next most effective fraud prevention policy for an organization has been shown to be an Ethics Program (Adams, 2006, p.57). Section 406 of the federal Sarbanes-Oxley Act requires publicly owned companies to disclose, in their required government reports, whether or not they have adopted a Code of Ethics or a Code of Conduct for their employees. If so, a copy of the code must be submitted with routine governmental reports. These codes are supposed to clearly set forth the standards of behavior expected from individuals within the organization. This articulation serves to define acceptable behavioral choices and narrow the range of rationalization behaviors. The elements of such ethics programs include seminars, policy manuals, call-in reference lines, interactive websites, and mandatory training with testing. All these resources are designed to help employees make appropriate choices without requiring that they interact with their supervisors or peers about sensitive or troublesome issues.

Elements of such programs can already be found in school settings. It is common for individual schools to issue faculty handbooks, and in many districts, employees must sign a declaration stating that they have read, and agree to abide by, an “acceptable use policy” for email and internet accounts. It would seem to be a fairly small undertaking to expand these types of efforts.
Another potentially important strategy in the control of rationalization and the creation of positive employee attitudes is the example set by leaders at the top levels of the organization. Even the most well-designed corporate ethics program can have its effect mitigated by behavior from senior managers which is in conflict with the values and beliefs espoused by the organization. Management must reinforce the organization’s attitudes and beliefs by word and behavior (Adams, 2006). It is much more than setting the right example, however. Elitist attitudes by management, unfair treatment of workers, and negative work environment have all been shown to increase both rationalization behaviors and fraud (Adams, 2006; Sacchetti, 2005; Zwim, 2005). A study by Hollinger and Clark (1983) asserts that employees frequently committed fraudulent acts against their employers because they were dissatisfied with their jobs or with conditions at work, or because of feelings of having been mistreated by supervisors.

Some have suggested that a more careful screening of job applicants, including thorough background checks and personal contact with references and previous employers, would assist in building a workforce less likely to commit fraud. While this approach seems quite logical, research indicates that it is a fairly futile effort. Approximately 87% of employees who are discovered to have committed fraud were first time offenders. They had no criminal history of any kind, and no record of being problem employees (ACFE, 2002). It seems that the
vast majority of fraud acts are perpetrated by employees who seem to be honest and hard working.

The principal assertion in this dissertation is that legislative and bureaucratic demands for improved auditing and detection procedures are far from complete solutions to the widespread fraud plaguing New York State’s public schools. “Fraud is not an accounting problem; it is a social phenomenon.” (Wells, 2004, p. 72). In keeping with that view, Wells suggests a fraud deterrence model for organizations. Auditors would develop a program of best practices for a particular institution. Rather than trying to accomplish the impossible task of determining that an organization is fraud free, auditors would instead be able to report the degree to which the organization was in compliance with its own fraud prevention model. The model is an extensive one, which addresses several of the elements identified earlier as lacking in the Hevesi Five Point Plan. Specifically, Wells’ proposal includes: the perceived integrity level of leaders and employees, reward systems for ethical behavior, organizational culture and group dynamics, peer pressure, personal traits, attitudes of managers and employees, and commitment to an organizational value system.

Wells believes that no organization can successfully implement all of the suggested fraud prevention strategies simultaneously. Also, no organization can ever be certain that it is fraud free, regardless of how extensive its prevention and detection strategies. He suggests balancing a level of acceptable risk with the cost of prevention and deterrence initiatives. The organization must be
vigilant in monitoring, reviewing and periodically updating its overall fraud prevention plan.

The strategies discussed thus far (and summarized below in this section) are suggested as attempts to address the third element in the fraud triangle model: rationalization. Therefore, they should be viewed as a compliment to, and not a replacement for, the fraud prevention and detection strategies required under the 2005 New York State School District Accountability legislation, which as the previous analysis has shown, deal with the other two essential elements of the fraud triangle. In the methodology section, details are presented concerning the use of these strategies as ten independent variables in the proposed research design.

**Summary of Suggested Fraud Reduction Strategies**

- Establish anonymous and well publicized reporting mechanisms (tip-lines); insure the competence and independence of the person receiving and investigating the reports.

- Emphasize fraud prevention rather than detection.

- Establish a Code of Ethics, Code of Conduct or training program for employees; monitor and update regularly.

- Insist that organizational leaders exhibit the highest levels of integrity.

- Ensure that employees are treated fairly and with respect.

- Create a positive work environment.

- Create reward systems for ethical behavior.

- Articulate an organizational value system.
• Foster an organizational culture of honesty.

• Publicize the organization’s commitment to prosecute offenders.

E. Rationalization

It was in 1953 that Cressey published his seminal work (discussed in detail in Section II. A. above) revealing findings that rationalization was a consistently occurring element of white-collar crime. Rationalization was the means by which potential violators reconciled their view of themselves as trusted and honorable individuals with the knowledge that the act they contemplated was generally viewed as unethical or amoral. Four years after Cressey’s publication, Sykes and Matza (1957) more fully developed this idea when they put forth their “Neutralization Theory,” whose principle argument was that otherwise law-abiding individuals, for a variety of reasons, free themselves from societal norms by engaging in one or more of a defined set of rationalization techniques. In the literature, these techniques are also referred to as neutralization or justification techniques (Durkheim, 1951, 1965; Sykes and Matza, 1957; Matza and Sykes, 1961; Scott and Lyman, 1968, Hirschi, 1969).

According to Sykes and Matza, the employment of these techniques makes the unethical or criminal conduct possible while the perpetrator simultaneously maintains a commitment to the accepted social order. Through the use of these specific techniques, “social controls that serve to check or inhibit
deviant motivational patterns are rendered inoperative, and the individual is freed to engage in delinquency without serious damage to his self-image” (Sykes and Matza 1957, 667).

Sykes and Matza (1957) identified five specific types of rationalization or neutralization techniques. The first, Denial of Responsibility, involves claims that the behavior was accidental, out of the person’s control or dictated by outside factors. For example, a college student engages in this technique when he claims that his cheating is necessitated by impossible workloads, unreasonable professors, and recurring bouts of illness.

The second of the rationalization techniques is Denial of Injury. In this technique, the violator’s logic indicates that if no one was injured there is no victim, and if there is no victim there is no wrong. The act is justified because there was no harm done.

In the Denial of Victim technique, the perpetrator maintains that, although someone was hurt, the act was retribution (punishment). Thus, in this third technique, the violator is a righteous avenger and the victims “had it coming to them.”

The fourth technique is Condemning the Condemner. In this technique the violator focuses not on his own action, or even the victim, but rather on those who sit in a position to disapprove of the action. The condemners are deemed to have committed offences, are viewed as hypocrites, and hence, are no better than
the offender (and perhaps worse). They have no right to judge the perpetrator or actions in question.

In the last of the techniques described by Sykes and Matza, Appeal to Higher Loyalties, the moral obligations of a subgroup take precedence over the obligations to society in general. An example is the thief who claims that the obligation to feed his starving family outweighs his obligation to abide by the laws prohibiting theft from a grocery store. The violator agrees that stealing is wrong, but rationalizes that letting his family starve is an even greater offence.

Several other researchers have added to the original list of five techniques. In the Metaphor of the Ledger described by Klockars (1974), the perpetrator views the deviance as acceptable once in a while. Because the violations are occasional, “on-the-whole” the violator is a person who upholds his/her moral responsibility. Minor (1981) presents the technique “Defense of Necessity.” If an act is perceived as necessary, then one need not feel guilty about having committed it, even if it is considered ethically wrong in general. For example, even though the infraction may be wrong in the abstract, the perpetrator claims it is standard operating procedure where he works. If he did not go along with common workplace practice, he would lose his job. We commonly see claims of “the big blue wall” in police department scandals.

Coleman (1994) contributes two additional techniques. In the Claim of Entitlement technique, the violator believes the behavior is appropriate because he/she is owed or is authorized to take the stolen property. For example, the
employee who was denied reimbursement, when claims for mileage were submitted long after the allowable deadline, may feel justified in helping himself to some items from the corporate storage facility. In the second technique, Claim of Relative Acceptability, the violator rationalizes that an act is acceptable because the company knows that “everyone is doing it” and is looking the other way. If others are committing the same act and the company is not prosecuting or attempting to stop the action, it has tacitly given approval to the act as acceptable. This is the “unwritten rule” justification.

The value of these nine defined rationalization techniques, for the purpose of this study, is that they provide a means of quantifying the relative fraud risk within school districts without the danger of respondent self-incrimination or damage to district reputation. This is done through the use of rationalization scales (Ball, 1973; Minor, 1980). Typically in these scales, respondents are first presented with a detailed description of a fictional actor committing an unethical or illegal act. This is followed by a series of excuses (rationalizations or justifications) about why the person in the scenario should not feel guilty about his/her actions. These excuses employ one or more of the rationalization techniques as described above, depending on the focus and needs of the research being conducted. Respondents are then asked to express a level of agreement or disagreement with each of the rationalization statements, resulting in quantitative measures.
Since Sykes and Matza developed their original Theory of Neutralization to explain the behavior of juvenile delinquents, it seems important at this point to address the application of these techniques to other deviant behaviors by other perpetrators, including acts of fraud. It should be noted that numerous researchers have justified the application of these techniques to a wide range of other behaviors and situations including adult acts of violence (Agnew, 1994), elder abuse (Tomita, 1990), genocide (Alvarez, 1997), illegal use of fireworks (Buzzell, 2005), mass indoctrination (Hazani, 1991), drinking behavior (Dodder and Hughes, 1993), deer poaching (Eliason and Dodder, 1999), shoplifting (Cromwell, 2003) and professional ethics violations (Gauthier, 2001). Specific to the research proposed here, there is strong supporting evidence that the rationalization techniques described are equally applicable to the behaviors associated with white-collar crime (Benson, 1985; Cameron, 1964; Dabney, 1995; Thurman, St. John, and Riggs, 1984; Gibbons, 1971; Shapiro, 2003; Fritsche, 2002; Hollinger, 1991).
III. **Methodology**

From the review of existing literature earlier herein, it was shown that fraud requires the coming together of *opportunity*, *motive* and *rationalization*. Analysis revealed that mechanisms to reduce opportunity and motive in public schools are currently required to be in place by legislation and sound auditing practices. For those reasons, strategies associated with reduced rationalization (the missing element) form the exclusive focus here in the effort to provide new tools for fraud prevention in the public schools.

A. **Research Questions**

As has been noted previously, the fraud reduction strategies under discussion thus far all come from research in the corporate setting. There is little existing research indicating the presence or the effectiveness of such strategies in an educational organization.

The first goal, therefore, of this research study was to estimate how many public school districts in New York State were employing the various non-mandated fraud-reduction (rationalization-reduction) strategies. The value of this exploratory research goes far beyond the scope of this study, in that it can serve as an important benchmark for any future studies of fraud in educational organizations.
Having gained current data about the presence or absence of fraud reduction strategies in school districts, the next logical questions might ideally involve the relationships between the presence or absences of these strategies and the measure of actual fraud occurrences. Unfortunately, this type of inquiry nearly always brings methodological obstacles. The first of these challenges, discussed in detail previously (at the end of Section II. B.), involves the well-documented fact that incidents of fraud often go undetected or, if discovered, are grossly underreported (Saari, 1987). In addition, issues of respondent self-incrimination traditionally handicap any study involving an actual or projected fraud occurrence. For these reasons, this study’s focus on rationalization, one of the necessary and sufficient elements of fraud, brings added methodological benefit.

From the criminology literature came the concept that rationalization occurs through the use of nine specific techniques. The second goal of the study, therefore, was to ascertain the nature of the relationship, if any, between the existence of the ten specified fraud reduction strategies in the educational workplace and the level of employee acceptance of the various rationalization techniques, considered individually and in combination. The value of this type of investigation lies in the theorized relationship between rationalization and actual fraud occurrence, given the difficulty of measuring the fraud occurrence directly. Research provides us with evidence that there is a strong link between
actual criminal behavior and an individual’s attitudes about crime in general and fraud specifically (Bem 1970; Akers 2007; Hessing 1988).

To summarize the two research questions:

1. To what extent is each of the fraud reduction strategies under consideration being practiced in New York State public school districts?

2. What is the nature of the relationship, if any, between the ten fraud reduction strategies, individually and collectively, and employee acceptance of the nine rationalization techniques, individually and collectively as a measure of district fraud risk?

B. Sampling and Data Collection

The population under consideration consisted of all K-12 public school districts in New York State, excluding New York City. Because of their unique administrative characteristics and organizational structures, the New York City public schools were not included. It should also be noted that the defined population excluded private, parochial and charter schools, as well as BOCES run schools and Special Act districts.

From the defined population (N= 639), a sample of 90 school districts was selected through the use of random number generation. A sample size of n=90 was considered sufficient to produce a representative set of data after careful consideration of the respondent pool, proposed survey delivery method, and subject matter (McMahon, 2001; Kaplowitz et al., 2004; Yun and Trumbo, 2000).
Superintendents of districts included in the random sample were contacted by postal mail with email follow-up. The mailings provided information about the study, as well as the opportunity for the superintendent to withdraw his/her district from participation. Six superintendents chose to remove their districts from the study. Employees in the remaining 84 districts were contacted in late January 2012 via email. They were given basic information concerning the study, the voluntary nature of their participation (or lack thereof), and were directed to a web-based survey. These contacts resulted in 1131 employees from 63 school districts logging on to the survey site. Online data collection continued throughout the Spring 2012 semester, closing at the end of May.

The survey instrument consisted of three sections, designed to collect information about employee demographics, district practices, and employee attitudes respectively. The survey also elicited encoding information, allowing individual responses from the same district to be grouped together for multi-level analysis while at the same time protecting the identity of the district and the respondent.

The full survey questionnaire appears in Appendix A. The survey format, including electronic delivery and question design, was guided by a number of existing research studies investigating rationalization (Buzzell, 2005; Copes, 2003; Cromwell, 2003; Eliason, 1999; Hollinger, 1991; Piquero et al, 1996; Dabney, 1995; Dodder and Hughes, 1993; Cameron, 1964). The specific questions in the third section of the survey, which gathered rationalization data, were based on “Ball’s
Neutralization Scale” (Ball 1973), with modifications created by Minor (1980).

The fictional scenarios (typical of any neutralization scale) were designed here to portray situations reflective of a public school setting. There were three in all: the first depicted the removal of school equipment for personal use (theft); the second, depicted questionable employee absences (abuse of leave time); and the third depicted improperly processing new supplies (falsifying purchasing documents). The characters presented were school employees of unspecified job titles. Each of the three scenarios employed all nine of the rationalization techniques. This produced a total of 27 rationalization questions in the survey. Using a 5-point Lickert scale, respondents were asked to indicate a level of agreement or disagreement (or neither) with reasons as to why the fictional actor should not feel guilty about the behavior depicted in the scenario. The Key Code in Appendix B provides detailed information about the correlation between each survey question and its specific rationalization technique.

In addition to this employee level data file produced by the survey responses, another district-level file was created manually using publicly available data published by the New York State Education Department regarding school district demographics (NYSED, OMS, FARU, November 27, 2012; November 14, 2012). Data included student enrollment figures and various standardized district wealth measures.
C. The Design of the Research Model

The first of the two research questions is exploratory in nature, and requires a fairly straightforward approximation of the number of school districts in New York State employing ten specified fraud prevention strategies. This was accomplished using the survey data (described above) collected from a random sample of districts. Statistically, the question involves estimating the values for strategy variables $X_1 - X_{10}$, within the defined population of public school districts in New York State (N= 639), from the observed values of $x_1 - x_{10}$ in the sample districts (n=56). The result is a set of confidence intervals estimating the implementation level for each strategy within the population of public school districts in New York State.

The conceptual model for the second of the two research questions was based on the hypothesis that, within a school district, one or more of a set of ten fraud reduction strategies could be shown to have a negative relationship with one or more of a set of nine employee rationalization techniques, considered individually, in groups, or in total. (Stated statistically, the null hypothesis asserts that there is no significant relationship between any of the fraud reduction strategies and any of the measures of employee rationalization, either individually or collectively.)
Outcome Variables

As noted previously in the literature section, the outcome variable constructs have their foundation in Neutralization Theory, whose principal argument is that otherwise law-abiding individuals free themselves from societal norms by engaging in one or more of a defined set of nine rationalization techniques, specifically:

- denial of responsibility
- metaphor of the ledger
- denial of victim
- defense of necessity
- denial of injury
- claim of entitlement
- condemning the condemner
- claim of relative acceptability
- appeal to a higher authority

(For full explanations and citations, see Section II. E. above.)

In the Neutralization Scale section of the survey, the purpose was to use these nine techniques to give employees the opportunity to express a level of acceptance for rationalization. These employee attitudes form the measures used to quantify the concept of fraud risk for a school district. In the survey, each of the nine rationalization techniques is presented in each of three scenarios, resulting in 27 rationalization items. One set of rationalizations (nine items) is related to theft, another set to abuse of time, and the final set to falsifying documents.
In keeping with standard practice when using neutralization scales (Ball, 1973; Minor, 1980), the 27 individual items, in addition to being considered individually, are combined to form a number of different “indexed” variables. In this study, the design provides for a Theft, an Abuse of Time, and a Falsifying Documents indexed variable. The value of each is calculated as the sum of the nine rationalization technique items from each scenario. Likewise an indexed variable for each rationalization technique can be calculated from the technique’s three appearances in the survey (once in each scenario). Finally, an “All Rationalizations” indexed variable is created from the sum of all 27 of the rationalization items.

Independent Variables

As noted in the discussion of the first research question, the list of ten fraud prevention strategies, extracted from the business management literature (see Section II. D. above), serve to structure all of the independent or predictor variables whose effect can be considered both individually and in combination. By way of review, the ten strategies are:

- well publicized hotline (whistle-blowing mechanism),
- fraud prevention presented as a district priority,
- formal employee Code of Conduct, Code of Ethics, or ethics training program,
- district leaders exhibiting highest levels of integrity,
- employees being respected and treated fairly,
- positive work environment,
- ethical behavior being rewarded,
- district values clearly articulated,
- organizational culture fostering honesty,
- belief that offenders will be prosecuted.

In the first section of the survey, employees were presented with a statement declaring that a specific strategy was present in their district. For example, “My district has an organizational culture that fosters honesty.” The respondent then expressed agreement, disagreement or neither on a 5-point scale. Thus, there are ten “employee level” variables whose values are taken directly from the survey responses. These measure individual employee perceptions.

The research questions, however, are concerned with “district-level” implementation of the strategies. In the survey, respondents provided coding information that allowed employee responses from the same district to be grouped together. The collective responses of district employees determined whether or not a district had effectively implemented a specific strategy. If more than 50% of a district’s employees answered that they “agree” or “strongly agree” with the strategy statement, the district was deemed to have implemented that strategy. Although this simple criteria might be more stringent than using a
measure of central tendency, it was judged more meaningful, given that the measure (a single Lickert question) was non-scalar and not zero-based, and the median choice was labeled “neither agree nor disagree.” The result was 10 dichotomous district-level variables indicating that the strategy was either present (1) or absent (0) in the district.

In the discussion of the first research question, the focus was on the number of districts implementing a specific fraud prevention strategy. A related, inverse question is also of concern in the study. Rather than determining how many sample districts employed a specific strategy, here the interest is in how many strategies were employed within a specific sample district. As with the outcome variables, an indexed predictor variable can be calculated. Its value is the sum of values for the 10 dichotomous, district-level, strategy variables above, providing a count of how many of the ten strategies were effectively implemented by the district.

Predictor & Outcome Variable Relationships

The second of the research questions addresses the relationship between district strategy implementation and employee rationalization. The issue of multiple units of analysis (individual employees vs. school districts) is addressed through the use of Hierarchical Linear Modeling. This allows for the type of two-level design describe herein, where employees are nested within their respective school districts.
In considering the specific hypotheses of the second research question, the research design begins by examining the relationship between each of the ten independent, district-level, strategy variables and each of the 27 rationalization items from the survey. Then, making use of the indexed variables, the relationship between the fraud prevention strategies and - a) the nine rationalization strategies, b) the violation types, and c) overall rationalization need to be considered.

Thus:

- Is there a relationship between the presence of an anonymous reporting mechanism and denial of responsibility? theft?
  
  denial of victim?
  
  abuse of time?
  
  denial of injury?
  
  falsifying docs.?
  
  etc.
  
  overall rationalization?

- Is there a relationship between the presence of an employee code of conduct and denial of responsibility? theft?
  
  denial of victim?
  
  abuse of time?
  
  denial of injury?
  
  falsifying docs.?
  
  etc.
  
  overall rationalization?

- Is there a relationship between a positive work environment and denial of responsibility? theft?
  
  denial of victim?
  
  abuse of time?
Following the above pattern to its conclusion results in the consideration of 130 potential relationships. Results of this consideration are presented later herein in the Data Analysis section.

In addition, the number of strategies a district employs must be investigated for potential relationships with all of the outcome variables in a similar manner as above.

Control Variables

The model was designed to account for the effect of two different sets of control variables: district demographic characteristics and employee demographic characteristics. Employee information was collected as part of the online survey; district information was harvested from publicly available reports issued by the New York State Education Department.

Hollinger and Clark (1983, 57) provide convincing evidence for a strong correlation between the age of the employee and employee theft. Further, they hypothesize that the reason for this relationship is because younger employees have less tenure with the organization resulting in lower levels of loyalty.

Results of a study by the Association of Certified Fraud Examiners (AFCE 2004,
confirm the Hollinger and Clark hypothesis, and also indicate differences in fraud statistics based on gender, education level, salary, and position within the organization. Therefore, for the purposes of this proposed study, it seemed important to include the following demographic information for employees: gender, age, length of employment with the district, level of education, salary, and position within the organization.

Respondent demographic information was gathered through constructed response survey questions. Age, length of employment and salary are represented by ordinal categorical variables. Categories are the same as those used in the ACFE and Hollinger and Clark studies mentioned above, as well as in the Wells (1997) publication. The reasons for the decision to not use continuous numerical data for these items were three-fold. First, there was no need for more detailed information. Second, it was presumed that respondents would likely require less time to select a category than to remember exact salary figures or years of service. Last, and perhaps most important, categorical responses helped eliminate the possibility that respondents in smaller school districts (with fewer employees) might be identifiable through the provision of more detailed demographic information.

Turning to organizational controls, Wells’ (1997, 41) analysis reveals that small organizations are substantially more likely to be victims of employee fraud than larger organizations. The data showed that smaller organizations have fewer employees and therefore less opportunity for segregation of the various
financial functions. The result is fewer checks and balances within the organization. Further, many smaller organizations maintained a “family” atmosphere, where personal trust levels are high. Wells’ research revealed that outside auditors are often viewed as an unnecessary expense. It was hypothesized that a potential perpetrator might view the risk of fraud detection as being very low in such an organization.

Wells (1997) has also found that employee fraud is higher in those businesses with reports of higher profit margins. Cashed-strapped organizations tend to keep a very close watch on every asset, while those with more comfortable profit margins tend to be less vigilant. The fraud perpetrator often considers that a wealthy organization “will never miss it.”

These organizational characteristics (size and wealth) for school districts were represented using data maintained by the New York State Education Department and published by its Office of Management Services. The Property Tax Report Card (May 15, 2012) contains, among other information, the most recent student enrollment data, as well as the total annual budget for each school district in the state. For purposes of this study, student enrollment is being used as a measure of organizational size. The district per pupil expenditure is being used as one of the measures of district wealth. The State Education Department’s “Wealth Measures” report (November 14, 2012) provides data about the relative wealth of the school district and the community in which the school district is located. The Pupil Wealth Ratio (PWR) is an expression of the property value
wealth behind each student. The higher the PWR, the greater is the district’s ability to generate funds from local property taxes. The Alternate Pupil Wealth Ratio (APWR) is a similar calculation that makes use of the adjusted gross income of district residents as an indicator of the community’s relative ability to pay school taxes. These measures are indexed to the New York State average for each year, meaning a value of 1 is equal to the state average (NYSED, OMS, FARU, November 27, 2012). Both the PWR and the APWR were considered for use as wealth control variables for districts included in this research study.
IV. **Data Analysis**

Online survey data was downloaded as an SPSS employee-level file. The school district demographics, obtained from published New York State Education Department reports (November 14, 2012; May 15, 2012), formed an additional district-level data file. Statistical analysis was conducted using SPSS 11.0 for Mac OS X and HLM 6.06 for Windows 7.

**A. Response Rates**

Data collection procedures resulted in a better than average response rate and a representative sample. Of the 90 school districts randomly selected for the sample, a total of 6 (6.7%) were withdrawn from the study at the request of the superintendent, leaving 84 remaining districts. Of those, 63 (75%) were represented in the usable employee survey responses collected. This represents 70% of the original group of 90 districts selected.

A total of 1,131 individual school district employees logged in to the survey site. Of those, 59 individuals (5.2%) chose not to provide informed consent, and thus, never took the survey. A total of 118 respondents (10.4%) failed to complete a significant portion of the survey questions. There were 16 individuals (1.4%) who completed the survey, but failed to provide valid grouping information. This latter group of cases could not be included in that data set due to the multi-level analysis requirement that individuals be nested.
within groups (districts). The result was that 82.9% (955 by count) of the original 1,131 logins resulted in usable survey cases.

The multiple-level analysis being conducted on the data set also requires a minimum of 6 cases per Level 2 group. This dictated further editing of the data set. The frequency distribution revealed that, for the data set as described above, 7 of the 63 school districts had fewer than 6 employee respondents. This resulted in the removal of those 7 districts and their 17 individual employee cases. The final edited data set contains a total of 938 respondents from 56 school districts. The adjusted usable response rate thus becomes 82.9% for individuals, and 66.7% of the 84 school districts receiving survey invitations. This is 62.2% of the original 90 districts in the random sample. Even with these removals, the response rate remains high enough to suggest a representative sample.

Figure 4. Stem and Leaf Display: Number of Respondents Per District

<table>
<thead>
<tr>
<th>Stem Unit: 10</th>
<th>Number of districts: 56</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 6 6 7 7 7 7 7 7 7 7 7 8 8 8 8 8 8 8 8 9 9 9 9 9</td>
<td>56</td>
</tr>
<tr>
<td>1 0 0 0 0 0 1 1 1 1 2 2 2 3 3 3 4 4 4 6 6 7 8 8 9 9</td>
<td>56</td>
</tr>
<tr>
<td>2 0 2 2 3</td>
<td>56</td>
</tr>
<tr>
<td>3 2 3 8 9</td>
<td>56</td>
</tr>
<tr>
<td>4 2 3 7</td>
<td>56</td>
</tr>
<tr>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td>6</td>
<td>56</td>
</tr>
<tr>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>8</td>
<td>56</td>
</tr>
<tr>
<td>9</td>
<td>56</td>
</tr>
<tr>
<td>10 1</td>
<td>56</td>
</tr>
</tbody>
</table>
The stem and leaf display in Figure 4 above depicts the frequency
distribution of individual respondents across the 56 districts.
The range of values is between 6 and 101, with a median of 11 and a mode of 8.
Frequencies are clustered at the lower end of the range, with the value of 101
being an outlier.

B. Respondent Characteristics

The employee sample is predominantly female (74.6%). This is consistent
with recent research indicating that females comprise 84% of the teaching force
nationally (NCEI, 2011, 59). The slightly lower rate in our survey is likely caused
by the inclusion of support staff and administrators, job titles that historically
have higher male representation.

Figure 5. Job Title Distribution

![Job Title Distribution Chart]
Figure 5 above depicts the breakdown of Job Titles. For this survey variable, teaching staff comprises 74.7% of the total. The next largest group is support staff (10.4%). Administrators represent 6.3% of the total. Non-certified professional staff represented 1.2%, and the remaining 7.4% is “other.”

Figure 6 below shows the characteristics for the “Age Range” variable. The distribution is again consistent with other current research (NCEI, 2011, 59), with the majority of respondents being in the range of 36-55 (older employees of pre-retirement age).

Figure 6. Age Range Distribution

The distribution of the variable “Highest Education Level” is consistent with what one might expect, given the high percentage of teachers and administrators in the data set (for whom a master’s degree and continuing study are required to preserve certification).
The distribution for Highest Education Level, as seen in Figure 7, shows a total of 82% of respondents possessing a master degree or higher (46% with a master’s degree, and 36% with post graduate study). The remaining 18% is evenly divided between the other three categories: high school or less (6%), associates degree (6%), and bachelor’s degree (6%).

With respect to Length of Employment, the majority (52.3%) of respondents report being employed in their current districts for more than 10 years, approximately one-quarter (26%) for 5-10 years, 14.7% for 2-5 years, and 6.9% for less than 2 years. Figure 8 provides a visual representation of this distribution.
Figure 8. Length of Employment Distribution

Figure 9 shows the annual salary distribution for survey respondents. With respect to salary, 31% percent of respondents reported earning less than $50,000 per year.

Figure 9. Annual Salary Distribution
The majority (53.4%) reported earning between $50,000 and $100,000, leaving 15.6% of reporting earnings in excess of $100,000.

Attrition Analysis for Survey Cases

An analysis was conducted on the group of 33 substantially completed surveys that were dropped from the final data set (16 due to an absence of grouping data, and 17 due to a lack of sufficient responses from the same district). The group was 75.8% female. Teachers comprised 69.7% of the cases; support staff 15.2%; administrators 3%; and “other” was 12.1%. The age ranges in the attrition group were as follows: 24.2% were 26-35; 33.3% were 36-45; 24.2% were 46-55; and 18.2% were older than 55. Although these statistics are not identical to those detailed above for the data set, they do show similar patterns, and the differences are not large enough to have introduced significant bias.

C. District Characteristics

The 56 districts in the survey sample represent all types and categories of K-12 school districts within the state population (e.g. city school districts, central school districts, and union free school districts; urban districts, suburban districts, and rural districts).
The study employs two types of control variables at the district level: size and wealth. District size is being indicated by total student enrollment. Figure 10 above contains a histogram showing the frequency distribution of the values for student enrollment. The range of values is from fewer than 250 to more than 8,000 students. The distribution is positively skewed, with a mean of 2096.6 and a median value of 1288.

District wealth is represented by two different measures: Pupil Wealth Ratio (PWR) and Alternate Pupil Wealth Ratio (APWR). (For full explanations of these measures, see "Control Variables" in Section III above.)
As can be seen in Figure 11 above, the frequency distributions for the PWR and APWR variables are similarly shaped, with a slight positive skew. Values for PWR range from 0.2 to 9.8 with a mean of 1.15 and a median of 0.5. Values for APWR range from 0.3 to 4.2 with a mean of .97 and a median of 0.6.

The PWR and the APWR values, as published by the New York State Education Department, are indexed to the mean for the population of school districts in the state. For example, a value of .5 is half the state-wide mean and a value of 3.0 is three times the mean. Knowing that the population mean is equal to 1 provides another tool to help ascertain the degree to which the sample of school districts in the survey data is representative of the population.

Table 2 below shows the results of one-sample t-tests run with a test value of 1 (the population mean for both variables). From the first of the two grids of the table, we can see that the sample mean of the variable PWR (1.15) is slightly
higher than the population mean of 1. The sample mean of APWR (.974) is slightly lower than the population mean (also 1). These differences, however, are far smaller than the standard error.

Table 2. T-Test Results: Comparing Sample Means to Population Means

<table>
<thead>
<tr>
<th>One-Sample Statistics</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>Mean</td>
<td>Std. Deviation</td>
</tr>
<tr>
<td>Dist PWR</td>
<td>56</td>
<td>1.15279</td>
<td>1.779989</td>
</tr>
<tr>
<td>Dist APWR</td>
<td>56</td>
<td>.97427</td>
<td>.955324</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>One-Sample Test</th>
<th>Test Value = 1</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>t</td>
</tr>
<tr>
<td>Dist PWR</td>
<td>.642</td>
</tr>
<tr>
<td>Dist APWR</td>
<td>-.202</td>
</tr>
</tbody>
</table>

From the second grid of Table 2, the extremely high Significance values (.523 and .841) indicate that the differences between the sample and the population means are far from being significant at any level. The differences between the sample and the population are likely due to mere chance. In summary, the t-test provides additional strong evidence that the sample of school districts in the study is fairly representative of the population of school districts in New York State.
Attrition Analysis for Districts

As noted earlier, 34 (37.8%) of the districts in the original random sample of 90 were not represented in the final data set. An attrition analysis was performed to determine if their absence introduced any bias into the study at the district level. Simple examination revealed that the missing districts came from all regions of the New York State. The group included all types of districts: urban, suburban, and rural, as well as city, central and union free.

The size and wealth measures for the group of districts not included are remarkably consistent with those of the districts in the study’s data set. The histogram in Figure 8 below shows the frequency distribution for student enrollment, the measure of district size.

Figure 12. Attrition Analysis of District Size: Student Enrollment
Comparing Figure 12 (for missing districts) to Figure 10 (for included districts), the similarities become immediately apparent. The distributions both show a slightly positive skew and similar range. The study’s group of included districts shows a mean of 2,097 students and a standard deviation of 1900. The attrition group mean is 2,270 with a standard deviation of 2,129.

Figure 13. Attrition Analysis of District Wealth: PWR and APWR

The wealth measures for the two groups mirror each other even more closely. In comparing Figure 13 with Figure 11 above, we again see similar ranges with a slightly positively skewed distribution. In the included group of districts, the PWR mean and standard distribution is 1.15 and 1.78 respectively. For the missing districts, the PWR mean is 1.16 and the standard deviation is 1.52. Regarding the APWR measure, the included group shows a mean of .97 and a standard deviation of .96, and the omitted districts have a mean of 1.00 and a standard deviation of 1.64. It should be noted that neither group of districts
shows a mean for PWR or APWR significantly different from the New York State school district population mean of 1.00.

The conclusion drawn from the attrition analyses is that it is unlikely that significant bias was created in the sample data by either the deletion of the 33 employee cases (discussed earlier in Section B. of this chapter) or the absence of 38% of the districts from the original random sample.

D. Fraud Reduction Strategies

In the administered survey, employees were presented with a statement that a particular strategy was present in the district and then asked to indicate their level of agreement or disagreement on a five point Lickert scale. For the purpose of creating district-level dependant variables, a district was deemed to have effectively implemented a specific fraud reduction strategy if more than half of the respondents from that district expressed any level of agreement with the statement about the corresponding strategy. This option seemed to hold more merit than using one of the measures of central tendency with a non-scalar variable whose median value represented neither agreement nor disagreement.

The result was a set of group level dichotomous variables with a value of 1 indicating the presence of the strategy and a value of 0 indicating that the strategy has not been effectively implemented within the district. Table 3 below presents the resultant values occurring in the sample population (n=56). It is
immediately obvious that two of the strategies had fairly high levels of implementation. Approximately two-thirds of the districts (66.1%) had effectively created the organizational belief that those who commit fraud would be prosecuted. A Code of Conduct (or training program) for employees was in place in 37 of the 56 districts (66.1%).

<table>
<thead>
<tr>
<th>Fraud Reduction Strategy</th>
<th># Not Implementing</th>
<th># Implementing</th>
<th>% Not Implementing</th>
<th>% Implementing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Well publicized hotline</td>
<td>56</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Fraud prevention is a district priority</td>
<td>56</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>Code of conduct or Ethics training</td>
<td>19</td>
<td>37</td>
<td>33.9</td>
<td>66.1</td>
</tr>
<tr>
<td>Leaders exhibit integrity</td>
<td>38</td>
<td>18</td>
<td>67.9</td>
<td>32.1</td>
</tr>
<tr>
<td>Employees are respected and treated fairly</td>
<td>39</td>
<td>17</td>
<td>69.6</td>
<td>30.4</td>
</tr>
<tr>
<td>Positive work environment</td>
<td>34</td>
<td>22</td>
<td>60.7</td>
<td>39.3</td>
</tr>
<tr>
<td>Ethical behavior is rewarded</td>
<td>56</td>
<td>0</td>
<td>100</td>
<td>0</td>
</tr>
<tr>
<td>District values are clearly articulated</td>
<td>36</td>
<td>20</td>
<td>64.3</td>
<td>35.7</td>
</tr>
<tr>
<td>Organizational culture fosters honesty</td>
<td>34</td>
<td>22</td>
<td>60.7</td>
<td>39.33</td>
</tr>
<tr>
<td>People who commit fraud will be prosecuted</td>
<td>19</td>
<td>37</td>
<td>33.9</td>
<td>66.1</td>
</tr>
</tbody>
</table>

The results in Table 3 also show that there was no evidence of effective implementation for three of the ten fraud reduction strategies. There were no districts where the majority of employees felt that fraud prevention was a district priority or that ethical behavior would be rewarded. There were also no districts
where a well-publicized hotline was in place. As a point of clarification, many of
the sample districts do, in fact, have a reporting mechanism publicly accessible
on the district’s website. Some are fairly obvious, while others are buried
beneath multiple layers of content. The point to be taken from the survey results
is that, in several of these sample districts, employee respondents were
apparently unaware of the existence of such mechanisms. Hence, the districts
will be deemed, for purposes of our study, to have not implemented a well-
publicized hotline.

Approximately 39% of the sample districts maintain an organizational
culture that fosters honesty. A positive work environment is experienced in
about 39% of the districts. District values are clearly articulated in an estimated
36% of the districts. School leaders are perceived to exhibit the highest levels of
integrity in about 32% of the districts. The strategy of respecting employees and
treating them fairly was effectively practiced in about 30% of school districts.

The analysis of the data was also able to reveal information about how
many strategies were found in each individual district. As detailed in the
methodology section, the ten dichotomous district-level strategy variables were
combined to form an index variable representing the total number of strategies
present in any given sample district. This transformation, creating the new index
variable (SUMSTRAT), met the requirements for internal consistency and
reliability, as can be seen from the Cronbach’s Alpha coefficient in the upper end
of the very good range ($\alpha = .8878$).
The frequency distribution can be seen in Table 4 below. The variable has a potential range of values of 0-10 (from no strategies implemented to all ten strategies implemented). Three of the districts in the sample employed none of the fraud prevention strategies. Half of the districts were estimated to have employed from 0 to 2 of the ten strategies. From Table 4, it can also be seen that approximately 21% employed 3 or 4 strategies; approximately 13% employed 5 strategies simultaneously; approximately 16% employed 6 or 7 strategies. There were no districts employing more than 7 of the 10 strategies under consideration.

Table 4. Number of Strategies per District

<table>
<thead>
<tr>
<th>Total # Strategies</th>
<th>Frequency (# of districts)</th>
<th>Percent of districts</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>3</td>
<td>5.4</td>
<td>5.4</td>
</tr>
<tr>
<td>1</td>
<td>12</td>
<td>21.4</td>
<td>26.8</td>
</tr>
<tr>
<td>2</td>
<td>13</td>
<td>23.2</td>
<td>50.0</td>
</tr>
<tr>
<td>3</td>
<td>7</td>
<td>12.5</td>
<td>62.5</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>8.9</td>
<td>71.4</td>
</tr>
<tr>
<td>5</td>
<td>7</td>
<td>12.5</td>
<td>83.9</td>
</tr>
<tr>
<td>6</td>
<td>4</td>
<td>7.1</td>
<td>91.1</td>
</tr>
<tr>
<td>7</td>
<td>5</td>
<td>8.9</td>
<td>100.0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>10</td>
<td>0</td>
<td>0</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>56</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
Estimation of Strategy Use in the Population

As detailed previously, the first of the two principal research questions involves estimating the values for fraud reduction strategies variables $X_1 - X_{10}$ within the population of public school districts in New York State ($N=639$), from the sample statistics ($x_1 - x_{10}$; $n=56$). Having met the prerequisite of an acceptable response rate and a representative sample, the goal is to use the sample data to express an approximation of how many districts within the state are currently employing each of the ten fraud reduction strategies.

Three of the strategies have no variation in the sample data. Fraud Prevention Priority, Well-Publicized Hotline, and Organizational Values were reported as not having been implemented in any districts in the sample. This supports the approximation that virtually no districts in the state have implemented these strategies effectively. For the other strategies, the calculation of confidence intervals is designed to account for the sampling error in the data. This is the degree of uncertainty created because the estimates are based on a given sample rather than the whole population of districts. A 95% interval basically means that in 19 out of 20 random samples of this size drawn from the population of school districts in New York State, we would expect the confidence interval to include the statistic if all districts could have been used.

From the data in Table 5, it is estimated with 95% certainty that the percentage of districts employing a code of conduct, and the percentage of districts that make know they will prosecute occurrences of fraud, is within the
range of 53.3% and 78.9%. With a known population of 639 districts in the state, that translates approximately to between 340 and 504 districts. A culture of honesty and a positive work environment are estimated to occur in between 26.1% and 52.5% of the districts, again with 95% certainty. The percentage of districts in which employees are respected and treated fairly is approximately between 17.9% and 42.8%.

Table 5. Population Estimates for District-Level Strategy Variables

<table>
<thead>
<tr>
<th>Strategy</th>
<th>Mean</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Lower</td>
</tr>
<tr>
<td>Code of Conduct</td>
<td>0.6607</td>
<td>0.5328</td>
</tr>
<tr>
<td>Culture of Honesty</td>
<td>0.3929</td>
<td>0.2609</td>
</tr>
<tr>
<td>Employees Respected</td>
<td>0.3036</td>
<td>0.1793</td>
</tr>
<tr>
<td>Leader Integrity</td>
<td>0.3214</td>
<td>0.1952</td>
</tr>
<tr>
<td>Positive Work Environ.</td>
<td>0.3929</td>
<td>0.2609</td>
</tr>
<tr>
<td>Prosecute Fraud</td>
<td>0.6607</td>
<td>0.5328</td>
</tr>
<tr>
<td>Org. Values Articulated</td>
<td>0.3571</td>
<td>0.2277</td>
</tr>
<tr>
<td>Fraud Prevention Priority</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Well Publicized Hotline</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Ethical Behavior Rewarded</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

“Leaders exhibiting the highest levels of integrity” is expected to occur in a percentage of districts in the range of 19.5% to 44.8%. Organizational values are being clearly articulated in a percentage of districts within the approximate range of 22.8% to 48.7%. All these estimates are with 95% certainty.

Figure 14 below contains a visual representation of the numerical data contained in Table 5. The graphing of the confidence intervals and mean values makes very clear the relatively low levels of estimated occurrence for most of the
strategies. There are only two strategies likely to occur in the majority of districts: Code of Conduct and Prosecution of Fraud. Most values are expected to fall below a 50% implementation rate (indicated by the vertical dotted line). The three strategies that have no sample variation are constants, and therefore have no confidence interval range.

Figure 14. 95% Confidence Intervals: Population Estimates for Strategies

E. Rationalization Variables

There are 27 rationalization variables whose values were directly determined by survey responses. The nine rationalization techniques each appear in three different fictional settings that depict theft, abuse of time and
falsifying business documents. These are outcome (dependent) variables in the research design. Values for the rationalization variables range from 1 to 5 based on the level of disagreement (lower value) or agreement (higher value) with a rationalization statement presented to the respondent. A respondent is deemed to have accepted a rationalization when entering a choice of 4 (agree) or 5 (strongly agree) for any of the 27 specific rationalization survey questions. An analysis of the results indicates that a majority of respondents (56.6%) agreed with one or more rationalizations in their overall survey responses. The remaining 407 of the 938 respondents (43.4%) indicated no rationalization.

Table 6. Total Number of Rationalizations Per Respondent

<table>
<thead>
<tr>
<th>Total Number of Rationalizations Accepted</th>
<th>Frequency</th>
<th>Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>407</td>
<td>43.4</td>
<td>43.4</td>
</tr>
<tr>
<td>1</td>
<td>149</td>
<td>15.9</td>
<td>59.3</td>
</tr>
<tr>
<td>2</td>
<td>124</td>
<td>13.2</td>
<td>72.5</td>
</tr>
<tr>
<td>3</td>
<td>63</td>
<td>6.7</td>
<td>79.2</td>
</tr>
<tr>
<td>4</td>
<td>46</td>
<td>4.9</td>
<td>84.1</td>
</tr>
<tr>
<td>5</td>
<td>31</td>
<td>3.3</td>
<td>87.4</td>
</tr>
<tr>
<td>6</td>
<td>32</td>
<td>3.4</td>
<td>90.8</td>
</tr>
<tr>
<td>7</td>
<td>23</td>
<td>2.5</td>
<td>93.3</td>
</tr>
<tr>
<td>8</td>
<td>20</td>
<td>2.1</td>
<td>95.4</td>
</tr>
<tr>
<td>9</td>
<td>14</td>
<td>1.5</td>
<td>96.9</td>
</tr>
<tr>
<td>10</td>
<td>7</td>
<td>.7</td>
<td>97.7</td>
</tr>
<tr>
<td>11</td>
<td>5</td>
<td>.5</td>
<td>98.2</td>
</tr>
<tr>
<td>12</td>
<td>9</td>
<td>1.0</td>
<td>99.1</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>.1</td>
<td>99.3</td>
</tr>
<tr>
<td>14</td>
<td>2</td>
<td>.2</td>
<td>99.5</td>
</tr>
<tr>
<td>15</td>
<td>3</td>
<td>.3</td>
<td>99.8</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>.2</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>938</td>
<td>100.0</td>
<td></td>
</tr>
</tbody>
</table>
Table 6 above details the frequency distribution for the total number of rationalization statements agreed to by each respondent. Of the 56.6% accepting of rationalization, approximately 29% of respondents accepted 1 or 2 rationalizations, and about 11% of respondents accepted 3 or 4 rationalizations. Approximately 9% of respondents accepted 5, 6 or 7 rationalizations. The remaining 6.7% of respondents accepted a number of rationalizations ranging from 8 to 18.

In that each respondent was given 27 opportunities to agree with rationalization statements, from the table above we can see that approximately 3% of respondents agreed with rationalization in at least one-third of the opportunities presented to them. By multiplying each “total number of rationalizations accepted” by its frequency and summing the resulting products, we see that 57% of respondents who agreed with rationalizations did so a total of 1,919 times in our survey.

In examining the specific rationalization techniques agreed to by survey respondents, it can be seen that each of the nine techniques is represented. In Table 7 below, each technique is listed, followed by the frequency of use, and the number and percentage of the 938 survey respondents who agreed with that specific technique. One can see that the most commonly used technique was “appeal to a higher authority.” In this technique the questionable act is justified because it is perceived to satisfy a greater obligation than adherence to the law or generally accepted ethical norm. More than 40% of district employees in the
survey agreed with this rationalization technique in one or more of the three scenarios.

Table 7. Rationalization Techniques: Frequency of Acceptance

<table>
<thead>
<tr>
<th>Rationalization Technique</th>
<th># of Occurrences</th>
<th># Respondents</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Denial of responsibility</td>
<td>97</td>
<td>87</td>
<td>9.3%</td>
</tr>
<tr>
<td>Denial of victim</td>
<td>227</td>
<td>203</td>
<td>21.6%</td>
</tr>
<tr>
<td>Denial of injury</td>
<td>177</td>
<td>151</td>
<td>16.1%</td>
</tr>
<tr>
<td>Condemning the condemner</td>
<td>107</td>
<td>98</td>
<td>10.4%</td>
</tr>
<tr>
<td>Appeal to a higher authority</td>
<td>438</td>
<td>359</td>
<td>40.4%</td>
</tr>
<tr>
<td>Metaphor of the ledger</td>
<td>139</td>
<td>119</td>
<td>13.7%</td>
</tr>
<tr>
<td>Defense of necessity</td>
<td>278</td>
<td>247</td>
<td>26.3%</td>
</tr>
<tr>
<td>Claim of entitlement</td>
<td>344</td>
<td>280</td>
<td>29.9%</td>
</tr>
<tr>
<td>Claim of relative acceptability</td>
<td>112</td>
<td>109</td>
<td>11.6%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,919</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The second most common technique, “claim of entitlement,” was accepted by nearly 30% of respondents. In this technique, the violation is seen as a satisfaction of something owed to the violator. The least frequently used techniques are “denial of responsibility” (9.3%) and “condemning the condemner” (10.4%). (For fuller descriptions of each of the nine techniques, see Section IV. B. above.)

When examining survey results in relation to the three different fraud scenarios presented, it can be seen that agreement with rationalizations about “abuse of time” are the most frequent, followed by “theft” and “falsifying business documents” (in that order). Table 8 which follows shows not only the number of occurrences for each type of fraud violation, but gives data on the
number of rationalizations agreed with per respondent. It also includes the total number of rationalization events for each of the three fraud types.

Table 8. Rationalizations Per Respondent by Violation Type

<table>
<thead>
<tr>
<th>Number of Rationalizations</th>
<th>Abuse of Time</th>
<th>Theft</th>
<th>Falsify Docs.</th>
<th>Abuse of Time</th>
<th>Theft</th>
<th>Falsify Docs.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
<td>#</td>
<td>%</td>
</tr>
<tr>
<td>0</td>
<td>503</td>
<td>53.6</td>
<td>684</td>
<td>72.9</td>
<td>833</td>
<td>88.8</td>
</tr>
<tr>
<td>1</td>
<td>178</td>
<td>19.0</td>
<td>132</td>
<td>14.1</td>
<td>62</td>
<td>6.6</td>
</tr>
<tr>
<td>2</td>
<td>85</td>
<td>9.1</td>
<td>52</td>
<td>5.5</td>
<td>23</td>
<td>2.5</td>
</tr>
<tr>
<td>3</td>
<td>50</td>
<td>5.3</td>
<td>29</td>
<td>3.1</td>
<td>9</td>
<td>1.0</td>
</tr>
<tr>
<td>4</td>
<td>336</td>
<td>35.8</td>
<td>16</td>
<td>1.7</td>
<td>8</td>
<td>0.9</td>
</tr>
<tr>
<td>5</td>
<td>36</td>
<td>3.8</td>
<td>8</td>
<td>0.9</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>6</td>
<td>20</td>
<td>2.1</td>
<td>4</td>
<td>0.4</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>7</td>
<td>10</td>
<td>1.1</td>
<td>4</td>
<td>0.4</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>8</td>
<td>14</td>
<td>1.5</td>
<td>4</td>
<td>0.4</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>9</td>
<td>6</td>
<td>0.6</td>
<td>5</td>
<td>0.5</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td>Total Respondents</td>
<td>938</td>
<td>100.0</td>
<td>938</td>
<td>100</td>
<td>938</td>
<td>100.0</td>
</tr>
<tr>
<td>Total Resp. &gt;0</td>
<td>435</td>
<td>46.4</td>
<td>254</td>
<td>27.1</td>
<td>105</td>
<td>11.2</td>
</tr>
<tr>
<td>*Total Incidents (1,919)</td>
<td>1178</td>
<td>556</td>
<td>185</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Total Incidents = Sum of all products (No. of Rationalizations x Frequency)

Given that each survey respondent had nine opportunities (one for

We previously saw (in Table 7) a total of 1,919 rationalization occurrences in the survey data. Here in Table 8, it can be seen that 1,178 of them (61.4%) involve ‘abuse of time,” 556 of them (29%) involve “theft,” and the remaining 185 rationalizations (9.6%) involve “falsifying documents.”

Regarding “abuse of time,” 19% of respondents accepted a single rationalization; approximately 14% accepted 2 or 3 rationalizations; and 13% accepted 4 or more rationalizations. In the “theft” scenario, approximately 14%
of respondents accepted a single rationalization; 8.6% accepted 2 or 3 rationalizations; and 4.4% accepted 4 or more rationalizations. In the “falsifying documents” analysis, 6.6% of employee respondents accepted a single rationalization; 3.5% accepted 2 or 3 rationalizations; and 1.2% accepted a number of rationalizations from 4 to 7 inclusive. These low rates are largely due to the fact that only 11.2% of respondents accepted any rationalizations regarding Falsifying Documents.

As we consider rationalization response patterns, it is also possible to examine the distribution patterns by sample district grouping. Table 9 below provides a summary of the crosstabulation indicating the percent of respondent employees in a district by rationalization acceptance frequency. Districts appear in descending order of “zero employee acceptance” of rationalization.

Looking at the first district in the table (#8585), we see that 90% of the respondents from that district accepted none of the rationalizations presented to them in the survey. The remaining 10% accepted only 1, 2 or 3 rationalizations of the 27 presented in the survey. As mentioned previously, there were no respondents accepting of more than 18 rationalizations (of the 27).
From the standpoint of a school district official, it may be troubling to note that there were no districts free from rationalization acceptance, our proxy measure of potential district fraud risk. Only 14 of the 56 districts (25%) had “0 rationalization” rates greater than 50% of respondents. That means that 75% of the sample districts showed at least half of their respondent staff accepting of
fraud rationalization at some level. In 21 of 56 districts (37.5%), there were employees who agreed with rationalization statements more than a third of the time they were presented (≥10 column).

F. Preliminary Bivariate Analysis

The preliminary examination of the relationship between the control variables and the frequency of employee rationalization makes use of a series of Kruskal-Wallis tests. The Kruskal-Wallis test was deemed to be more appropriate than the more commonly used ANOVA due to the “non-scalar” nature of the variable values and their “non-normal” frequency distributions.

The results from these tests indicated that education level was associated with the greatest variation in the frequency of rationalization. Table 10 below shows the Kruskal-Wallis results for the five groups based on the highest level of education completed, indicating the mean rank for respondents of various education levels. The highest mean score was for those with a Masters degree as their highest level of education (505.4), followed by those with an Associates degree (454.9). The mean test statistic for respondents with post-graduate study ranked third (452.7), followed by high school or less (397.6), and Bachelors level (382.6). The high value for the accompanying test statistic ($H^2 = 20.90$, df=4, $p=.000$) indicates that these differences are highly significant, despite the lack of
directionality. The differences in overall rationalization frequency between these groups likely did not occur by chance alone.

Table 10. Mean Rank of Total Rationalizations by Education Level

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Mean Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School or less</td>
<td>397.6</td>
</tr>
<tr>
<td>Associates Degree</td>
<td>454.9</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>382.6</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>505.4</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>452.7</td>
</tr>
</tbody>
</table>

Education was the only control variable to show significant differences in rationalization about theft ($H^2 = 17.98$, df = 4, $p = .001$), with Masters and Post Graduate level showing significantly higher mean scores. Education level is also associated with significant differences in the frequency of the most commonly use rationalization technique, “appeal to a higher authority” ($H^2 = 18.60$, df = 4, $p = .001$), and the next most frequent, “claim of entitlement” ($H^2 = 17.61$, df = 4, $p = .001$). There was also a highly significant variation between education levels in the overall frequency of rationalization (across all techniques and scenarios) ($H^2 = 20.90$, df = 4, $p = .000$). For all these situations, Masters level employees showed the highest mean rank scores.

Age, job type and gender showed significance in only limited and specific rationalization areas. There was significant variation between males and females
in the use of “appeal to a higher authority” ($H^2 = 10.94$, $df = 1$, $p = .001$), and “denial of responsibility” ($H^2 = 10.99$, $df = 1$, $p = .001$) techniques. Males used both techniques more frequently than females. Among the various job categories, the only significant difference is in the use of the “appeal to a higher authority” rationalization ($H^2 = 13.40$, $df = 3$, $p = .004$). Here the highest mean usage is by professional or supervisory staff, followed by teaching staff, support staff, and administrators, in that order. There is a highly significant difference between age groups ($H^2 = 24.30$, $df = 4$, $p = .000$) in the frequency of rationalizations about abuse of time. The association is directional, with the youngest employees having the highest mean rank score and the employees in the oldest age group showing the smallest tendency to agree with rationalizations about abuse of time.

Results from the Kruskal-Wallis tests also indicated no significant variation in employee rationalization based on either salary range or length of employment. It should be noted that these findings (from an educational setting) stand in contrast to research from the business setting (AFCE 2004, 30-34), where salary and length of employment are both seen as significant factors in fraud occurrence. While these findings mean little in isolation, their value lies in helping to inform the construction of the regression models discussed later herein.

The correlation between the 10 fraud prevention strategies and the 27 rationalization opportunities was examined using Spearman’s rho, since the
variables under scrutiny are all individual Likert items (single questions).
Approximately 96% of the 270 possible interactions produced significant results
at the $p \leq .005$ level, not noteworthy given the similarity of the individual
rationalization techniques and scenarios. The resultant coefficients indicate
negligible correlations ($-.280 \leq r_s \leq -.090$). The only point of interest to be taken
from these test statistics is the fact that all of the coefficients were negative
values. This suggests the possibility of a general tendency for rationalization to
decrease as the presence of fraud prevention strategies increase, especially when
individual items are considered in combination in later analysis herein.

Index Variables

In order to progress beyond the non-parametric statistical analysis
discussed thus far, it was necessary to transform the twenty-seven separate
Rationalization Lickert items into various Lickert scales or indices (discussed
earlier in Methodology Section III. C.). This was also done previously for the 10
strategy variables earlier in this section. An “abuse of time” aggregate
dependant variable was created from the nine rationalization techniques
associated with that scenario ($y_{10} = \Sigma [y_1 - y_9]$). Similarly, a “theft index”
variable and a “falsifying documents index” variable were created from the nine
rationalization techniques in each of the corresponding scenarios. All twenty-
seven of the rationalization items (from all three scenarios) were used to create a
comprehensive “rationalization” index variable. This will represent the joint
effect of all rationalization behaviors. The ten strategy variables (also individual Lickert items) were likewise combined \((x_{11} = \Sigma [x_1 - x_{10}]\) to form a “strategies” index.

All of these transformations met the requirements for internal consistency and reliability, as can be seen from Cronbach’s Alpha coefficients in the excellent range:

\[
\begin{align*}
\text{Abuse of Time} & \quad \alpha = 0.9344 \\
(\text{SUM\_ABS}) & \\
\text{Rationalization} & \quad \alpha = 0.9585 \\
(\text{SUM\_ALL\_Y}) & \\
\text{Falsify Docs} & \quad \alpha = 0.9524 \\
(\text{SUM\_FLS}) & \\
\text{Theft} & \quad \alpha = 0.9417 \\
(\text{SUM\_TFT}) &
\end{align*}
\]

Intentions to create index variables to study each of the various rationalization techniques independently could not be accomplished. The reliability coefficients for proposed indices to study each of the nine rationalization techniques all fell into the poor or unreliable range \((0.5738 \leq \alpha \leq 0.6977)\). The implication of this is an inability to further investigate the effect of independent variables on specific rationalization techniques (though not to rationalization in general) with the current approach. Thus, it requires the interpretation of the second of the original research questions to be less specific to individual rationalization techniques as outcome variables of concern.

The frequency distribution for the Theft Index has a range of values from 9 to 45, with a mean of 16.48 and a standard deviation of 6.99. The frequency distribution for the Abuse of Time Index has a range of values from 9 to 45, with
a mean of 20.08 and a standard deviation of 7.82. As can be seen from the two histograms in Figure 15, both the theft and abuse of time distributions have a slight positive skew.

Figure 15. Frequency Distributions for Theft and Abuse of Time

The Falsifying Documents Index has a range from 9 to 35 with a mean of 15.34 and a standard deviation of 6.29. From the histogram in Figure 15 below, it can be seen that this distribution also shows a slight positive skew.

The index that represents the sum of all rationalizations has values that range from 27 to 117. The mean is 51.90 and the standard deviation is 17.80. Being essentially the sum of the other three indices above, its slight positive skew would be expected. This can be seen in the second graph of Figure 16 that follows.
The variation in the five indices was examined using a one-way ANOVA across the fifty-six (56) school district ID numbers. Table 11 presents the results of this SPSS analysis.

Table 11 includes the four rationalization (outcome) indices plus the fraud reduction strategies (predictor) index discussed earlier. It is immediately evident that all test statistics were highly significant \((p < .001)\). Using the Sum of Squares statistics, it was calculated that approximately 38.2\% of the variation in the “all rationalizations” index occurs between districts.
Table 11. ANOVA Results (SPSS) for Key Indices Across District Groups

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abuse of Time</td>
<td>Between Grps</td>
<td>12698.308</td>
<td>55</td>
<td>230.878</td>
<td>4.559</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>44664.166</td>
<td>882</td>
<td>50.64</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>57362.473</td>
<td>937</td>
<td></td>
<td></td>
</tr>
<tr>
<td>All Rationlztn</td>
<td>Between Grps</td>
<td>113479.4</td>
<td>55</td>
<td>2063.262</td>
<td>9.921</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>183421.569</td>
<td>882</td>
<td>207.961</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>296900.969</td>
<td>937</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Falsify Docs</td>
<td>Between Grps</td>
<td>14368.788</td>
<td>55</td>
<td>261.251</td>
<td>10.175</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>22649.081</td>
<td>882</td>
<td>25.675</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>37013.869</td>
<td>937</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Theft Index</td>
<td>Between Grps</td>
<td>13652.582</td>
<td>55</td>
<td>248.229</td>
<td>6.806</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>32169.61</td>
<td>882</td>
<td>36.473</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>45822.192</td>
<td>937</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strategies</td>
<td>Between Grps</td>
<td>13048.928</td>
<td>55</td>
<td>237.253</td>
<td>4.727</td>
</tr>
<tr>
<td></td>
<td>Within Groups</td>
<td>44265.937</td>
<td>882</td>
<td>50.188</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>57314.866</td>
<td>937</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The remaining variation (61.8%) occurs within districts. The percentage of variation occurring across districts for the other indices was determined to be:

22.1% for abuse of time, 38.8% for falsifying documents, 29.8% for theft, 22.5% for “7 strategies,” and 22.8% for the “strategies” index.

It is generally accepted that “between group” variation of at least 20% is sufficient to yield significant results in multi-level analysis. Having achieved that, the level-1 data file containing the survey results and the level-2 data file created to hold the district information were combined to create an MDM file for analysis in HLM 6.06.
G. Multi-Level Analysis

Preliminary HLM multi-level analysis consisted of running a series of “unconditional means models” (one-way random effect ANOVA) using intercepts to estimate the differences in each dependent variable across districts. The results are summarized in Table 12 below. For the percentage of variance occurring between districts, we can see results similar to the SPSS output in Table 11 above for “all rationalizations,” “falsifying documents” and “theft” rationalizations. However, the multi-level analysis for the “abuse of time” model indicates slightly less than 20% of the variation occurring between districts. Reliability coefficients for the “all rationalizations” index and the “falsify documents” and “theft” indices as outcome variables are slightly better than that for the “abuse of time” index. The indication for all, however, is that the intercepts for each school are being estimated with relatively low level-1 standard errors. All results are highly significant results (p = .000).

Table 12. Unconditional Means Models: Summary of Output

<table>
<thead>
<tr>
<th>Outcome Variable</th>
<th>Reliability Coefficient</th>
<th>% of Variance Between Dists</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Rationalizations</td>
<td>.877</td>
<td>37.67%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Abuse of Time</td>
<td>.732</td>
<td>18.25%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Falsify Doc</td>
<td>.884</td>
<td>39.32%</td>
<td>&lt;.001</td>
</tr>
<tr>
<td>Theft</td>
<td>.825</td>
<td>28.35%</td>
<td>&lt;.001</td>
</tr>
</tbody>
</table>
These results justify further multi-level analysis, but also indicate the possibility that models involving “abuse of time” rationalizations as an outcome might meet with less reliable findings.

Using a “Means-As-Outcomes” regression model provides fundamental insight into the impact of district level strategy implementation (SUMSTRAT) on overall employee rationalization. In the resulting model, SUM_ALLY is used as the outcome variable and SUMSTRAT represents the number of strategies employed within each district.

Table 13. Means-As-Outcomes Model: Analysis Output for All Rationalizations

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>Approx. d.f.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>LEVEL 1 MODEL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SUM_ALLY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LEVEL 2 MODEL</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>β₀</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Final estimation of fixed effects (with robust standard errors)

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>Approx. d.f.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRCPT1, B₀</td>
<td>65.840558</td>
<td>2.325126</td>
<td>28.317</td>
<td>54</td>
<td>0.000</td>
</tr>
<tr>
<td>INTRCPT2, G₀₀</td>
<td>-3.991051</td>
<td>0.510432</td>
<td>-7.819</td>
<td>54</td>
<td>0.000</td>
</tr>
</tbody>
</table>

Final estimation of variance components:

<table>
<thead>
<tr>
<th>Random Effect</th>
<th>Standard Deviation</th>
<th>Variance Component</th>
<th>df</th>
<th>Chi-square</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INTRCPT1, U₀₀</td>
<td>7.79060</td>
<td>60.69350</td>
<td>54</td>
<td>372.56628</td>
<td>0.000</td>
</tr>
<tr>
<td>level-1, R</td>
<td>14.41202</td>
<td>207.70645</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
SUMSTRAT is employed as a Level-2 “uncentered” variable, since “0” represents a real value within the range of values for this variable, and allows for a discussion of results from the perspective of a district currently employing no strategies.

Table 13 above depicts the model and provides an excerpt from the resulting analysis output. From the test statistics in Table 13 above, we estimate that when a district employs no (zero) fraud prevention strategies (SUMSTRAT), the expected value of the employee “all rationalizations” index (SUM_ALLY) is 65.84. For each additional strategy employed by a district, the value of the rationalization index is expected to decrease by nearly 4 points. Given the 90-point range of values seen for this variable, the change of 4 points represents 4.4% of the range for each additional strategy. Theoretically (and without taking other factors into account), if the districts in the sample currently employing no strategies were to implement seven of the fraud reduction strategies under consideration (as did some of the districts in the study), their rationalization index scores would be expected to decrease from near 65.84 to near 37.90.

In examining the variance component in Table 13, we see a level-2 variance statistic of 60.69. The intercept variance in the unconditional means model for SUM_ALLY (shown in Table 12) is 125.75. This large reduction in the variance statistic from the first model to the second suggests that, approximately half of the original level-2 variance has been accounted for by the effect of SUMSTRAT ([125.75 - 60.69] / 125.75 = .5174), not taking into account the characteristics of the district employees themselves. It also suggests that there is
a fairly substantial amount of remaining variation to be explained by other factors.

In Figure 17 below, 95% confidence intervals are used to provide a graphic representation of the effect of strategy implementation on the expected rationalization index value for each of the 56 school districts in the sample. Each district is represented by a vertical confidence interval with the mean (midpoint) indicated. The grey intervals with hollow midpoints are used to represent the 50% of districts with the lowest strategy implementation. Black interval lines with asterisk midpoints are used to represent the 50% of districts in the sample with the highest levels of strategy implementation. District confidence intervals are arranged in order of increasing SUM_ALLY means (intercept values on the vertical axis). The horizontal axis is a rank ordering of districts from 1 to 56.

At the far right of the graph, we can see that the districts with the highest estimated mean rationalization scores (highest vertical value) all belong to the group with lower strategy implementation levels (light grey with hollow box midpoint). From the frequency distribution presented previously (see Table 4), we know that approximately 50% of the sample districts have implemented 0, 1 or 2 strategies. The remaining districts implemented between 3 and 7 strategies. Applying this information to the Figure 17 graph, the districts represented by the gray intervals with square mid-points likely implemented 0-2 strategies, and the districts represented by black intervals with asterisk midpoints likely implemented between 3 and 7 strategies. We also see evidence of some of the yet
unexplained variation where several low implementation districts (in gray) appear farther to the lower left in the graph (with lower rationalization estimates) than one might expect based on strategy implementation alone.

Figure 17. 95% Confidence Intervals: Effect of District Strategy Implementation

Multi-level Effects

Exploration of the unexplained variance note above took place through the development of an “intercepts and slopes-as-outcomes model.” Stated simply, this is a regression model wherein a combination of level-1 and level-2 variables of interest is used to predict rationalization scores. Through the course
of this model development, it was determined that the employee-level control variables for salary, job type, length of employment and level of education exerted no significant effect on rationalization scores. Recall that this is contrary to findings in the business world.

Of the various district wealth measures available for inclusion, it was determined that the APWR data from 2011-12 (the most recent available) was the best fit for the model. Not unexpectedly, the inclusion of multiple district wealth measures resulted in colinearity issues. The other group level control under investigation was district size as measured by student enrollment. Both size and wealth showed significant effects at the p<0.05 level.

The exploration into the effects of the various wealth measures resulted in an unexpected and significant discovery. Through the process of updating district wealth information, it was noticed that adding 2011-12 wealth measures (most recently released by the NY State) to the model seemed to produce slightly different results than with the 2010-11 data previously available. In order to investigate if this perceived change was significant, a new control variable was created. The value of the variable \( \text{CNG}_{-}\text{PWR} \) was calculated as the difference in a district’s wealth statistic from one year to the next \( \text{CHG}_{-}\text{PWR} = \text{PWR}_{10} - \text{PWR}_{11} \). The range of resultant values was between -0.20 and 0.40 with a mean of 0.00 and a standard deviation of 0.10. The change in district wealth did, in fact, turn out to have a notable effect on rationalization outcomes, as can be seen in Table 14.
below, which shows the final model with a relevant excerpts from the analysis output report.

Table 14. Means-and-Slopes-as-Outcomes Model:
Analysis Output for All Rationalizations

<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>Approx. d.f.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>For INTRCPT1, B0</td>
<td>INTRCPT2, G00</td>
<td>66.518463</td>
<td>2.126522</td>
<td>31.280</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>ENROLMT, G01</td>
<td>-0.001198</td>
<td>0.000587</td>
<td>-2.042</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>WLTAP11, G02</td>
<td>1.975355</td>
<td>0.826120</td>
<td>2.391</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>CHG_PWR, G03</td>
<td>-15.234803</td>
<td>7.503891</td>
<td>-2.030</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>SUMSTRAT, G04</td>
<td>-4.199740</td>
<td>0.486624</td>
<td>-8.630</td>
<td>51</td>
</tr>
<tr>
<td>For GENDERM slope, B1</td>
<td>INTRCPT2, G10</td>
<td>-1.936826</td>
<td>1.429420</td>
<td>-1.355</td>
<td>929</td>
</tr>
<tr>
<td>For AGERANGE slope, B2</td>
<td>INTRCPT2, G20</td>
<td>2.273305</td>
<td>0.396962</td>
<td>5.727</td>
<td>929</td>
</tr>
<tr>
<td>For EMPRSPT slope, B3</td>
<td>INTRCPT2, G30</td>
<td>-1.387753</td>
<td>0.610835</td>
<td>-2.272</td>
<td>929</td>
</tr>
<tr>
<td>For LDRS slope, B4</td>
<td>INTRCPT2, G40</td>
<td>-1.764085</td>
<td>0.515336</td>
<td>-3.423</td>
<td>929</td>
</tr>
</tbody>
</table>

It is worth noting that fraud prevention strategy data appear in two different forms in the model. At the group (district) level, the indexed variable (SUMSTRAT) represents how many fraud prevention strategies a district has effectively employed. At the individual level, the separate strategy variables...
“employees are treated with respect” and “leaders show integrity” (EMPLRSPT and LDRS) indicate the strength of the individual employee’s perception regarding each strategy’s presence in the workplace. (Respondents originally entered responses on a five-point scale ranging from Strongly Disagree to Strongly Agree.) Employee age and gender are also factors in the final model. (See section IV. B. for variable details). Although results for the gender variable are not significant, controlling for its effects improved the overall model. All employee level variables are group-mean centered. The three district controls (enrollment, wealth and change in wealth) are grand-mean centered.

Using the coefficients above, we are able to predict (with at least 95% certainty) that in a district of average size and wealth, with no annual change in wealth (CHG_PWR mean = 0) and where no fraud prevention strategies had been implemented, an employee of average age for the district, holding average perceptions (for their district) about district employees being treated fairly and about the integrity of district leaders, would have an estimated score of 66.52 on the rationalization scale. We would expect that score to decrease by 4.20 points for each fraud reduction strategy implemented by the district. For a district employing no strategies, that chose to implement seven strategies (as did other districts in the study), one might expect the employee rationalization score to decrease by as many as 29.4 points, a reduction of 55.8%.

For each 1-point increase in EMPRSPT, we estimate a decrease of 1.93 points in the rationalization score. Similarly, each 1-point increase in the measure of
perception about district leader integrity (LDRS) is expected to bring a decrease of approximately 1.76 points in the rationalization score for our hypothetical “average” district employee.

The construct of AGERANGE must be considered when interpreting the results for that variable presented in Table 12. In the original survey question, a value of 1 represented the oldest age group, and 5 the youngest. Hence, each move from the district average to a younger age group is associated with about a 2.27 point increase in the rationalization score. Conversely, employees from older age groups are expected to have slightly lower rationalization scores. This is completely consistent with research in the business management field (Hollinger and Clark, 1983, 57; AFCE 2004, 30-34) indicating a higher rate of fraud occurrence in younger employees.

In considering the district control variables, we can see that each 1-point increase above the average for WLTHAP11 is estimated to result in rationalization scores approximately 2 points higher for the average employee as described above and in the model. On first glance, it might seem that district size has a negligible effect on rationalization scores. We must consider, however, the scale of the measure - student enrollment. Each single student increase has a negligible effect. However, for each 1,000-student increase in enrollment above the mean of 2,097, we can project a decrease of about 1.20 points in the employee rationalization score. These findings are consistent with research from the
business world (Wells, 1997, 41) where smaller organizations and wealthier organizations were each seen to have a higher incidence of fraud occurrence.

In interpreting analysis results, the large negative coefficient associated with the change in wealth variable (CNG_PWR) again needs to be interpreted keeping in mind the range of the variable (-.20 to .40). It becomes more useful to associate each .1 change in the wealth measure with a 1.5 change in rationalization score. With respect to directionality, it is helpful to remember that the (CNG_PWR) value is the remainder from the subtraction of the current year’s value from the previous year’s value. Thus, a positive variable value represents declining community wealth, a zero value represents no change, and a negative value represents increasing taxpayer wealth. In interpreting the coefficient, declining wealth in the community in which the school district is located (positive variable value) is associated with a decreasing rationalization score.

The graph in Figure 18 below is based on the model in Table 14 above. It shows the combined effect of the significant Level-1 predictors (Employee Respect and Leader Integrity) and the Level-2 predictor (Strategy Implementation), controlling for employee gender and age and for district size, wealth and recent change in wealth.

The legend of the graph makes reference to a low and a high value for each level-1 variable. The low level value used in each case was the mean of the lowest quartile for the variable. Similarly the high value used was the mean of
the highest quartile for each variable. Calculating the variation from the group means, the actual values were 1.44 and 4.37 for EMPRSPT, and 1.52 and 4.55 for LDRS. The range of each variable was 1-5.

Figure 18. Combined Effects of Strategy Implementation, Employee Respect and Leader Integrity on Employee Rationalization

In the Figure 18 graph, we can see that the combined effect of the two variables is estimated to have the potential to make a nearly 10-point difference in the intercept from the low level to the high value. Note that in considering these variables, the effect of high levels of employee respect is greater (rationalization decreases) in the presence of increasing leader integrity.
Analysis of Violation-Type Outcomes

As an addendum to the principal investigation, three additional models were developed to investigate violation-specific outcomes: theft, abuse of time and falsifying documents. Each of the three violation-specific models was developed separately. Preliminary analyses were conducted to determine the significant variables to be included in each of the three models. A summary of the results can be seen in Table 15 below.

Table 15. Results of Violation-Specific Models

<table>
<thead>
<tr>
<th></th>
<th>Abuse of Time</th>
<th>Theft</th>
<th>Falsifying Documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reliability</td>
<td>.627</td>
<td>.697</td>
<td>.792</td>
</tr>
<tr>
<td>Intercept</td>
<td>21.457719 ****</td>
<td>21.370036 ****</td>
<td>18.236879 ****</td>
</tr>
<tr>
<td>ENROLMT</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WLTHAP11</td>
<td>-0.000486 *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHG_PWR</td>
<td>-4.446908</td>
<td></td>
<td>-6.864621 *</td>
</tr>
<tr>
<td>SUMSTRAT</td>
<td>-1.17564 ****</td>
<td>-1.391973 ****</td>
<td>-1.470547 ****</td>
</tr>
<tr>
<td>EDLEVEL</td>
<td></td>
<td>0.415509 *</td>
<td></td>
</tr>
<tr>
<td>AGERANGE</td>
<td>1.027074 ****</td>
<td></td>
<td>0.776611 ****</td>
</tr>
<tr>
<td>EMPRSPT</td>
<td>-0.833519 **</td>
<td>-0.611460 **</td>
<td></td>
</tr>
<tr>
<td>LDRS</td>
<td>-0.901585 ***</td>
<td></td>
<td>-0.755686 ****</td>
</tr>
<tr>
<td>CULOFHON</td>
<td>0.391064 *</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROSCUTE</td>
<td>-0.441876 *</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p ≤.05 ** p ≤ .01 *** p ≤ .005 **** p ≤ .001

The dependant variables of significance for the Abuse of Time outcome are consistent with what was seen for All Rationalizations in the principal analysis. The only exception is that here district size and wealth cease to be
significant factors. The same is true for the Falsifying Documents model, except that EMPRSPT also ceases to be a significant factor.

For the theft model, however, a far different combination of employee-level influences is seen. AGERANGE and LDRS are not significant factors here. Consistent with the findings from the early non-parametric testing (see “Level-1 Interactions” in the Data Analysis section), EDLEVEL is a significant factor associated with theft. For a one-unit increase education level (i.e. - from having a bachelor’s degree to having a Master’s degree) we estimate a slight increase in the theft rationalization score (.42). In interpreting the effect of PROSCUTE, we estimate a small decrease in theft rationalization as an employee’s belief that the district will prosecute a fraud occurrence increases. Perhaps the most surprising observation is the increase in rationalization associated with increasing employee belief that the district fosters a culture of honesty.

In interpreting the results, it should be noted that the reliability coefficients are substantially lower for Abuse of Time and Theft models than for Falsifying Documents and the All Rationalizations output analyzed previously, with Abuse of Time clearly falling into the unreliable range. The theft model has a prevalence of “barely significant” coefficients, and was very temperamental during model development. This relative lack of reliability and robustness is likely due in part to the indices themselves. The “all rationalization” index, used in the primary analysis earlier, was calculated from 27 individual survey items, while the three violation-specific indices here were calculated using only nine
relevant items. This was perhaps compounded by the fact that 36% of the
districts in the study have 9 or fewer employee respondents. (Although this
applies to all models, its relative impact may be greater in the less stable or
smaller index models.) For all these reasons, the statistics from Table 15 are more
valuable for the insights they provide for further study, rather than for their
predictive ability.

Conclusions

When taken together, the information inferred from this model analysis
provides valuable insights for school districts in assessing their fraud risk.
Confirming the findings in the business world, we see that smaller organizations
and wealthier organizations tend to be more at risk. Based solely on our findings
here, we would expect schools located in communities of increasing taxpayer
wealth to also be at higher risk. At the employee level, results indicate that
younger staff members tend to show slightly higher rationalization scores than
their older colleagues.

We also have insight into actions that hold the potential to reduce a
district’s fraud risk. The degree to which staff members feel that employees in
their district are respected and treated fairly clearly matters. The degree to
which they believe their leaders exhibit the highest levels of integrity also
matters. Maintaining high levels of employee respect and leader integrity might
have financial rewards for a district if they actually result in decreased employee
abuse of time, falsification of documents and theft. By creating an environment
which increases these two employee perceptions, and effectively implementing
as few as five of the other fraud reduction strategies discussed herein, a district
might potentially see its fraud risk reduced by over 43%.
V. **Limitations and Suggestions for Future Research**

The field of white-collar crime in general has historically been a difficult area of study. Many criminal incidents typically go undetected or unreported, and patterns of prosecution vary with geographic location. Further, legislation has changed the definitions and classifications of specific crimes since the birth of the concept of white-collar crime in 1939. These changing definitions and classifications, combined with changing societal norms, have resulted in a persistent lack of reliable longitudinal data.

Another common limitation plaguing most studies of fraud is the need to use indirect or alternate outcome measures. Issues of respondent self-incrimination often necessitate the use of measures that can only approximate the real variable of interest. Here the proxy fraud measure used was employee rationalization behavior.

One of the early limitations specific to this study came from a lack of prior research on school-related fraud. The lack of relevant literature forced the transference of findings from nationwide corporate contexts into public school settings in New York State. This creates questions concerning the relevance and generalizability of the foundational business literature used to generate the fraud reduction strategies under consideration. Were the ten strategies selected for use herein all applicable? Are there other effective strategies that do not appear in the corporate context, but are unique to a school setting, that could have been included were they known? It seems that an exploratory comparative study of
districts with differing fraud rates or differing rationalization rates might yield some of the answers.

Another area of limitation lies in the nature of any cross-sectional study. Because we are examining what is essentially a “snapshot in time,” it is impossible to present causal relationships and conclusions. In reality, there is no way of knowing whether the employee attitudes we see are the result of a district employing a specific strategy, or whether a strategy was employed because of the presence of pre-existing employee attitudes. Is the true outcome the employee rationalization or the district strategy? Only a follow-up longitudinal study can determine the directionality of cause and effect. It is hoped that the results of our investigative study here might serve as a foundation and encouragement for such a longitudinal study.

With respect to this dissertation study, more reliable results could have been obtained if each of the school districts had more employee responses at level 1. The original goal was to compile a data set containing at least 30 school districts with a minimum of 30 respondents per district. Given the implications of the central limit theorem, the original expectation was a set of highly reliable results from a set of reasonably normal distributions. Clearly, the goal of 30 districts was exceeded. However, the reality of having 36% of the districts in the study represented by a minimal number of employees (6-9 each) produced some notable limitations in model design and potential outcome variables. Having
more respondents per district would have undoubtedly led to more reliable and robust results, and would have allowed for a much broader set of investigations.

The research design provided for only limited data regarding strategy implementation in a district. Either a strategy was present in a particular district or it was not. It is recommended that any follow-up studies consider creating strategy variables that incorporate a measure of the strength of the district implementation. This should create the ability to generate a more refined set of predictions.

In the analysis of the data collected, it was discovered that there were no districts where the majority of employees felt that fraud prevention was a district priority or that ethical behavior would be rewarded. There were also no districts where a well-publicized hotline was in place. This creates an obvious inability to study the effect of these strategies on employee rationalization. In light of the fact that these strategies were absent from presentation herein as having any significant effect on rationalization outcomes, the reader is cautioned against leaping to the inverse conclusion that they have no effect. The reality is that we do not know if they have any potential effect or not, since they are not in use in any of the districts in the study.

Early in the development of the research design for this project, a decision was made to keep the survey instrument as short as possible in an effort to obtain the best possible response rate. During the course of the data analysis it became evident that having only three Lickert items available to populate an
indexed variable for each of the rationalization techniques was insufficient to produce reliable outcomes. In the end, the effect of strategy implementation on specific rationalization techniques could not be investigated with the additive techniques used in the analysis methodology selected. Perhaps future analyses employing alternate scaling techniques might result in more meaningful or usable indices for rationalization techniques.
VI. Summary Findings and Recommendations

As stated in the opening paragraphs, one of the primary purposes of this study was to generate a series of recommendations to assist school districts in minimizing their fraud risks. However, it seems important to first address the fraud risk we hope to minimize. Any competent school leader would question whether their district’s current level of fraud risk is high enough to warrant the effort, cost and possible disruption that inevitably come with attending to the matter. The news media provides recurring reminders that school district fraud is an ongoing reality, but can it happen in my district?

The Risk of Fraud

Perhaps the most important finding from this study is that fraud potential can be seen in each and every district. There was not a single district in the study devoid of employee rationalization, our measure of potential fraud occurrence. School district employees registered 1,919 separate rationalization agreements in the survey data. Concerning both abuse of time offence and theft, there were employees who agreed with rationalizations each and every time the opportunity was offered. The majority of employees in our study (57%) engaged in rationalization, some as many as 18 times. Approximately 70% of those employees engaging in rationalization did so 3 or more times. Employee respondents collectively made use of all of the nine rationalization techniques presented to them. We found that over 46% of staff members agreed with
rationalization that the abuse of time behavior presented was acceptable.

Regarding the theft scenario, 27% of respondents engaged in rationalization to justify the act. The lowest rationalization rates (11% of employees) occurred in relation to falsifying documents. Whether theft or abuse of time or falsifying documents, each has the potential to impact a district financially. Additionally, there appears to be increased risk in districts that are smaller or wealthier than the average, and in districts serving communities of increasing taxpayer wealth. We also see slightly higher rationalization rates in younger employees.

Research provides us with evidence that there is a strong link between actual criminal behavior and an individual’s attitudes about crime in general and fraud specifically (Bem 1970; Akers 2007; Hessing 1988). Given this evidence, the pattern of employee rationalization revealed by this study should serve as a warning to each and every school district that their fraud risk is real. While not everyone who agrees with rationalization statements will engage in criminal activity, we should not discount wholly the risk suggested by the data and analysis.

The Need for Increased Fraud Prevention Efforts

In examining the current status of district fraud prevention efforts, our data revealed extremely low levels of strategy implementation in sample districts. There was not a single district where the majority of employees felt that
fraud prevention was a district priority or that ethical behavior would be rewarded. Business management literature holds that having a tip-line or other reporting mechanism was one of the most effective strategies in fraud prevention efforts. Survey data for this study found no districts where a well-publicized hotline was in place. As a point of clarification, many districts do, in fact, have a reporting mechanism publicly accessible on the district’s website. Some are fairly obvious, while others are buried beneath multiple layers of content. The point to be taken from the survey results is that district employees are apparently unaware of the existence of such mechanisms. School districts are encouraged to implement hotlines where they do not exist, and do a better job of publicizing existing reporting mechanisms.

Approximately two-thirds of the districts were found to have implemented some variety of an employee code of conduct. However, the anticipated relationship between such codes and staff rationalization was not seen. Districts might benefit from determining whether these staff materials are primarily procedural handbooks or whether they do, in fact, express and formalize the organization’s ethical norms. By comparison, employees in only 36% of districts felt that district values were clearly articulated.

The two strategies found to be significantly influential in reducing fraud rationalization (leader integrity and respect of employees) were in place in only about a third of the districts. As school districts in New York State face a current climate of financial stress, with the accompanying need to make difficult and
painful decisions about district operations and staffing, it seems critical that leaders are conscious of the importance of being seen as demonstrating the highest levels of integrity. It is equally important for employees to feel that they are respected and treated fairly, even in the midst of staff lay-offs. In more general terms, about half of the districts in the study were found to have effectively implemented two or fewer strategies. In over five percent of the districts, employees perceived that no strategies at all were in place. These findings, taken together, indicate that there is clearly much room for improvement.

Special concern should be addressed to the smallest of school districts. The earlier review of the New York State anti-fraud legislation made note of the fact that small districts were exempt from some of the law’s auditing and procedural requirements. Findings herein indicate that smaller size districts are expected to experience higher fraud risk by virtue of the higher employee rationalization scores witnessed. The combination of higher risk and lower mandated expectations create a situation worthy of district vigilance.

The over-arching recommendation for all school districts is that they take the time to develop a fraud prevention plan that makes use of the best practices for their particular organization. It should contain procedures that insure periodic assessment to determine the extent to which they are in compliance with their own model. The specified procedures should also provide for periodic review of the plan itself to insure that modifications and updates occur as
needed. Considering the impact of employee attitudes and perceptions must be seen as a critical element in the plan.

“Fraud is not an accounting problem; it is a social phenomenon.”

(Wells, 2004, 72)
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APPENDIX A

SURVEY INSTRUMENT

Fraud Prevention and Employee Rationalization
In New York State Public Schools

ABOUT THIS SURVEY

You are one of thousands of school district employees across New York State whose districts have been randomly selected to participate in this study. The purpose of this research is to examine school district culture and attitudes. The results of this study will help in developing more effective management policies for school communities.

YOUR PARTICIPATION IS ANONYMOUS. You will NOT be asked for your Name or be required to provide any other personally identifying information. Further, your school district will not be identified in this study.

This survey will take no more than 10 minutes of uninterrupted time, and we ask that it be completed in one sitting. There are no anticipated risks associated with participating in this study. Your participation is completely voluntary, and you may choose to stop participating at any time by clicking the button in the top right corner of each page. There is no compensation for participating.

ANONYMOUS PARTICIPATION

This project has been approved by the University at Albany's Institutional Review Board. Approval signifies that the procedures adequately protect the rights and welfare of the participants. All information collected is strictly confidential unless disclosure is required by law. In addition, the Institutional Review Board and University Faculty responsible for monitoring this study may inspect these records.

Note that your participation in this survey is being conducted via a secure website (SSL). This means that the security protections in place are similar to those used by online businesses and banks.

As with all secure transactions, you can minimize the risk of internet security being compromised by closing your Internet Browser at the end of your session. You will be provided with a reminder and instructions to do so at the end of the survey.
QUESTIONS ??

If you have questions or concerns about this research study, you may contact:

Kathleen Slezak, Phone No. email
Principal Researcher

Kathryn Schiller, Phone No. email
Advisor

If you have unanswered questions or wish to report any concerns, you may contact the University at Albany Office of Research Compliance: Phone No.; email.

You are welcome to print this page for future reference.

INFORMED CONSENT

1. Please select one of the following:

☐ I have read the preceding information about this study and hereby consent to participate.
   (Clicking this response will take you to the survey questions.)

☐ I choose not to participate at this time.
   (Clicking this response will exit the survey.)

OVERVIEW

THIS SURVEY IS DIVIDED INTO THREE PARTS:

Part I - General Demographic Information
Part 2 - Reactions to Three Situations
Part 3 - School District Culture

OK….Let’s get started!
PART I - General Demographic Information

Please click on the ONE best choice for each question.

1.1 Which of the following categories best describes your current position within the district?
   - Support staff (maintenance, typist, aide, bus driver, clerk, etc.)
   - Non-certified professional or supervisory staff (network manager, transportation supervisor, treasurer, etc.)
   - Teacher, Teacher Leader, Teaching Assistant
   - Administrator
   - Other

1.2 Your gender:
   - Male
   - Female

1.3 How long have you been an employee of your current district?
   - Less than 2 years
   - 2 to 5 years
   - 5 to 10 years
   - More than 10 years

1.4 What is the highest level of education you have completed?
   - High school or less
   - Associates Degree (or 2 years worth of college)
   - Bachelor’s Degree
   - Master’s Degree
   - Graduate Study Beyond a Masters

1.5 Your age is
   - Over 55
   - 46 - 55
   - 36 - 45
   - 26 - 35
   - Under 26

1.6 Your current salary range is
   - Less than $50,000
   - $50,000 to $100,000
   - Over $100,000
PART 2 - THREE FICTIONAL SITUATIONS
In this section you will read about three situations with fictional school employees. Read each story carefully, and then see how you feel about the various excuses or reasons given by the employee. Remember that there are no right or wrong answers! The right answer for you is how you feel about each of the reasons or excuses. Try to answer for one statement at a time, without thinking of the others.

SITUATION #1
Read the story and select one choice for each statement. Remember to answer for one statement at a time without thinking of the others.

Situation #1
One weekend when no one is around, Tony enters his school building and walks into an open classroom. He unhookes an LCD projector from the portable computer cart and places it into a large canvass tote bag. He carries the tote to his car and drives home.

2.1 Tony should not feel guilty about this if the intent was to borrow the projector and not to steal it.
2.2 Tony should not feel guilty about this if the projector was needed for a boy scout fund raising event that evening.
2.3 Tony should not feel guilty about this if the cleaning staff members never locks the classroom doors as instructed.
2.4 Tony should not feel guilty about this if the projector and cart were stored in the classroom closet and never used.
2.5 Tony should not feel guilty about this
if he always “goes the extra mile” for the district without expecting rewards.

2.6 Tony should not feel guilty about this if he is facing lay-off next month and needs it to help him find another job.

2.7 Tony should not feel guilty about this if it is common practice for district employees to borrow things from the school.

2.8 Tony should not feel guilty about this if the projector was truly needed and wasn’t available anywhere else.

2.9 Tony should not feel guilty about this if other employees frequently take things that are more valuable and return them broken or don’t return them at all.

Situation #2

Recently, Joe has been calling in sick to his school district job a few days each month. During these days, Joe catches up on household tasks, or occasionally works at his home business to earn a little extra money.

2.10 Joe should not feel guilty about this if he is spending his own money caring for a sick parent.

2.11 Joe should not feel guilty about this if he is better able to perform his district job when his personal affairs are in order.

2.12 Joe should not feel guilty about this if he manages to accomplish more at his school job than those with better attendance.

2.13 Joe should not feel guilty about this if his wife demands he engage in home repair projects.
2.14 Joe should not feel guilty about this if the district won’t pay him for accumulated unused sick time.

2.15 Joe should not feel guilty about this if other employees regularly take an equal number of days off.

2.16 Joe should not feel guilty about this if he hadn’t taken any sick days at all during his first three years of work for the district.

2.17 Joe should not feel guilty about this if the week’s work gets done despite his absences.

2.18 Joe should not feel guilty about this if his supervisor takes off even more days than he does.

Situation #3

Pat orders $750 worth of needed supplies through the school’s normal requisition process. The order happens to be placed with a company where a friend of Pat’s works. When the supplies are delivered, a few small items are missing from the order, but the paperwork indicates that everything has been delivered. Pat ignores the shortage and signs off on the paperwork as though the order had been delivered correctly.

2.19 Pat should not feel guilty about this if her friend says that these mistakes happen all the time and most big customers don’t care about the small details.

2.20 Pat should not feel guilty about this
if this is trivial compared to those employees who take supplies home for themselves.

2.21 Pat should not feel guilty about this if it was not her intention to cheat the district.

2.22 Pat should not feel guilty about this if she has a reputation as a good employee.

2.23 Pat should not feel guilty about this if her friend might lose her job if the delivery shortages were made known.

2.24 Pat should not feel guilty about this if everyone knows that the school district wastes supply money all the time.

2.25 Pat should not feel guilty about this if someone else didn’t do their job and catch the mistake.

2.26 Pat should not feel guilty about this if the cost of the missing items is small compared to the time and effort it might take to correct the problem.

2.27 Pat should not feel guilty about this if the school district is known for underhanded dealings with employees and suppliers.

Creating Grouped Responses

We need to group employee responses together without identifying the district or the employees. Your answers to the two questions below allow us to do that.

In the box below, please enter the LAST THREE (3) digits of the school zip code (XX_ _ _)

[Box for entering last three digits of zip code]
In the box below, please enter the FIRST TWO (2) digits of the school Telephone Area Code  (_ _ X)
PART 3 - THE LAST QUESTION
Now we need some information about your district’s organizational culture. Please answer each question for your school district (not your building). Indicate your level of agreement or disagreement with each statement by using the 5 point scale to the right of each statement.

<table>
<thead>
<tr>
<th>Statement</th>
<th>Strongly Disagree</th>
<th>Disagree</th>
<th>Neither Disagree Nor Agree</th>
<th>Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1 In our district, all employees are respected and treated fairly.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.2 Employees in our district experience a positive work environment.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.3 District values are clearly articulated.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.4 Our district has an Employee Code of Conduct, Code of Ethics or Ethics Training Program for staff.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.5 Our district has an organizational culture that fosters honesty.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.6 District leaders exhibit the highest levels of integrity.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.7 In our district, ethical behavior is rewarded.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.8 Our district will prosecute people who commit crimes.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.9 Our district has a well-publicized hotline or other similar mechanism for reporting suspected crimes or abuses.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3.10 In our district, fraud prevention is a district priority.</td>
<td>□</td>
<td></td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
Thank you for taking the time to participate in this survey. Your answers will help create recommendations for better school management policies.

Please remember to QUIT OR EXIT your browser to enhance your internet security.
## APPENDIX B

### SURVEY QUESTION KEY

<table>
<thead>
<tr>
<th>Violation Type:</th>
<th>Questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scenario #1 – Theft</td>
<td>2.1 through 2.9</td>
</tr>
<tr>
<td>Scenario #2 – Abuse of Time</td>
<td>2.10 through 2.18</td>
</tr>
<tr>
<td>Scenario #3 – Falsifying Records</td>
<td>2.19 through 2.27</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Rationalization Techniques:</th>
<th>Questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y1 (denial of responsibility)</td>
<td>2.8 2.13 2.25</td>
</tr>
<tr>
<td>Y2 (denial of victim)</td>
<td>2.6 2.14 2.27</td>
</tr>
<tr>
<td>Y3 (denial of injury)</td>
<td>2.4 2.17 2.26</td>
</tr>
<tr>
<td>Y4 (condemning the condemner)</td>
<td>2.3 2.18 2.24</td>
</tr>
<tr>
<td>Y5 (appeal to higher authority)</td>
<td>2.2 2.10 2.23</td>
</tr>
<tr>
<td>Y6 (metaphor of ledger)</td>
<td>2.5 2.16 2.22</td>
</tr>
<tr>
<td>Y7 (defense of necessity)</td>
<td>2.8 2.15 2.19</td>
</tr>
<tr>
<td>Y8 (claim of entitlement)</td>
<td>2.1 2.11 2.21</td>
</tr>
<tr>
<td>Y9 (claim of relative acceptability)</td>
<td>2.9 2.12 2.20</td>
</tr>
</tbody>
</table>