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J. Martin Wahrer

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Frank Horvath
Major professor

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THE RELATIONSHIP BETWEEN CHARACTERISTICS OF JOB APPLICANTS AND ADMISSIONS OF EMPLOYEE THEFT

By

J. Martin Wahrer

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ABSTRACT

THE RELATIONSHIP BETWEEN CHARACTERISTICS
OF JOB APPLICANTS AND ADMISSIONS
OF EMPLOYEE THEFT

By

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Theft from the workplace could potentially cost business organizations up to 44 billion dollars annually. Yet until recent years, literature on the subject was based predominantly on personal observations and professional experience. Recently a trend toward the use of methodologically sound empirical studies to gain knowledge on employee theft has developed. The purpose of this project was to determine if relationships existed between characteristics of job applicants and admissions of internal theft.

The current study uses data from pre-employment polygraph based interviews on employee misconduct from 599 job applicants. Characteristics examined were past history of drug use, frequency of marijuana use, use of drugs on the job, external economic pressures and age of the applicant. All characteristics were tested in bivariate relationships with admissions of employee theft. Additionally, the results of controlling age, sex, and marital status were examined.

Specifically the results of this study revealed a series of relationships among admissions of internal theft and tests reflecting age of the applicant and tests affirming drug use. Additionally, the control variables of age and marital status exhibited statisically significant influences on these relationships.

In closing, this study indicates that certain characteristics of job applicants are linked to admissions of theft from the workplace. If this information is used correctly by security and loss prevention managers a prudent, successful strategy to combat theft from the workplace could be developed.

To my good friends Jim, Frank, Danny and Jerry whose friendship I will always remember. To my parents, Nan and Joe, whose love and guidance have always meant more than words can express. To my wife Vickie whose love, understanding and patience were always available. All of you had a part in this project. My thanks and good wishes.

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Introduction

Theft from the Workplace

Theft from the workplace is a significant problem facing both the security and business worlds. The fact is that virtually every business will experience some form of theft by its employees at one time or another (Strauss, 1980). The effects of these employee thefts are damaging to various functions of the business and among these are loss of profits, availability of merchandise, reputation and quite possibly the very existence of the corporation. In a study reported in Security World (cited by Healy and Walsh, 1981), over one quarter of the firms with more than one thousand employees acknowledged that theft of materials, raw products, finished products and tools by workers was a serious problem.

Perhaps the most detrimental aspect of employee theft is the tremendous financial burden it places on the organization. Exact figures can not be established, but many estimates are available. Astor (1978) believes that American business loses over forty four billion dollars annually to theft from the workplace and other forms of white collar crime. Although Astor admits that this

statistic can not be confirmed, the problem is obviously significant.

The most common method corporations use to report total losses is to summarize all losses under the heading of inventory shortage. Inventory shortage claims an undetermined, but substantial percentage of the gross volume of every manufacturer and distributor of consumer goods in the United States (Astor, 1978). Inventory shortage consists of the following components: employee theft (also known as internal theft and pilferage), external theft (shoplifting) and bookkeeping errors (Post and Kingsbury, 1977).

Curtis (1973) estimates that employee theft is the most critical of the elements incorporated into inventory shortage accounting for 60% to 75% of the total loss figure suffered by the business. Dun and Bradstreet reported that 7% of commercial bankruptcies were due to internal theft during a one year period. Indeed Astor (1978) believes that this estimate is grossly underestimated since many firms never know the true cause of their demise. The United States Chamber of Commerce (1974) appears to be in agreement as it reported that over 30% of all businesses that fail annually do so because of theft from the workplace.

However, the amount of inventory shortage varies from business to business. Certain types of businesses are more susceptible to inventory shortage and internal theft than are others. This is due in part to the

accessibility of merchandise and/or money to customers and employees. The drain on gross volume in department or discount stores appears to be between 2½% and 6%, while inventory shortage only appears to drain approximately 1¼% to 3% of the gross volume in supermarket chains (Astor, 1978).

In fact, employee theft can force a business to overproduce in order that losses be minimized. If losses are high or are sustained over an extended period of time, the company can eventually go bankrupt. For example, based on retail prices in 1977, a company had to sell the following to offset a five hundred dollar loss: a bakery had to sell 119,033 loaves of bread, a restaurant had to sell 3,788 lunches at three dollars each and a paint manufacturer had to sell 3,339 gallons of paint. These illustrations show how easily a loss of five hundred dollars can force a company out of business (Dearborn, 1980).

Employees Who Steal

Similar to the figures relating to the costs of employee theft, there is disagreement concerning the number of employees who steal. Published rates of internal theft range from a figure of 9% (U.S. News and World Report, 1977) to a disturbingly high rate of 75% (Zeitlin, 1971; Schmidt, 1976). Lipman (1973) believes that 50% of all employees steal from the workplace; of this percentage 25% steal important items and 8% steal in volume. Surprisingly, a review of the security literature published since 1973 was conducted by Clark and Hollinger (1981) and a

general consensus was found on Lipman's figures. However, it must be pointed out that there is some debate on the accuracy of Lipman's rates. Some authors believe that Lipman's figures have simply been continuously used without citation, thus becoming figures of consensus in the literature (Broy, 1974; U.S. Chamber of Commerce, 1974).

When studying rates of pilferage it is important to remember that it is not uncommon for workers to steal in groups. A number of authors have commented on this tendency of group theft. Curtis (1973) states that the number of collusive thefts among employees has increased significantly over the years. Due to the increase in number and duration of employee theft rings, Fischer (1981) believes that the number of internal thefts and the average amount lost to each theft from the workplace has risen dramatically over the years.

Need For Research on Employee Theft

The 1960's produced most of the initial material on internal theft (Seidman, 1965; Hemphill, 1969; Robin, 1969). In the years since then the literature on employee theft has expanded vastly in both quantity and quality. However, even with the expansion of literature there are still gaps in the knowledge on theft from the workplace. One of the largest gaps involves the lack of empirical knowledge on internal theft. Indeed much of what has been written concerning employee theft has been based on personal observations and theories of security professionals. Consequently, there is wide disparity among authors in a

variety of areas concerning employee theft. In fact interpretations differ on such vital issues as direct or indirect damages related to pilferage, how existing data should be interpreted, the frequency of internal theft, the percentages of employees involved in theft from the workplace and what percentage of total losses suffered by a corporation are a result of employee theft.

One of the largest gaps in the study of theft from the workplace involves the lack of empirical knowledge. Although some empirical studies do exist few have been utilized to any great extent despite the fact that this type of knowledge would be quite useful. Indeed if empirical knowledge were utilized, greater credibility would lend itself to the literature on employee theft, since the findings would be based on empirical evidence rather than theory or personal observations. The use of empirical studies would also allow for various relationships to be studied in detail, perhaps leading to some breakthroughs in our knowledge of theft from the workplace.

Purpose of Current Research

The purpose of this research project was to explore the relationship between characteristics of job applicants and their admissions of past employee theft. In recent years, researchers attempting to identify common characteristics of workers who steal from their employer have turned to using anonymous self reports to accurately assess the amount of theft occurring. The intent behind this type of research is that employees who admit to

internal theft will have some shared (common) characteristics which can be identified. Common questions used in the self report process include job position held, education completed, marital status, age and some general questions on how much the employee has stolen over a period of time. Self report research does have a major flaw in that employees are often hesitant about answering truthfully because they fear reprisals from their employers. This reluctance has hindered progress in linking admissions of pilferage to descriptive employee characteristics.

To obtain the necessary data for this project, an unusual two stage method of gathering information was used. The first stage consisted of gathering information through a self report (job application) - this has been used with increasing frequency in recent years. A notable example of this approach would be the study completed by Clark and Hollinger in 1981; however an anonymous self report was used for this study. The second stage, a polygraph examination, actually involved using the self report of each job applicant. This methodology has been used in only one previous study conducted by Schmidt in 1976. With the exception of this project and Schmidt's study, this two stage method has yet to be used in research on theft from the workplace.

It should be noted that this interviewer assisted methodology does reduce some of the flaws inherent in anonymous self report research. The interviewer assisted self reports result in a higher response rate, higher

percentage of completed self reports and minimal confusion over examination questions. The subject is also allowed to fully explain involvement in sensitive areas. The methodology employed for this project should result in data equally as accurate as the data drawn from anonymous self reports.

Yet it should be acknowledged that there is a flaw in this project similar to anonymous self report studies. As mentioned previously, employees are often reluctant to answer anonymous self reports about internal theft for fear of being identified and punished for their responses. In this study the job applicant may be reluctant to accurately respond to questions on employee theft activity due to concern over being eliminated from consideration for a job. However, this flaw should not detrimentally affect the accuracy of the data from this project.

Chapter 2

Literature Review

This chapter will concentrate on reviewing the literature on internal theft. Topics that will be discussed include theories of employee theft, categories of employee thieves, warning signs of internal theft from the workplace and costs and frequency of internal theft. The last section of this chapter will concentrate on the four major research issues for this project. The research issues involve the relationship between admissions of employee theft and the following: type of position the applicant attempted to secure, age of the applicant, external economic pressures upon the applicant and the applicant's history of drug use. Each of these areas has received some empirical validation connecting them to internal theft. Some empirical validation and some selected observations by security professionals concerning these research issues will be presented.

There are some important differences between empirical data and professional observations that should be noted. Personal observations made by security practitioners are generally unsystematic and easily flawed because there are few controls maintained in how information is gathered. Empirical studies are based on more tightly controlled methods

of gathering information and conclusions are drawn from the factual evidence produced by the study.

Theories on Employee Theft

The most commonly cited theory on the cause of internal theft is that of external economic pressures. Cressey (1953) was the initial author of this theory in his research on embezzlement. While Cressey's research was directed at a specific form of theft from the workplace, it is still applicable to all forms of employee theft. Cressey found that due to a demand for money in the worker's personal life (external economic pressure), the employee turned to committing theft from the workplace to fulfill this unexpected financial need. Cressey called this external economic pressure an unshareable problem because the worker often felt that the problem could not be shared with fellow employees or family members. This theory, produced by Cressey's research, was the first applicable to internal theft.

Another theory found in sociology literature is that of social control. According to this theory, theft from the workplace occurs because the broadly shared ideas and values of the workers determine what the limits of deviant behavior are in the workplace (Clark and Hollinger, 1981). If the employees of an organization broadly share the idea that internal theft is permissible then pilferage is likely to occur. If the workers are strongly opposed to the idea of employee theft then it is much less likely to occur in the organization. This theory's impetus extends back to some of

the early studies conducted on employee theft which demonstrated the role of group norms in theft from the workplace (Horning, 1970; Mars, 1973, 1974).

Categories of Employees Who Steal

There is really no such person as the typical employee thief. Many times the thief is the person least likely to be suspected as a possible offender (Post, 1972). Years ago a thief was an outlaw and a deviant and was considered easily distinguishable from honest, good, and kindly people. Unfortunately, times have changed drastically (Astor, 1978).

Employee thieves range from those who occasionally pocket a small item or a little cash to those employees who systematically steal large sums of money or large amounts of merchandise. Some will only commit theft when security is lax, others will steal regardless of the countermeasures in use, while fortunately some will be honest in all circumstances (Strauss, 1980).

Dearborn (1980) suggests that it is possible to classify employee thieves into general categories. There are five types of internal thieves in Dearborn's system. The first is the jealous thief who is motivated by one of two occurrences in the past. Either the employee has been passed over for advancement in the organization or the employee has been slighted in some way by the employer.

The second category is the most common of all employee thieves under Dearborn's system and is called the contagious thief. This employee is an opportunist, willing to cash in

on someone else's dishonest activities or ideas when it is advantageous to do so.

The third type of internal thief is named the "big shot". This employee likes to impress people outside of the workplace by getting materials for them at a cheaper price. This type of thief can also be motivated by the desire to be important and usually works on his/her own, not in collusion with others.

The fourth category of employee thief is termed the pack rat. This employee collects things, rarely stealing finished products. Common items stolen by this type of thief include tools, maintenance supplies and other similar items.

The last kind of internal thief is called the debtor and his/her actions are the result of some seemingly insurmountable financial problem. To repay the financial obligations incurred, the employee steals on his/her own or in collusion with others. The debtor does not consider himself a thief because the stealing is only to alleviate an immediate problem.

Organizational Costs of Internal Theft

According to insurance company fidelity claims in 1960, dishonest workers outstole professional burglars five to one (Curtis, 1960). Security expert Neal Holmes estimated that dishonest employees annually cost companies double in cash and merchandise as do all the burglaries, auto thefts and bank robberies nationwide combined (Curtis, 1973).

During 1958, dishonest employees were responsible for one half billion dollars in losses (Curtis, 1960). Twelve years later Post (1972) reported that internal thefts cost American business in excess of 6 billion dollars annually. However, in 1973 Lipman reported that according to a statement by the Insurance Information Institute, losses due to theft from the workplace approached 10 million dollars daily or nearly 3 billion dollars annually. In that same year a rare agreement between authors occurred when Curtis (1973) stated that the annual cost of employee theft was estimated to be 3.3 billion dollars. A figure commonly cited in security literature on the amount of internal theft is the estimate published by the American Management Association (1977) of 9 billion dollars. However, two years later Curtis (1979) published an estimate of annual losses due to theft from the workplace of 16 billion dollars.

Researchers have generally agreed that the cost of employee theft is going upward at an alarming rate (Curtis, 1960, 1973; Post, 1972; Fischer, 1981; Healy and Walsh, 1981). Yet, the remarkable dissimilarity in estimates of annual losses emphasizes how little is really known about the costs of internal theft.

One consequence of theft from the workplace often overlooked is the indirect cost. According to Curtis (1979) there are four categories of indirect costs. The first category is called contamination. This is when one employee steals and others soon follow because they believe that they can escape detection also. This is especially true for

employees who are frustrated or angry with the company. The second category is the replacement cost of an employee terminated for committing internal theft. This includes all the costs of the recruitment process such as advertising, interviews, and pre-employment screening tests. The next indirect cost is the training of the new employee. This would include meetings, paper materials and reduced productivity until properly trained. The final category is that of loss of prestige for the company if bad publicity results. Although it is not possible to calculate the cost of this loss in dollars and cents, the loss suffered from this category alone could easily be higher than the other categories combined.

Not only can internal theft cost businesses large sums of money, it can also cost the consumer more to buy a product. Canadian Business (1976) reported that due to theft from the workplace, there is an added twelve cents per dollars for the consumer. With the estimates of theft from the workplace consistently growing larger each year, this cost to consumers could be considerably higher by now.

Rates of Internal Theft Based on Empirical Studies

Through employee interviews, Tatham (1974) discovered that 50% of the employees in the study admitted to employee theft. Using admissions from polygraph examinations, Schmidt (1976) found that 76% of the workers in his study admitted to committing theft from the workplace. In a random sample of retail employees, Hollinger (1979) discovered that 28% admitted to internal theft. Terris and Jones (1980)

obtained admissions of employee theft from 50% of the workers in their study; the average amount of cash and/or merchandise stolen over the length of the study (three years) was 60 dollars per employee.

The study conducted by Clark and Hollinger (1981) is the most thorough empirical project done on theft from the workplace and is quite similar to this project. First, their data were also obtained through the use of self reports. Secondly their study compared internal theft in various types of businesses (retail stores, hospitals and electronics manufacturing companies). Finally, Clark and Hollinger's methodology also involved the use of confidential face to face interviews with employees for the data gathered through self reports.

In this landmark study, rates of pilferage among the various types of businesses were studied. Ten percent of retail employees, 27% of hospital workers and 14% of electronics manufacturing employees admitted to employee theft. Clark and Hollinger also examined how frequently internal theft was committed in these organizations. They found that 14% of retail, 8% of hospital and 4% of manufacturing employees admitted to theft from the workplace on a monthly or more frequent level of occurrence.

There is a disturbing complication to the figures mentioned above. It has been suggested by several authors that the distribution of employee theft is not normal. These authors believe that the distribution is bi-polar. This would suggest that a relatively few employees are

responsible for a significant number of the thefts occurring in the workplace (Tatham, 1974; Hollinger, 1979). If this is true, then just a few serious dishonest workers like the 8% Lipman suggested (see page 3) can cause a disproportionately large problem for the organization that employs them.

Warning Signs of Employee Theft

Many authors have discussed possible indicators of theft from the workplace. Some of what has been written does not extend the knowledge on internal theft because of the overwhelming generality of the signs said to indicate employee theft. Other lists are more practical because they have more specificity in terms of signs of theft from the workplace.

Curtis (1960) believed that there were certain warning signs indicating possible dishonesty by an employee. His list included an employee who lived beyond his/her means, the maladjusted employee, the heavy drinker, the drug user, the chronic gambler, an overly attentive worker, long term employees, the rule violator, the spendthrift, employees with family problems, chronic liars, model executives, employees who associate with undesirable people and teenage workers. Unfortunately, this list of warning signals almost assures that every worker on the payroll falls into at least one of these categories. Therefore, a checklist of such generalities is virtually worthless in identifying characteristics of employee theft.

Findings like Curtis's suggest that the literature on employee theft has been plagued by unsystematic

observations and sweeping generalizations. Surprisingly, until recent years, security and business personnel have relied on such findings to help identify dishonest workers.

In recent years, more useful findings have been generated regarding possible indicators of internal theft. Goldsmith (1978) developed a list that is more specific and appears to have more practical applications than the list generated by Curtis. Goldsmith believes that possible indicators of theft from the workplace include the following signs: debt, domestic problems, lack of pride in work, constant griping, wage disputes, bad morals/drug use and living beyond the means of the employee's income. However, upon examining the categories in Goldsmith's list, only external economic pressures (i.e. debt, living beyond the worker's income) (Curtis, 1960; Post, 1972) and drug use (Terris, 1979; Fischer, 1981) have any empirical validation.

Major Research Issues

Jobs with a High Element of Employee Theft. Companies that ignore the threat of internal theft will lose much of their profits and could possibly be forced out of business (Strauss, 1980). In fact, certain types of organizations must pay very close attention to theft from the workplace. These organizations are natural victims of employee theft because of easy access to money and/or merchandise by workers. Examples of these industries are hospitals, drug manufacturers, assembly plants, electronic manufacturers and all of the service organizations (Curtis, 1979).

Goldsmith (1978) believes there are three principle factors involved in the susceptibility of a work organization to internal theft. The first is the nature of the product manufactured or distributed. Manufacturing firms with products or components are examples of companies which are very susceptible. The second factor is the number of employees. The larger the workforce, the more inventory shrinkage the business will suffer. The final factor is the controls implemented by the firm. Companies that have poor controls for shipping, receiving or paperwork will suffer greater losses than those firms with tight controls on these problem areas.

Certain jobs are also natural opportunities for employee theft. These include jobs where money and/or merchandise is handled regularly by workers (Curtis, 1979). Examples of these jobs would be cashiers, dock personnel, and assembly line workers.

Although the relationships mentioned in the preceding paragraph seem logical and quite defensible, they are still based on personal observations. Some empirical evidence is needed to improve the credibility of these relationships.

A Security World study (cited in Healy and Walsh, 1981) examined the relationship between the type of job the applicant was attempting to secure and whether the applicant had favorable or unfavorable background data. The results showed that management applicants had the highest percentage of unfavorable data (18.9%), followed by shop and office applicants (15.5%) and scientific and technical applicants

(9.6%). Based on this study, it appears that the type of job an applicant is applying for is related to having unfavorable background data for that type of job applicant.

Effect of Worker's Age on Internal Theft. For a number of years security professionals have expressed the belief that the age of the employee is associated with theft from the workplace. Specifically, authors have hypothesized that younger workers are overinvolved in employee theft when compared to other age groups of workers (Robin, 1969; Franklin, 1975). This belief has concentrated on the honesty and integrity of young employees in an organization. This promotes the argument that younger employees are not as honest nor have as much integrity as do older workers. Yet, there has never been an accepted explanation for this, although Merriam (1977) described it as an "epidemic of moral laxity among young workers".

Once again the description of a relationship between theft from the workplace and a variable suffered because it was based on unsystematic observations, not empirical evidence. However, Clark and Hollinger (1981) did find supporting empirical evidence that this relationship did exist. They found that younger workers were more involved in employee theft than other age groups. These authors also suggested a plausible explanation as to why this relationship exists. They believe that younger workers are less responsive to negative sanctions since they often have no dependents, senority (loss of benefits) or career aspirations with the organization.

Relationship Between External Economic Pressures and Pilferage. In addition to type of job applied for and age, there are other variables that have been hypothesized as having some influence on internal theft. Among these is a variable referred to as external economic pressures.

Seidman (1965) had two phrases for the causes of employee theft. The first was "gin, girls, and gambling", the second was "babes, booze, and bookies". Both of Seidman's phrases concern the employee yielding to some type of external economic pressure.

Curtis (1960) also shared this belief that an employee steals due to some emergency need for money. He also suggested that once this occurs, the workers finds it easier to steal again.

The employee who needs to steal for financial reasons is faced with one other problem. Fences usually pay approximately twenty percent or less of actual value forcing internal thieves to steal vast amounts of merchandise to alleviate their financial problems (Lipman, 1973). Of course this is only applicable to pilferage of merchandise, not money.

The first empirical evidence that external economic pressures did indeed affect internal theft was found by Cressey (1953) in his research on embezzlement. His research showed that employees faced with an unshareable problem turned to embezzling from the organization to alleviate this situation. However, it must be pointed out that this research only applies to theft of money from the workplace since embezzling only involves money.

In addition to Cressey's study, empirical evidence relating external economic pressures to employee theft has been generated through other studies as well. For example, the Chicago Crime Commission found four major factors behind theft from the workplace: gambling, extravagant living standards, undesirable associates and an inadequate income (Curtis, 1960). A National Foreman's Institute study found that the principle factors behind internal theft were related to external economic pressures. These factors were: living beyond the means of the salary, gambling, high living and questionable companions, and an extended illness of the principle wage earner of a family (Post, 1972). Both of these studies empirically support the claim that external economic pressures are related to employee theft.

The Relationship Between Drug Use and Internal Theft. The final major research issue that will be studied in this research project will be the relationship between drugs use and theft from the workplace. The principle factors behind this association are reported to be the high costs of the drugs and/or the drug habit and the reduction of inhibitions resulting from use of the drug leading to theft from the workplace.

A good example of how drugs can influence employees to steal was recently reported in U.S. News and World Report (1983). The article stated that an electrical contracting firm recently discovered that dishonest employees had stolen approximately fifty thousand dollars worth of their goods and resold them to help finance their drugs habits.

The conclusion of the article was that the drug habits of workers and internal theft were definitely linked.

Another good example of the expense behind a drug habit is the annual thirty-five thousand dollar habit of a heroin addict (Fischer, 1981). An addict would be forced to steal five times the actual amount of the drug habit in merchandise due to the reduced value of the goods on the street (Post, 1972; Fischer, 1981).

Extensive drug use has been empirically associated with theft from the workplace. Terris (1979) discovered that employee thieves have tendencies toward areas like alcohol and drug abuse. In 1980, Terris and Jones found a strong predictor of theft from the workplace to be past drug use (other than alcohol), however this finding only applies to younger not older workers.

In their study, Clark and Hollinger (1981) investigated how many employees reported to work under the influence of drugs. They found that 3% of the hospital, 8% of the retail and 13% of the manufacturing employees admitted coming to work within the past year while under the influence of alcohol or drugs. This finding along with the empirical evidence found in the above mentioned studies details what a dangerous relationship drug use has with theft from the workplace.

Summary

The number of empirical studies conducted on internal theft has risen sharply over the last several years. The conclusions drawn from these projects have improved the

credibility of the literature on employee theft because these studies involve systematic observations with good methodological controls. However, even with this improvement there are still gaps in the knowledge of theft from the workplace. The results of the empirical studies still show inconsistencies in the costs, frequency and number of workers involved in pilferage. It must also be remembered that some variables are beginning to receive more consistent support from the empirical studies with regard to their association with internal theft.

Most researchers agree, regardless of empirical study or personal observation, that no one really knows the extent of damages caused directly or indirectly by employee theft (Clark and Hollinger, 1981). Many researchers agree that similar to other forms of crime, figures found in the security literature are probably grossly understated. Some authors believe that the problem of internal theft is so drastic, that the number of workers involved is irrelevant (Astor, 1978). Generally it is agreed that the percentages of employees and the losses from these acts are on the upswing (Fischer, 1981; Healy and Walsh, 1981).

One piece of important information that has been suggested by several authors is that theft from the workplace tends to have a bi-polar distribution. This suggests that a relatively few workers are responsible for a significant amount of pilferage (Tatham, 1974; Hollinger, 1979).

Some authors have stated that theft from the workplace and related internal problems are the greatest

contributors to inventory shortage in all business (Newby, 1980; Curtis, 1973). Apparently employee theft accounts for the majority of losses suffered by industry and business, and the problem seems to be rapidly worsening (Terris and Jones, 1980). If research could identify those workers who are responsible for the significant percentage of inventory shortage losses, then business organizations could reduce their losses significantly.

Chapter 3

Methodology

In this chapter the methodology employed for this research project will be discussed. Among the various items that will be detailed in this chapter are the stages of a pre-employment polygraph examination, characteristics of the sample, listings of businesses and jobs involved in this project and operational definitions for selected variables.

The final section of this chapter will outline the major research issues of this project. A brief synopsis of what previous empirical studies have found on each of these items will be included.

Source of Data

The data base for this project was drawn from interviewer assisted self-reports on employee misconduct made by applicants during pre-employment interviews. These interviews were conducted by a polygraph consulting firm that specializes in administering pre-employment polygraph-based interviews. Each applicant was requested to take a pre-employment polygraph examination. The applicant was referred to the consulting firm by the potential employer.

The self-report data generated from the pre-employment interview (see Appendix for complete list of areas in which information was gathered) are unrelated to the controversy

about the accuracy of the polygraph. That is, the admissions of the applicants were made separate from the actual use of the polygraph instrument. In order to better understand this process, it will be helpful to explain what is involved in a standard pre-employment polygraph examination.

A standard pre-employment polygraph examination consists of questions in the following areas: theft of money and merchandise from previous employers, history of past criminal activities including convictions and crimes that went undetected, receiving and selling stolen merchandise, history of drug use and falsification of the job application (Phannestill, 1984). Applicants admissions in these areas were generated from one of the stages of the pre-employment polygraph examination. In the next section, each of the stages will be discussed explaining the purpose of the stage in the standard pre-employment polygraph examination.

The Three Stages of the Polygraph Examination Process

Stage 1 The Pre-Test Interview. The pre-test interview is the first stage in the pre-employment polygraph examination. This consists of a discussion between the polygraph examiner and the job applicant regarding the questions to be asked in the upcoming examination. The pre-test interview serves several purposes. It allows the applicant to relax and better understand the process that is about to occur. Next, it allows the applicant to realize that there will be no surprise questions since the examiner and the applicant discuss each question beforehand. It also

allows the applicant to clarify any illegal activity of importance to the employer prior to actual polygraph testing (e.g. previous employee theft, use of narcotics, etc.). Finally the questions in the pre-test interview generate a checklist of issues for the examiner to verify.

For the purposes of this research project, the checklist of admissions served as self report data on each job applicant. This checklist also served as a self report on certain of the applicants job qualifications and demographic characteristics. It is this information that provides background data on the applicant.

Stage 2 Polygraph Testing. After the pre-test interview is concluded and the applicant clearly understands in what areas he/she is being questioned, polygraph testing is initiated by the examiner. During this stage of the process the polygraph instrument is in operation. At this time the examiner once again questions the applicant on the standardized areas discussed in the pre-test interview. In most instances no new self report information is generated from this stage of the examination process. For this project, areas in which the applicant's admissions were examined were: financial situation of the applicant (bad debts), history of drug use, and amounts of thefts both on and off the job from former employers.

Stage 3 Post Test. The final stage of the standard pre-employment polygraph examination is called the post test interview. During this stage it is standard practice for the examiner to advise the subject that the polygraph testing

phase is over and to announce the results of the examination. If the examiner believed that the applicant was giving incomplete information on a subject area, further information was requested. If the applicant gave further information on a subject area, new self-report data was generated. It should be clearly understood that the final recorded admission on a subject area, whether derived during the pre or post test interview, served as the self-report data analyzed for this project.

It should be noted that these final admissions were not independently verified. This problem is inherent in all self-report research. Therefore, the validity of this data should be viewed with the same reservations as other self-report research. The methodology used in this project is not necessarily better than methodologies used in other empirical studies. However, because it is relatively unique to empirical research previously conducted on employee theft, theft from the workplace will be examined in a manner different than before. It is hoped this methodology will result in new and useful information on internal theft.

Characteristics of the Sample

The sample for this project was the 656 consecutive applicants who, as a result of a job application, made contact with the consulting firm and began the polygraph examination process during the year 1979. However, complete data could be obtained from only 599 of these applicants; therefore they served as the actual sample for this project. It is unknown how many applicants were initially referred to

the consulting firm but never made contact. Since it seems unlikely that the proportion of these "no shows" changes dramatically from year to year, the sample for this project is probably representative of job applicants in other years.

Of the 599 applicants in the sample, 376 (63%) were male and 223 (37%) were female as shown in Table 3.1. The range of ages for the applicants was from 16 to 65 with the mean age being 26, the median age being 23 and the standard deviation equaling 8.9 (See Table 3.1.). The education of these applicants ranged from 8 to 18 years, the mean being 13, the median being 12 and the standard deviation equaling 1.9 (See Table 3.1.). Of the 599 applicants, 234 (39%) were married while 365 (61%) were single as displayed in Table 3.1.

Table 3.1 Demographic Characteristics of Job Applicants

Sex of Job Applicants

Sex	N	Percentage
Male	376	63
Female	223	37

Ages of Job Applicants

range	-	16-65
mean	-	26 years
median	-	23 years
s	-	8.9

Education of Job Applicants

range	-	8-18 years
mean	-	13 years
median	-	12 years
s	-	1.9

Marital Status of Job Applicants

Status	N	Percentage
Married	234	39
Single	365	61

Potential Jobs and Types of Businesses Involved in This Study

Numerous types of businesses referred their potential hirees to the polygraph consulting firm during the year this project was conducted. Businesses that made use of the consulting firm were freight companies, storage companies, exterminators, armored car companies, police departments, shoe companies, drug manufacturers, vending companies, hardware stores, book companies, restaurants, jewelry companies, fabric companies, department stores, electronics companies and floor covering companies.

The potential jobs for the 599 applicants in this study were diverse. Available positions included truck drivers, pharmacists, stockboys, exterminators, drug store cashiers, armored car drivers, guards, management sales trainees, service drivers, bookstore cashiers, department store cashiers, money counters, civilian police dispatchers and clerical workers.

Table 3.2 shows the frequency distribution of the positions that were available to job applicants involved in this study.

Table 3.2 Available Positions for Job Applicants

Position	N	Percentage
Truck Drivers	32	5
Pharmacists	35	6
Stockboys	55	9
Exterminators	116	19
Drug Store Cashiers	95	16
Armored Car Drivers	5	1
Guards	43	7
Management Sales Trainees	78	13
Service Drivers	20	3
Bookstore Cashiers	28	5
Department Store Cashiers	69	12
Money Counters	1	(.2)
Civilian Police Dispatchers	3	(.5)
Clerical Workers	19	3

Operational Definitions

Research projects often use the same type of variables, but do not define variables in exactly the same way. Therefore, each variable in a research project needs to be given an operational definition. An operational definition is the concrete and specific definition of something in terms of the operations by which operations are to be categorized (Babbie, 1979).

Marital status of the applicant was operationalized as either married or single according to information provided by each applicant. Age of the applicant was operationally defined as (a) ages 24 or less: younger, and (b) ages 25 or over: older.

The range of narcotics that the applicant was questioned about included the following: marijuana, sniffing glue, THC, hash, barbituates, opium, cocaine, heroin and stimulants. History of drug use was operationalized by placing drug use admissions into one of the following categories: (a) no admission of any drug: none, (b) admission of marijuana use only: marijuana only, and (c) admission of using any other drug: "hard" drugs.

Frequency of marijuana use was also studied separately from admissions of using other drugs. Marijuana use admissions were operationalized into one of the following categories: (a) no use: none, (b) less than five times monthly: occasionally, and (c) fives times or more monthly: frequently.

The type of job applied for was one of fourteen positions available as shown in Table 3.2. These jobs were categorized in the following manner: (a) management sales trainees: management applicants, (b) exterminators and pharmacists: scientific and technical applicants, and (c) truck drivers, stockboys, drug store cashiers, armored car drivers, guards, service drivers, book store cashiers, department store cashiers, money counters, civilian police dispatchers and clerical workers: shop and office applicants.

Dollar Amount vs. Frequency of Employee Theft Issue

For this project a decision had to be made on how seriousness of internal theft would be determined. Two variables were available for possible use; either total dollar amount or frequency of theft. Indeed frequency of theft might be an important variable, but the self report admissions only dealt with whether employee theft was committed as a juvenile, adult or both. This information was not considered especially meaningful nor would it further existing knowledge on theft from the workplace. Also, various studies have used frequency of theft to study pilferage (Clark and Hollinger, 1981). However, no empirical study has examined internal theft by using admissions of dollar amount. Therefore it was decided that studying pilferage by using total dollar amount would yield useful new information on employee theft. It is for this reason total dollar amount was chosen as the indicator for seriousness of theft from the workplace.

A problem that has continually plagued security literature is a consistent definition of theft from the

workplace. There has been virtually no agreement among researchers on a single definition of employee theft, although some are more commonly cited. The definition employed by Hollinger and Clark in their landmark 1981 study is one such definition. It states that "employee theft consists of the unauthorized taking, control or transfer of money and/or property of the formal work organization by an employee during the course of occupational activity" (Merriam, 1977). However, this definition was too cumbersome and complex for this research project. Therefore, the chosen operational definition for internal theft was the actual dollar amount the applicant admitted he/she had stolen from previous employers in either merchandise or money in one of the following categories: (a) if an applicant had no admission for either internal theft of money or merchandise: none, (b) if an applicant had a minor admission (50 dollars or less) in money or in merchandise, but no admission in the other category; or minor admissions in both money and merchandise: minor, and (c) if an applicant had a major admission (over 50 dollars) in either money or merchandise: major.

These categories will remain consistent throughout all the upcoming tests on the major research issues. The dependent variable for all tests will be the total amount of employee theft and its level of measurement will be ordinal.

Major Research Issues

Since there have been relatively few empirical studies conducted on job applicants and their admissions of internal

theft, this research will be exploratory in nature. The independent variables for the upcoming tests will be the variables previously mentioned that have been found to be associated with admissions of employee theft.

All tests conducted on these variables will involve chi-square tests. Chi-square tests are tests of statistical significance that determine if a relationship exists between two variables. With these tests the probability that the observed relationship occurred by chance can be determined. It is commonly accepted in social science to accept as statistically significant those relationships which have a probability of occurring by chance five percent of the time or less (critical value of .05).

Measures of association will also accompany tables where statistical significance is found. Measures of association are used to indicate how strongly two variables are related to each other. The choice of a measure of association depends on the level of measurement for those variables involved in the relationship being tested. Gamma is considered an appropriate measure of association for variables that are rank ordered and since all variables used in this project are rank ordered (ordinal), gamma will be the measure of association used.

Research Issue #1. The first major research issue involves the relationship between external economic pressures on the applicant and admissions of employee theft. It has been shown previously that applicants who have bed debts have more significant admission of internal theft than those

applicants who do not admit having bad debts (Cressey, 1953; Curtis, 1960; Post, 1972). The level of measurement for bad debts will be ordinal.

Research Issue #2. Exploring the relationship between age of the applicant and admissions of pilferage will constitute the second major research issue. It has been established previously that younger employees have more significant admissions of internal theft than older employees (Clark and Hollinger, 1981). The level of measurement for age of the applicant will be ordinal.

Research Issue #3. The third major research issue describes the relationship between the applicants' admitted history of drug use and admissions of theft from the workplace. Previous studies have indicated that applicants who admit to extensive drug use are more likely to have significant admissions of employee theft than those applicants without an admitted history of extensive drug use (Terris, 1979; Terris and Jones, 1980). Three separate tests will be used to investigate this research issue.

The initial test will use frequency of marijuana use as an indicator of extensive drug use. Those applicants who admitted using marijuana frequently will be considered extensive drug users. The level of measurement for frequency of marijuana use is ordinal.

For the second test, admissions of all drugs the applicants were initially questioned about during polygraph testing will be examined. Due to the widespread use of marijuana, it was decided to test its use separately from

the nine "hard" drugs. The level of measurement for history of drug use will be ordinal.

In the final test, use of drugs while on the job and admissions of employee theft will be studied. The level of measurement for using drugs on the job will be ordinal.

Research Issue #4. The final major research issue will explore the relationship between the type of job applied for and admissions of theft from the workplace. A study reported by Security World established that applicants who apply for management positions will have more significant admissions than will shop and office or scientific and technical applicants (cited in Healy and Walsh, 1981). The level of measurement for type of job applied for will be ordinal.

Control Variables

Since there is so little empirical evidence on internal theft, three control variables that might be related to internal theft admissions will be analyzed. A control variable is a variable held constant in an attempt to further clarify the relationship between two variables (Babbie, 1979). Chi-square tests will be utilized with certain variables being controlled to discover the influence of these variables on employee theft admissions. Variables that will serve as controls include sex, age and marital status of the applicant.

Chapter 4

Results

There are two sections in this chapter. The first involves the testing of variables in bivariate relationships considered major research issues; these are: age of the applicant, admissions of bad debts, admissions of drug use and type of job the applicant was attempting to secure as they relate to employee theft. Next, these same issues are further examined by use of three control variables, sex, age and marital status of the applicant.

Section two will show data only from those applicants who made admissions of theft from the workplace. Once again control variables will be utilized after bivariate relationships are tested.

Section 1 Admissions From All Applicants

Age of the Applicant. Table 4.1 displays the relationship between age of the applicant and admissions of internal theft. The analysis of data showed that younger applicants admitted more involvement in minor employee theft (40%) than older applicants (31%), but older applicants had more major admission of pilferage 22% to 15%. These differences in the admissions between the age groups were found to be statistically significant, but the value of gamma showed

that the relationship was very weak (x^2=7.56, df-2, p=.02, gamma =.04).

Table 4.1 Relationship Between Age of the Applicant and Admissions of Employee Theft

Employee Theft Admissions	Age of the Applicant	
	Younger	Older
None	157	121
Minor	136	78
Major	51	56

x^2=7.56, 2df, p=.02, gamma=.04

External Economic Pressures. The analysis of data between admissions of bad debts and admissions of employee theft is displayed in Table 4.2. The differences between admissions of applicants with admitted bad debts compared to those who did not admit bad debts were not found to be statistically significant. It should be noted that only 3% of the applicants admitted to having bad debts (x^2= 4.0, df-2, p=.13).

Table 4.2 Relationship Between Bad Debts and Admissions of Employee Theft

Employee Theft Admissions	Bad Debts No	Bad Debts Yes
None	273	5
Minor	206	8
Major	101	6

x^2=4.00, 2df, p=.13

Type of Job Applied For. The distribution of data pertaining to the type of job applied for by admissions of theft from the workplace is shown in Table 4.3. The differences in admissions among management, scientific and technical, and shop and office applicants were not found to be statistically significant (x^2=3.46, df-4, p=.48).

Table 4.3 Relationship Between Type of Job Applied For and Admissions of Employee Theft

Employee Theft Admissions	Type of Job Applied For: Management	Scientific/Technical	Shop/Office
None	32	74	172
Minor	32	46	136
Major	14	31	62

x^2= 3.46, 4df, p=.48

History of Drug Use. Table 4.4 displays the distribution of data between the applicants' admitted history of drug use and admissions of theft from the workplace. The data shows that as admissions of drug use increase so do the

percentages involving severity of pilferage admissions. Of the applicants who did not have any admissions of drug use, 58% had no admissions of employee theft. Forty four percent of the applicants who admitted using marijuana only, had minor admissions of internal theft. Thirty one percent of the applicants who admitted using "hard" drugs had major admissions of theft from the workplace. These differences were found to be statistically significant and the value of gamma showed that the relationship was of moderate strength (x^2=36.17, df-4, p=.00, gamma=.31).

Table 4.4 Relationship Between History of Drug Use and Admissions of Employee Theft

Employee Theft	History of Drug Use		
Admissions	None	Marijuana Only	"Hard" Drugs
None	154	87	37
Minor	76	94	44
Major	37	34	36

x^2= 36.17, 4df, p=.00, gamma=.31

Use of Drugs on the Job. Analysis of the data relevant to admissions of using drugs on the job by admissions of pilferage showed that a statistically significant relationship existed. The data in Table 4.5 reveal that applicants who admitted using drugs on the job had a higher proportion of minor (37%) and major (39%) admissions of employee theft than applicants who did not admit using drugs on the job, 36% and 16% respectively. The value of gamma

showed that the relationship was of moderate strength (x^2= 18.61, df-2, p=.00, gamma=.46).

Table 4.5 Relationship Between Use of Drugs on the Job and Admissions of Employee Theft

Employee Theft Admissions	Use of Drugs on the Job	
	No	Yes
None	266	12
Minor	196	18
Major	88	19

x^2=18.61, 2df, p=.00, gamma=.46

Frequency of Marijuana Use. The analysis of data between admissions of marijuana use and admissions of internal theft is displayed in Table 4.6 and shows that as frequency of marijuana use increases so do admissions of theft from the workplace. Of the applicants who did not admit using marijuana, 57% had no admissions of theft from the workplace. Forty nine percent of the applicants who admitted using marijuana occasionally had minor admissions of internal theft. Twenty five percent of the applicants who admitted using marijuana frequently had major admissions of pilferage. These differences were found to be statistically significant and gamma showed that the relationship was of moderate strength (x^2=37.32, df-4, p=.00, gamma=.31).

Table 4.6 Relationship Between Frequency of Marijuana Use and Admissions of Employee Theft

Employee Theft Admissions	Frequency of Marijuana Use		
	None	Occasionally	Frequently
None	158	32	88
Minor	77	36	101
Major	40	5	62

x^2=37.32, 4df, p=.00, gamma=.31

Effect of Control Variables on Major Research Issues - All Applicants

Age of the Applicant. The relationship between the data on the age of the applicant by admissions of theft from the workplace controlling for the sex of the applicant is shown in Table 4.7. In the case of females no significant effect was found as shown in the table. However, among males, younger applicants were proportionately more involved in minor admissions of internal theft than older applicants - 40% to 28%, but older applicants admitted more involvement in major employee theft 25% to 19%. These differences were statistically significant, but the value of conditional gamma showed that the relationship was very weak (corrected x^2=6.07, df-2, p=.05, conditional gamma=-.02).

Table 4.7 Relationship Between Age of the Applicant and Admissions of Employee Theft Controlling for Sex

Employee Theft Admissions	Age of the Applicant	
	Younger	Older
Male		
None	75	91
Minor	72	54
Major	35	49
Female		
None	82	30
Minor	64	24
Major	16	7

a=corrected x^2=6.07, 2df, p=.05, conditional gamma=-.02

b=corrected x^2=.13, 2df, p=.94, conditional gamma=.04

The data distribution between age of the applicant and admissions of theft from the workplace when controlling the marital status of the applicant is shown in Table 4.8. In the case of married applicants no statistically significant effect was found. However, among applicants who were single, younger applicants were involved in minor admissions of pilferage more often than older applicants - 39% to 32%, but older applicants had more major admissions of employee theft (25%) than younger applicants (14%). These differences were statistically significant, but conditional gamma revealed that the relationship was weak (corrected x^2=6.31, df-2, p=.04, conditional gamma=.14).

Table 4.8 Relationship Between Age of the Applicant and Admissions of Employee Theft Controlling for Marital Status

Employee Theft Admissions	Age of the Applicant	
	Younger	Older
Single		
None	126	42
Minor	105	31
Major	37	24
Married		
None	31	79
Minor	31	47
Major	14	32

a=corrected x^2=6.31, 2df, p=.04, conditional gamma=.14

b=corrected x^2=2.89, 2df, p=.24, conditional gamma=-.10

External Economic Pressures. It was not possible to conduct meaningful chi-square tests on this variable utilizing control variables. This was due to the small number of applicants who admitted having bad debts (N=19).

Type of Job Applied For. Using control variables to further examine the relationship between the type of job an applicant was attempting to secure and admissions of internal theft did not provide any significant relationship. None of the variables implemented in these tests showed any statistically significant values.

Applicants Admitted Use of Narcotics. None of the tests displaying the effect of control variables on frequency of marijuana use, use of drugs on the job and history of

drug use showed any statistically significant effect with the exception of controlling the sex of the applicant while examining use of drugs on the job. In the case of females no significant effect was found. Table 4.9 shows that among males, those that did not admit using drugs on the job were more likely to have no admissions of pilferage (46%) than those who admitted using drugs at work (24%). However, those that admitted using drugs on the job were overinvolved in major admissions of internal theft (46%) compared to those who did not admit to drug use (20%). These differences were found to be statistically significant and the value of gamma signifies that the relationship is moderate in strength (corrected x^2=14.06, df-2, p=.00, conditional gamma=.46).

Table 4.9 Relationship Between Use of Drugs on the Job and Admissions of Employee Theft Controlling for Sex

Employee Theft Admissions	Use of Drugs on the Job	
	No	Yes
Male		
None	157	9
Minor	115	11
Major	67	17
Female		
None	109	3
Minor	81	7
Major	21	2

a=corrected x^2=14.06, 2df, p=.00, conditional gamma=.46

b=corrected x^2=3.25, 2df, p=.20, conditional gamma=.43

Section 2 Applicants with Admissions of Employee Theft

It should be noted for this section that applicants who did not admit using drugs were dropped from chi-square tests involving history of drug use and frequency of marijuana use. This allowed for a clearer picture of the effect of admitted drug use on admissions of pilferage.

Age of the Applicant. A relationship exists between the ages of applicants who had admissions of theft from the workplace and the severity of their admissions as shown in Table 4.10. Younger applicants were proportionately more involved with minor admissions of employee theft (73%) versus older applicants (58%). Older applicants were more involved in major admissions of internal theft (42%) than younger applicants (27%). These differences were statistically significant and gamma showed that the relationship was moderate in strength (corrected x^2=6.77, df-1, p=.01, gamma= .31).

Table 4.10 Relationship Between Age of the Applicant and Admissions of Employee Theft

Employee Theft	Age of the Applicant	
Admissions	Younger	Older
Minor	136	78
Major	51	56

corrected x^2=6.77, 1df, p=.01, gamma=.31

External Economic Pressure. The analysis of data between admissions of bad debts and the severity of employee

theft admissions is displayed in Table 4.11. Only 4% of the applicants who admitted to internal theft also had admissions of bad debts. The relationship was not found to be statistically significant (corrected x^2=.23, df-1, p= .63).

Table 4.11 Relationship Between Admissions of Bad Debts and Admissions of Employee Theft

Employee Theft Admissions	Bad Debts No	Bad Debts Yes
Minor	206	8
Major	101	6

corrected x^2=.23, 1df, p=.63

Type of Job Applied For. The distribution of data that pertained to the type of job applied for by the extent of admissions of theft from the workplace is represented in Table 4.12. The differences were not found to be statistically significant (x^2=2.20, df-2, p=.33).

Table 4.12 Relationship Between Type of Job Applied For and Admissions of Employee Theft

Employee Theft Admissions	Type of Job Applied For: Management	Scientific/Technical	Shop/Office
Minor	32	46	136
Major	14	31	62

x^2=2.20, 2df, p=.33

History of Drug Use. The relationship between the applicants' admitted history of drug use and admitted amounts of theft from the workplace are shown in Table 4.13. It reveals that 73% of the applicants who admitted using only marijuana had minor admissions of internal theft while 45% of the applicants who admitted using "hard" drugs had major admissions of employee theft. These differences were found to be statistically significant and the value of gamma displayed that the strength of this relationship was moderate (corrected x^2=6.70, df-1, p=.01, gamma=.39).

Table 4.13 Relationship Between History of Drug Use and Admissions of Employee Theft

Employee Theft	History of Drug Use	
Admissions	Marijuana Only	"Hard" Drugs
Minor	94	44
Major	34	36

corrected x^2=6.70, 1df, p=.01, gamma=.39

Use of Drugs on the Job. Analysis of the data relevant to admissions of using drugs on the job by the severity of pilferage admissions showed that a statistically significant relationship did exist. Table 4.14 reveals that 69% of the applicants who did not admit using drugs on the job had minor admissions of internal theft while 51% of the applicants who did admit using drugs on the job had major admissions of employee theft. The value of gamma revealed that this relationship was of moderate strength (corrected x^2=5.23, df-1, p=.02, gamma=.40).

Table 4.14 Relationship Between Use of Drugs on the Job and Admissions of Employee Theft

Employee Theft Admissions	Use of Drugs on the Job	
	No	Yes
Minor	196	18
Major	88	19

x^2=5.23, 1df, p=.02, gamma=.40

Frequency of Marijuana Use. The analysis of data between admissions of marijuana use and the extent of internal theft admissions is displayed in Table 4.15. It shows that as frequency of marijuana use increases so do admissions of theft from the workplace. Applicants who admitted using marijuana occasionally had more minor admissions of pilferage (88%) than applicants who admitted using marijuana frequently (62%). However, 38% of the admitted frequent users of marijuana had major admissions of employee theft compared to only 12% of the occasional users. These differences were found to be statistically significant and gamma revealed that the relationship between the variables was strong (corrected x^2=8.78, df-1, p=.00, gamma=.63).

Table 4.15 Relationship Between Frequency of Marijuana Use and Admissions of Employee Theft

Employee Theft Admissions	Frequency of Marijuana Use	
	Occasionally	Frequently
Minor	36	101
Major	5	62

corrected x^2=8.78, 1df, p=.00, gamma=.63

Effects of Control Variables on Major Research Issues for Applicants with Admissions of Employee Theft

Age of the Applicant. Analysis of the relationship for age of the applicant by their admitted amounts of internal theft with control variables are shown in Tables 4.16 and 4.17. No significant effect could be found when controlling for gender in the case of females as shown in Table 4.16. However, among males, it was discovered that younger applicants had more minor admissions of pilferage (67%) but that older applicants had more major admissions of theft from the workplace - 48% to 33%. These differences were statistically significant and the value of conditional gamma displayed that the relationship was of moderate strength (corrected x^2=4.23, df-1, p=.04, conditional gamma=.30).

Table 4.16 Relationship Between Age of the Applicant and Admissions of Employee Theft Controlling for Sex

Employee Theft Admissions	Age of the Applicant	
	Younger	Older
	Male	
Minor	72	54
Major	35	49
	Female	
Minor	64	24
Major	16	7

a=corrected x^2=4.23, 1df, p=.04, conditional gamma=.30

b=corrected x^2=.00, 1df, p=.97, conditional gamma=.08

The data distribution between age of the applicant and severity of admissions of theft from the workplace when controlling the marital status is represented in Table 4.17. In the case of married applicant no significant effect was found. Among applicants that were single, younger applicants had more admissions of minor employee theft (74%) and older applicants had more admissions of internal theft 44%-26%. These differences were found to be statistically significant and conditional gamma showed a moderate relationship (corrected x^2=4.94, df-1, p=.03, conditional gamma=.37).

Table 4.17 Relationship Between Age of the Applicant and Admissions of Employee Theft Controlling for Marital Status

Employee Theft Admissions	Age of the Applicant	
	Younger	Older
	Single	
Minor	105	31
Major	37	24
	Married	
Minor	31	47
Major	14	32

a=corrected x^2=4.94, 1df, p=.03, conditional gamma=.37

b=corrected x^2=.72, 1df, p=.40, conditional gamma=.20

External Economic Pressures. See discussion on page 43.

Type of Job Applied For. Once again using control variables to test the relationship between the type of job

the applicant was attempting to secure and admissions of internal theft did not provide any significant result. None of the control variables used to test this research issue exhibited any statistically significant influence.

History of Drug Use. With the exception of controlling the gender of the applicant, all tests involving control variables were found to be statistically significant on the data distributions for history of drug use by extent of employee theft admissions. In the case of younger applicants no significant effect was found. As shown in Table 4.18, the data do reveal that older applicants who admitted using only marijuana had more minor admissions of internal theft (72%) and older applicants who admitted using "hard" drugs were more likely to have major admissions of pilferage (68%) than those who admitted using only marijuana (28%). These differences were found to be statistically significant and the value of conditional gamma revealed a strong relationship between the variables (corrected x^2=8.92, df-1, p=.00, conditional gamma=.69).

Table 4.18 Relationship Between History of Drug Use and Admissions of Employee Theft Controlling for Age

Employee Theft Admissions	History of Drug Use	
	Marijuana Only	"Hard" Drugs
	Older	
Minor	33	8
Major	13	17
	Younger	
Minor	61	36
Major	21	19

a=corrected x^2=8.92, 1df, p=.00, conditional gamma=.69

b=corrected x^2=.88, 1df, p=.35, conditional gamma=.21

As can be seen in Table 4.19, no significant effect was found for married applicants. However, single applicants who admitted using marijuana only had more minor admissions of employee theft (74%) than did applicants who admitted using "hard" drugs (56%), but single applicants who admitted using "hard" drugs had more major admissions of pilferage - 44% to 26%. These differences were found to be statistically significant and the value of conditional gamma revealed the strength of the relationship to be moderate (corrected x^2= 4.14, df-1, p=.04, conditional gamma=.39).

Table 4.19 Relationship Between History of Drug Use and Admissions of Employee Theft Controlling for Marital Status

Employee Theft Admissions	History of Drug Use	
	Marijuana Only	"Hard" Drugs
	Single	
Minor	62	30
Major	22	24
	Married	
Minor	32	14
Major	12	12

a=corrected x^2=4.14, 1df, p=.04, conditional gamma=.39

b=corrected x^2=1.82, 1df, p=.18, conditional gamma=.39

Use of Drugs on the Job. Controlling for age and marital status had no effect on the relationship between applicants who admitted using drugs on the job and admitted amounts of employee theft. However, controlling the sex of the applicant showed a significant effect, only for males as shown in Table 4.20. Males who did not admit using drugs on the job had more minor admissions of pilferage (63%) than those who did admit using drugs on the job (39%). But, 61% of the males who admitted using drugs on the job had major admissions of employee theft compared to only 37% for males who did not admit using drugs on the job. These differences were statistically significant and the value of conditional gamma showed that the relationship was of moderate strength (corrected x^2=4.82, df-1, p=.03, conditional gamma= .45).

Table 4.20 Relationship Between Use of Drugs on the Job and Employee Theft Controlling for Sex

Employee Theft Admissions	Use of Drugs on the Job	
	No	Yes
Male		
Minor	115	11
Major	67	17
Female		
Minor	81	7
Major	21	2

a=corrected x^2=4.82, 1df, p=.03, conditional gamma=.45

b=corrected x^2=0.0, 1df, p=1.0, conditional gamma=.05

Frequency of Marijuana Use. An analysis of the data distribution for admitted frequency of marijuana use and the extent of admissions of pilferage with control variables did show significant results in all three cases.

In the case of older applicants no significant effect was found as shown in Table 4.21. Among younger applicants, those who admitted using marijuana occasionally were much more likely to have minor admissions of internal theft (93%) than those who admitted using marijuana frequently (66%). But, those males who admitted using marijuana frequently were much more likely to have major admissions of theft from the workplace (34%) than those who admitted using it occasionally (7%). These differences were found to be statistically significant and conditional gamma revealed that a strong

relationship existed between the variables (corrected x^2= 6.33, df-1, p=.01, conditional gamma=.73).

Table 4.21 Relationship Between Frequency of Marijuana Use and Admissions of Employee Theft Controlling for Age

Employee Theft Admissions	Frequency of Marijuana Use	
	Occasionally	Frequently
	Younger	
Minor	25	71
Major	2	37
	Older	
Minor	11	30
Major	3	25

a=corrected x^2=6.33, 1df, p=.01, conditional gamma=.73

b=corrected x^2=1.77, 1df, p=.18, conditional gamma=.51

As shown in Table 4.22, no significant effect was found for females. Among male applicants, those that admitted using marijuana occasionally were more likely to have minor admisssions of pilferage (84%) than those who admitted using marijuana frequently (56%). However, those males who admitted using marijuana frequently were much more likely to have major admissions of internal theft (44%) than those who admitted using marijuana occasionally (16%). These differences were found to be statistically significant and the value of conditional gamma displayed that a strong relationship existed (corrected x^2=5.52, df-1, p-.02, conditional gamma=.61).

Table 4.22 Relationship Between Frequency of Marijuana Use and Admissions of Employee Theft Controlling for Sex

Employee Theft Admissions	Frequency of Marijuana Use	
	Occasionally	Frequently
Male		
Minor	21	63
Major	4	49
Female		
Minor	15	38
Major	1	13

a=corrected x^2=5.52, 1df, p=.02, conditional gamma=.61

b=corrected x^2=1.69, 1df, p=.19, conditional gamma=.67

As shown in Table 4.23, no significant effect was found in the case of married applicants. The data do reveal that among single applicants, those who admit using marijuana occasionally are more likely to have minor admissions of theft from the workplace (89%) than those who admitted to using marijuana frequently (61%). However, those single applicants who admitted using marijuana frequently were more likely to have major admissions of internal theft (39%) than those who admitted using marijuana occasionally (11%). These differences were found to be statistically significant and conditional gamma showed that a strong relationship existed between the variables (corrected x^2=6.75, df-1, p=.01, conditional gamma=.68).

Table 4.23 Relationship Between Frequency of Marijuana Use and Admissions of Employee Theft Controlling for Marital Status

Employee Theft Admissions	Frequency of Marijuana Use	
	Occasionally	Frequently
Single		
Minor	25	66
Major	3	42
Married		
Minor	11	35
Major	2	20

a=corrected x^2=6.75, 1df, p=.01, conditional gamma=.68

b=corrected x^2=1.26, 1df, p=.26, conditional gamma=.52

Chapter 5

Discussion

In this final section, results reported in Chapter 4 will be discussed and conclusions based on those findings will be offered. It should be remembered that the purpose of this project was to determine if an association existed between admissions of employee theft and characteristics of job applicants. Control variables including sex, age and marital status were utilized to determine any influence on admissions of internal theft.

The final part of this chapter will be recommendations for future studies. It will include a review of how knowledge about employee theft might be expanded by scrutinizing variables more closely and by looking at variables that previously may have seemed insignificant. Recommendations evolving from this review will reflect variables that proved significant in relationship to employee theft.

Age of the Applicant

Previous empirical studies concluded that younger workers made significantly more admissions of internal theft. In the current study, support for this association was found. However, this association was found to be somewhat different than what previous studies discovered. In studies such as Franklin (1975) and Clark and Hollinger (1981), younger

workers were found to be overinvolved with employee theft compared to older workers. Yet the data for this study showed that younger applicants admitted more involvement in minor employee theft whereas older applicants admitted more involvement in major admissions of theft from the workplace. Therefore, the conclusions drawn from previous studies do not receive full support of the conclusions drawn from this research project.

There are some plausible reasons why the results from this study differ somewhat from previous studies. Whereas previous studies used frequency or percentage of workers involved in pilferage, this study used dollar amount as the measurement of employee theft. Second, the age of the applicants in this study tended to be quite young (median age - 23, 36% age 21 or less). For a large number of younger applicants in this project, it is possible they were previously employed only part time, if at all, due to their age. This length of employment may have been long enough for involvement in minor, but not major, amounts of internal theft. (Note: Applicant's length of previous employment was not available for this project).

Among younger applicants, those that were single admitted more involvement in pilferage than married applicants. This finding supports the conclusions drawn by Clark and Hollinger (1981) in their study. They believe that employee theft always has and always will be proportionately higher for younger, unmarried employees. Clark and Hollinger argue that overinvolvement in theft from the workplace is simply

a function of "lesser commitment" to the organization and "lesser social risk" to those employees involved in pilferage. There are some sound, logical reasons why this may be true. First, younger unmarried workers are occupationally mobile and will not financially disrupt the lives of dependents upon changing jobs. Second, changing jobs will not result in a loss of career benefits or seniority rights. Finally, as stated in Clark and Hollinger (1981), loss of employment as punishment for internal theft does not affect younger employees as it does older workers. Their reasoning is that younger employees do not face a peer group that reacts strongly and negatively to this type of punishment.

Admissions of Narcotics Use

The three areas that constituted admissions of drug use will be discussed individually. Each of these areas were found to have a statistically significant association with admissions of pilferage, but with varying degrees of strength.

Use of Drugs on the Job. In past studies, research has often been directed at past use of drugs by employees (Terris, 1979; Terris and Jones, 1980) or at the percentage of employees who have reported to work under the influence of drugs (Clark and Hollinger, 1981). However, a study directed at use of drugs while on the job and its relationship to admissions of internal theft is unique.

The results of this study showed that admissions of drug use on the job were related to admissions of internal theft. A plausible explanation for this relationship is that

workers who use drugs on the job are not recreational (occasional) drug users and therefore face higher costs for obtaining drugs. Logically this relationship may be linked to the higher costs of the drugs and/or the drug habit.

Frequency of Marijuana Use. The analysis involving the applicants admitted frequency of marijuana use and employee theft admissions revealed that a significant relationship existed. Frequent users of marijuana had significantly more major admissions of internal theft than any other type of marijuana user.

This finding adds new knowledge to the literature on employee theft. Various studies have reported the results of drug use by employees and how it is related to theft from the workplace. However, no study has singled out admissions of marijuana use. From the findings of previous studies (Terris, 1979; Terris and Jones, 1980) it would be expected that frequent users of any drug would be overinvolved in employee theft due to the higher costs of obtaining the drugs. This finding is similar to the relationship discovered between employee theft and use of drugs on the job as described previously.

When looking only at those applicants who did have admissions of internal theft it was revealed that as frequency of marijuana use increased so did admissions of employee theft. For younger and single applicants the relationship was not only significant, but the measures of association revealed that the relationship was strong. These types of

applicants were found to have significantly higher admissions of pilferage than older or married applicants.

This significantly strong relationship can probably be explained by two factors. First, younger and single workers are the basis of Clark and Hollinger's (1981) "lesser commitment" to the organization and "lesser social risk" hypothesis. For these types of workers punitive sanctions have lesser impact than on older and married employees. Secondly, these applicants are also admitted frequent users of marijuana. Therefore, they are faced with the need for extra income to offset the high costs of obtaining the drug.

History of Drug Use. The applicants' admitted history of drug use showed a statistically significant effect in relation to employee theft admissions. As applicant's admissions of drug use increased from no use, to admissions of marijuana use only to "hard" drugs, admissions of internal theft increased. This relationship was found to be of moderate strength.

This finding adds credibility to previous studies which found a relationship between history of drug use by employees and theft from the workplace (Terris, 1979; Terris and Jones, 1980). The finding discovered in the current study can be plausibly associated with one of the reported factors behind the association between drug use and employee theft. Logically as the admitted drug use increased from no use or only marijuana use to using "hard" drugs, the cost of buying the drugs would increase. Once again this indicates

that the applicant was faced with a need for extra money to offset the high costs of the drugs and/or the drug habit.

A significant relationship was also found indicating that single applicants had more major admissions of internal theft than married applicants. This again positively reemphasizes the hypothesis that single workers are less responsive to negative sanctions than are married workers (Clark and Hollinger, 1981).

Summary for All Tests Relating to Admissions of Drug Use by Applicants

The analysis of admissions of drug use by job applicants revealed several points of interest related to the literature on employee theft. First, the results of this project show that an applicant can not be judged solely on the type of drug used. The use of an accepted, widely used drug (marijuana) and the use of "hard" drugs were both found to be associated with admissions of internal theft. As shown by the results for frequent users of marijuana - a user of a widely accepted drug may be as overinvolved in admissions of internal theft as a user of "hard" drugs. Yet it should be noted that when these variables were tested in a bivariate relationship (history of drug use), applicants who admitted involvement in "hard" drugs made more serious admissions of pilferage compared to marijuana users.

Secondly, it is suspected that frequency of drug use plays an important role in the relationship with admissions of theft from the workplace. This supposition was definitively demonstrated in the results involving use of

marijuana, use of "hard" drugs and use of drugs while on the job. The logic behind this supposition is that the frequent user of any drug will be faced with higher costs for obtaining the drug compared to an occasional user. In turn, those frequent users will often need to find an additional source of income to finance their drug of choice, possibly turning to internal theft.

Type of Job Applied For

Based on the results of this project, no support was found linking type of job applied for with admissions of internal theft. This is in contrast to the study reported in "Security World" (cited in Healy and Walsh, 1981) which did find a relationship between the variables using different standards of measurement. The "Security World" study examined the background data of an applicant and determined what percentage of the selected category (management, shop and office or scientific and technical) was favorable or unfavorable. This study used tests of statistical significance to determine if a relationship existed between the variables. These contrasts may have contributed to the differences in the findings.

Meaning of Findings

The findings of this project do have practical application to the loss prevention manager. Many of these applications revolve around admissions of drug use by the applicant. There are two ways to obtain these admissions: voluntarily and involuntarily.

Voluntary admissions could be obtained through pre-employment screening of all applicants. Questions that should be a part of this process include those concerning past history of drug use, the frequency of use, and whether drugs were used while on the job.

There would be two distinct advantages to having these admissions available to the loss prevention manager. First, if these admissions were available prior to the hiring decision, the manager could recommend the applicant not be hired due to history of drug use and increased probability of involvement in employee theft. Secondly, if the applicant were hired, then monitoring of the employees on the job activities could be initiated. Therefore, the availability of voluntary admissions may enable the loss prevention manager of an organization to stop a problem before it starts. This advance knowledge of "at risk" employees targeted during the hiring process could be very advantageous.

Involuntary admissions although helpful, may be more difficult for management to obtain since they may involve the physical testing of the individual worker for drug use. Organizations that have worked out an acceptable drug testing program between management and labor could use this program to identify employees who are potentially "at risk" for internal theft. Employees who test positive for drug use should be identified to the director of security so that monitoring can be initiated.

Post drug test interviews can be used to help identify other possible indicators of employee theft.

Questions used should include if drug use occurred on the job and frequency of drug use regardless of location. It is crucial that employees who are younger and/or single who test positive be identified, since age and marital status have displayed a strong relationship to theft from the workplace.

Although the results obtained through this type of involuntary admission in terms of identifying possible pilferers cannot immediately be dismissed, it should be recognized that the physical testing of employees for drug use is currently in the midst of a raging civil rights controvery.

Unexplained Findings

The following findings were determined to exist via the results of this study. However, no previous literature or sound logical supposition could explain why these relationships existed. These results will be reported as reference for future empirical studies which may well determine the same relationships exist.

1. Age and internal theft were found to be related. This was found to be true only for males, not for females. The strength of this relationship was found to be very weak (see Table 4.7).

2. Use of drugs on the job and pilferage were found to be related. This was found to be true only for males, not for females. The strength of this relationship was moderate (see Table 4.9).

3. Frequency of marijuana use and internal theft were found to be related. This was found to be true for younger, not older; male, not female; and single, not married applicants. In all cases the strength of the relationships were strong (see Tables 4.21, 4.22 and 4.23 respectfully).

Recommendations for Future Research Projects on Employee Theft

In future studies research on the following items might produce interesting and noteworthy results. In those projects which choose to measure employee theft by dollar amount, consideration should be given to standardizing admissions of internal theft. This could be accomplished by dividing admitted amount of internal theft by previous length of employment. An annual average of pilferage would allow for a better comparison between a twenty and a forty year old applicant when considering total admissions of employee theft.

When examining use of drugs on the job, consideration should be given to separating admissions into categories. One possible example would be to distinguish between applicants who admitted using drugs considered widely accepted (alcohol, marijuana) and those who admit use of "hard" drugs (cocaine, heroin, etc.). This separation of type of drug used on the job might follow the pattern established in the current project by history of drug use and frequency of marijuana use. If this recommendation was followed, it would be expected that applicants who admitted using "hard" drugs

on the job would have significantly higher admissions of internal theft compared to applicants who admitted using drugs that were widely accepted.

Another variable in which further study might produce noteworthy results is admissions of coming to work under the influence of some type of drug. No attempt would be needed to identify what type of drug was being used, rather the applicant would be distinguished based on the frequency with which they reported to work in this condition. Once again it would be expected that the results should parallel those found on frequency of drug use during this project.

A study which would isolate admissions of cocaine use from other drugs could produce interesting information. Cocaine appears to be the drug of choice for the 1980's, similar to marijuana for the 1970's. However, cocaine differs from marijuana in two very significant ways relative to studying employee theft. First, the cost of cocaine is much higher. Even with the development of "crack" cocaine the cost to an addict can become enormous. Secondly, cocaine is considered a "hard" drug unlike marijuana. For the current project both these points were linked to admissions of theft from the workplace. Separating cocaine from other drugs might produce interesting new information with regard to its relationship to internal theft.

Future studies should also examine the effects of alcohol use by applicants on admissions of pilferage. It would be interesting to compare the results of alcohol use

to other drugs. As admissions of alcohol use increased, it would be interesting to discover if admissions of theft from the workplace also increased.

APPENDIX

APPENDIX

Questions Used During Pre-Employment Polygraph Examinations

Because the exact wording for each of the questions used in a pre-employment polygraph examination varies with each applicant, it was not possible to list each of these. However, the standardized questions listed below are representative of the major issues explored with each applicant and should clarify the nature of this study. The words in parentheses after the questions are examples of what each question was designed to examine.

1. Did you deliberately falsify or conceal anything in your job application? (Fired or asked to leave previous job, health record, conviction record, leaving off prior jobs, giving incorrect identification, indebtedness).

2. Have you stolen anything that you have not told me about? (Shoplifting, general theft not connected with employment).

3. In your past did you ever break any law, rule or policy? (Traffic law, company policy).

4. Do you know of anything for which you could now be wanted by the police? (Undetected crimes, unpaid parking tickets, warrants).

5. While on the job did you ever use any type of drug prohibited by the Department of Transportation?

6. Do you know of anything illegal that you have bought or sold? (Drugs, jewelry, cars).

7.) In the past _____ years did you steal more than _____ amount of money and merchandise from employers? (Money, merchandise, unauthorized discounts, falsified paperwork).

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