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## Illegal substance abuse in the full-service restaurant industry: An evaluation of pre-employment drug-testing

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ILLEGAL SUBSTANCE ABUSE IN THE FULL-SERVICE RESTAURANT  
INDUSTRY: AN EVALUATION OF PRE-EMPLOYMENT  
DRUG-TESTING

by

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of the requirements for the

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**May 2010**

## ABSTRACT

### **Illegal Substance Abuse in the Full-Service Restaurant Industry: An Evaluation of Pre-Employment Drug-Testing**

by

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The purpose of this research is to assess the effect of pre-employment drug-testing policies on employee attitudes and aspects of work performance in the full-service restaurant industry. Specifically, this study attempts to compare the rate of absenteeism, turnover, and work-related accidents and injuries in full-service restaurants with pre-employment drug-testing policies against the aforementioned aspects of work performance in full-service restaurants without pre-employment drug-testing policies. This research also attempts to explore the perceptions, attitudes, and beliefs of full-service restaurant hourly employees and management staff in regards to pre-employment drug-testing policies in the full-service restaurant industry. For the purpose of this study, work performance factors include absenteeism, turnover (voluntary and termination), and documented work-related injury/accidents. Results indicated no difference between employee absenteeism, turnover, or accidents among establishments with and without pre-employment drug-testing policies. In addition, no significant difference was found among employee attitudes toward pre-employment drug-testing policies based on employment level or presence of a pre-employment drug-testing policy at their current place of employment.

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## CHAPTER I

### INTRODUCTION

According to a study of the Substance Abuse and Mental Health Services Administration, at least one in every six adults working in the restaurant industry full-time between 2002 and 2004 had used illicit drugs (“Drug use highest in foodservice”, 2007; Substance Abuse and Mental Health Services Administration [SAMHSA], 2009a). This statistic positioned the foodservice industry in the number one ranking category for incidence of illegal substance abuse among all business categories.

It is estimated by the United States Department of Labor that employee-related drug abuse costs businesses across the nation between \$75 billion and \$100 billion in lost time, accidents, breakage, health care, and workers’ compensation costs (“Industry must take steps”, 1997; United States Department of Labor, 2007). Although these figures are not specific to foodservice establishments, it stands to reason that such a labor-intensive industry would account for a large portion of this problem. As one of the nation’s largest private-sector employers, providing jobs for 12.8 million individuals, the restaurant industry cannot be immune to the negative consequences of employee substance abuse (National Restaurant Association [NRA], 2007).

The generally agreed upon effects of employee substance abuse include high absenteeism, high employee turnover, crime and violence, on-the-job accidents, poor productivity, higher medical costs, breakage, theft, low employee morale, and poor decision making, all of which result in a large cost for businesses in the industry (Crant & Bateman, 1989; Elliot & Shelley, 2006; Strazewski, 2001). Many employers have responded to this by requiring a pre-employment drug-test. Analysis of this practice and



its success for the intended purpose has shown mixed results and a need for further investigation (Levine & Rennie, 2004; Normand, Salyards, & Mahoney, 1990; Parish, 1989; Stark, 1991; Zwerling, Ryan, & Orav, 1990).

The restaurant industry spends an estimated \$13 to \$25 per test on pre-employment drug-testing every year, yet the industry suffers a turnover rate of 83 to 119%, with the average turnover rate currently 104% (“Industry must take steps”, 1997; Oden, 2008; Santora, 2005). Two-thirds of substance abusers in the United States are employed, and the restaurant industry employs an estimated nine percent of the workforce (NRA, 2008; U.S Department of Health and Human Services, 2002). Even without computing the numbers, it is easy to see how expensive pre-employment drug-testing can be for businesses in the food service industry.

### Purpose of the Study

The purpose of this research is to assess the effect of pre-employment drug-testing policies on employee attitudes and aspects of work performance in the full-service restaurant industry. Specifically, this study attempts to compare the rate of employee absenteeism, turnover, and work-related accidents and injuries in full-service restaurants with pre-employment drug-testing policies against the aforementioned aspects of work performance in full-service restaurants without testing policies. This research also attempts to explore the perceptions, attitudes, and beliefs of full-service restaurant hourly employees and management staff in regards to pre-employment drug-testing policies in the full-service restaurant industry. For the purpose of this study, work performance factors include absenteeism, turnover (voluntary and termination), and documented work-

related injury/accidents. Substance abuse, in this study, is characterized as the use of illegal substances and the misuse of prescription drugs obtained illegally.

### Research Questions

1. Are the rates of hourly employee absenteeism different among full-service restaurants with pre-employment drug-testing policies and those full-service restaurants that do not use pre-employment drug tests?
2. Are the rates of hourly employee turnover different among full-service restaurants with pre-employment drug-testing policies and those full-service restaurants that do not use pre-employment drug tests?
3. Are the rates of documented hourly employee work-related accidents and injuries different among full-service restaurants with pre-employment drug-testing policies and those full-service restaurants that do not use pre-employment drug tests?
4. Do the perceptions, attitudes, and beliefs of employees in the full-service restaurant industry regarding pre-employment drug-testing at full-service restaurants?
5. Do attitudes toward pre-employment drug-testing differ among full-service restaurant industry employees based on pre-employment testing status at their current place of employment?

The null and alternative hypotheses for this study are as follows:

1.  $H_0: \mu_{\text{absenteeism test}} = \mu_{\text{absenteeism no test}}; H_a: \mu_{\text{absenteeism test}} \neq \mu_{\text{absenteeism no test}}$
2.  $H_0: \mu_{\text{turnover test}} = \mu_{\text{turnover no test}}; H_a: \mu_{\text{turnover test}} \neq \mu_{\text{turnover no test}}$

3.  $H_0: \mu_{\text{accidents test}} = \mu_{\text{accidents no test}}; H_a: \mu_{\text{accidents test}} \neq \mu_{\text{accidents no test}}$
4.  $H_0: \mu_{\text{hourly attitudes}} = \mu_{\text{management attitudes}}; H_a: \mu_{\text{hourly attitudes}} \neq \mu_{\text{management attitudes}}$
5.  $H_0: \mu_{\text{PEDT present}} = \mu_{\text{No-PEDT present}}; H_a: \mu_{\text{PEDT present}} \neq \mu_{\text{No-PEDT present}}$

### Significance of the Study

Drug use is generally agreed to be detrimental to employee work performance (Parish, 1989). Pre-employment drug-testing programs operate under the assumption that drug-using employees are less desirable than their non-using counterparts, and that the presence of a pre-employment drug-testing policy will reduce the number of applicants who exhibit undesirable behaviors related to poor work performance (Crant & Bateman, 1989; Fenton & Kinard, 1993; LaGodna & Hendrix, 1989; Levine & Rennie, 2004; Montoya, Carlson, & Richard, 1999; Parish, 1989). However, a review of literature related to pre-employment drug-testing and substance abuse in the restaurant industry indicates that there is a need for further investigation of the relation of pre-employment drug testing and drug use to job performance (Parish, 1989). In addition, there appears to be a need for more research directed at the relationship between drug-use-job-outcome relationships, as well as work conditions and substance use (Harris & Heft, 1992; Normand, Salyards, & Mahoney, 1990).

Should there be no difference in the rate of absenteeism, turnover, and documented work-related accidents and injuries among hourly employees at full-service restaurants that use pre-employment drug-testing and at those restaurants that do not, perhaps the time and money spent on pre-employment drug-testing in the full-service restaurant industry should be re-evaluated. If the use of pre-employment drug-testing indicates a

significant reduction in poor work performance factors, then more establishments may want to consider the use of this practice.

Previous studies have shown that employees respond to drug-testing programs differently based on their perception of the justice or injustice of the program. These reactions may range from attitudinal to behavioral, and can be directed toward the program, the employing organization, co-workers, and the employees themselves. A byproduct of positive or negative reactions to drug-testing programs may be increased or decreased work performance (Crant & Bateman, 1989).

Similar research has shown that individuals may prefer an employer with some type of drug-testing policy, and that such a policy may foster recruitment (Mastrangelo, 1997). However, subsequent studies found that “attitudes toward the employer, but not intentions to apply for the job, varied according to the interaction between participants’ attitudes toward drug testing and the presence or absence of drug testing for the job” (Mastrangelo & Popovich, 2000, p.4), thus indicating that the presence of a drug-testing policy will likely affect job attitudes and climate perceptions, as opposed to recruitment. These contradictory results indicate that future investigation is needed.

With regards to management and employee attitudes, establishments may find that the use of a pre-employment drug test does or does not foster applicant recruitment. Additionally, if the majority of management staff and hourly employees have negative attitudes towards the use of a pre-employment drug-test, establishments may consider investing in programs to provide employees with knowledge regarding the need for such a practice. If there are no negative attitudes among employees towards the use of a pre-employment drug-test, establishments may feel confident with the use of such programs.

It is possible that results will indicate a difference between employee and management opinions. Company policies are more effective when compliance starts at the top of an organization (Gross-Schaefer, Trigilio, Negus, & Ro, 2000). Differences in employee and management attitudes toward pre-employment drug-testing may indicate a need for management training or motivation, as well as implications for future research.

With the increase of products available to assist applicants in the manipulation of the results of chemical drug-testing, and the high turnover rate in the restaurant industry, it is important to evaluate the significance of pre-employment drug-testing in the full-service restaurant industry, as well as work performance differentiation among establishments with and without pre-employment drug-testing policies.

In summary, there is a lack of comprehensive knowledge about pre-employment drug-testing in the full-service restaurant industry. In order to fully understand the effects of such a program, academic research must be conducted.

### Definitions

A ‘substance’ can be any physical matter, and the term substance abuse is commonly used to refer to the overindulgence and/or dependence of a substance, including chemicals, illicit drugs, prescription medication, and/or alcohol (Anderson, 1998). For the purposes of this study, *substance abuse* is defined as the use of illegal substances, such as stimulants (crack, cocaine, methamphetamine, etc.), hallucinogens, marijuana/hashish, and opioids (heroin). Substance abuse also includes the misuse of prescription medications obtained illegally, such as morphine derivatives (codeine, methadone, etc.),

and depressants (barbiturates, benzodiazepines, etc.). The use of alcohol, a legal substance, was not a focus in this study.

*Full-service restaurants* are defined for the purpose of this study as establishments which offer the table service of food and beverages (Finkelstein, 1989; Sulek & Hensley, 2004).

Factors of *work performance* to be assessed in this study include rates of absenteeism, rates of turnover (voluntary and termination), and rates of work-related accidents/injuries (Stark, 1991). As suggested by Parish (1989), categories were drawn broadly to ensure confidentiality. Each factor of work performance (absenteeism, turnover, and work-related accidents/injuries) will be evaluated based on the past three months of operation.

*Absenteeism*, for the purpose of this study, is defined as an employee's failure to be present for a scheduled shift of work (Stark, 1991). Absenteeism is categorized into three different areas: excused absence (employee calls in sick to work, following accepted procedures mandated by the employer), unexcused absence (employee fails to be present for a scheduled shift, and does not follow accepted procedures set by the employer), and tardiness (employee is late for their scheduled shift; "late" being defined as more than fifteen minutes after the beginning of the schedule shift).

*Turnover*, for the purpose of this study, is divided into two categories: voluntary turnover (the employee chooses to resign from employment) and termination (the employee is terminated from the operation by a superior) (Stark, 1991).

For the purpose of this study, employees who had experienced an accident or injury while at work were said to have had a *work-related accident or injury* (Stark, 1991). Only

those employees who had reported these incidents or those whose incidents were documented by a supervisor were included in this category.

*Management staff*, for the purpose of this study, are characterized by a supervisory position within the company (Mikulecky, 1990). *Hourly employees* are defined as any employee in the company who does not have a supervisory role and receives hourly wages.

### Organization of the Dissertation

This dissertation is organized in to five chapters. The first chapter of this dissertation will introduce the topic of the research, the problem statement, the research questions, the significance of the study, and definitions of key terminology. The second chapter of this dissertation will provide a review of the related literature. Chapter 3 will provide the research method and design, and will discuss data collection methods, measurement scales, and the proposed statistical analysis used to answer the research questions. The fourth chapter will provide the results of data collection and statistical analysis. Chapter 5 will conclude this dissertation, and will provide a discussion of the results, implications of these results, and recommendations for future research.

## CHAPTER II

### REVIEW OF RELATED LITERATURE

#### Employment in the Restaurant Industry

The restaurant industry employs an estimated 13 million people in the United States workforce, and is expected to reach 14.8 million by 2019 (National Restaurant Association [NRA], 2009). An estimated 45% of the industry's labor pool is between the ages of 16 and 24 (Berta, 2006). Although the industry is predicted to create more jobs, this labor pool is not expected to increase in size (Berta, 2006; Oden, 2008). In addition to this, the overall average turnover rate among hourly restaurant industry employees is 104 %.. With an estimated cost of \$2,366, employee turnover is a large expense for the foodservice industry (Oden, 2008).

#### *Full-Service Restaurants*

Merriam-Webster's dictionary defines a restaurant as "a business establishment where meals or refreshments may be purchased" (Restaurant, 2009, para. 1). The concept of the modern restaurant is attributed to A. Boulanger, who opened the first restaurant in Paris in 1765 (Spang, 2000; Trubek, 2000). The restaurant industry currently employs 13 million people in the United States, with an estimated 945,000 locations and annual sales of \$566 billion (NRA, 2009).

Restaurants can be divided into two main segments: limited-service (fast food, or quick-service) and full-service (establishments that offer table service). Employment positions in the full-service restaurant industry include cook, wait staff, host, bartender, dishwasher, bus person, cashier, manager, and more (National Restaurant Association,



2008). These positions can be divided into hourly workers (those positions that are paid by the hour) and management staff.

## Work Performance Factors

### *Absenteeism*

Employee absences represent substantial direct and indirect costs for an organization (Navarro & Bass, 2006). These costs are estimated to reach up to 15% of payroll costs. Employee substance abuse is often linked to employee absenteeism (Levine & Rennie, 2004; Mastrangelo & Popovich, 2000; National Institute on Drug Abuse [NIDA], 2008; Normand et al., 1990; Peat, 1995; Smither, Millsap, Stoffey, Reilly, & Pearlman, 1996; Stark, 1991). Thus, it is commonly accepted that the presence of a drug-testing program will result in a decrease in employee absences (Stark, 1991). There is limited empirical support produced by previous studies in this area. Parish (1989) found no significant relationship between substance abuse and absenteeism, while Zwerling, Ryan, and Orav (1990) found that marijuana users had a 78% increase in absenteeism.

### *Turnover*

Substance abuse is often linked to high employee turnover costs (Levine & Rennie, 2004; Mastrangelo & Popovich, 2000; NIDA, 2008; Normand et al., 1990; Peat, 1995; Smither et al., 1996). In theory, an organization that reduces employee turnover rates will enjoy a reduction in turnover costs. Turnover costs may include separation costs, replacement costs, and training costs (Mercer, 1988; Stark, 1991). Employment tests are often used in business to reduce turnover costs (Stark, 1991). These tests are intended to increase the likelihood of selecting job applicants that will stay with the company. One

example of such testing is the use of pre-employment drug-testing, with the assumption that the number of ‘problem employees’ hired will be reduced, thus reducing the organization’s turnover rate. Results of previous studies on the subject have produced mixed results. Stark (1991) found that the presence of a drug-testing program resulted in lowered rates of turnover. Findings of Parish (1989) were contradictory, indicating that there is no relationship between positive pre-employment drug test results and substandard job performance.

### *Work-Related Accidents and Injuries*

A major justification for the implementation of drug-testing in the workplace is the potential to increase employee and public safety (Levine & Rennie, 2004; Mastrangelo & Popovich, 2000; NIDA, 2008; Normand et al., 1990; Peat, 1995; Smither et al., 1996; Stark, 1991). This is yet another area in which previous studies have failed to support the same conclusion. Positive drug-test results and measures of injury and accident occurrence were not found to be significantly related by Normand, et al. (1990). Contradictory, Zwerling, Ryan, & Orav (1990) found marijuana-positive employees to report 55% more on-the-job accidents.

### *Substance Abuse*

A drug, or substance, can be defined as “any substance that produces physical, mental, emotional, or behavioral changes in the user” (Stark, 1991, p.1). Rosen (1987) defined substance abuse as the use of illicit drugs, as well as the misuse and illicit use of prescription or over-the-counter medications or other chemical compounds. Table 1 provides a list of commonly abused drugs identified by NIDA (2009).

## Substance Abuse and Employment

The Substance Abuse and Mental Health Services Administration (SAMHSA, 2009b) estimates that there are 14.8 million current users of illicit drugs. Employment status is highly correlated with rate of substance abuse (U.S. Department of Health and Human Services, 2002). NIDA (2008) reports indicate that 75% of all adult illicit drug users are currently employed, with 16% of all full-time and part-time employees in 2001 identified as current illicit drug users (U.S. Department of Health and Human Services, 2002).

The majority of full-time employees who identified themselves as current users of illicit drugs shared the following characteristics: aged 18-25, male, white, less educated, divorced or never married, and low paid (SAMHSA, 2009b). Industries with the highest rate of illicit drug use included the food service industry, service occupation workers, construction workers, and workers in transportation and material moving.

Substance abuse has been linked to several negative impacts on the workplace (U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration, 1995). Substance abusing employees have been found to function at only 67% of their capacity, and to be 3.6 times more likely to be involved in a work-related accident or injury (SAMHSA, 2009b). Substance abusing employees are estimated to be 2.5 times more likely to have absences of eight days or more, and 3 times as likely to be late for work.

*Table 1**Commonly Abused Drugs*

Drug Name	Commercial/Street Name
Cannabinoids	
Hashish	Boom, Chronic, Gangster, Hash, Hemp
Marijuana	Blunt, Grass, Herb, Joints, Mary Jane, Pot, Reefer, Weed
Depressants	
Barbiturates	Barbs, Reds, Phennies, Tooies, Yellows
Benzodiazepines	Ativan, Valium, Xanax, Downers, Tranks
Flunitrazepam	Rohypnol, Mexican Valuim, Roofies, Rope
GHB	Gamma-Hydroxybutyrate, G, Georgia Home Boy
Methaqualone	Quaalude, Sopor, Parest, Ludes, Quad
Dissociative Anesthetics	
Ketamine	Ketalar SV, Cat Valuims, K, Special K
PCP and Analogs	Phencyclidine, Angel Dust, Love Boat
Hallucinogens	
LSD	Lysergic Acid Diethylamide, Acid
Mescaline	Cactus, Mesc, Peyote
Psilocybin	Magic Mushroom, Shrooms
Opioids and Morphine Derivatives	
Codeine	Robitussin A-C, Tylenol with Codeine
Heroin	Dope, Junk, Smack, White Horse
Morphine	Roxanol, Duramorph, M

Drug Name	Commercial/Street Name
Opium	Laudanum, Big O, Block, Gum, Hop
Oxycodone HCL	Oxycontin, Oxy, O.C., Killer
Hydrocodone	Vicodin, Vike, Watson-387
Stimulants	
Amphetamine	Biphetamine, Speed, Uppers
Cocaine	Blow, Coke, Crack, Snow, White
MDMA	Ecstasy, X, XTC
Methamphetamine	Crystal, Glass, Ice, Meth, Speed
Methylphenidate	Ritalin, Aterol, Smart Drug
Other Compounds	
Anabolic Steroids	Roids, Juice
Dextromethorphan	Robotripping, Triple C
Inhalants	Solvents, Gases, Nitrates, Whippets

High turnover rates are attributed to substance abuse, with illicit drug users estimated to be twice as likely to have changed jobs three or more times in the past year. In addition, it is estimated that substance abusing employees cost employers twice as much in medical claims.

#### Substance Abuse in the Restaurant Industry

In 1997, a government report titled *Drug Use among US Workers* stated that, compared with workers in other industries, foodservice employees are the worst abusers

of illicit drugs (Zuber, 1997). According to this study, more than 4.2% of the industry's total work force consists of users of illicit drugs, accounting for more than 400,000 of the nation's foodservice employees (Zuber). This phenomenon of substance abuse among restaurant industry employees can be attributed to several factors. The restaurant industry labor pool averages in age from 16- to 25-years-old, an age group that tends to have a higher rate of substance abuse ("Industry must take steps", 1997; Zuber, 1997). The late-night hours, large availability of cash on hand, and low management surveillance are also contributors ("Industry must take steps", 1997; Spector, 2001; Zuber, 1997). Other factors include the speed and intensity of work demanded by the industry (Spector, 2001).

When interviewed, Christopher Muller, a professor at Cornell University School of Hotel Management, suggested that there is a higher occurrence of substance abuse among restaurant industry workers because 'it is a fast drug culture' (Zuber, 1997). John Jones, an industrial psychologist who, at the time, had studied the productivity of restaurant workers for more than 18 years, provides further explanation (Zuber). He stated that, 'the industry hires a large number of 16-to-25-year-old workers, an age group that tends to have a higher rate of substance abuse' (Zuber, para. 8). Jones went on to explain that this phenomenon may also be attributed to the fact that the restaurant industry is a work environment in which it is relatively easy to get cash, and management surveillance is low (Zuber).

One 1997 article published in *Nation's Restaurant News* summarized previously suggested explanations, saying that the restaurant industry 'lends itself to a higher instance of drug abuse than do other industries with late-night hours, a large availability

of cash on hand, and a labor pool between the ages of 16 and 25' ("Industry must take steps", 1997, para. 13).

In a 2001 interview published by *Nation's Restaurant News*, Grace Ann Walden, a former chef, came forward with her views on the issue (Spector, 2001). She suggested that the human body is not meant to work as hard or as fast as the restaurant industry demands; that wanting to work faster, smarter, and more perfectly leads to drug use among employees. Walden also suggested that chefs and cooks have little time off, and that perhaps they view the abuse of substances as a reward.

Other professionals in the industry believe that 'substance abuse is joined at the hip with the creative drive, both of which are found in the restaurant industry'. Another suggestion is that the industry attracts people with a high risk for substance addiction, due to the fact that it is an industry to offers people a second chance (Spector, 2001).

Knudsen, Roman, and Johnson (2004) investigated the method in which organizations manage employees who fail drug tests was examined. Specifically explored was the variation in organizational responses to positive drug tests by considering industrial sector, organizational structure, and culture. Results indicated that there were significant differences in organizational responses to positive drug tests based on the industrial sector, unionization, the existence of an employee assistance program, the size of the establishment, and formalization. As far as employing organizations, 43% of respondents stated employment in the service sector. Of the total respondents surveyed, only 29.9% stated that their place of employment would dismiss an employee who tested positive in a drug screening (Knudsen et al., 2004).

## Employment Drug-Testing Policies

The Substance Abuse and Mental Health Services Administration (2009b) makes several recommendations as to how organizations can implement a successful drug-free workplace program. These recommendations include the use of a written policy, employee education on the topic, supervisor training, access to assistance, and the use of employment drug-testing.

Several events led to public and governmental attention to drug-testing in the workplace. Widespread use of cocaine among sailors was discovered after a fatal accident aboard the U.S.S. Nimitz; the cocaine-related death of University of Maryland basketball star Len Bias; and the implication of drug use in several fatal train and airplane accidents (Crant & Bateman, 1989; Karr, 1987). In 1986, President Ronald Reagan issued Executive Order 12564 on the Drug Free Federal Workplace, mandating that federal employees in sensitive positions be subject to employment drug-testing (Crant & Bateman, 1989; Duffy, Hildreth, Plattner, & Walsh, 1986; Levine & Rennie, 2004). With the exception of the nuclear power and transportation industry, no other private sector is regulated by federal law to institute an employment drug-testing policy (Levine & Rennie). However, an estimated 90% of companies in the United States with over 500 employees have chosen to institute an employment drug-testing program in an attempt to combat employee drug use (Crant & Bateman, 1989; Levine & Rennie, 2004; Peat, 1995).

A number of reasons have been provided as to the difficulty of recognizing substance abusers without the use of a drug-test (Stark, 1991): (1) substance-abusing employees may appear to be performing their job tasks properly; (2) substance abuse can be masked by the manipulation of the situation at hand; (3) substance abuse may be a response to



boring work, job stress, or peer pressure in the job setting; (4) substance abusing employees are unlikely to announce their drug use habits to their supervisors; and (5) the majority of supervisors are not trained to recognize substance abuse behaviors. Substance abuse identification underwent major changes in 1981 when the Assistant Secretary of Defense Frank Carlucci ruled that urinalysis results could be used for disciplinary action in the military (Marshall, 1988; Stark, 1991). This introduced drug test results to become subject to scrutiny from the court system.

Currently, companies in the United States will drug test in five instances: pre-employment, random, post-accident, reasonable suspicion, and as a follow-up to rehabilitation (Levine & Rennie, 2004; Santora, 2005). The cost of a drug test can range from \$13 to \$70 per test, and include the cost of collection, laboratory testing, and medical review officer review (“Industry must take steps”, 1997; Peat, 1995; Santora, 2005). Programs for drug-testing vary according to what drugs are being targeted, who is tested, sampling strategy, frequency of testing, the extent to which those being tested are informed prior to the testing, the actual testing method used, the extend of feedback offered, and the consequences of positive findings (Crown & Rosse, 1988).

Many organizations in the hospitality industry justify their use of pre-employment drug-testing as a means of providing a safe and productive work environment. The manager of internal investigations for a large international lodging company stated in email correspondence that “abuse or involvement with alcohol, drugs, or controlled substances can adversely affect the work environment, job performance, and safety of associates and customers, therefore we require that each candidate successfully complete a pre-employment drug screening before they are hired”. With over 3,200 locations

around the world, this company stands by their decision to utilize this type of screening process to fulfill its commitment to “maintaining a safe, healthy and productive work environment” (L. Stella, personal communication, July 20, 2009).

ARAMARK is another example of an organization in the hospitality industry that makes pre-employment drug-testing a factor in their employment decisions. With approximately 260,000 employees serving clients in 22 countries, ARAMARK describes itself as a leader in professional services, including awarding-winning food-services. ARAMARK defines testing as a condition of employment, stating that “prospective employees who test positive for alcohol or controlled substances pursuant to the policy or procedures will not be hired. Employees who test positive for alcohol or controlled substances will be disciplined in accordance with the Policy” (R. Messenger, personal communication, May 21, 2009).

#### *Strengths and Opportunities of Employment Drug-Testing*

Companies in the industry continue to mandate employment drug-testing in an attempt to offset these costs with increased productivity, decreased absenteeism and turnover, decreased costs for healthcare benefits, improvements in safety and employee morale, and decreased disciplinary action (Peat, 1995). Many employers feel that testing programs will promote the safety of their employees and the general public, as well as deter drug use, and identify and give support to drug-using employees who may need assistance (Fenton & Kinard, 1993; LaGodna & Hendrix, 1989; Levine & Rennie, 2004; Montoya, Carlson, & Richard, 1999). Further, employment drug-testing programs may help operations to meet legal obligations for occupational safety laws (Levine & Rennie, 2004).

NIDA (2008) reports that substance-abusing employees are more likely than their non-substance abusing colleagues to change jobs frequently, be late to or absent from work, be less productive, be involved in workplace accidents, and file workers' compensation claims. NIDA studies also show that employers with successful drug-free workplace programs enjoy increased morale and productivity, decreased absenteeism, decreased accidents, decreased turnover, and a reduction in employee theft. According to NIDA, employers with longstanding drug-free workplace programs report a better employee health status and decreased use of medical benefits. In addition, NIDA studies found that some organizations with drug-free workplace programs qualify for decreased workers' compensation costs and other insurance incentives.

These statements are further supported by Hoffman, Larison, and Sanderson's (1997) findings that full-time workers who reported having used illicit drugs were more likely to have worked for three or more employers in the past year. These workers were also more likely to have taken unexcused absences, and to leave an employer voluntarily or involuntarily in the past year.

#### *Weaknesses and Threats of Employment Drug-Testing*

Not all organizations feel that the benefit of employment drug-testing outweighs the cost. Hard Rock Café International, Incorporated does not use drug-testing as part of its candidate applications process. Director of Recruitment & Talent Management, Megan Rossi, (personal communication, April 22, 2009) stated that with over 22,000 employees and an average turnover rate of 77%, this practice would be cost prohibitive. Another problem Rossi noted was that of legal consistency: Hard Rock Café International

conducts business in many states and countries, with various employment laws regarding drug-testing.

Although there are several studies advocating employment drug-testing and its benefits in comparison to the cost, many issues have yet to be addressed. Levine and Rennie (2004) stated that “the evidence linking drug use and workplace difficulties is much weaker than initial estimates” (p. 319). Levine and Rennie (2004) go on to say that “testing does not necessarily measure impairment, abuse, or intoxication. The presence of a banned substance does not mean that cognitive impairment is present or clinical performance is impacted. Further, routinely used medicines such as decongestants, antihistamines, stimulants, and other prescribed substances can also profoundly impair functioning” (p. 319). Over-the-counter products, such as certain nasal inhalers, can cause a false positive screen for amphetamines (Levine & Rennie). Some foods and beverages, such as poppy seeds and herbal teas, as well as highly concentrated urine specimens have also been attributed to false positive results on drug tests (Denenberg & Denenberg, 1987).

Substance abuse is often associated with higher health benefit costs, employee accidents and injuries, absenteeism, turnover, and the accompanying recruitment and training costs (Hersch, Cook, & Trudeau, 2000). Many companies address employee substance abuse problems through drug-testing or employee assistance programs. Although the use of a drug-screening program appears to deter employee substance abuse, there are virtually no controlled studies to assess the effectiveness of testing as a substance abuse prevention strategy in the workplace (Hersch et al., 2000).

Urinalysis is the most commonly used method for drug-testing in the workplace. A number of costs are associated with this method, including the cost of the screening, the cost of test confirmation, and the cost of custody requirements (Rosen, 1987). Other concerns include questions of validity and reliability, the constitutional issues of unreasonable search and seizure, the rights against self-incrimination, and the right to privacy. In addition, simply testing for the use of substances without taking to account circumstance and situation may lead to personnel decisions that send mixed messages to employees (Mastrangelo & Jolten, 2001). Mastrangelo and Jolten (2001) provided an example: “it is difficult to justify punishing a one-time marijuana user when the company may employ many workers whose ongoing abuse of legal drugs (e.g. alcohol) goes undetected” (p. 96).

The Department of Health and Human Services maintains a current list of drug-testing laboratories which meet minimum standards set by the federal government to engage in urine drug testing for federal agencies. A review of this list revealed that only 27 of the 50 United States host certified laboratories (U.S. Department of Health and Human Services, 2008). A total of 35 certified laboratories are listed. A representative from one laboratory located in California stated that once the samples are collected that they are shipped using FedEx (or a comparable service) to a certified laboratory. Samples are typically shipped to this particular laboratory from companies that are located three or more states away. Integrity of the samples is assumed to be guaranteed by the Code of Federal Register.

Regardless of the guarantee, the fact remains that urinalysis is subject to a number of factors that may cause result error rates to mushroom (Palmer, 1987). Improper

administration, handling by untrained personnel, improper laboratory procedures, and simple carelessness can all lead to inaccurate test results. It stands to reason that if a sample must be shipped more than three states away for analysis, probability for mishandling increases.

In the review of current literature related to pre-employment drug-testing, Levine and Rennie (2004) note that many studies inform participants in advance - just as many employers inform applicants and employees – that they will be subject to a drug test. This raises a question of accuracy in ability to detect recent drug use (Levine & Rennie). As Levine and Rennie point out, drug users may still apply and obtain for employment; since they are given advance notice that they will be required to pass a one-time test, they may temporarily abstain from drug use, tamper with test specimens, or ingest remedies in an effort to conceal use. Levine and Rennie (2004) go on to say that “pre-employment drug-testing encourages employees to simply pass a one time only test and will only detect the uninformed, forgetful, or most severely addicted individuals. One negative test certainly does not rule out substance abuse, nor can one positive result diagnose addictions, abuse, intoxication, or impairment. Advance notice simply prepares drug abusers to pass the tests designed to detect them” (p. 323). One can reasonably assume that applicants and employees continue to manipulate the results of their drug tests, especially when products to aid in the manipulation of drug test results are increasing in availability and effectiveness (Santora, 2007).

The practice of employment drug-testing has been labeled intrusive, demoralizing, and demeaning, thus many demand greater evidence for the need of such policies (Elmuti, 1994; Levine & Rennie, 2004). Not only is the nature of collection of a specimen under

direct observation intrusive and embarrassing, but testing may provide an employer with confidential information unrelated to substance abuse. Specifically, drug-testing may provide information about an applicant or employee's medical condition which legally should not be available to potential employers (Levine & Rennie).

The legality of drug-testing in the workplace is a long debated, challenging issue, as well. Opponents of government screening propose the argument of 'unreasonable search', barred by the Fourth Amendment (Sanders, 1989). Private firms can legally test job applicants, but testing is not without legal risks (Stark, 1991). The following are potentially significant constraints: (1) an employee's right to privacy; (2) discrimination against the disabled and Title VII of the Civil Rights Act of 1964; (3) varying state and/or country employment laws; and (4) union contracts and grievance procedures (Brown, 1987; Stark, 1991).

Critics of the practice bring to light several other weaknesses of pre-employment drug-testing. Lundberg (1972) related involuntary drug-testing to a form of "chemical McCarthyism", as it may be viewed as an unwarranted invasion of privacy and a form of social control that influences lifestyle but not work performance (Levine & Rennie, 2004). Others criticize the "lack of systematic evaluation of the efficacy of drug-screening programs" (Normand, et al., 1990, p. 629). Palmer (1987) pointed out that employment decisions based solely on the results of a urinalysis or any other single test puts an organization at risk of making unfounded judgments about employees or job applicants. In addition, "no urine test can determine whether drugs have caused workplace accidents" (Palmer, 1987).

Upon the emergence of drug-screening in the private sector, many organizations adapted a urinalysis drug-test procedure without carefully assessing their own needs or exploring alternate methods of employee substance abuse prevention (Mastrangelo & Jolton, 2001). If organizations are using employment drug tests to “save money by reducing accidents, turnover, absenteeism, and the hiring of impaired employees, then each institution would have to perform its own cost effectiveness analysis” (Levine & Rennie, 2004). In the restaurant industry, many employees are part-time workers, and do not receive health care benefits. It would be necessary for each establishment to assess the costs of testing in comparison to the money saved to determine if employment drug-testing is truly beneficial.

Some organizations are using employment drug tests to reduce or eliminate the number of employees that abuse substances (Levine & Rennie, 2004). However, this is an assumption that cannot be wholly supported, as “it relies on the further assumptions that testing is accurate and/or will have a positive deterrent effect, and that rehabilitation or abstinence among identified users is likely” (Crown & Rosse, 1988, p.29).

Vodanovich and Reyna (1988) reported that there is insubstantial evidence to support the argument that drug-testing would result in a safer, more productive work environment. The following section will discuss the mixed findings of previous studies.

#### *Pre-employment Drug-testing – Previous Studies*

A 1990 study by Zwerling et al. found that pre-employment drug screens that test positive for marijuana and cocaine are related to adverse employment conditions. However, Zwerling et al. (1990) stated that the level of risk “is much less than previously estimated” (p. 2639).



A study by Parish (1989) attempted to relate pre-employment drug-testing results to employment status. Job performance variables included job retention, supervisor evaluations, and reasons for termination (Parish, 1989). In this study, it was found that there was no statistically significant relationship between positive pre-employment drug test results and substandard job performance. However, participants were notified in advance that they would be subject to a drug screen (Parish, 1989). In addition, the size of the drug positive group may not have been large enough to allow for valid comparison, and the statistical tests used were of relatively low power (Levine & Rennie, 2004; Normand et al., 1990; Parish, 1989).

Subsequent studies in the United States Postal Service contradict the findings of Parish. In a study by Normand et al. (1990), the relationship between drug-test results and several aspects of job performance were evaluated; specifically, absenteeism, turnover, injuries, and accidents. Results indicated that employees who tested positive for illicit drugs had a higher rate of absenteeism and involuntary turnover. Positive drug-test results and measures of injury and accident occurrence were not found to be significantly related (Normand et al., 1990).

Stark (1991) performed a case study on food processing plants, comparing nineteen plants which did not drug-testing against seven plants which performed drug-testing on pre-employment candidates and current employees. Findings indicated that the presence of a drug-testing program lowered employee turnover rate, employee absenteeism, and the amount of workers' compensation claims paid out. Stark found that accident rates did not vary based on the presence of a drug-testing policy. Stark noted that there was some evidence that the type of plant (further processing vs. basic processing) was a

confounding factor affecting the relationship of the drug-testing program to the work performance factors focused on in the study.

Elmuti (1994) analyzed differences in work performance of a large manufacturing plant before and after the adoption of a drug-testing program. A comparison of performance measures for 18 months prior to the adoption of the program to a period of 24 months after the program began showed a change in every measure. The percentage of hours spent on production increased from an average of 68% to 80% after having adopted the drug-testing program. The efficiency rate increased from 75% to 8%, and overall productivity rate increased from 72% to 82%. Rates of absenteeism dropped from 78% to 60%, and drug-related injuries dropped from an average of 17% to 13%. However, estimates from the plant manager were not convincing as to the estimated the total savings outweighing the cost of the testing program. In addition, results of this study cannot be generalized to other organizations or other industries.

### Employee Responses to Drug Testing

The importance of employee reactions towards organizational processes has gained greater recognition in recent years (Truxillo, Bauer, & Paronto, 2002). Previous research disagrees on the attitudes of employees toward drug-testing in the workplace. Crant and Bateman (1990), and Murphy, Thornton, and Reynolds (1990) reported that the presence of employment drug testing policies may discourage potential applicants. Contrarily, a 1997 study by Mastrangelo found that the presence of a drug-testing policy may foster recruitment. It should be noted that Masterangelo's (1997) follow-up results showed that the presence of a drug-testing policy may impact attitudes towards the employer, but not

intentions to apply for a job. Others predict that the presence of a drug-testing policy may increase a company's turnover rate, as unfavorable attitudes towards drug-testing may cause employees to leave the company (Mastrangelo & Popovich, 2000; Smither et al., 1996).

### Organizational Justice Theory

Organizational justice theories focus on procedural justice, distributive justice, or interactional justice. Procedural justice, or process fairness, refers to how fair an organization's processes are perceived. Distributive justice, or outcome fairness, pertains to the fairness of procedure outcomes for individuals. Interactional justice refers to perceived fairness of interpersonal interactions and treatment when organizational procedures are implemented. All three justice perception formulations have been found to provide insight into understanding a wide array of organizational phenomena, including reactions to performance appraisals, acceptance of nonmonetary rewards, and the use of dispute-resolution practices (Greenberg, 1990).

The common focal point of organizational justice approaches is individual reactions to the experience of distributive justice (the degree to which individuals perceive fair distribution of outcomes) and procedural justice (perceived fairness in the processes used to allocate outcomes) (Tepper, 1994). Distributive justice is experienced when an individual receives favorable outcomes (Leventhal, 1980). Procedural justice focuses on the extent to which procedures are perceived as accurate, correctable, unbiased, consistent, and ethical.

The concept of organizational justice developed as a result of attempts to identify and explicate the role of fairness as a consideration in the workplace (Greenberg, 1990). This theory has been called upon in previous studies to aid in the explanation of organizational processes, including performance appraisals and distribution of rewards (Greenberg, 1986; Greenberg, 1987). Previous empirical research suggests that experiences of both procedural and distributive justice can be related to attitudes towards organizations and their practices (Greenburg, 1990).

With regards to drug-testing, individual concerns of distributive justice relate to their personal costs and benefits associated with participating in such a program (Crant & Bateman, 1989). When an individual perceives the need for a drug-test, they are more likely to feel that the practice administers distributive justice. An individual's procedural concerns are focused on specific characteristics of the drug-testing program itself. Crant and Bateman (1989) have found that employees are more likely to respond positively to drug-testing programs that display the following standards: (1) accurate discrimination of users from nonusers (also known as the accuracy rule), (2) expunged record for individuals who receive treatment or rehabilitation (or the correctability rule), (3) individuals are not singled-out for drug-testing (the consistency rule), and (4) the consequences for a positive drug-test are not excessively punitive (the ethicality rule).

In order to develop a systematic way of predicting the possible impact of drug programs on employee attitudes and behavior, Crant and Bateman (1989) drew upon organizational justice theories. It is theorized that the perceived fairness, or justice, of a program will cause employees to react attitudinally and behaviorally in a variety of ways. These reactions can be directed toward the program itself, the employing organization,

co-workers and management, and the employee themselves (Crant & Bateman).

According to the basic assumptions of justice theories, an employee will respond to their judgment about the justice of a drug-testing program by adjusting their cognition, attitude, or behavior to reduce any discomfort or dissonance they perceive (Crant & Bateman, 1989; McClintock & Keil, 1982).

Truxillo et al. (2002) showed results that supported the use of organizational justice theory to explain employee reactions to the use of alcohol testing within an organization. Gilland (1993) used organizational justice theory to develop a model that explains reactions to organization selection and promotion processes.

If employees perceive a drug-testing program to be unfair, or unjust, it is predicted that they will react attitudinally with moral outrage and righteousness, or behaviorally with efforts to change or beat the system (Bies, 1987; Crant & Bateman, 1989; Folger, 1986; Mark & Folger, 1984). If the program is perceived by the employee as being fair, or just, it is more likely to be accepted, the employee is more likely to feel satisfied, the employee's organizational commitment and management trust will increase, turnover intentions will decrease, and the employee will be more likely to comply with and support the program (Crant & Bateman, 1989; Folger & Greenberg, 1985; Konovsky & Cropanzano, 1991; Thibaut & Walker, 1975).

A program perceived by employees as being fair will invoke a number of desirable reactions by employees. However, a program perceived to be unfair may result in employee attitudes of resentment and anger, behaviors to change or beat the policy, or behaviors to deal with the injustice. These behaviors may include noncompliance, complaints, sabotage, negative remarks about the company to people outside of the

organization, and other activities that indicate a lack of organizational citizenship (Bateman & Organ, 1983; Crant & Bateman, 1989; Crosby, 1976; Folger, 1986; Greenberg, 1987; Smith, Organ, & Near, 1983). If the program is perceived by employees as being unfair, the result may be highly cohesive work groups that exhibit antagonistic behavior towards management, as well as reduced work performance (Seashore, 1954).

### *Referent Cognitions Theory*

Developed by Folger (1986), referent cognitions theory (RCT) is one justice theory that is used to describe how individual reactions are affected by distributive and procedural justice. RCT theorizes that resentment towards a procedure is minimized when an individual receives favorable outcomes and there is more justification for the use of that procedure. Thus, procedural justice can compensate for the experiences of distributive justice; procedures that are highly justified can inhibit resentment towards the outcomes they produce (Folger & Martin, 1986). Most empirical studies testing RCT have shown support for the prediction that resentment is higher when the referent outcome is unfavorable and when there is little or no justification for the procedure used (Greenburg, 1990).

In studies that apply RCT to drug-testing programs, findings indicate that a perception of excessively punitive programs is related to the justification for such outcomes (Tepper, 1994). Possible resentment towards punitive outcomes could be minimized when there is greater justification for the punitive treatment of individuals with a positive drug-test result. Conversely, RCT suggests that possible resentment by individuals may be

maximized when there is little justification for punitive treatment of positive individuals with a positive drug-test result.

Organizational justice theory is not without its limitations. Much procedural justice research has been performed with a focus on undesirable events, has occurred outside of organizations, and used ad hoc measures of perceived fairness (Greenberg, 1990).

Concept development in this area has often been applied to studying organizations, rather than derived from studying organizations. Additional restrictions include that of scope, setting, and scaling, all causing the present understanding of procedural justice to be limited and skewed (Greenberg, 1990).

The scope limitation of organizational justice theory research is derived from the fact that the majority of information about procedural justice is derived from a situation in which individual reactions to negative situations were studied (Greenberg, 1990). The majority of studies have examined procedural justice among employees outside of their organization, thus not addressing a workers perception of the fairness of an organizational issue not immediately confronting the employee. This indicates a limitation in the setting of organizational justice research. Finally, there is no standard measure of organizational fairness, implying a scale-related limitation.

#### *Perceived Need for a Drug-Testing Program*

Gilliand's (1993) model indicates that job-relatedness will affect the perceived fairness of an organization's selections system. When a selection or screening program is seen as being necessary, it is more likely to be perceived as being fair. Drug-testing literature supports this concept; for example, a drug test will be perceived as being fair and acceptable when it is perceived as being necessary to reduce danger to employees and the

public (Crant & Bateman, 1990; Cropanzano & Konovsky, 1995; Murphy, Thorton, & Prue, 1991; Tepper, 1994).

According to Crant and Bateman (1989), the central contextual variable that employees evaluate when determining justice is the perceived need for a drug-testing program in the workplace. If employees feel that their personal benefits outweigh the personal costs of submitting to the test, the test will be perceived as fair. Additionally, if certain industries are seen by the majority as having a legitimate need for drug-testing policies, then it stands to reason that employees in this industry would perceive the need as significant (Crant & Bateman, 1989; Kelley, 1973). Attitudes towards testing policies may also vary according to job-specific characteristics, including the level of psychomotor activities, the amount of routine involved in job tasks, and the possibility of dangerous interactions with others (Murphy et al., 1991).

This perception of need is influenced by organizational characteristics and employee characteristics. Organizational characteristics include the type of industry in which the organization operates, the size and rate of drug use within the organization, structural characteristics, unionization, culture, and performance (Crant & Bateman, 1989). Recent research suggests that drug-testing has become increasingly accepted by job applicants as a necessary part of the job-seeking process (Mastrangelo & Jolton, 2001; Mastrangelo, 1997). Employment that involves a routine set of activities, a high level of awareness of the environment, or infrequent interactions with others appears to be associated with higher acceptance of drug-screening (Murphy et al., 1991).

According to Crant & Bateman (1989), “perceived need for drug testing is likely to be higher in industries responsible for public safety (e.g., transportation, nuclear power) or



for fulfilling a public need (police, firefighters). In addition, employees within industries in which employee safety is a critical issue (e.g., heavy manufacturing) or possibly where employee actions put large amounts of money at risk (banking, investment) are more likely to perceive a need for a drug-testing program. Conversely, if these industry characteristics are not present, employees may be more likely to question the need for a program” (p. 179).

Another factor that has been found to influence perceived need of a drug-testing program is the effect of subjective norms, which can indicate the importance of such a practice in a particular social environment (Crant & Bateman, 1990). An individual will make evaluations based on social cues provided by others. Statements by influential people in an individual’s social environment can affect the potential applicant’s perception of, attitude towards, and intention to apply to an organization with a drug-testing policy.

Organizational size has been shown to be positively associated with drug abuse rate, and employees in organizations with fewer than 3000 employees have reported drug use to be a less serious problem than organizations with more than 3000 employees (Crant & Bateman). Research has also shown that employees at these smaller organizations see formal drug-testing as “unnecessary” (Crant & Bateman, p. 179).

In this sense, the structure of an organization refers to the level of interdependency among employees. When high interdependency exists, the error of one employee can compromise the quality of another employee’s work; in this instance, an employee who is not under the influence of substances may be directly and negatively affected by the substance abuse of a co-worker. In this type of structure, employees may perceive a

greater need, if not an appreciation, for a drug-testing policy within the organization (Crant & Bateman).

As for union presence, some unions tend to oppose drug-testing programs, whereas others support such policies; this appears to be dependent on the industry in which the union operates. With regards to culture, “some organizations have a more permissive and lenient culture than others” (Crant & Bateman, p. 179). Finally, organizations with a poor record of performance (accidents, absenteeism, theft, and/or low productivity) may be seen as legitimately needing a drug-testing program.

Perceived need for a program is also influenced by employee characteristics. These include drug-related behaviors and attitudes, demographic characteristics, and personality type (Crant & Bateman). An employee’s use (or nonuse) of substances, as well as their attitude towards substance abuse and drug-testing, will influence their perception for the need of a drug-testing program in the workplace. Employees with negative attitudes towards drug use will likely perceive a greater need for a drug-testing program, and vice versa. Attitudes towards a drug-testing program will also affect an employee’s behavior towards that program; positive attitudes will more than likely result in responding positive behaviors towards a program.

Previous research targeting reactions to drug-testing indicated that high levels of drug use are related to negative reactions toward drug-testing (Moore, Grunberg, & Greenberg, 1998; Murphy et al., 1991; Rosse, Miller, & Ringer, 1996). This is congruent with the organizational theory concept that organizational phenomena that result in negative outcomes for an individual will be perceived more negatively by that individual (Thibaut & Walker, 1975). An individual who currently uses drugs will be more apt to view the

use of drug-testing as unfair, as testing could lead to their not getting or losing employment (Truxillo et al., 2002).

With regards to demography, it is presumed that basic attributes (age, sex, length of service, and race) will influence employee responses to drug testing (Crant & Bateman, 1989; Pfeffer, 1983). Age is an example of this, as it is possible that older employees may be more inclined to feel that there is a need for a drug testing program. Older workers may also be more willing to comply with such a program. The same can be said for length of service. It is likely, according to the literature, that perceptions, values, and beliefs will differ substantially among different cohort groups (Crant & Bateman, 1989; Pfeffer, 1982). An individual who has been employed by the company for a number of years may perceive a greater or lesser benefit to the implementation of a drug-testing policy.

Personality characteristics are also expected to affect an individual's perceived need for a drug-testing policy. Individuals who exhibit more authoritarian, dogmatic, or external locus of control are predicted to be more likely to accept and comply with such programs (Crant & Bateman, 1989; Lazlo & Rosenthal, 1970; Steiner & Johnson, 1963; Strickland, 1977). The cognitive moral development level of an individual may also affect attitudes and perceived need for a drug-testing program (Crant & Bateman, 1989; Kohlberg, 1969; Trevino, 1986). Worth noting is the idea that attitudes towards drug-testing may also be influenced by a perceived invasion of privacy, discomfort or embarrassment of producing a urine or hair sample, fear of false accusation, and other complex issues related to an individual's personality (Mastrangelo & Popovich, 2000; Rynes, 1993).

In addition to organization and personality characteristics, characteristics of the drug-testing program may cause a response to employees' perceived need of that program. One justice rule that is applied when an individual evaluates fairness is the "Ethicality Rule" (Crant & Bateman, 1989, p. 183). The Ethicality Rule indicates that "decisions should be compatible with fundamental moral and ethical values of employees...a program with the punitive aim of detecting and eliminating or otherwise punishing employees who test positive will likely meet with negative responses, because the workforce – particularly if there is no perceived need for the program – will consider the tests unethical and a violation of their rights" (Crant & Bateman, 1989, p. 183).

Tepper (1994) conducted three studies in an attempt to triangulate in on the ways that tested and non-tested individuals view corporate drug-testing programs. Preliminary research conducted in this area suggests that for dangerous jobs, punitive drug-testing programs were perceived as being fairer than less punitive drug-testing programs (Tepper, 1994). Findings also suggested that less dangerous jobs should be associated with less punitive drug-testing programs. The second study performed by Tepper contradicted these findings, with participants indicating that, although their jobs were perceived as involving more danger, they did not perceive more punitive drug-testing programs to be fairer than less punitive programs. In addition, there was no relationship between punitiveness and fairness for individuals who perceived that their occupations involved little danger.

The results of Tepper's third study indicated that employees who were not tested for drug use were more concerned than tested individuals about distributive justice issues and potential invasions of privacy. Conversely, individuals that were tested for drug use

appeared to be more concerned than non-tested individuals about procedural justice. Individuals in punitive drug-testing programs were concerned primarily with possible violations of the consistency rule. Tepper's studies suggest that tested and non-tested individuals will invoke different justice rules when assessing the fairness of punitive drug-testing programs, and may include safety-sensitivity of occupation as a factor in their determination of fairness.

A survey of manufacturing plant workers conducted by Elmuti (1994) indicated that a majority of respondents felt that illegal drug use was a serious problem among employees at their workplace, and that drug testing was a legitimate way to deal with this problem. A majority of respondents also agreed that drug testing should be mandatory for newly hired employees, and that employers should have the right to refuse employment to applicants who refused to submit to a pre-employment drug test. However, there was a significant negative reaction by respondents towards random drug testing of employees; participants felt that drug testing should be allowed only when reasonable suspicion of use existed. The majority of respondents did not feel that a positive drug-test was grounds to deny employment, but felt that employees with positive test results should have an option for treatment or counseling. Elmuti's findings were consistent with previous studies (Greenberg, 1988; Muczyk & Hesizer, 1988; Rothman, 1988).

Elmuti (1994) found that the majority of respondents perceived drug-testing to result in several benefits, including: increased awareness of drug abuse-related problems, reduced drug abuse in the workplace, reduced long-term medical costs, reduced property damages due to drug abuse-related accidents, reduced tardiness and absenteeism, reduced drug-related injury, and improved overall performance and productivity. Less than one-

third of the respondents perceived drug-testing to have a negative impact on employee morale, and less than one-third of respondents found drug testing to be disruptive to the workplace. More than half of the respondents, however, were unsure as to the costs and reliability of drug-testing programs at their workplace. A majority of respondents found drug-testing to be beneficial to employees and employers, but over 69% felt that employers received a greater benefit.

With respect to the restaurant industry, Kitterlin and Erdem (2009) found that employees in the full-service restaurant industry did not feel that pre-employment drug-testing was necessary or beneficial to any parties involved relative to the costs. Responses suggest that restaurant industry employees do not feel that their work is complex, dangerous, or life-threatening for the public, thus a drug-test is unnecessary. One common theme that emerged was the idea that the time and money spent on drug-testing could be better allocated to benefit all parties with a vested interest. Respondents also felt that an employee's activities outside of work should have no effect on their ability to obtain and/or keep employment in the restaurant industry. In addition, participants indicated that pre-employment drug-testing does not prevent substance abusers from entering the workforce, and that testing will only limit the labor pool. It was noted that the small sample size, the use of a convenience sample, and the qualitative nature of the study cause issues with the generalizability of these findings. Recommendations included increasing the sample size and adding a quantitative component to the research.

### Attitudes Toward Employment Screening and Testing for Drugs Scale

The Attitudes Toward Employment Screening and Testing for Drugs Scale (ATESTD) was developed by Mastrangelo & Popovich (1995) to measure attitudes towards a specific drug testing policy. A set of 84 ATESTD items were written initially, which were used to measure 14 categories of evaluative beliefs regarding drug testing. Included were accuracy, fear of false positives, procedural justice, distributive justice, feelings of mistrust, humiliation, perceived need for testing, cost effectiveness, productivity or quality improvements, safety of workplace, violation of privacy or confidentiality, consequences for test-taker, severity of punishment, and prevalence of testing. This original pool was later reduced from 84 to 35 items, and ultimately included four principal components: perceived business necessity, perceived validity of the test, perceived respect for privacy, and perceived consequences of failing.

For the purpose of reliability and validity confirmation, a second test was performed by Mastrangelo and Popovich (1995). Results showed evidence of test-retest reliability ( $r = .88$ ), internal consistency (Cronbach's  $\alpha = .91$ ), and construct validity ( $r = +.62$ ). However, internal consistency problems with certain items were noted, indicating the need for further revisions.

In 2000, Mastrangelo and Popovich reduced the ATESTD to 18 items. Administration time was shortened, and questions were rephrased to encourage participants to focus primarily on their own employer's drug-testing policy, as opposed to drug testing in general. A five-point Likert scale were used for responses (Strongly Disagree, Disagree, Not Sure, Agree, Strongly Agree), with higher scores indicating a more favorable attitude

towards the employers' drug-testing policies. Cronbach's alpha for the 18 items was .92, which matched the 1995 study's internal consistency estimates.

Previous use of this instrument by Mastrangelo and Popovich (2000) showed that attitudes toward drug testing were significantly correlated with job satisfaction, affective organizational commitment, continuance organizational commitment, support for worker safety, attitudes toward top management. However, there was no relationship seen between attitudes toward drug testing and withdrawal behaviors, such as absenteeism and tardiness. Attitudes toward drug testing did significantly correlate with turnover intention.

The Mastrangelo and Popovich (2000) study, overall, provided support for models based on organizational justice theories. These models suggest that an employee evaluates their employer's drug-testing policy based on their perception of procedure and outcome fairness, leading to an employee's assessment of the employer and a decision to commit or leave. However, the Mastrangelo and Popovich study found that perceived fairness of drug-testing policies did not predict perceptions of employers or intentions to leave an organization. The relationship between attitudes toward drug testing appeared to be driven by employee's perceptions of privacy invasions caused by drug testing, a finding which conflicted with previous models based on organizational justice theory. An explanation for this was the growing acceptance of drug-testing policies in the workplace, which would suggest a restriction of range in fairness perceptions, thus correcting the contradiction to organizational justice models. Finally, it was suggested that organizations continue to develop drug-testing policies that are perceived by employees to be fair. In addition, organizations should increase efforts to prevent embarrassment and humiliation when performing employee drug tests, as a policy's perceived invasion of



privacy (more so than perceived fairness) can reduce employee morale and increase employee turnover.

### Summary

Substance abuse among employees has been linked to increased absenteeism, accidents, downtime, turnover, theft, workers' compensation costs, and employee discipline problems. Substance abusing employees have been cited to cause decreased productivity, profits, customer satisfaction, health status, and employee morale. Organizations have responded to this with the use of drug-testing in the workplace, specifically pre-employment drug-testing.

The foodservice industry has been found to employ the largest number of substance abusing employees. Previous studies have found conflicting results as to how accurately pre-employment drug-testing policies are at reducing the negative aspects of work performance associated with substance abuse. With a turnover rate reaching 104% and more, it is important to conduct further investigation as to the benefits of pre-employment drug-testing for the restaurant industry relative to the costs of such policies.

A great deal of research has indicated that an individual's attitude towards drug-testing will affect their attitudes towards employers, yet there is still controversy surrounding exactly how these specific perceptions towards employers change. Further questions remain regarding employee attitudes toward pre-employment drug-testing policies in the foodservice industry.

## CHAPTER III

### METHODS

A two-part approach was taken in this study. Part one, or the comparative study portion of this research project, included a comparison of 110 full-service restaurants in the Las Vegas, Nevada, area. Fifty-five of these restaurants had a pre-existing pre-employment drug-testing policy; the other 55 will had no such policy in existence. These 110 establishments were questioned about their rates of hourly employee absenteeism, turnover, and documented work-related accidents and injuries for a period of 3 months.

In the second portion, or survey portion, 182 full-service restaurant hourly employees and management staff were surveyed regarding their perceptions, attitudes, and beliefs towards pre-employment drug-testing in the full-service restaurant industry.

#### Population

The population for this study consisted of full-service restaurants, as well as management staff and hourly employees at full-service restaurants in Las Vegas, Nevada. Establishments with pre-employment drug-testing policies, as well as those that did not have pre-employment drug-testing policies, were targeted. Only establishments that had been in operation for at least six months were chosen, as the evaluation of absenteeism, turnover, and work-related injuries/accidents were taken from a three-month time period. Establishments with similar service levels were targeted, so as to increase generalizability and the homogeneity of the population of study. Restaurants located in the Las Vegas, North Las Vegas, and Henderson areas of Nevada were chosen due to convenience of access.

## Sample

In the comparison portion of this study, a convenience sample was selected by listing all full-service restaurants in the Nevada areas of Las Vegas, North Las Vegas, and Henderson who are members of the Nevada Restaurant Association. This list was obtained from the Las Vegas chapter of the Nevada Restaurant Association. One hundred foodservice establishments, each with similar service levels, were targeted; 55 with pre-employment drug-testing programs, and 55 without pre-employment drug-testing programs. Each location was questioned about their rates of hourly employee absenteeism, turnover, and documented work-related accidents and injuries over a three month period. Establishments were be contacted directly by the Nevada Restaurant Association, or by email.

The survey portion of this study included a survey of full-service restaurant hourly employees and management staff in regards to their attitudes, beliefs, and perceptions of pre-employment drug-testing in the restaurant industry. Due to time and financial constraints, a convenience sample was be selected, consisting of 91 hourly employees and 91 management staff currently working in the Las Vegas, North Las Vegas, or Henderson, Nevada restaurant industry. This sample will included employees working at establishments which use pre-employment drug-testing and at establishments that do not use pre-employment drug-testing. Participants were elicited through flyer distribution on the UNLV campus and the community, electronic announcements and social media, the Las Vegas Nevada Restaurant Association member list, and through advertisements in local publications in the Las Vegas area. It is possible that some participants came from establishments targeted in the comparative study phase. However, the approach was not

to target only employees from the same restaurants that participated in the comparative study phase, as this is impractical.

A time period of three months for the comparison portion was chosen for two reasons: 1) many establishments may be reluctant to take the time and effort to research and report employee activity over a longer period of time, and 2) a three month time period is similar to the general 90 day probationary employment period set forth by the Workplace Relations Act of 1996 and the Employment Relations Amendment Bill that many establishments will use to determine rather or not to extend continued employment. It stands to reason that if establishments can make an evaluation of work performance over 90 days, that this study can make reasonable deductions regarding employee absenteeism, turnover, and work-related accidents in the same time period (Hegan, 2006).

#### Instrument

Data was collected using two instruments. The first instrument, used in the comparative study portion, was a form for management and/or human resources to complete regarding employee absenteeism, turnover, and documented hourly employee work-related accidents over a period of three months. The form was completed by management staff at each of the participating locations online, and was sent to each location via email.

The second instrument, used in the survey portion, was a self-administered questionnaire for hourly employees and management staff to complete regarding demographic information, as well as their perceptions, attitudes, and beliefs regarding pre-employment drug-testing in the full-service restaurant industry. Online questionnaires

were used due to the relatively minimal degree of effort and expense, and the fact that this would enable the quantification and standardization of responses. The survey was a modified version of Mastrangelo and Popovich's (2000) *Attitudes Toward Employment Screening and Testing for Drugs Scale*. This modified version was titled *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* survey. After the survey was completed, a pilot test of twenty restaurant industry employees (ten hourly and ten management staff) was conducted, so as to ensure that all items could be understood, and that there were no ambiguous questions or interpretive problems. Restaurant industry hourly employees and management staff were used in this pilot study because they were the intended population for this study. Being nearly identical to a pre-established instrument, the survey reliability had already been subjected to the test-retest method, and had proven to provide high stability correlation and consistency, indicating a high degree of reliability (Mason, 2003; Mastrangelo & Popovich, 1995; Mastrangelo & Popovich, 2000; Zikmund, 2003). The instrument followed the split-half method (Zikmund, 2003); strong agreement with odd-numbered items indicated agreement with the use of pre-employment drug-testing, while even-numbered items indicated disagreement with such practices. By doing this, internal consistency and the homogeneity of the measure could be identified (Zikmund).

The *Absenteeism, Turnover, and Injuries/Accidents Report* is a tool developed by the researcher that contains general questions regarding hourly employee absenteeism, turnover, and documented work-related accidents over the past three months of operation at a full-service restaurant. This form was completed by management or human resource staff. The form was distributed and collected electronically by the researcher via email, and included a cover letter explaining the purpose of the study, as well as information

related to the protection of human subjects. This study was endorsed by the Nevada Restaurant Association, and that relationship was explained to all participants in the email cover letter. Participants were then provided a link within the email to access the survey. Item response compilation was performed by the online survey program, Qualtrics. The study was emailed by the researcher using a list of member emails provided by the Nevada Restaurant Association. Emails were sent to a convenience sample of 110 full-service restaurants, 55 that used pre-employment drug-testing, and 55 which did not. Pilot testing of ten restaurant managers was conducted to increase reliability, and to ensure that all items could be understood and that they did not contain ambiguous questions or interpretive problems. Restaurant managers were used in this pilot test in order to gather feedback from the actual target population. Survey items appeared to have face validity, in that all professionals involved in the pilot test agreed that the scale logically appeared to accurately measure what it was intended to measure (Zikmund 2003). To encourage participation, supervisors at each all participating establishment were given the opportunity to receive a complimentary executive summary of the results of this portion of the study.

In the survey portion of the study, a survey was conducted with 91 full-service restaurant hourly employees and 91 management staff in regards to their attitudes, beliefs, and perceptions of pre-employment drug testing in the full-service restaurant industry. Each participant was provided with an electronic or hard copy of the self-administered *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* survey. The surveys were distributed and collected online as well as in hard copy form. The survey was emailed to a list of UNLV students currently working in the foodservice industry, as well

as a list of restaurant employees provided by the National restaurant association. Participants were also targeted via social networks, hospitality association member listservs, and in person. Individuals were given an opportunity to complete a hard copy of the survey, or to complete the survey online. Participation was voluntary by hourly employees and management staff. This self-administered survey included questions regarding general demographic information, as well as attitudes, beliefs, and perceptions of pre-employment drug-testing policies in the full-service restaurant industry. A five-point Likert scale was used to measure the degree of responses, with 5 being “Strongly Agree” and 1 being “Strongly Disagree”.

The *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* survey was pilot tested using ten full-service restaurant industry hourly employees and ten full-service restaurant management staff to ensure that all questions could be understood, and that they did not contain ambiguous questions or interpretive problems. This also helped to ensure the content validity and reliability of the instrument.

Incentives were not provided to survey participants, but all participants were given the opportunity to obtain study results. Hard copies of the survey were provided for participants who are not able to or comfortable with using the internet. Email addresses were collected from the Nevada Restaurant Association, hospitality organizations, social network sites, UNLV students, and in person at establishments who granted the researcher permission to request individual employee email addresses. All survey instruments were only provided in English.

## Data Analysis

Information obtained with the *Absenteeism, Turnover, and Injuries/Accidents Report* from the 110 establishments studied was compared to identify mean differences in hourly employee absenteeism, turnover, and documented work-related accidents and injuries. Data were coded into and analyzed with the Statistical Package for the Social Sciences. A Multivariate Analysis of Variance (MANOVA) was performed with one IV (presence of a drug test) and three DVs (absenteeism, turnover, and accidents/injuries).

Results from the *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* questionnaire were examined for significant differences in responses among hourly employees and management staff. First, all negative statements (all evenly numbered survey items) were reverse-coded. These even numbered survey items were reverse worded (“...would NOT make safer...”), so it was necessary to reverse the scale in order to compare point values in a summated scale (Hair, Black, Babin, Anderson, & Tatham, 2006). This summated scale could then be compiled from individual survey items attempting to describe the same phenomenon. A principal component analysis was conducted on the 18 attitude items listed in this survey to identify interpretable components of employee attitudes toward pre-employment drug-testing in the full-service restaurant industry. The procedure used varimax (orthogonal) rotation to identify the number of dimensions. The reliability of these dimensions was assessed using Cronbach’s Alpha.

Once the principal factors were identified, a MANOVA was applied to identify differences between management and hourly employee scores on the principal components. A score was created for each of the factors by summing the scores for the



responses to all questions contained in the factors themselves. The new variables were named, and the total scores were used as the dependent variables in the MANOVA analysis. The independent variable was dichotomous; employment level (management or hourly). This will allowed for the comparison of management and hourly employee attitudes towards the use of pre-employment drug-testing in the full-service restaurant industry.

Obvious limitations included the sensitive nature of the topic and the element of self-reported data, as well as the modest sample size. Since this study relied on the validity of self-reported measures, there were advantages and disadvantages. Given the nature of the topic, participants could only respond in extremes (strongly agreeing or disagreeing). Self-reported data allows for the measurement of behaviors that would otherwise be difficult or impossible to detect through observation or other means (Bharucha-Reid, et al., 1995; McDaniel, 1988). However, self-reported data is subject to bias due to misinformation, impaired recall of events, and desire to appear socially acceptable (McDaniel, 1988).

Because information for the comparison portion of this study was collected from members of the Nevada Restaurant Association, one limitation of this study was that it excluded properties who are not members of the Nevada Restaurant Association. However, this limitation seems acceptable, given the number and variety of establishments who are members.

This study may also have been affected by the current economic condition of the time during which data collection occurs, which could affect turnover rates due to lay-offs or

employee anxiety about leaving an already acquired position. Thus, the turnover rates reported by participating establishments may be higher or lower than the norm.

This survey is no exception to the fact that it is not a panacea (Zikmund, 2003). The responses collected may have been affected by response error, self-selection bias, response bias (social desirability bias, extremity bias, auspices bias), best guess estimates, time lapse influences on proper reporting, and the “average man effect” (Zikmund, 2003, p. 180).

In order to mitigate reporting and data collection error, questions were sequenced randomly so as to reduce order bias, and filter questions were presented at the beginning of the survey (example: “Do you work in the full-service restaurant industry in the Las Vegas area?” “What is your position title?”). Attempts were made to avoid ambiguity or leading questions, as well as double-barreled questions. In addition, both fixed alternative and open-ended questions were included in both instruments so as to obtain as much data as possible and in its richest state.

Finally, this study may have excluded any foodservice employees who cannot speak or read the English language, as this instrument was only provided in English. Unless such participants had access to someone to act as a translator, they would have been unable to complete the survey.

### Protection of Human Subjects

Prior approval was obtained from the Human Subject Review Committee. Upon approval, data collection began. All subject anonymity was protected by failure to collect

or disclose participant names and/or places of employment. All participants were represented only by a summary of their responses.

## CHAPTER IV

### ANALYSIS AND RESULTS

#### Introduction

A two-part approach was taken in this study. The first portion, or comparative portion, of this study attempted to compare rates of absenteeism, turnover, and accidents/injuries at full-service restaurants in the Las Vegas, Nevada area with and without pre-employment drug-testing policies. The second portion of this study, or the survey portion, investigated employee attitudes toward the use of pre-employment drug-testing in the full-service restaurant industry. Management responses and hourly employee responses were evaluated to identify any difference in group response.

#### Tests of Reliability and Validity

As discussed previously in Chapter 3, the instrument used in the survey portion of this study was a modified version of Mastrangelo and Papovich's (2000) ATESTD. Numerous testing was performed by Mastrangelo and Popovich (1995; 2000) for the purpose of reliability and validity confirmation. Results of an early test showed evidence of test-retest reliability ( $r = .88$ ), internal consistency (Cronbach's  $\alpha = .91$ ), and construct validity ( $r = +.62$ ). However, internal consistency problems with certain items were noted, indicating the need for further revisions.

In 2000, Mastrangelo and Popovich reduced the ATESTD to 18 items. Administration time was shortened, and questions were rephrased to encourage participants to focus primarily on their own employer's drug-testing policy, as opposed to drug testing in general. A five-point Likert scale were used for responses (Strongly Disagree, Disagree,

Not Sure, Agree, Strongly Agree), with higher scores indicating a more favorable attitude towards the employers' drug-testing policies. Cronbach's alpha for the 18 items was .92, which matched the 1995 study's internal consistency estimates.

For the purpose of this study, a modified version of Mastrangelo and Popovich's (2000) ATESTD was used, which included additional demographic questions. Previous evaluation of these 18 items demonstrated the survey's test-retest reliability, internal consistency, and validity. Being nearly identical to a pre-established instrument, the reliability of the survey used in the present had already been subjected to the test-retest method, and had proven to provide high stability correlation and consistency, indicating a high degree of reliability (Mason, 2003; Mastrangelo & Popovich, 1995; Mastrangelo & Popovich, 2000; Zikmund, 2003). The instrument followed the split-half method (Zikmund, 2003); strong agreement with odd-numbered items indicated agreement with the use of pre-employment drug-testing, while even-numbered items indicated disagreement with such practices. By doing this, internal consistency and the homogeneity of the measure could be identified (Zikmund, 2003).

Principal component analysis (PCA) was used on the 18 PEDT survey items to identify interpretable components of employee attitude toward the use of pre-employment drug-testing in the full-service restaurant industry. PCA is used to examine the inter-relationships among a large number of variables; it then attempts to explain these variables in terms of their common underlying dimensions (Hair et al., 2006). The Kaiser-Meyer-Olkin measure of sampling adequacy (.95) and Bartlett's test of sphericity (2243.12,  $p < .0005$ ) indicated that the correlation matrix of the survey items contained a strong intercorrelation. This combined with a sample size of more than 50 observations

and more observations than variables indicated that the use of PCA was appropriate (Hair et al., 2006). In addition, Cronbach's alpha for the 18 PEDT survey items was .95, which indicated that the scale had high internal consistency (reliability).

As discussed previously in Chapter 3, both instruments were pilot tested prior to collecting data. The *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* survey was pilot tested using twenty restaurant industry employees (ten managers and ten hourly employees), so as to ensure that all items could be understood, and that there were no ambiguous questions or interpretive problems. Restaurant industry hourly employees and management staff were used in this pilot study because they were the intended population for this study. The *Absenteeism, Turnover, and Accidents/Injuries Report* was pilot tested using ten restaurant managers to ensure that all items could be understood, and that there were no ambiguous questions or interpretive problems. Again, restaurant managers were used in this pilot test because this included the intended population for study. Survey items appeared to have face validity, in that all professionals involved in the pilot test agreed that the scale logically appeared to accurately measure what it was intended to measure (Zikmund 2003).

#### Comparison of Absenteeism, Turnover, and Accidents/Injuries

Information on rates of employee absenteeism, turnover, and accidents/injuries was collected from a total of 110 establishments in the Las Vegas, Nevada area. This information was collected using the *Absenteeism, Turnover, and Injuries/Accidents Report*, a form distributed electronically to members of the Nevada Restaurant Association. This form was completed and returned by 63 (57.3%) managers, 33 (30%)

owners, 2 (1.8%) human resources representatives, and 12 (10.9%) other supervisory positions, including chefs and food and beverage directors. Fifty-five (50%) of the responding establishments had pre-employment drug-testing policies, while the other 55 (50%) had no such policy in existence. Establishment sizes ranged from ten foodservice employees to 800 foodservice employees, with an average responding establishment employing 95.6 foodservice workers. Table 2 displays the averages and standard deviations for rates of absenteeism, turnover and accidents/injuries at establishments with a pre-employment drug-testing policy present (PEDT Present) and those without such a policy in existence (No PEDT Present).

*Table 2*

*Rates of Absenteeism, Turnover, and Accidents/Injuries*

Pre-Employment Drug-Testing Status		Mean*	SD
PEDT Present	Absenteeism	.126	.08
	Turnover	.171	.13
	Accident/Injuries	.012	.01
No PEDT Present	Absenteeism	.138	.10
	Turnover	.145	.11
	Accidents/Injuries	.008	.01

*\*Means represented in percentages.*

A Multivariate Analysis of Variance (MANOVA) was performed on this data to investigate differences in the rates of absenteeism, turnover, and accidents/injuries

between the two groups (those with and without pre-employment drug-testing policies. A MANOVA was appropriate for answering the research questions in that there were three dependent variables (Rate of Absenteeism, Rate of Turnover, and Rate of Accidents) and one independent variable (Presence of a Pre-Employment Drug-Test) (Francis, 2007; Hair, Black, Babin, Anderson, & Tatham, 2006). In addition, using a MANOVA reduced the likelihood of committing a Type I error (a false positive) by assessing main effects and interactions on a combination of dependent variables, as compared with performing a series of univariate tests (Hair, et al., 2006; Pavur & Nath, 1989).

Data was first screened for outliers, missing values, and/or response error; no problems were found. Sampling was independent and random. The independent variable (PEDT status) was categorical in nature, and all dependent variables were continuous. A Q-Q plot of the residual values (see Figures 1-3) indicated that the assumption of normality was not met (all p-values < .05). Because there were a sufficiently large number of independent random responses, the central limit theorem indicates that the assumption of normality is considered to be robust to violation (Rice, 1995). However, Kruskal-Wallis tests were performed in addition to the multivariate analysis of variance. A Kruskal-Wallis test is the nonparametric analog of the one-way analysis of variance and a generalization of the Mann-Whitney test, and can be used to test the equality of medians for two or more populations (Corder & Foreman, 2009; Siegel & Castellan, 1988). Because the Kruskal-Wallis test is a nonparametric method, it does not assume normal distributions (Corder & Foreman, 2009; Siegel & Castellan, 1988). Results for both the MANOVA and the Kruskal-Wallis tests are provided.



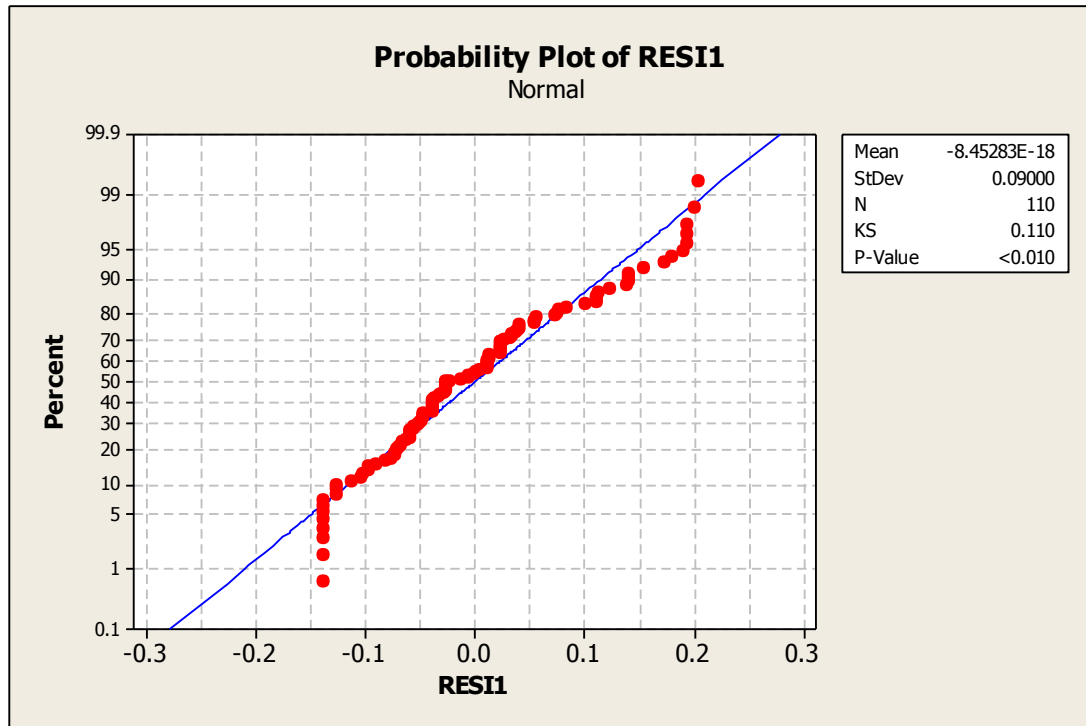


Figure 1. Probability plot of absenteeism residuals.

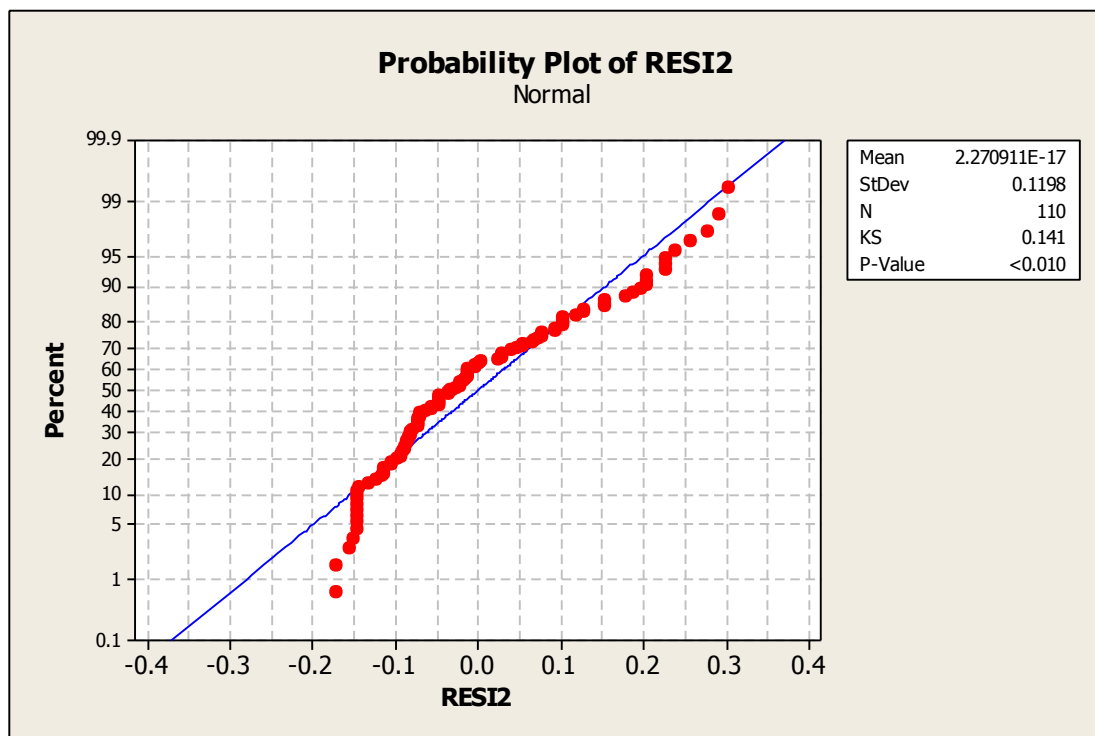


Figure 2. Probability plot of turnover residuals.

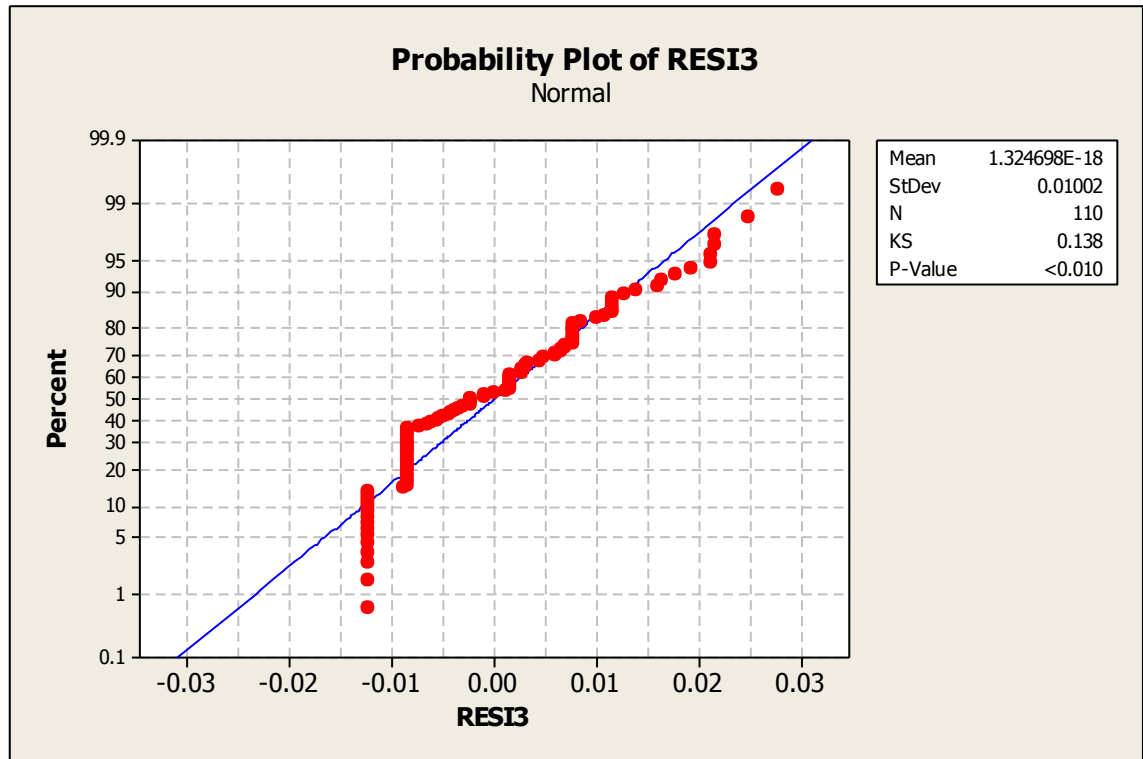


Figure 3. Probability plot of accidents/injuries residuals.

The assumption of equality of variance and covariance matrices was met ( $p = .733$ ), thus it was assumed that variance between groups was equal, and Wilks' Lambda test statistic value was used for interpretation of the MANOVA results. The Wilks' Lambda test statistic indicated that the presence of a pre-employment drug-test did not statistically significantly affect rates of absenteeism, turnover, and/or accidents/injuries among full-service restaurant industry employees,  $F(3, 106) = 1.87, p = .139$ , partial  $\eta^2 = .050$ . Results of the MANOVA are provided as an appendix.

Kruskal-Wallis tests produced similar results. The rates of absenteeism at restaurants with and without pre-employment drug-testing policies were not found to be significantly different ( $Z = -0.57, p = .57$ ). Turnover rates among the two groups were not found to be significantly different ( $Z = 1.00, p = .32$ ). Rates of injuries and accidents at

establishments with and without drug-testing were found to be borderline ( $Z = 1.94$ ,  $p = .052$ ), with a possibility that establishments without drug-testing reported significantly less accidents and injuries (Median = 0.005) than those with drug-testing policies (Median = 0.01).

### Employee Attitudes Toward Pre-Employment Drug Testing

In the survey portion of this study, restaurant employee attitudes toward the use of pre-employment drug-testing in the full-service restaurant industry were collected. A modified version of Mastrangelo and Popovich's (2000) *Attitudes Toward Employment Screening and Testing for Drugs Scale* was used. Mastrangelo and Popovich's (2000) evaluation of these original 18 items demonstrated the survey's test-retest reliability, internal consistency, and validity. This modified instrument, named the *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* (PEDT survey) survey included questions on participant demographics, as well as 18 items rated on a five-point Likert-type scale, with a higher score indicating more favorable attitudes toward the use of pre-employment drug-testing. Statements were phrased to indicate that responses should be focused only on the full-service restaurant industry, as opposed to pre-employment drug-testing across all industries.

### *Participant Demographics*

All respondents were currently employed in the full-service restaurant industry in the Las Vegas, Nevada area. Participants were evenly divided into two groups, with 91 hourly employees and 91 management/supervisory staff. The majority of respondents reported working in front-of-house positions (54.9%). A large percentage of participants

were White, non-Hispanic (69.2%) and male (67.0%). The majority of respondents were between the ages of 22 and 40 (66.5%). Respondents had worked in the foodservice industry from 6 months to 45 years, with the average respondent having worked 13 years in the industry ( $M = 13.18$ ,  $SD = 10.34$ ). Nearly half of the respondents (47.8%) reported having had to submit to a pre-employment drug-test prior to obtaining employment at their current positions, while 52.2% reported that no such test had been required.

A total mean score of 3.33 ( $SD = 1.21$ ). This does not necessarily indicate that participating restaurant industry employees had a neutral attitude towards pre-employment drug-testing in the full-service restaurant industry; a review of the raw data shows that extreme opinions were captured. When averaged, these extremes simply cancel each other, as the response scale was 5 to 1, strongly agree to strongly disagree. Descriptive statistics for scores on individual PEDT survey items are presented in Table 4.

*Table 3**Demographic Profile of Participants*

Demographic Category		N	%
Age	18-21 years	10	5.5
	22-25 years	49	26.9
	26-30 years	28	15.4
	31-40 years	44	24.2
	41-50 years	25	13.7
	51-60 years	18	9.9
	61 years and over	8	4.4
Total		182	100.0
Gender	Male	122	67.0
	Female	60	33.0
	Total	182	100.0
Race/Ethnicity	African-American	5	2.7
	Asian-Pacific Islander	20	11.0
	Hispanic	21	11.5
	White, non-Hispanic	126	69.2
	Other	10	5.5
	Total	182	100.0
Employment Level	Hourly	91	50.0
	Management	91	50.0
	Total	182	100.0

Demographic Category		N	%
Employment Area	Back-of-House	33	18.1
	Front-of-House	100	54.9
	Other*	25	13.7
	Both	24	13.2
	Total	182	100.0
PEDT Required	Yes	87	47.8
	No	95	52.2
	Total	182	100.0

\*Other employment areas included Food and Beverage Directors and Operations Directors.

### Principal Component Analysis of PEDT Survey Items

Principal component analysis (PCA) was used on the 18 PEDT survey items to identify interpretable components of employee attitude toward the use of pre-employment drug-testing in the full-service restaurant industry. PCA is used to examine the inter-relationships among a large number of variables; it then attempts to explain these variables in terms of their common underlying dimensions (Hair et al., 2006). The Kaiser-Meyer-Olkin measure of sampling adequacy (.95) and Bartlett's test of sphericity (2243.12,  $p < .0005$ ) indicated that the correlation matrix of the survey items contained a strong intercorrelation. This combined with a sample size of more than 50 observations and more observations than variables indicated that the use of PCA was appropriate (Hair et al., 2006). In addition, Cronbach's alpha for the 18 PEDT survey items was .95, which indicated that the scale had high internal consistency (reliability).

*Table 4*

*Mean Responses for PEDT Survey Items*

PEDT Survey Items*	Mean	SD
1. Using a pre-employment drug-testing policy makes restaurants a safer place to work.	3.48	1.27
2. A pre-employment drug-testing policy does not provide equal justice for everyone.	3.26	1.32
3. A pre-employment drug test is not embarrassing at all.	3.75	1.31
4. Restaurants have more important problems than testing for drug use.	2.85	1.26
5. Only drug users should be afraid of failing a pre-employment drug test.	3.51	1.33
6. Taking a pre-employment drug test would offend me.	3.96	1.19
7. A pre-employment drug test would make restaurants more efficient.	2.86	1.23
8. Pre-employment drug-testing policies are biased.	3.37	1.22
9. Taking a pre-employment drug test makes me feel respected.	2.58	1.08
10. There is no real need for a pre-employment drug-testing policy in the restaurant industry.	3.49	1.29
11. Pre-employment drug-testing policies apply equally to all people.	3.65	1.19
12. I would be embarrassed to take a pre-employment drug test.	4.05	1.08
13. Restaurants need to use pre-employment drug-testing to assure their survival and success.	2.43	1.26
14. Pre-employment drug-testing policies hurt innocent people.	3.66	1.15

PEDT Survey Items*	Mean	SD
15. I would enjoy taking a pre-employment drug test.	2.56	1.14
16. A pre-employment drug-testing policy will not make a restaurant any safer.	3.12	1.26
17. The system of testing for drug use before employment is fair to everyone.	3.47	1.19
18. Taking a pre-employment drug test is humiliating.	3.93	1.00
<i>*Higher scores indicate stronger agreement with the use of a testing policy; even numbered items were reverse-coded.</i>		

A varimax rotation was used to produce orthogonal component scores (resulting in a reduction of multicollinearity in subsequent regression equations). A four-component solution explained 71.8% of the total variance and provided interpretable dimensions of employee attitude toward and perception of pre-employment drug-testing. Principal component loadings for the survey are provided in Table 5.

The first principal component explained 53.9% of the total variance and was labeled “Perceived Business Necessity” because these items related to the perceived need for a pre-employment drug test (increased safety, efficiency, etc.). The second principal component explained 8.2% of the total variance, and was labeled “Respect for Privacy” because these items referred to how an individual would feel about taking a drug test (embarrassed, offended, etc.). The third principal component explained an additional 5.1% of total variance, and was labeled “Perceived Fairness” because these items related to how fairly an individual perceived the practice of pre-employment drug-testing.



*Table 5**Principal Component Analysis Loadings for PEDT Survey Items*

PEDT Survey Items*	1	2	3	4
16. A pre-employment drug-testing policy will not make a restaurant any safer.	.81	.17	.19	.16
1. Using a pre-employment drug-testing policy makes restaurants a safer place to work.	.78	.20	.19	.28
7. A pre-employment drug test would make restaurants more efficient.	.77	.09	.30	.31
13. Restaurants need to use pre-employment drug-testing to assure their survival and success.	.70	.14	.18	.43
10. There is no real need for a pre-employment drug-testing policy in the restaurant industry.	.69	.39	.26	.14
4. Restaurants have more important problems than testing for drug use.	.68	.43	.12	.09
2. A pre-employment drug-testing policy does not provide equal justice for everyone.	.55	.35	.44	.02
12. I would be embarrassed to take a pre-employment drug test.	.10	.85	.06	.18
18. Taking a pre-employment drug test is humiliating.	.23	.79	.27	.17
6. Taking a pre-employment drug test would offend me.	.37	.66	.36	.15
3. A pre-employment drug test is not embarrassing at all	.21	.65	.13	.46
14. Pre-employment drug-testing policies hurt innocent people.	.36	.61	.44	.08
11. Pre-employment drug-testing policies apply equally to all people.	.34	.23	.71	.17
5. Only drug users should be afraid of failing a pre-employment drug test.	.03	.13	.63	.51

PEDT Survey Items*	1	2	3	4
17. The system of testing for drug use before employment is fair to everyone.	.45	.30	.63	.26
8. Pre-employment drug-testing policies are biased.	.43	.52	.56	.01
15. I would enjoy taking a pre-employment drug test.	.33	.28	.21	.70
9. Taking a pre-employment drug test makes me feel respected.	.42	.21	.14	.62

*\*Even numbered items were reverse-coded prior to analysis.*

The final principal component explained 4.6% of the variance and was labeled “Personal Response” because items pertained to how a person would personally respond to being subjected to a drug-test (would enjoy taking, would feel respected). This pattern was similar to that found in Mastrangelo and Popovich’s (1995; 2000) previous studies using these 18 survey items.

A score was applied to each of the four factors by averaging the scores for each response to all questions contained in the factors. These scores were used as the dependent variables in a multivariate analysis of variance. The independent variable was employment level (management staff or hourly employee). A MANOVA was applied to the principal factors identified in order to identify any differences between management staff and hourly employee attitudes toward the principal factors (Perceived Business Need, Respect for Privacy, Perceived Fairness, and Personal Response).

## Hourly Employee and Management Attitudes

In addition to identifying any differences between management staff and hourly employee attitudes toward the principal factors, using a MANOVA reduced the likelihood of committing a Type I error (a false positive) by assessing main effects and interactions on a combination of dependent variables, as compared with performing a series of univariate tests (Hair, et al., 2006; Pavur & Nath, 1989).

As explained previously, information on employee attitudes toward pre-employment drug testing was collected from a total of 182 full-service restaurant employees in the Las Vegas, Nevada area. This information was collected using the PEDT Survey, which was distributed and submitted by participant electronically or in hard-copy form. With regards to the two groups in question for this portion of the study, information was collected from 91 (50.0%) managers and 91 (50.0%) hourly employees. Tables 6-9 display the averages and standard deviations for participant responses to survey items within each of the four factors identified.

As seen in the tables, mean responses appear to be close to 3 for each item, which would imply that participants had “no response” or “no opinion” to each of these items. However, a closer look at the raw data showed that extreme responses were reported (all 5 or all 1), and that participants did have differing opinions on this topic, just not based on their level of employment (management versus hourly).

Multivariate Analysis of Variance (MANOVA) was performed on this data to investigate differences in the responses of hourly and management staff to the four attitude factors.

Table 6

*Management and Hourly Mean Responses to Factor 1 PEDT Survey Items*

*Factor 1: Perceived Business Need*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
16. A pre-employment drug-testing policy will not make a restaurant any safer.	3.22	1.32	3.02	1.19
1. Using a pre-employment drug-testing policy makes restaurants a safer place to work.	3.63	1.31	3.34	1.21
7. A pre-employment drug test would make restaurants more efficient.	3.02	1.28	2.70	1.16
13. Restaurants need to use pre-employment drug-testing to assure their survival and success.	2.51	1.34	2.35	1.18
10. There is no real need for a pre-employment drug-testing policy in the restaurant industry.	3.57	1.33	3.41	1.26
4. Restaurants have more important problems than testing for drug use.	3.05	1.34	2.64	1.14
2. A pre-employment drug-testing policy does not provide equal justice for everyone.	3.36	1.35	3.15	1.28

*\*Even numbered items were reverse-coded prior to analysis.*

A MANOVA was appropriate for answering the research questions because there were four dependent variables (Perceived Business Need, Respect for Privacy, Perceived Fairness, and Personal Response) and one independent variable (Employment Level) (Francis, 2007; Hair, et al., 2006).

Data was first screened for outliers, missing values, and/or response error; no problems were found. Sampling was independent and random.

Table 7

*Management and Hourly Mean Responses to Factor 2 PEDT Survey Items*

*Factor 2: Respect for Privacy*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
12. I would be embarrassed to take a pre-employment drug test.	4.18	1.03	3.93	1.11
18. Taking a pre-employment drug test is humiliating.	4.00	.99	3.87	1.01
6. Taking a pre-employment drug test would offend me.	4.05	1.18	3.87	1.20
3. A pre-employment drug test is not embarrassing at all.	3.98	1.22	3.53	1.36
14. Pre-employment drug-testing policies hurt innocent people.	3.78	1.14	3.54	1.15

*\*Even numbered items were reverse-coded prior to analysis.*

Table 8

*Management and Hourly Mean Responses to Factor 3 PEDT Survey Items*

*Factor 3: Perceived Fairness*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
11. Pre-employment drug-testing policies apply equally to all people.	3.73	1.21	3.57	1.18
5. Only drug users should be afraid of failing a pre-employment drug test.	3.44	1.37	3.58	1.29
17. The system of testing for drug use before employment is fair to everyone.	3.49	1.23	3.45	1.16
8. Pre-employment drug-testing policies are biased.	3.51	1.30	3.23	1.12

*\*Even numbered items were reverse-coded prior to analysis.*

Table 9

*Management and Hourly Mean Responses to Factor 4 PEDT Survey Items*

*Factor 4: Personal Response*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
15. I would enjoy taking a pre-employment drug test.	2.70	1.20	2.42	1.10
9. Taking a pre-employment drug test makes me feel respected.	2.68	1.04	2.48	1.11

*\*Even numbered items were reverse-coded prior to analysis.*

The independent variable (Employment Level) was categorical in nature, and all dependent variables were continuous.

The assumption of normality was met. In addition, there were a sufficiently large number of independent random responses (N=91 per group), so the assumption of normality was considered to be robust to violation, as dictated by the central limit theorem (Rice, 1995). The assumption of equality of variance and covariance matrices was met ( $p = .585$ ), thus it was assumed that variance between groups was equal, and Wilks' Lambda test statistic value was used.

The Wilks' Lambda test statistic indicated that there was no significant difference in attitudes toward pre-employment drug-testing (based on the four identified principal components) between management staff and hourly employees in the full-service restaurant industry,  $F(4, 177) = 1.78$ ,  $p = .135$ , partial  $\eta^2 = .039$ . MANOVA results are provided in the Appendix.

## Attitudes of Employees at Testing and Non-testing Establishments

The original purpose of this research was not to assess attitude differences of employees at establishments with and without pre-employment drug-testing policies. However, due to the relatively equal responses from both aforementioned groups, it seemed appropriate to test for response differences. A Multivariate Analysis of Variance (MANOVA) was performed on this data to investigate differences in the responses of employees that had and had not submitted to a pre-employment drug test to obtain their current positions to observe differences in their responses to the four attitude factors. A MANOVA was appropriate for answering the research questions because there were four dependent variables (Perceived Business Need, Respect for Privacy, Perceived Fairness, and Personal Response) and one independent variable (PEDT Required) (Francis, 2007; Hair, Black, Babin, Anderson, & Tatham, 2006).

Data was first screened for outliers, missing values, and/or response error; no problems were found. Sampling was independent and random. The independent variable (PEDT Required) was categorical in nature, and all dependent variables were continuous. The assumption of normality was met. In addition, there were a sufficiently large number of independent random responses in each group ( $N=87$ ,  $N=95$ ), so the assumption of normality was considered to be robust to violation, as dictated by the central limit theorem (Rice, 1995). Although sample sizes were not equal, Levene's test of homogeneity of variance was not significant (all  $p$ 's  $> .05$ ), so it was assumed that the two groups had equal variances across the four factors. The assumption of equality of variance and covariance matrices was met ( $p = .978$ ), thus it was assumed that variance between groups was equal, and Wilks' Lambda test statistic value was used. Tables 10-13

display the averages and standard deviations for participant responses to survey items within each of the four factors identified.

*Table 10*

*Testing and Non-Testing Mean Responses to Factor 1 PEDT Survey Items*

*Factor 1: Perceived Business Need*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
16. A pre-employment drug-testing policy will not make a restaurant any safer.	3.26	1.27	2.99	1.24
1. Using a pre-employment drug-testing policy makes restaurants a safer place to work.	3.74	1.21	3.25	1.28
7. A pre-employment drug test would make restaurants more efficient.	3.00	1.25	2.74	1.21
13. Restaurants need to use pre-employment drug-testing to assure their survival and success.	2.70	1.29	2.18	1.19
10. There is no real need for a pre-employment drug-testing policy in the restaurant industry.	3.69	1.25	3.31	1.31
4. Restaurants have more important problems than testing for drug use.	2.99	1.22	2.72	1.29
2. A pre-employment drug-testing policy does not provide equal justice for everyone.	3.44	1.30	3.09	1.32

*\*Even numbered items were reverse-coded prior to analysis.*

*Table 11*

*Testing and Non-Testing Mean Responses to Factor 2 PEDT Survey Items*

*Factor 2: Respect for Privacy*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
12. I would be embarrassed to take a pre-employment drug test.	4.26	.97	3.93	1.11
18. Taking a pre-employment drug test is humiliating.	4.10	.97	3.78	1.01



PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
6. Taking a pre-employment drug test would offend me.	4.17	1.10	3.77	1.23
3. A pre-employment drug test is not embarrassing at all.	3.99	1.25	3.54	1.33
14. Pre-employment drug-testing policies hurt innocent people.	3.82	1.07	3.52	1.20

*\*Even numbered items were reverse-coded prior to analysis.*

As seen in the tables, mean responses appear to be close to 3 for each item, which would imply that participants had “no response” or “no opinion” to each of these items. However, a closer look at the raw data showed that extreme responses were reported (all 5 or all 1), and that participants did have differing opinions on this topic, just not based on the PEDT status of their current employer.

The Wilks’ Lambda test statistic indicated that there was no significant difference in attitudes toward pre-employment drug-testing (based on the four identified principal components) between employees at establishments with and without a pre-employment drug-testing policy,  $F(4, 177) = 1.78, p = .087$ , partial  $\eta^2 = .045$ . MANOVA results are provided in the Appendix.

Table 12

*Testing and Non-Testing Mean Responses to Factor 3 PEDT Survey Items*

*Factor 3: Perceived Fairness*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
11. Pre-employment drug-testing policies apply equally to all people.	3.82	1.18	3.49	1.19
5. Only drug users should be afraid of failing a pre-employment drug test.	3.56	1.27	3.46	1.38
17. The system of testing for drug use before employment is fair to everyone.	3.68	1.17	3.28	1.19
8. Pre-employment drug-testing policies are biased.	3.62	1.18	3.14	1.21

*\*Even numbered items were reverse-coded prior to analysis.*

Table 13

*Testing and Non-Testing Mean Responses to Factor 4 PEDT Survey Items*

*Factor 4: Personal Response*

PEDT Survey Items*	Management		Hourly	
	Mean	SD	Mean	SD
15. I would enjoy taking a pre-employment drug test.	2.70	1.16	2.43	1.11
9. Taking a pre-employment drug test makes me feel respected.	2.69	1.06	2.48	1.09

*\*Even numbered items were reverse-coded prior to analysis.*

Open Responses to Pre-Employment Drug-Testing Results

At the end of the PEDT survey, participants were given an opportunity to answer four open-ended questions about how they feel pre-employment drug-testing affects rates of

absenteeism, turnover, and injuries in the full-service restaurant industry, as well as their attitudes toward that practice in the industry as a whole. The following questions were asked; responses are indicated.

*Do you think that restaurants with pre-employment drug tests have a lower rate of employee absenteeism? Why or why not?*

Of the 182 participants, 147 (80.8%) responded to this question. A majority (47.8%) of participants answered “No”, and indicated that they did not believe that a pre-employment drug test would reduce employee absenteeism in the full-service restaurant industry. Sixty (33%) responded “Yes”, and 35 (19.2%) did not provide a response.

Respondents who answered “No” indicated that performance, not drug use, should be the issue, and that the result of a drug-test cannot predict how an employee will perform. Two respondents indicated that they were with the company before and after implementing pre-employment drug-testing policies, and that their absenteeism rates had not changed. A number of these respondents felt that more employees miss work due to alcohol use and “hangovers” yet there is not pre-employment alcohol test in place. Respondents also indicated that absenteeism occurs due to many other issues, “children, daycare, divorce, sick friends and family members, and juggling two jobs at the same time.” The following are other notable responses from participants that did not feel that pre-employment drug-testing would reduce absenteeism:

“Just because a person don’t do drugs, doesn’t mean they are not lazy.”

“Alcohol is legal and causes more absenteeism than any other substance.”

“Most coworkers I work with still did drugs after they cleared the drug test.”

“I believe that a restaurant should judge the employee based on their performance at work rather than if they fail a drug test.”

A majority of respondents that felt that testing could reduce absenteeism quoted health and responsibility as key factors. These participants felt that having a pre-employment drug test would help to “weed out drug users, who are not as responsible” and that “riskier lifestyle and poor decision making creates reliability issues.” Many of these respondents also felt that “drug users have a higher chance of absenteeism due to illness and inability to work” and that “people with healthy lifestyles miss work less often.” Another trend that was seen among these responses was the idea that pre-employment drug-testing would help to reduce the number of drug addicts that were hired, which were more of a problem than just drug users; “the people who cannot stop using for enough time to pass the drug test.” Respondents who quoted drug addicts as the target indicated that “addicts will have many issues that impact attendance – financial, health, domestic, and more.”

*Do you think that restaurants with pre-employment drug tests have a lower rate of employee turnover? Why or why not?*

Of the 182 total participants, 139 (76.4%) submitted responses to this question. A majority (N=84, 46.2%) answered “No”, that turnover could not be reduced by the presence of a pre-employment drug-testing policy. Fifty-five of the 139 respondents (30.2%) answered “Yes” and 43 (23.6%) had no response to this survey question.

A number of the participants that indicated that they did not believe that pre-employment drug-testing would reduce turnover rates in the full-service restaurant industry indicated that they felt there were many other factors involved with voluntary

and involuntary termination. One respondent indicated that “work environment, poor management, money, possibility of advancement, and other reasons may be more relevant” than drug use. Many respondents felt that a high turnover rate was just a characteristic of the industry; “the industry has historically had a high turnover rate due to the fact that many employees are using that place of employment as a transitional position while they pursue other career goals.” Other notable comments by participants with a similar opinion are as follows:

“I work at a restaurant with no drug testing and most of our employees have been there for at least a year and up to 8 years.”

“Some people go into a restaurant and have certain expectations and they don’t happen so many people quit or they just don’t work out for the restaurant.”

“I don’t believe people are losing their jobs because they do drugs on their off time.”

Of the 55 (30.2%) of respondents that felt that turnover could be reduced by having a testing policy, many of them cited personal responsibility and dependability of non-drug users as rationale. These respondents felt that “a drug free employee cares about their job” and has “better priorities” and that when “employees care about themselves by not doing drugs, it reflects in attendance, job performance, and responsibility.” Other respondents who answered yes to this question indicated that turnover may be slightly reduced, but only “because there would be one less factor in the equation.”

*Do you think that restaurants with pre-employment drug tests have a lower rate of employee accidents and injuries? Why or why not?*

Of the total 182 participants, 137 (75.3%) responded to this question. Answers did not indicate a majority response. Seventy (38.5%) participants felt that accidents and injuries

could be reduced by the existence of a pre-employment drug-testing policy. Sixty-seven (36.8%) respondents felt that accidents and injuries among restaurant industry employees would not be reduced by a pre-employment drug-testing policy. Forty-five (24.7%) participants did not respond to this survey item.

The majority of participants who answered “Yes” to this question cited safety and impairment as their rationale. Statements included “a high employee will be less responsible at work, causing more accidents” and “drug use affects your performance and ability to act safely.” Many of these participants indicated that they felt having a drug test would eliminate drug use, and thus reduce accidents.

Many of the participants who answered “No” to this question stated that accidents are accidents, and they happen to everyone; “an accident is just that and thinking that higher accidents are a result of greater drug use is a very weak assumption.” Other respondents implied that many accidents in any restaurant go unreported because of “fear of being drug tested at the doctor’s office or hospital.” One restaurant manager responded that “[their establishment] does not test for drugs, and [their] employees have an excellent accident rate.” As with the previous questions, respondents cited alcohol use as being just as responsible for employee accidents and injuries. The following is another notable quote from a participant who did not feel that accidents and injuries could be reduced by the presence of a pre-employment drug test:

“Minor burns and other injuries not worthy of mention to management, in my experience, are so prevalent among all employees that it is unlikely drug use is a contributing factor in the injury rate. Major injuries, or those in which management is involved, are so exceedingly rare that luck, distraction, or general carelessness, seem

to me, more likely to be controlling factors than an employee being so affected by drugs, during work hours, that he/she is a danger to his/her self.”

*What are your general feelings about pre-employment drug-testing in the restaurant industry?*

This question was answered by 126 (69.2%) of the total 182 survey respondents. Sixty-two (49%) of the participants made comments that were not favorable of pre-employment drug-testing in the full-service restaurant industry. Forty-eight (38%) of respondents made favorable comments about the practice, and 16 (13%) made comments that indicated they were indifferent of this practice.

Respondents who did not favor the use of pre-employment drug testing made several comments about drug-testing being unnecessary in the foodservice industry, and that it was an invasion of privacy. This group of participants also indicated that drug-testing would not prevent a user from obtaining employment. Several participants noted that having a drug test is a “waste of time and money” as “drug users will find a way to get their fix” and “things done on your own time should not matter.” This group of respondents made the following statements of interest:

“We currently do not drug test, while our casino partners do; we have not seen a dramatic effect either way.”

“Drug testing is for insurance purposes only.”

“You can easily pass a drug test if you are a user, so thinking only non-users are hired is a false assumption. I know many people who did drugs daily, used a cleanser, got jobs and went right back to drugs even before shifts.”

“The drug/restaurant cultures have coexisted for years. Some can handle it, some cannot. Alcohol plays a bigger role than drugs.”

Respondents who were pro the use of pre-employment drug testing indicated that they felt the practice was necessary to uphold safety and productivity standards, especially for an industry that “hires so many young people and people who need a second chance.”

Several participants mentioned that they felt this practice needs to be expanded to include alcohol testing. One participant suggested requiring a pre-employment drug test in order to qualify for a health card (the necessary certification to serve food and beverages to the public in the Las Vegas area).



## CHAPTER V

### DISCUSSION AND CONCLUSION

#### Summary of the Study

The purpose of this research was to assess the effect of pre-employment drug-testing policies on employee attitudes and aspects of work performance in the full-service restaurant industry. Specifically, this study attempted to compare the rate of employee absenteeism, turnover, and work-related accidents and injuries in full-service restaurants with pre-employment drug-testing policies against the aforementioned aspects of work performance in full-service restaurants without testing policies. This research also attempted to explore the perceptions, attitudes, and beliefs of full-service restaurant hourly employees and management staff in regards to pre-employment drug-testing policies in the full-service restaurant industry. Work performance factors included absenteeism, turnover (voluntary and termination), and documented work-related injury/accidents. The goal of this study was to investigate the following research questions:

1. Are the rates of hourly employee absenteeism different among full-service restaurants with pre-employment drug-testing policies and those full-service restaurants that do not use pre-employment drug tests?
2. Are the rates of hourly employee turnover different among full-service restaurants with pre-employment drug-testing policies and those full-service restaurants that do not use pre-employment drug tests?

3. Are the rates of documented hourly employee work-related accidents and injuries different among full-service restaurants with pre-employment drug-testing policies and those full-service restaurants that do not use pre-employment drug tests?
4. Do the perceptions, attitudes, and beliefs of management staff differ from those of hourly employees in the full-service restaurant industry regarding pre-employment drug-testing at full-service restaurants?
5. Do attitudes toward pre-employment drug-testing differ among full-service restaurant industry employees based on their employment at establishments with and without pre-employment drug-testing policies?

This study was driven by practical application as well as a need for further academic exploration. Drug use is generally agreed to be detrimental to employee work performance. Pre-employment drug-testing programs operate under the assumption that drug-using employees are less desirable than their non-using counterparts and that the presence of a pre-employment drug-testing policy will reduce the number of applicants who exhibit undesirable behaviors related to poor work performance (Crant & Bateman, 1989; Fenton & Kinard, 1993; LaGodna & Hendrix, 1989; Levine & Rennie, 2004; Montoya, Carlson, & Richard, 1999; Parish, 1989). Regardless, there is a lack of comprehensive knowledge about pre-employment drug-testing in the full-service restaurant industry, and what drug-testing research has been performed has resulted in conflicting implications. In order to fully understand the effects of such a program, it was necessary to conduct further academic research.

A two-part approach was taken in this study. Part one, or the comparative study portion of this research project, included a comparison of 110 full-service restaurants in the Las Vegas, Nevada, area. Fifty-five of these restaurants had a pre-existing pre-employment drug-testing policy; the other 55 had no such policy in existence. These 110 establishments were questioned about their rates of hourly employee absenteeism, turnover, and documented work-related accidents and injuries for a period of 3 months. In the second portion, or survey portion, 182 full-service restaurant hourly employees and management staff were surveyed regarding their perceptions, attitudes, and beliefs towards pre-employment drug-testing in the full-service restaurant industry.

The population for the comparison portion of this study consisted of full-service restaurants in area of Las Vegas, Nevada, who were members of the Nevada Restaurant Association. Establishments with pre-employment drug-testing policies, as well as those that did not have pre-employment drug-testing policies, were targeted. Only establishments that had been in operation for at least six months were chosen, as the evaluation of absenteeism, turnover, and work-related injuries/accidents were taken from a three-month time period. Establishments with similar service levels were targeted, so as to increase generalizability and the homogeneity of the population of study. Restaurants located in the Las Vegas, North Las Vegas, and Henderson areas of Nevada were chosen due to convenience of access.

The survey portion of this study included a survey of full-service restaurant hourly employees and management staff in regards to their attitudes, beliefs, and perceptions of pre-employment drug-testing in the restaurant industry. Due to time and financial constraints, a convenience sample was be selected, consisting of 91 hourly employees

and 91 management staff currently working in the restaurant industry in the area of Las Vegas, Nevada. This sample included employees working at establishments which use pre-employment drug-testing and at establishments that do not use pre-employment drug-testing. Participants were elicited through flyer distribution on the UNLV campus and the community, electronic announcements and social media, the Las Vegas Nevada Restaurant Association member list, and through advertisements in local publications in the Las Vegas area. It is possible that some participants came from establishments targeted in the comparative study phase. However, the approach was not to target only employees from the same restaurants that participated in the comparative study phase, as this is impractical.

Data was collected using two instruments. The first instrument, used in the comparative study portion, was a form for management and/or human resources to complete regarding employee absenteeism, turnover, and documented hourly employee work-related accidents over a period of three months. The form was completed by management staff at each of the participating locations online, and was sent to each location via email. The second instrument, used in the survey portion, was a self-administered questionnaire for hourly employees and management staff to complete regarding demographic information, as well as their perceptions, attitudes, and beliefs regarding pre-employment drug-testing in the full-service restaurant industry. Online questionnaires were used due to the relatively minimal degree of effort and expense, and the fact that this would enable the quantification and standardization of responses.

The instrument used in the comparison portion of this study was titled the *Absenteeism, Turnover, and Injuries/Accidents Report*, and is a tool developed by the researcher that

contains general questions regarding hourly employee absenteeism, turnover, and documented work-related accidents over the past three months of operation at a full-service restaurant. This form was completed by management or human resource staff working at full-service restaurants in the Las Vegas area. The instrument was distributed and collected online, and included a cover letter explaining the purpose of the study, as well as information related to the protection of human subjects. Contact information for these participants was provided by the Nevada Restaurant Association. The instrument used in the survey portion of this study was a modified version of Mastrangelo and Popovich's (2000) *Attitudes Toward Employment Screening and Testing for Drugs Scale*. This modified version was titled *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* survey. The form was distributed and collected electronically and via hardcopy by the researcher and included a cover letter explaining the purpose of the study, as well as information related to the protection of human subjects. Both instruments were pilot tested first using a small sample of the intended populations.

Information obtained with the *Absenteeism, Turnover, and Injuries/Accidents Report* from the 110 establishments studied was compared to identify mean differences in hourly employee absenteeism, turnover, and documented work-related accidents and injuries. Data was coded into and analyzed with the Statistical Package for the Social Sciences. A Multivariate Analysis of Variance (MANOVA) was performed with one IV (presence of a drug test) and three DVs (absenteeism, turnover, and accidents/injuries).

Results from the *Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions* questionnaire were examined for significant differences in responses among hourly employees and management staff. First, all negative statements (all evenly numbered

survey items) were reverse-coded. These even numbered survey items were reverse worded (“...would NOT make safer...”), so it was necessary to reverse the scale in order to compare point values in a summated scale (Hair, et al., 2006). This summated scale could then be compiled from individual survey items attempting to describe the same phenomenon. A principal component analysis was conducted on the 18 attitude items listed in this survey to identify interpretable components of employee attitudes toward pre-employment drug-testing in the full-service restaurant industry. The procedure used varimax (orthogonal) rotation to identify the number of dimensions. The reliability of these dimensions was assessed using Cronbach’s Alpha.

Once the principal factors were identified, a MANOVA was applied to identify differences between management and hourly employee scores on the principal components. A score was created for each of the factors by summing the scores for the responses to all questions contained in the factors themselves. The new variables were named, and the total scores were used as the dependent variables in the MANOVA analysis. The independent variable was dichotomous; employment level (management or hourly). This will allowed for the comparison of management and hourly employee attitudes towards the use of pre-employment drug-testing in the full-service restaurant industry. A second MANOVA was performed using these factors as dependent variables in order to investigate any response differences between employees at establishments with and without pre-employment drug-testing policies.

Obvious limitations included the sensitive nature of the topic and the element of self-reported data, as well as the modest sample size. Because information for the comparison portion of this study was collected from members of the Nevada Restaurant Association,

one limitation of this study was that it excluded properties who are not members of the Nevada Restaurant Association. This limitation seems acceptable, given the number and variety of establishments who are members. This study may also have been affected by the current economic condition of the time during which data collection occurs, which could affect turnover rates due to lay-offs or employee anxiety about leaving an already acquired position. This survey is no exception to the fact that it is not a panacea (Zikmund, 2003). The responses collected may have been affected by response error, self-selection bias, response bias (social desirability bias, extremity bias, auspices bias), best guess estimates, time lapse influences on proper reporting, and the “average man effect” (Zikmund, 2003, p. 180). Finally, this study may have excluded any foodservice employees who cannot speak or read the English language, as this instrument was only provided in English. Unless such participants had access to someone to act as a translator, they would have been unable to complete the survey.

In an effort to reduce reporting and data collection error, questions were sequenced randomly so as to reduce order bias, and filter questions were presented at the beginning of the survey (example: “Do you work in the full-service restaurant industry in the Las Vegas area?” “What is your position title?”). Attempts were made to avoid ambiguity or leading questions, as well as double-barreled questions. In addition, both fixed alternative and open-ended questions were included in both instruments so as to obtain as much data as possible and in its richest state.

Prior approval was obtained from the Human Subject Review Committee. Upon approval, data collection began. All subject anonymity was protected by failure to collect

or disclose participant names and/or places of employment. All participants were represented only by a summary of their responses.

### Discussion of Hypothesis

The null and alternative hypotheses for this study were as follows:

1. There is no difference in the rates of employee absenteeism at full-service restaurants with and without pre-employment drug-testing policies;

$$H_0: \mu_{\text{absenteeism test}} = \mu_{\text{absenteeism no test}}; H_a: \mu_{\text{absenteeism test}} \neq \mu_{\text{absenteeism no test}}$$

2. There is no difference in the rates of employee turnover at full-service restaurants with and without pre-employment drug-testing policies;

$$H_0: \mu_{\text{turnover test}} = \mu_{\text{turnover no test}}; H_a: \mu_{\text{turnover test}} \neq \mu_{\text{turnover no test}}$$

3. There is no difference in the rates of employee accidents and injuries at full-service restaurants with and without pre-employment drug-testing policies;

$$H_0: \mu_{\text{accidents test}} = \mu_{\text{accidents no test}}; H_a: \mu_{\text{accidents test}} \neq \mu_{\text{accidents no test}}$$

4. There is no difference in the attitudes toward pre-employment drug-testing among management staff and hourly employees;

$$H_0: \mu_{\text{hourly attitudes}} = \mu_{\text{management attitudes}}; H_a: \mu_{\text{hourly attitudes}} \neq \mu_{\text{management attitudes}}$$

A fifth hypothesis was formed during the data collection process once it was seen that a nearly even number of attitude survey participants responded who worked at establishments with and without pre-employment drug-testing policies.

5. There is no difference in the attitudes toward pre-employment drug-testing among management staff and hourly employees;

$$H_0: \mu_{\text{PEDT attitudes}} = \mu_{\text{Non-PEDT attitudes}}; H_a: \mu_{\text{PEDT attitudes}} \neq \mu_{\text{Non-PEDT attitudes}}$$



## General Discussion

The first portion of this study attempted to investigate work performance difference among employees at full-service restaurants with and without pre-employment drug-testing policies. Inquiry of the first research question produced no significant difference was found in the rates of employee absenteeism at full-service restaurants in the Las Vegas area with and without pre-employment drug-testing policies. Thus, the null hypothesis could not be rejected; the null hypothesis being that there is no difference in rates of absenteeism between the two groups, those with and without pre-employment drug-testing policies. These results are contradictory to the previous work of Stark (1991) and Elmuti (1994) who both found that the presence of a testing program related to lower rates of absenteeism.

With regards to the second research question, no significant difference was found in the rates of employee turnover at establishments with and without testing policies; this null hypothesis was not rejected. These results contradict the previous findings of Stark (1991), who found that the presence of a test related to lowered turnover rates.

No statistically significant difference was found among the rates of employee accidents and injuries at establishments with and without testing policies, so the third null hypothesis could not be rejected. These findings agree with the previous research by Stark (1991), who found no impact of testing policies on accident rates. These findings do not agree with those of Elmuti (1994), who saw a decrease in injuries when employees were submitted to a pre-employment drug test.

The second portion of this study attempted to investigate employee attitudes toward the use of pre-employment drug-testing policies in the full-service restaurant industry. A

total mean attitude score of 3.33 (SD = 1.21) was seen among all participants. This does not necessarily indicate that participating restaurant industry employees had a neutral attitude towards pre-employment drug-testing in the full-service restaurant industry; a review of the raw data shows that extreme opinions were captured. When averaged, these extremes simply cancel each other, as the response scale was 5 to 1, strongly agree to strongly disagree.

The fourth research question asked about differences in the perceptions, attitudes, and beliefs of management staff and hourly employees regarding pre-employment drug-testing at full-service restaurants. Results indicated no difference in the attitudes between these two groups.

A fifth research question presented itself during the course of this study: do attitudes toward pre-employment drug-testing differ among full-service restaurant industry employees based on employment at establishment with and without testing policies? Results indicated that there was no difference between the attitude responses of employees at establishments with or without testing policies.

Four open-response questions were included in the attitudes survey. A majority of participants (69% to 81%) responded to these questions. The first open-response question asked: "Do you think that restaurants with pre-employment drug tests have a lower rate of employee absenteeism? Why or why not?" The majority of participants (48%) answered "No" to this question. Rationale included the ideas that drug use should not be a factor in predicting employee performance, and that absenteeism could be attributed to a number of personal issues unrelated to illegal drug use. Two respondents noted that

their place of work had implemented a policy during their employment, and that no change in absenteeism was produced.

Participants who responded “yes” to this question indicated that “drug users” would be less responsible and reliable, make poor decisions, and have a higher rate of absenteeism. Interestingly, none of these respondents cited a drug test as being the direct solution. Instead, “drug addiction” was cited as being the problem, and it seems that the assumption was made that a drug test will prevent drug users from obtaining employment.

The second open-ended question asked of attitude survey participants was “Do you think that restaurants with pre-employment drug tests have a lower rate of employee turnover? Why or why not?” Again, a majority of respondents answered “No” to this question. Rationale provided included the idea that there are many factors that can contribute to turnover that are not related to illegal substance abuse, including “work environment, poor management, money, and possibility of advancement.” Other rationale included the phenomenon of individuals using restaurant work as a transitional source of income while pursuing other career goals, and insinuated that high turnover was an unavoidable characteristic of the industry.

Survey participants who felt that turnover could be reduced by a pre-employment drug-testing policy cited a lack of personal responsibility and dependability among drug-users. Again, these respondents indicated an assumption that pre-employment testing would prevent drug-users from obtaining employment, therefore eliminating these hires as potential cause for high turnover.

The third open-response survey item asked participants about their opinion on pre-employment drug-testing as it related to employee accident and injury rates in the

restaurant industry. Answers did not indicate a majority response. Of the 137 participants who answered, 38.5% felt that accident and injury rates could not be reduced by the existence of a pre-employment drug test. These respondents indicated that “an accident is just that – an accident.” This group of respondents also felt that minor accidents (minor cuts and burns) often go unreported because they are so common to the type of work performed in a foodservice environment, and that the use of a drug test could not eliminate that factor.

The remaining 36.8% who responded to this question felt that a testing policy would result in reduced employee accidents and injuries. These respondents indicated that drug users would operate less safely due to their impairment. Again, this group of participants indicated that the test would eliminate drug-using employees, thus reducing employee accidents and injuries.

The final open-response question asked participants about their general feelings toward the use of pre-employment drug-testing in the full-service restaurant industry. The majority of participants who responded to this question (49%) made comments that were unfavorable to the practice. This group of respondents felt that the practice was a waste of time and money, an opinion that was also seen among participants in the Kitterlin and Erdem (2009) study. A number of these respondents indicated that substance abusing employees could still pass a pre-employment drug test (by either abstaining or manipulating the test sample), and would still be able to obtain employment in an establishment with a testing policy. Other respondents in this group cited examples of establishment that they had worked at with and without testing policies, and indicated that there had been no noticeable difference in employee productivity.

Thirty-eight percent of these respondents made favorable comments about the use of pre-employment drug-testing. These participants felt that having such a test would help to uphold safety and productivity standards. Other participants felt that this practice should be expanded to include alcohol testing. Of the 126 respondents, 13% indicated that they felt indifferently towards this practice.

### Implications of Findings

Pre-employment drug-testing programs operate under the assumption that the presence of such a practice will reduce the number of applicants and hires who exhibit the undesirable behaviors related to illegal substance abuse (Crant & Bateman, 1989; Fenton & Kinard, 1993; LaGodna & Hendrix, 1989; Levine & Rennie, 2004; Montoya, Carlson, & Richard, 1999; Parish, 1989). These negative behaviors include poor attendance, decreased work performance, increased turnover, and an increase in the number of employee accidents and injuries.

The results of this study indicate that the use of a pre-employment drug-test does not significantly reduce the rates of employee absenteeism, turnover, and accidents/injuries. Having found there to be no difference in these aspects of work performance, it stands to reason that pre-employment drug tests are not accomplishing their intended purpose related to this assumption. One could theorize that perhaps the time and money spent on pre-employment drug-testing in the full-service restaurant industry should be re-evaluated and/or re-appropriated.

With regards to management and employee attitudes toward the use of pre-employment drug-testing, no significant difference was found. In addition, neither group

was found to have a more positive or negative attitude towards such practices. Knowing that company policies are more effective when compliance starts at the top of an organization (Gross-Schaefer, Trigilio, Negus, & Ro, 2000), this lack of differences in employee and management attitudes toward pre-employment drug-testing may indicate a need for management training or motivation. Perhaps companies with testing policies will want to educate their management staff as to why the company places importance on their testing policy and/or their drug-free workplace environment. This education and motivation to comply focused on management may have a positive chain reaction down to the hourly employee level.

Organizational justice theory tells us that employee perceptions of injustice may lead them to take action to rectify a situation. Many respondents indicated that the use of a drug-test would not eliminate the hiring of illegal substance users, as applicants will simply abstain from use until after the test or do things to manipulate the test sample. This phenomenon agrees with the provision of justice theory. Perhaps foodservice establishments should consider random drug-testing or testing only for employee accidents and workman's compensation claims.

No significant difference was found in attitudes of employees working at establishments with and without pre-employment drug-testing policies. If the majority of employees at establishments with testing felt positively toward that practice, this may imply that these establishments attract employees who appreciate and comply with such a policy. However, with no difference discovered, it stands to reason that employees who feel negatively towards pre-employment drug-testing are still obtaining employment in restaurants that test. These feelings of injustice toward their employer's testing policy

may result in the employee taking action to rectify the injustice, including acting negatively toward the company, supervisors, and coworkers. These actions could take the form of theft, decreased productivity, lack of morale, and/or use of illegal substance after having passed a drug test.

This study did reveal that attitudes toward drug-testing in the restaurant industry do favor extremes; some participants strongly agreed with the use, while others strongly disagreed. However, the difference in these groups of participants could not be attributed to employee level (management versus hourly) or employment at a testing/non-testing facility. Due to unequal sample sizes, it could not be determined if this difference was based on other demographic characteristics.

#### Limitations of the Study

As described previously in Chapter 3, there are limitations to this research that must be addressed. Obvious limitations included the sensitive nature of the topic and the element of self-reported data, as well as the modest sample size. Since this study relied on the validity of self-reported measures, there were advantages and disadvantages. Given the nature of the topic, participants could only respond in extremes (strongly agreeing or disagreeing). Self-reported data allows for the measurement of behaviors that would otherwise be difficult or impossible to detect through observation or other means (Bharucha-Reid, 1995; McDaniel, 1988). However, self-reported data is subject to bias due to misinformation, impaired recall of events, and desire to appear socially acceptable (McDaniel, 1988).

Because information for the comparison portion of this study was collected from members of the Nevada Restaurant Association, one limitation of this study was that it excluded properties who are not members of the Nevada Restaurant Association. However, this limitation seems acceptable, given the number and variety of establishments who are members.

This study may also have been affected by the current economic condition of the time during which data collection occurs, which could affect turnover rates due to lay-offs or employee anxiety about leaving an already acquired position.

This survey is no exception to the fact that it is not a panacea (Zikmund, 2003). The responses collected may have been affected by response error, self-selection bias, response bias (social desirability bias, extremity bias, auspices bias), best guess estimates, time lapse influences on proper reporting, and the “average man effect” (Zikmund, 2003, p. 180).

In order to mitigate reporting and data collection error, questions were sequenced randomly so as to reduce order bias, and filter questions were presented at the beginning of the survey (example: “Do you work in the full-service restaurant industry in the Las Vegas area?” “What is your position title?”). Attempts were made to avoid ambiguity or leading questions, as well as double-barreled questions. In addition, both fixed alternative and open-ended questions were included in both instruments so as to obtain as much data as possible and in its richest state.

Finally, this study may have excluded any foodservice employees who cannot speak or read the English language, as this instrument was only provided in English. Unless such



participants had access to someone to act as a translator, they would have been unable to complete the survey.

### Implications for Future Research

The results of this study indicated that attitudes toward drug-testing in the restaurant industry do favor extremes, but unequal samples sizes did not allow for the comparison of some demographic characteristics. The understanding of this topic may benefit from future research focusing on attitude differences among groups based on demographic characteristics, such as age, gender, and ethnicity.

One item uncovered during this research process was the thought that pre-employment drug-testing policies are being used strictly for insurance purposes. Future research may explore foodservice establishment motivation for using such practices, since this may be a result of reduced insurance rates, as opposed to attempts at increasing work performance.

Previous studies have investigated the impact of positive drug-test results on aspects of work performance (Normand, Salyards, & Mahoney, 1990; Parish, 1989; Zwerling, Ryan, & Orav, 1990). The present study focused only on the presence of a pre-employment drug test, not actual test results. Future studies should investigate actual test results as related to performance. Additionally, research should be performed to investigate the work performance of substance using employees.

While the use of illegal substances can be dangerous and detrimental to the work environment, other abuses may cause equal if not more damage (Rothman, 1988). Alcohol, cigarettes, and food may have an extremely negative impact on an employee's

health and performance when consumed in large quantities. Additionally, aspects of work, such as overtime, may impact work performance on a much larger scale than recreational substance use. It may be interesting and beneficial to academics and industry to investigate the impact of illegal substance use as compared to the impact caused by abuse of other substances (alcohol, food, nicotine) and/or over-working.

The current study only investigated the effects of the presence of a pre-employment drug-testing policy. Other types of employment drug-testing policies include random, post-accident, reasonable suspicion, and follow-up to rehabilitation (Levine & Rennie, 2004; Santora, 2005). It may prove beneficial to investigate the use of these other types of tests in the hospitality industry, and their impact on work performance and employee attitudes.

Future studies may investigate the differences in corporate establishments versus independently owned restaurants. There may be differences on several aspects of drug testing impacts due to the different structure and organizational environments of each group of restaurants.

Finally, this study should be applied to a larger population, as opposed to just foodservice industry employees in the Las Vegas area. This study could be broadened to include the entire hospitality employee population, as opposed to just the foodservice facet. Investigation of work performance and drug-testing effects could be performed for the lodging, tourism, and gaming industries. This study could also be performed on a state, national, or world-wide scale.

## Conclusion

The results of this study add to the body of conflicting implications of pre-employment drug-testing effects. However, this is the only study of its kind that focuses on the foodservice industry. Further studies on drug-testing and substance abuse in the hospitality industry are needed to broaden our understanding of how these factors play a role in such a complex field.

## APPENDIX 1

### SURVEYS

#### **Absenteeism, Turnover, and Injuries/Accidents Report**

You are invited to participate in a research study. The purpose of this study is to assess aspects of work performance in the full-service restaurant industry.

You are being asked to participate in the study because you are a manager, owner, or human resources representative at a full-service restaurant in the Las Vegas, Nevada area.

If you volunteer to participate in this study, you will be asked to do the following: Complete the following survey.

There *may* be direct benefits to you as a participant in this study. We hope to learn about employee perceptions, attitudes, and beliefs towards pre-employment drug-testing in the full-service restaurant industry. We also hope to learn about the impact of pre-employment drug-testing on the rate of absenteeism, turnover, and work-related accidents and injuries in full-service restaurants. If this research discovers a way to improve working conditions and/or profit and productivity all levels of employees will benefit.

There are risks involved in all research studies. This study may include only minimal risks. You may be uncomfortable thinking about counter-cultural topics, such as recreational or habitual substance use.

There *will not* be financial cost to you to participate in this study. The study will take 15 minutes of your time. You *will not* be compensated for your time, but you will be provided an opportunity to review the results of this study.

If you have any questions or concerns about the study, you may contact Pat Moreo at **702-895-1052**. For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact **the UNLV Office for the Protection of Research Subjects at 702-895-2794**.

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for 3 years after completion of the study. After the storage time the information gathered will be destroyed.

**Instructions: Listed below are a number of questions related to hourly employee absenteeism, turnover, and documented work-related accidents and injuries.**

**Please answer each question based on employee performance during the past three months of operation.**

1. Demographics

- a. What is your job title? \_\_\_\_\_
- b. Is your establishment located within the Las Vegas, North Las Vegas, or Henderson areas of Nevada?  
(please circle one): Yes / No

2. Absenteeism

- a. In the past three months, how many times has an hourly employee been absent from work due to illness or another excused absence?  
\_\_\_\_\_
- b. In the past three months, how many times has an hourly employee been absent from work and has not been excused from the absence?  
\_\_\_\_\_
- c. In the past three months, how many times has an hourly employee been more than fifteen minutes late for a scheduled shift?  
\_\_\_\_\_

3. Turnover

- a. In the past three months, how many hourly employees have been terminated?  
\_\_\_\_\_
- b. In the past three months, how many hourly employees have voluntarily ended their employment at this establishment?  
\_\_\_\_\_

4. Work-related Accidents and Injuries

- a. In the past three months, how many times has an hourly employee been injured or had an accident while at work?  
\_\_\_\_\_

5. Property Information

- a. Does your property have a pre-employment drug-testing policy? \_\_\_\_\_
- b. How many employees does your establishment currently employ? \_\_\_\_\_

**Thank you for your time and support!**  
**Pre-Employment Drug-Testing: Attitudes, Beliefs, and Perceptions**

You are invited to participate in a research study. The purpose of this study is to assess the effect of pre-employment drug-testing policies on aspects of work performance in the full-service restaurant industry.

You are being asked to participate in the study because you are employed in the restaurant industry in Las Vegas, Nevada.

If you volunteer to participate in this study, you will be asked to do the following: Complete the following survey.

There *may* be direct benefits to you as a participant in this study. We hope to learn about employee perceptions, attitudes, and beliefs towards pre-employment drug-testing in the full-service restaurant industry. We also hope to learn about the impact of pre-employment drug-testing on the rate of absenteeism, turnover, and work-related accidents and injuries in full-service restaurants. If this research discovers a way to improve working conditions and/or profit and productivity all levels of employees will benefit.

There are risks involved in all research studies. This study may include only minimal risks. You may be uncomfortable thinking about counter-cultural topics, such as recreational or habitual substance use.

There *will not* be financial cost to you to participate in this study. The study will take 15 minutes of your time. You *will not* be compensated for your time, but you will be provided an opportunity to review the results of this study.

If you have any questions or concerns about the study, you may contact Pat Moreo at **702-895-1052** For questions regarding the rights of research subjects, any complaints or comments regarding the manner in which the study is being conducted you may contact **the UNLV Office for the Protection of Research Subjects at 702-895-2794.**

Your participation in this study is voluntary. You may refuse to participate in this study or in any part of this study. You may withdraw at any time without prejudice to your relations with the university. You are encouraged to ask questions about this study at the beginning or any time during the research study.

All information gathered in this study will be kept completely confidential. No reference will be made in written or oral materials that could link you to this study. All records will be stored in a locked facility at UNLV for 3 years after completion of the study. After the storage time the information gathered will be destroyed.

## Survey

What is your job title? \_\_\_\_\_

Please circle one: \_\_\_\_\_ Hourly Employee / \_\_\_\_\_ Management Staff

Please circle one: \_\_\_\_\_ Front-of-house employee / \_\_\_\_\_ Back-of-house employee

**Directions: Please choose or fill-in the appropriate answers to the following questions regarding your demographic information.**

1. Demographic Information

a. Age

18-21 years	22-25 years	26-30 years
31-40 years	41-50 years	51-60 years
61 years or over		

b. Race/Ethnicity

White	White, non-Hispanic	African-American
Hispanic	Asian-Pacific Islander	
Other: _____		

c. Gender

Male	Female
------	--------

d. Do you work in a full-service restaurant located in the Las Vegas, Nevada area?

Yes	No
-----	----

e. Did your job require a pre-employment drug test?

Yes	No
-----	----

f. How long have you worked in the restaurant industry?

_____	Number of Years
_____	Number of Months

**Directions: Please indicate rather you strongly agree or disagree with the following statements by circling one of the choices provided. An area for comments regarding each question is provided.**

2. Attitudes, Beliefs, and Perceptions

**a. Using a pre-employment drug-testing policy makes restaurants a safer place to work.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**b. A pre-employment drug-testing policy does not provide equal justice for everyone.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**c. A pre-employment drug-testing policy is not embarrassing at all.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**d. Restaurants have more important problems than testing for drug use.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**e. Only drug users should be afraid of failing a pre-employment drug test.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**f. Taking a pre-employment drug test would offend me.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**g. A pre-employment drug test would make restaurants more efficient.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**h. Pre-employment drug-testing policies are biased.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**i. Taking a pre-employment drug test makes me feel respected.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree



**j. There is no real need for a pre-employment drug-testing policy in the restaurant industry.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**k. Pre-employment drug-testing policies apply equally to all people.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**l. I would be embarrassed to take a pre-employment drug test.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**m. Restaurants need to use pre-employment drug-testing to assure their survival and success.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**n. Pre-employment drug-testing policies hurt innocent people.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**o. I would enjoy taking a pre-employment drug test.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**p. A pre-employment drug-testing policy will not make a restaurant any safer.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**q. The system of testing for drug use before employment is fair to everyone.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**r. Taking a pre-employment drug test is humiliating.**

Strongly Agree    Agree    No Opinion    Disagree    Strongly Disagree

**Thank you for your time and support!**

**All answers are completely confidential!**

## APPENDIX 2

### MANOVA RESULTS

*Comparison of Absenteeism, Turnover, and Accidents/Injuries among Restaurants with and without Pre-Employment Drug-Testing*

MANOVA (N = 110)

	F	Sig.	Partial $\eta^2$
PEDT Status	1.873	.139	.050

*Comparison of Attitudes among Managers and Hourly Employees*

MANOVA (N = 182)

	F	Sig.	Partial $\eta^2$
PEDT Status	1.78	.135	.039

*Comparison of Attitudes among Employees at Restaurants with and without Drug-Testing*

MANOVA (N = 182)

	F	Sig.	Partial $\eta^2$
PEDT Status	1.78	.087	.045

APPENDIX 3

IRB APPROVAL



**Social/Behavioral IRB – Expedited Review  
Approval Notice**

**NOTICE TO ALL RESEARCHERS:**

*Please be aware that a protocol violation (e.g., failure to submit a modification for any change) of an IRB approved protocol may result in mandatory remedial education, additional audits, re-consenting subjects, researcher probation suspension of any research protocol at issue, suspension of additional existing research protocols, invalidation of all research conducted under the research protocol at issue, and further appropriate consequences as determined by the IRB and the Institutional Officer.*

**DATE:** August 3, 2009  
**TO:** Dr. Patrick Moreo, Food and Beverage Management  
**FROM:** Office for the Protection of Research Subjects  
**RE:** Notification of IRB Action by Dr. Paul Jones, Chair  
Protocol Title: **Substance Abuse in the Full-Service Restaurant  
Industry: An Evaluation of Pre-Employment Drug-Testing**  
Protocol #: 0904-3096M

---

This memorandum is notification that the project referenced above has been reviewed by the UNLV Social/Behavioral Institutional Review Board (IRB) as indicated in Federal regulatory statutes 45 CFR 46. The protocol has been reviewed and approved.

The protocol is approved for a period of one year from the date of IRB approval. The expiration date of this protocol is July 30, 2010. Work on the project may begin as soon as you receive written notification from the Office for the Protection of Research Subjects (OPRS).

**PLEASE NOTE:**

Attached to this approval notice is the **official Informed Consent/Assent (IC/IA) Form** for this study. The IC/IA contains an official approval stamp. Only copies of this official

IC/IA form may be used when obtaining consent. Please keep the original for your records.

Should there be *any* change to the protocol, it will be necessary to submit a **Modification Form** through OPRS. No changes may be made to the existing protocol until modifications have been approved by the IRB.

Should the use of human subjects described in this protocol continue beyond July 30, 2010, it would be necessary to submit a **Continuing Review Request Form** *60 days* before the expiration date.

If you have questions or require any assistance, please contact the Office for the Protection of Research Subjects at [OPRSHumanSubjects@unlv.edu](mailto:OPRSHumanSubjects@unlv.edu) or call 895-2794.

Office for the Protection of Research Subjects  
4505 Maryland Parkway • Box 451047 • Las Vegas, Nevada 89154-1047  
(702) 895-2794 • FAX: (702) 895-0805

## REFERENCES

- Anderson, K. N. (1998). *Mosby's medical, nursing and allied health dictionary (5th ed.)*. St. Louis, MO: C. V. Mosby.
- Bateman, T. S., and Organ, D. (1983). Job satisfaction and the good soldier: The relationship between affect and employee "citizenship". *Academy of Management Journal*, 26, 587-595.
- Berta, D. (2006, November). People report: Worker turnover rate continues to climb. *Nations's Restaurant News*. Retrieved April 2, 2008, from [http://www.peoplereport.com/newsclippings/200611\\_NRN\\_PostConferenceCoverage.pdf](http://www.peoplereport.com/newsclippings/200611_NRN_PostConferenceCoverage.pdf)
- Bharucha-Reid, R., McCann, D., Schork, M., Foxman, B., Bass, A., Fraser, W., Cook, S., and Kaufman, R. (1995). A comparison of self-reported drug use with a urine drug screen in a working population. *Experimental and Clinical Psychopharmacology*, 3, 280-286.
- Bies, R. J. (1987). The predicament of injustice: The management of moral outrage. In B. Staw and L. Cummings (Eds.), *Research in Organizational Behavior*, (Vol. 9; 289-319). Greenwich, CT: JAI Press.
- Brown, A. (1987). To test or not to test. *Personnel Administrator*, 32, 68-69.
- Corder, G., and Foreman, D. (2009). *Nonparametric Statistics for Non-Statisticians: A Step-by-Step Approach*. New York, NY: Wiley.
- Crant, J. M., and Bateman, T. (1989). A model of employee responses to drug-testing programs. *Employee Responsibilities and Rights Journal*, 2(3), 173-190.

- Crant, J. M., and Bateman, T. S. (1990). An experimental test of the impact of drug-testing programs on potential job applicants' attitudes and intentions. *Journal of Applied Psychology*, 75, 127-131.
- Cropanzano, R., and Konovsky, M. (1995). Resolving the justice dilemma by improving the outcomes: the case of employee drug screening. *Journal of Business and Psychology*, 10(2), 221-243.
- Crosby, F. (1976). A model of egoistical relative deprivation. *Psychological Review*, 83, 85-113.
- Crown, D., and Rosse, J. (1988). A critical review of the assumptions underlying drug testing. *Journal of Business and Psychology*, 3(1), 22-41.
- Denenberg, T., and Denenberg, D. (1987). Employee drug testing and the arbitrator: What are the issues? *The Arbitration Journal*, 42(2), 20, 42.
- Drug use highest in foodservice, new study finds. (2007, July 17). *Nation's Restaurant News*. Retrieved September 13, 2007, from <http://www.nrn.com/article.aspx?id=343126>
- Duffy, B., Hildreth, J. M., Plattner, A., and Walsh, K. T. (1986, September 29). War on drugs: More than a "short-term high"? *U.S. News and World Report*, 28.
- Elliot, K., and Shelley, K. (2006). Effects of drugs and alcohol on behavior, job performance, and workplace safety. *Journal of Employment Counseling*, 43(3), 130-135.
- Elmuti, D. (1994). Effects of a drug-testing programme on employee attitudes, productivity and attendance behaviours. *Employee Counseling Today*, 6(5), 24-32.

- Finkelstein, J. (1989). *Dining out: A sociology of modern manners*. Cambridge, MA: Polity Press.
- Fenton, J. W., and Kinard, J. L. (1993). A study of substance abuse testing in patient care facilities. *Health Care Manage Review*, 18, 87-95.
- Folger, R. (1986). Rethinking equity theory: A referent cognitions model. In H. Bierhoff, R. Cohen, and J. Greenberg (Eds.), *Justice in Social Relations* (pp. 145–162). NY: Plenum Press.
- Folger, R., and Greenberg, J. (1985). Procedural justice: An interpretive analysis of personnel systems. In K. Rowland and G. Ferris (Eds.), *Research in Personnel and Human Resources Management*, (pp. 141–183). Greenwich, CT: JAI Press.
- Folger, R., and Martin, C. (1986). Relative deprivation and referent cognitions: Distributive and procedural justice effects. *Journal of Experimental Social Psychology*, 22(6), 531-546.
- Francis, G. (2007). *Introduction to SPSS for Windows (5<sup>th</sup> Ed.)*. Sydney: Pearson Education.
- Gilland, S. (1993). The perceived fairness of selection systems: an organizational justice perspective. *Academy of Management Review*, 19, 694-734.
- Greenberg, J. (1986). Determinants of perceived fairness of performance evaluations. *Journal of Applied Psychology*, 71, 340-342.
- Greenberg, J. (1987). A taxonomy of organizational justice theories. *Academy of Management Review*, 12, 9–22.
- Greenberg, E. (1988, April). Workplace testing: Results of a new AMA survey. *Personnel*, 36-38.

- Greenberg, J. (1990). Organizational justice: Yesterday, today, and tomorrow. *Journal of Management*, 16(2), 399-432.
- Gross-Schaefer, A., Trigilio, J., Negus, J., and Ro, C. (2000). Ethics education in the workplace: An effective tool to combat employee theft. *Journal of Business Ethics*, 26(2), 89-100.
- Hair, J., Black, B., Babin, B., Anderson, R., and Tatham, R. (2006). *Multivariate Data Analysis, 6<sup>th</sup> Edition*. New Jersey: Pearson Education.
- Harris, M., and Heft, L. (1992). Alcohol and drug use in the workplace: Issues, controversies, and directions for future research. *Journal of Management*, 18(2), 239-266.
- Hegan, S. (2006). The 90 day probationary period: Rhetoric or reality. *Otago Management Graduate Review*, 4, 37-47.
- Hersch, R., Cook, R., Deitz, D., and Trudeau, J. (2000). Methodological issues in workplace substance abuse prevention research. *The Journal of Behavioral Health Services and Research*, 27(2), 144-151.
- Hoffman, J., Larison, C., and Sanderson, A. (1997). An analysis of worker drug use and workplace policies and programs. Analytic Series A-2. Substance Abuse and Mental Health Services Administration Office Applied Studies.
- Industry must take steps to detect and discourage employee drug use. (1997, March 10). *Nation's Restaurant News*, Retrieved February 7, 2008, from Hospitality & Tourism Complete database.
- Karr, A. R. (1987, January 22). Drug testing of transportation workers proposed. *The Wall Street Journal*, p. 18.



- Kelley, H. (1973). The process of causal attribution. *American Psychologist*, 28, 107–128.
- Kitterlin, M., and Erdem, M. (2009). A qualitative assessment of employee attitudes towards pre-employment drug-testing in the full-service restaurant industry. *The Consortium Journal of Hospitality and Tourism*, 14(1), 5-21.
- Knudsen, H., Roman, P., and Johnson, J. (2004). The management of workplace deviance: Organizational responses to employee drug use. *Journal of Drug Issues*, 34(1), 121-143. Retrieved February 7, 2008, from Academic Search Premier database.
- Kohlberg, L. (1969). Stage and sequence: The cognitive developmental approach to socialization. In D. Goslin (Ed.), *Handbook of Socialization Theory and Research* (pp. 347–480). Chicago: Rand-McNally.
- Konovsky, M., and Cropanzano, R. (1991). Perceived fairness of employee drug testing as a predictor of employee attitudes and job performance. *Journal of Applied Psychology*, 76(5), 698-707
- LaGodna, G. E., and Hendrix, M. J. (1989). Impaired nurses: A cost analysis. *Journal of Nursing Administration*, 19(9), 13-18.
- Lazlo, J., and Rosenthal, R. (1970). Subject dogmatism, experimenter status, and experimenter expectancy effects. *Personality: An International Journal*, 1, 11–23.
- Leventhal, G. (1980). What should be done with equity theory? In K.J. Gergen, M. Greenberg, and R. Willis (Eds.) *Social exchange: Advances in theory and research* (pp. 27-55). New York: Plenum.
- Levine, M. R., and Rennie, W. P. (2004). *Occupational and Environmental Medicine*, 61, 318-324. Retrieved March 31, 2008, <http://oem.bmj.com/cgi/content/abstract/61/4/318>

- Lundberg, G. D. (1972). Urine drug screening: Chemical McCarthyism. *New England Journal of Medicine*, 287(14), 723-724.
- Mark, M. M., and Folger, R. (1984). Responses to relative deprivation: A conceptual framework. *Review of Personality and Social Psychology*, 5, 192-218.
- Marshall, E. (1988 July 8). Testing urine for drugs. *Science*, 241(4862), 151-152.
- Mason, K. (2003). *Drug testing in schools: Attitudes of high school students*. Dissertation (Ph.D.)—University of New Orleans. Counselor Education Program.
- Mastrangelo, P. (1997). Do college students still prefer companies without employment drug testing? *Journal of Business and Psychology*, 11(3), 325-337.
- Mastrangelo, P., and Jolton, J. (2001). Predicting on-the-job substance abuse with a written integrity test. *Employee Responsibilities and Rights Journal*, 13(2), 95-106.
- Mastrangelo, P., and Popovich, P. (2000). Employees' attitudes toward drug testing, perceptions of organizational climate, and withdrawal from the employer. *Journal of Business and Psychology*, 15(1), 3-18.
- McClintock, C., and Keil, L. (1982). Equity and social exchange. In J. Greenberg and R. Cohen (Eds.), *Equity and Justice in Social Behavior* (pp. 337-388). New York: Academic Press.
- McDaniel, M. (1988). Does pre-employment drug use predict on-the-job suitability? *Personnel Psychology*, 41(4), 717-729.
- Mercer, M.W. (1988). Turnover: Reducing the costs. *Personnel*, 65(12), 36-42.
- Mikulecky, L. (1990). Basic skills impediments to communication between management and hourly employees. *Management communication quarterly*, 3(4), 452-473.

- Montoya, I. D., Carlson, J. W., and Richard, A. J. (1999). An analysis of drug abuse policies in teaching hospitals. *Journal of Behavioral Health Services and Research*, 26(1), 28-38.
- Moore, S., Grunberg, L., and Greenberg, E. (1998). Correlates of drug testing attitudes in a sample of blue-collar workers. *Employee Responsibilities and Rights Journal*, 11(2), 135-150.
- Muczyk, J., and Hesizer, B. (1988). Mandatory drug testing: Managing the latest Pandora 's Box. *Business Horizons*, 31(2), 14-22.
- Murphy, K.R., Thornton III, G.C., and Prue, K. (1991). Influence of job characteristics on the acceptability of employee drug testing. *Journal of Applied Psychology*, 76(3), 447-453.
- Murphy, K. R., Thornton III, G. C., and Reynolds, D. H. (1990). College students attitudes toward employee drug testing programs. *Personnel Psychology*, 43(3), 615–631.
- National Institute on Drug Abuse. (2008). *NIDA InfoFacts: Workplace resources*. Retrieved July 14, 2009, from <http://www.nida.nih.gov/infofacts/workplace.html>
- National Institute on Drug Abuse. (2009). *Commonly abused drugs*. Retrieved July 15, 2009, from <http://www.nida.nih.gov/DrugPages/DrugsofAbuse.html>
- National Restaurant Association. (2007). *Frequently asked questions*. Retrieved September 13, 2007, from <http://www.nationalrestaurantassociation.com/aboutus/faqs.cfm>
- National Restaurant Association. (2008). *State of the restaurant industry workforce: An overview*. Retrieved July 14, 2009, from

[http://www.restaurant.org/pdfs/research/Restaurant\\_Industry\\_Workforce\\_2008.pdf?CFID=161515808&CFTOKEN=40600162](http://www.restaurant.org/pdfs/research/Restaurant_Industry_Workforce_2008.pdf?CFID=161515808&CFTOKEN=40600162)

National Restaurant Association. (2009). *Restaurant industry facts*. Retrieved July 14, 2009, from [http://www.restaurant.org/research/ind\\_glance.cfm](http://www.restaurant.org/research/ind_glance.cfm)

Navarro, C., and Bass, C. (2006). The cost of employee absenteeism. *Compensation & Benefits Review*, 38, 26-30.

Normand, J., Salyards, S., and Mahoney, J. (1990). An evaluation of preemployment drug testing. *Journal of Applied Psychology*, 75(6), 629-639.

Oden, K. (2008). People report workforce 2007: Getting and keeping your share of the labor pool in the new economy. *Restaurant News Resource*. Retrieved April 2, 2008, from <http://www.restaurantnewsresource.com/article31209.html>

Palmer, R. (1987). Employee drug use: Just say no. *Cornell Hotel and Restaurant Administration Quarterly*, 28, 20-22.

Parish, D. C. (1989). Relation of the pre-employment drug testing result to employment status: a one-year follow-up. *Journal of General Internal Medicine*, 4(1), 44-47.

Pavur, R., and Nath, R. (1989). Power and type 1 error rates for rank-score MANOVA techniques. *Multivariate Behavioral Research*, 24(4), 477-501.

Peat, M. A. (1995). Financial viability of screening for drugs of abuse. *Clinical Chemistry*, 41, 805-808.

Pfeffer, J. (1982). *Organizations and organization theory*. Marshfield, MA: Pitman.

Restaurant. (2009). In *Merriam-Webster Online Dictionary*. Retrieved July 14, 2009, from <http://www.merriam-webster.com/dictionary/restaurant>

- Rice, J. (1995). *Mathematical Statistics and Data Analysis, 2<sup>nd</sup> Edition*. Belmont, CA: Duxbury Press.
- Rosen, T.H. (1987). Identification of substance abusers in the workplace. *Public Personnel Management, 16*(3), 197-207.
- Rosse, J., Miller, J., and Ringer, R. (1996). The deterrent value of drug testing and integrity testing. *Journal of Business and Psychology, 10*(4), 477-485.
- Rothman, M. (1988). Random drug testing in the workplace: Implications for human resources management. *Business Horizons, 31*(2), 23-27.
- Rynes, S. (1993). Who's selecting whom? Effects of selection practices on applicant attitudes and behavior. In N. Schmitt, W. C. Borman, & Associates (Eds.), *Personnel selection in organizations*. San Francisco, CA: Jossey-Bass, Inc.
- Sanders, A. (1989, April). A boost for drug testing. *Time, 3*, 62.
- Santora, T. (2005, January 28). Drug testing places business in a delicate balance of trust. *Daily record and the Kansas City Daily News-Press*. Retrieved May 7, 2007, from [http://findarticles.com/p/articles/mi\\_qn4181/is\\_20050128/ai\\_n10066621](http://findarticles.com/p/articles/mi_qn4181/is_20050128/ai_n10066621)
- Seashore, S. E. (1954). *Group cohesiveness in the industrial work group*. Ann Arbor: University of Michigan Press.
- Siegel, S., and Castellan, N. J. (1988). *Nonparametric statistics for the behavioral sciences* (2<sup>nd</sup> Ed.). New York, NY: McGraw-Hill.
- Smith, C. A., Organ, D. W., and Near, J. P. (1983). Organizational citizenship behavior: its nature and antecedents. *Journal of Applied Psychology, 68*, 653-663.
- Smither, J., Millsap, R., Stoffey, R., Reilly, R., and Pearlman, K. (1996). An experimental test of the influence of selection procedures on fairness perceptions,

- attitudes about the organization, and job pursuit intentions. *Journal of Business and Psychology*, 10(3), 297-318.
- Spang, R.L. (2000). *The invention of the restaurant: Paris and modern gastronomic culture*. Cambridge, MA: Harvard University Press.
- Spector, A. (2001, May 21). A career in foodservice: Unhealthy lifestyle. *Nation's Restaurant News*. Retrieved May 7, 2007, from [http://findarticles.com/p/articles/mi\\_m3190/is\\_21\\_35/ai\\_75100596](http://findarticles.com/p/articles/mi_m3190/is_21_35/ai_75100596)
- Stark, C.D. (1991). *The relationship of the existence of a drug testing program to turnover, absenteeism, accidents, and workers' compensation claims: A case study*. Thesis (D.B.A)—Mississippi State University. College of Business and Industry.
- Steiner, I., and Johnson, H. (1963). Authoritarianism and conformity. *Sociometry*, 26, 21–34.
- Strazewski, L. (2001, May). Facing facts about workplace substance abuse. *Nation's Restaurant News*. Retrieved May 7, 2007, from [http://findarticles.com/p/articles/mi\\_qa3615/is\\_200105/ai\\_n8944893](http://findarticles.com/p/articles/mi_qa3615/is_200105/ai_n8944893)
- Strickland, B. (1977). Internal-external control of reinforcement. In T. Blass (Ed.), *Personality Variables in Social Behavior* (219–279). Hillsdale, NJ: Lawrence Erlbaum Associates.
- Substance Abuse & Mental Health Services Administration. (2009a). *Current illicit drug and heavy alcohol use by occupation*. Retrieved August 15, 2009, from <http://www.oas.samhsa.gov/occupation.htm>

- Substance Abuse & Mental Health Services Administration. (2009b). *Drugs in the workplace: What an employer needs to know*. Retrieved August 15, 2009, from [http://workplace.samhsa.gov/DrugTesting/Files\\_Drug\\_Testing/FactSheet/factsheet041906.aspx](http://workplace.samhsa.gov/DrugTesting/Files_Drug_Testing/FactSheet/factsheet041906.aspx)
- Sulek, J., and Hensley, R. (2004). The relative importance of food, atmosphere, and fairness of wait: The case of a full-service restaurant. *Cornell Hotel and Restaurant Administration Quarterly*, 45(3), 235-247.
- Tepper, B. (1994). Investigation of general and program-specific attitudes toward corporate drug-testing policies. *Journal of Applied Psychology*, 79(3), 392-401.
- Thibaut, J., and Walker, L. (1975). *Procedural Justice: A Psychological Analysis*. Hillsdale, NJ: Lawrence Erlbaum Associates.
- Trevino, L. K. (1986). Ethical decision making in organizations: A person-situation interactionist model. *Academy of Management Review*, 11, 601–617.
- Trubek, A.B. (2000). *Haute Cuisine: How the French Invented the Culinary Profession*. Philadelphia, PA: University of Pennsylvania Press.
- Truxillo, D., Bauer, T., and Paronto, M. (2002). Reactions to organizational alcohol testing and treatment programs. *Journal of Business and Psychology*, 17(1), 31-45.
- U.S. Department of Health and Human Services. (2002). *Alcohol and drug information: Statistics*. Retrieved April 2, 2008, from <http://ncadistore.samhsa.gov/catalog/facts.aspx?topic=12>
- U.S. Department of Health and Human Services. (2008). *State List of HHS Certified Laboratories*. Retrieved August 24, 2009 from [http://www.workplace.samhsa.gov/DrugTesting/Level\\_1\\_Pages/1stCLab.aspx](http://www.workplace.samhsa.gov/DrugTesting/Level_1_Pages/1stCLab.aspx)

- U.S. Department of Health and Human Services Substance Abuse and Mental Health Services Administration. (1995). *Substance abuse and mental health statistics sourcebook*. Rockville, MD: US Department of Health and Human Services.
- United States Department of Labor. (2007, September 13). *Hospitality. Working partners for an alcohol- and drug-free workplace*. Retrieved September 13, 2007, from <http://www.dol.gov/asp/programs/drugs/workingpartners/stats/hospitality.asp>
- Vodanovich, S.J., and Reyna, M. (1988). Alternatives to workplace testing. *Personnel Administrator*, 33, 78-84.
- Zikmund, W. (2003). *Business research methods (7<sup>th</sup> Ed.)*. Mason: OH: South-Western Publishing.
- Zuber, A. (1997, February 17). Restaurant workers worst drug abusers. *Nation's Restaurant News*, 31(7), 1. Retrieved February 7, 2008, from Hospitality & Tourism Complete database.
- Zwerling, C., Ryan, J., and Orav, E.J. (1990). The efficacy of preemployment drug screening for marijuana and cocaine in predicting employment outcome. *Journal of the American Medical Association*, 264(20), 2639-2643.



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