2001

Disability Legislation: An Empirical Analysis of Employer Cost

Beth A. Loy

Tesfa Gebremedhin
tgebreme@wvu.edu

Disability Legislation: An Empirical Analysis of Employer Cost

by

Beth A. Loy and Tesfa G. Gebremedhin[1]

RESEARCH PAPER 2001-3

Abstract: As U.S. civil rights legislation, Title I of the Americans with Disabilities Act of 1990 (ADA) was created to eliminate workplace discrimination on the basis of disability. Using the United States as an example, this research analyzes the potential for disability legislation to laden employers with excessive cost burdens, specifically expenses from additional workplace injuries and illnesses. In addition, this study looks at the likelihood that employers compensate for these costs by cutting workplace sick leave benefits. Prior to the ADA's implementation, U.S. employers had the fear of incurring excessive cost. The paper successfully counters this fear by looking first at whether the legislation spawned significant increases in the incident rates of occupational injuries and illnesses, and second, whether employers compensated for soaring compliance costs by decreasing paid sick leave benefits.

[1] Beth A. Loy is research instructor with the Job Accommodation Network, a service of the U.S. Department of Labor Office of Disability Employment Policy. Tesfa Gebremedhin is a professor in the Division of Resource Management, and Faculty Research Associate with the Regional Research Institute, West Virginia University. The authors acknowledge the review comments of Dale K. Colyer, Denetta L. Dowler, Gerard E. D'Souza, and Deborah J. Hendricks.

Disability Legislation: An Empirical Analysis of Employer Cost

Introduction

The ADA is a landmark civil rights legislation passed in the United States "to establish a clear and comprehensive prohibition of discrimination on the basis ADA expected that the law would bring about a nation-wide economic revolution, of disability" (Americans with Disabilities Act of 1990, 2000). Proponents of the drastically increasing the employment opportunities of people with disabilities and changing the face of the American workplace. Compelling testimony from political representatives assured the country's citizens that the ADA would establish "a comprehensive national mandate to eliminate discrimination against persons with disabilities" (135 CONG. REC. 57, 1989).

When the U.S. Congress passed the ADA, it extended the essence of a previous national mandate, Title VII of the Civil Rights Act of 1964 (CRA), and its prohibition against discrimination on the basis of race, sex, religion, and national origin to disability. This extension was composed of five titles: Title I: Employment, Title II: Nondiscrimination on the Basis of Disability in State and Local Government Services, Title III: Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, Title IV: Telecommunications, and Title V: Miscellaneous Provisions (Americans with Disabilities Act of 1990, 2000). Though President George Bush signed the ADA into law on July 26, 1990, American businesses were given grace periods to come into compliance. Title I, the centerpiece of this research, became effective

on July 26, 1992, for U.S. employers with 25 or more employees and for employers with 15 or more employees on July 26, 1994.

The original intent of the ADA was to level an uneven playing field in favor of people with disabilities. Though the enactment of the ADA raised awareness in the States of the need for equal opportunities for persons with disabilities, the economic effects of this law remain questionable. Employers and people with disabilities, the two parties at the heart of the ADA, were assured that their employment burdens and financial strains would lighten. Perceived discrepancies between Title I's goals and outcomes have led to workplace inconsistencies, with employers arguing that the demands of the Act are too heavy. Congress's intent was to pass a federal civil rights law that maintained its integrity without bias from external influences such as employer prejudices.

In 1990 the U.S. Congress found that "individuals with disabilities [we]re a discrete and insular minority who have been faced with restrictions and limitations, subjected to a history of purposeful unequal treatment, and relegated to a position of political powerlessness in our society, based on characteristics that are beyond the control of such individuals and resulting from stereotypic assumptions not truly indicative of the individual ability of such individuals to participate in, and contribute to, society" (Americans with Disabilities Act of 1990, 2000). Merriam-Webster (2001) defines stereotype as "a standardized mental picture that is held in common by members of a group and that represents an oversimplified opinion, prejudiced attitude, or uncritical judgment." Particularly questionable is whether stereotypical assumptions regarding the employment of

people with disabilities are actually true. After 10 years of passage, data exists to dissect the reality of these assumptions.

To counter initial fears, the ADA specifically stated that an employer may not disqualify an individual with a disability who is currently able to perform a job because of speculation that a disability may cause a risk of future injury" (Americans with Disabilities Act of 1990, 2000). Not unique to the United States, employees enjoy guaranteed recovery of benefits for injuries incurred on-the-job regardless of fault. The law forbids employers from stereotyping people with disabilities as workers who are more likely to be injured and therefore, not deserving of employment. In addition, future costs that might only become apparent after an applicant is hired are irrelevant. This study analyzes historical data to address two stereotypical assumptions. First, this paper looks at whether Title I sparked an increase in occupational injury and illness rates, and second, whether employers compensated for compliance costs by decreasing the frequencies that they offer paid sick leave benefits

Background

One of the powers given to Congress by the Framers of the U.S. Constitution was the power to regulate interstate commerce (U.S. CONST. art. I, § 8, cl. 3). Since this time, Congress has broadly applied this power, even regulating what appeared to be local activities, for example, prohibiting discrimination against minorities through civil rights legislation. Like other U.S. federal civil rights laws, the ADA was passed pursuant to Congress's power to regulate interstate commerce and extended to state entities through the

Fourteenth Amendment (U.S. CONST. amend. XIV). Before passing the ADA, the U.S. Congress found ample evidence to support its conclusion that discrimination on the basis of disability impeded interstate commerce. With the ADA, Congress intended to:

1) Provide a clear and comprehensive national mandate for the elimination of discrimination against individuals with disabilities;
2) Provide clear, strong, consistent, enforceable standards addressing discrimination against individuals with disabilities;
3) Ensure that the federal government plays a central role in enforcing the standards established on behalf of individuals with disabilities; and
4) Invoke the sweep of congressional authority, including the power to enforce the Fourteenth Amendment and to regulate commerce, in order to address the major areas of discrimination faced day-to-day by people with disabilities (Americans with Disabilities Act of 1990, 2000).

As the legislative history of the ADA highlights, in colonial times it was considered an American family's responsibility to care for members with disabilities. However, in the 1920s, with the return of World War I veterans to the United States and an increase in industrial accidents, large numbers of Americans with disabilities were searching for rehabilitation and work. As a result, Congress passed legislation that began the building blocks for the ADA.

The focus of this study is Title I of the ADA, the section of the ADA requiring equal employment opportunities for qualified individuals with disabilities. Title I requires that individuals with disabilities be given the same consideration

for employment that individuals without disabilities are given. That is, an individual who is qualified for a job cannot be denied that job because the individual has a disability.

Title I of the ADA prohibits discrimination in all employment practices, including job application procedures, hiring, firing, advancement, compensation, training, and other terms, conditions, and privileges of employment. It covers employment-related activities, such as recruitment, advertising, tenure, layoff, leave, and fringe benefits (Americans with Disabilities Act of 1990, 2000). Title I applies to private employers, state and local governments, employment agencies, and labor unions. The ADA's definition of "employee" includes U.S. citizens who work for American companies, their subsidiaries, or firms controlled by Americans outside the United States (Equal Employment Opportunity Commission, 1992). However, the Act provides an exemption from coverage for any action that violates the law of the foreign country where a workplace is located. Given its sweeping nature, Title I has been the most embattled part of the ADA.

Some experts feel that "as a result of the ADA the owners of commercial enterprises bear substantial costs to accommodate [individuals with disabilities]" (O'Quinn, 1991). Because individuals with disabilities often need to do jobs differently, some employers feared that excessive costs would result from people with disabilities being injured while working. Essentially, one stereotype of people with disabilities is that they are more prone to accidents; some employers feel that being forced to employ people with disabilities means more job mishaps

and additional lost work-time. If true, employing people with disabilities likely requires liberal sick leave policies. To compensate for these losses, it is reasonable to hypothesize that employers balance these losses, whether real or perceived, by cutting associated benefits, specifically paid sick leave packages. Employers then save money by offering limited paid benefits.

The data needed to begin analyzing the accuracy of these assumptions, the number of occupational injuries and illnesses, is easily tracked in the United States with workers' compensation claims. U.S. workers' compensation programs, implemented by each of the 50 states, provide remedies to employees injured at work. Workplace injury and illness costs have expanded faster than any other employment-related costs. In 1984, the annual workers' compensation costs paid by employers were an estimated thirty billion dollars (Thompson, 1993). Between 1988 and 1991, costs rose twenty-nine percent to an annual employer payout of approximately sixty billion dollars (Thompson, 1993). U.S. companies spend close to $200 billion a year on medical treatment, rehabilitation, and partial wage replacement, and these costs continue to climb every year (Mosley & Lawson, 1999).

The relationship between the ADA and on-the-job injuries and illnesses is complicated. The simplest explanation for increased costs is that people with disabilities are more likely to be injured at work. The ADA requires that only after offering a job can the employer inquire into an applicant's medical history. As a result, high-risk candidates for injuries cannot be identified during the hiring process. The ultimate effect of this ADA rule is to limit the employer's ability to

screen out those most likely to suffer a workers' compensation injury (Floyd, 1994).

Many U.S. studies that show employing people with disabilities is not dangerous or expensive. A 1990 survey by DuPont revealed that in attendance, 86 percent of employees with disabilities were rated average or above (E.I. duPont de Nemours and Company, 1996). To support this, Sears Roebuck reported findings that the average workplace accommodation for an individual with a disability at the company was only $45. (Blanck, 1994). The costs of an accommodation were less than half the $121 average cost from 1978 to 1992. Also, the Job Accommodation Network (JAN), a free consultation service of the U.S. Department of Labor's Office of Disability Employment Policy, reported that most accommodations cost less than $500 (Job Accommodation Network, 1999). JAN's data support the argument that the ADA is not costing employers extensive amounts of money. Essentially, there have been very few accommodations that cost employers large amounts of money; only 18 percent of accommodations cost over $1000 (Job Accommodation Network, 1999). If accurate, employer fears of attendance and leave abuse are simply fallacies.

Despite the studies supporting the low cost of employing people with disabilities, there is contradictory evidence. For example, reports show that businesses have been forced to spend an estimated five billion dollars to comply with the intricacies of the ADA (Ogle, 2000). In addition, the Washington Business Group on Health (1998) determined that lost employee time due to disability amounts to as much as 10 percent of payroll. These costs range from

noticeable profit margin losses such as payroll expenses and insurance premiums to knowledge, experience, and training. In a recent survey, thirty-three percent of human resources professionals stated that they would eliminate intermittent leave entirely (Barnett, 1997). In addition to burdensome administration, they cite the difficulty managers face following their employees' whereabouts, staffing temporarily vacant positions, and managing reduced productivity (Barnett, 1997).

A measure of how employers balance their costs is the amount of benefits they offer employees. Extra costs usually mean lower profits and fewer benefits, including sick leave days. As a result, employers may reduce these benefits to compensate for losses. This reduction may also help dilute any wrongful termination claims; with a stringent attendance policy, employers often successfully defend discrimination claims by arguing excessive absenteeism. Disabled plaintiffs are painted as violators of nondiscriminatory sick leave policies. Employers often successfully defend attendance-related terminations under Title I by arguing violations of standard sick leave policies (Fram, 2000). The relevant questions for this study are: 1) whether the ADA spawned significant increases in the incident rates of occupational injuries and illnesses, and 2) whether employers compensated for soaring compliance costs by decreasing paid sick leave benefits.

Methodology

Three annual data sets were used to answer the two questions posed: 1) data on whether Title I was implemented in the respective year, 2) data on the

incidences of occupational injuries and illnesses, and 3) data on the frequencies that employers offered paid sick leave benefits. Data from prior to and after the implementation of Title I were compared. Data from the initial year that Title I went into effect, 1992, were deleted from the samples.

First, has there been a significant increase in the number of incidence rates of occupational injuries and illnesses with the implementation of Title I? The two variables for this question were the binary variables (0,1) denoting whether Title I was implemented and the corresponding time series variable denoting the incidence rates of occupational injuries and illnesses in U.S. workplaces. The alternative hypothesis was that the incidence rates of occupational injuries and illnesses increased with the implementation of Title I. Data from 1985 to 1998 were used for analyses. The incidence rates for private industry were compiled from the Safety and Health Statistics division of the U.S. Bureau of Labor Statistics (Bureau of Labor Statistics, 1999). The incidence rates represented the number of injuries and illnesses per 100 full-time workers.

Second, with the implementation of Title I, has there been a significant change in the number of paid sick leave benefit packages offered by U.S. employers? The two variables for this question were the binary variables (0,1) denoting whether Title I was implemented at the time of data collection and the corresponding time series variable denoting the frequencies that U.S. employers offered paid sick leave benefit packages. The alternative hypothesis was that employers decreased the frequencies of paid sick leave packages with the implementation of Title I. Data from 1985 to 1997 were used for the analyses.

Annual data on the frequencies of paid sick leave packages were obtained from the U.S. Bureau of Labor Statistics, specifically the Employee Benefits Survey, which is an annual survey of the benefits provided by employers to their employees (Bureau of Labor Statistics, 2000). Data were collected from a sample of approximately 6000 U.S. private sector and state and local government establishments. The data were presented as a percentage of employees who participated in the benefit of paid sick leave.

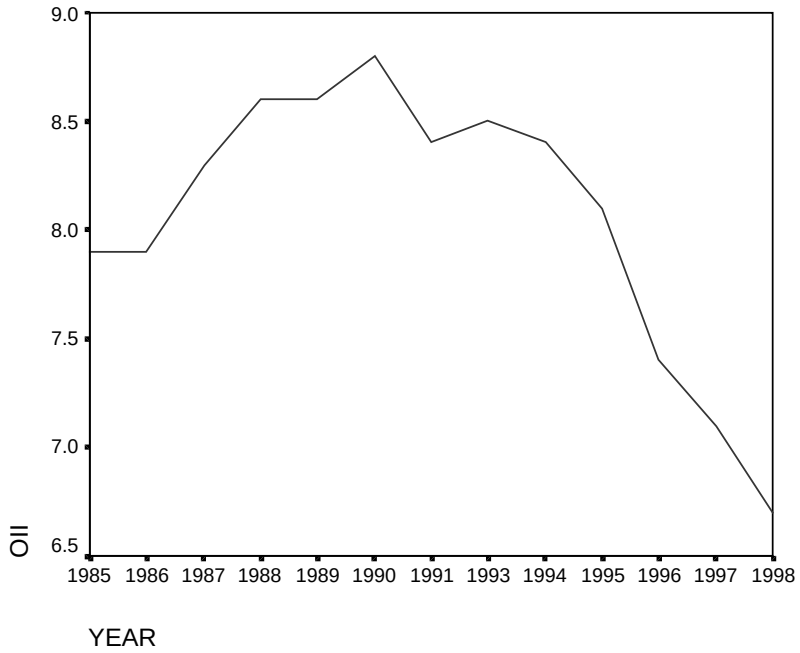
To test the two hypotheses, initial queries focused on two tests for normality: 1) the Kolmogorov-Smirnov normality test (Kolmogorov, 1941) with a Lilliefors (1967) adjustment, and 2) the Shapiro-Wilk normality test (Shapiro & Wilk, 1965). Two-sample variance *t*-tests showed if significant differences existed between pre Title I and post Title I data. Since preliminary modified-Levene (1960) tests revealed that variances were unequal for the data sets, the Aspin-Welch *t*-test (Aspin, 1949, & Welch, 1938) replaced the equal variance Student's *t*-test (Student, 1908, & Student, 1938). Because the sample sizes were small, the Kolmogorov-Smirnov tests for different distributions were also used to support the *t*-test results (Chakravart, Laha, & Roy, 1967). Data were tested with SPSS Base 10.0 (2000), and all tests were interpreted based on a critical value of α=.05.

Results and Analysis

The results do not support the alternative hypothesis that since the implementation of Title I the incidence rates of occupational injuries and illnesses have increased. With the exception of a small increase in 1993, incidence rates

have declined steadily since 1990. Prior to 1990, the incidence rates climbed approximately two percent per year, holding steady from 1985 to 1986 and from 1988 to 1989. Though there was a slight increase in incidence rates in 1993, overall, the rates have steadily declined approximately four percent per year since 1991 as depicted in Figure 1. The steady decrease in the incidence rates continued after the implementation of Title I.

FIG. 1. Incidence rates of occupational injuries and illnesses (OII)



Source: Bureau of Labor Statistics, 1999.

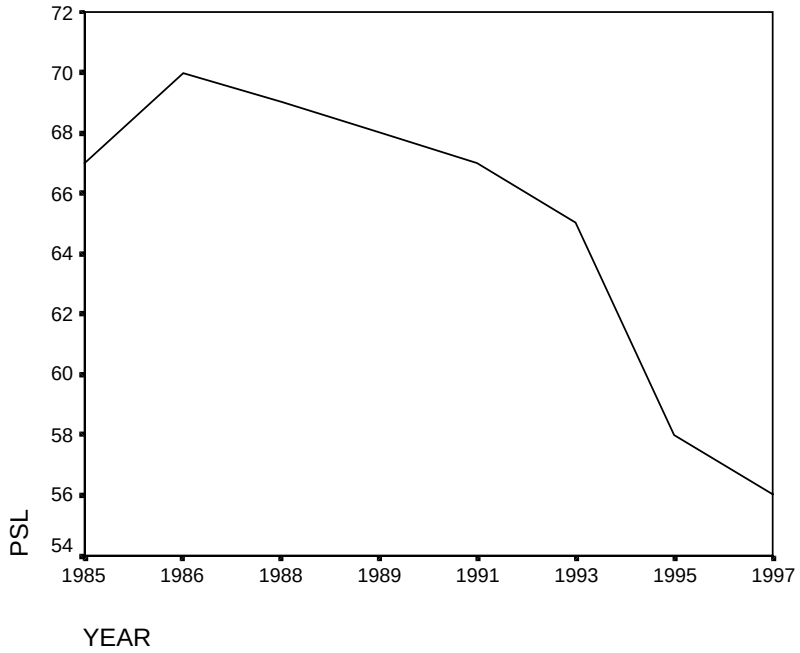
There were no outliers or extreme values in the data, and the data appeared to be normally distributed by Kolmogorov-Smirnov and Shapiro-Wilks normality tests. According to the modified Levene test, the two groups had equal variances. An Aspin-Welch *t*-test was 1.991 with 6.894 degrees of freedom and a *p*-value of 0.087. The *p*-value was not small enough to reject the idea that the

mean for the number of occupational injuries and illnesses per 100 workers prior to the implementation of Title I and this number after its implementation were equal. In addition, the Kolmogorov-Smirnov test implied no significant difference between the data groups. In summary, the decision tests supported the rejection of the alternative hypothesis that the incident rates of occupational injuries and illnesses increased with the implementation of Title I. This stereotypical assumption was rejected.

The results also do not support the hypothesis that the benefits of paid sick leave were decreased to compensate for ADA compliance losses. This frequency jumped from 1985 to 1986; thereafter, the frequency steadily, though not significantly, decreased as shown in Figure 2. This decrease persisted after the implementation of Title I, amounting to approximately four percent per year.

There were no outliers or extreme values in the data, and the data appeared to be normally distributed by Kolmogorov-Smirnov and Shapiro-Wilks normality tests. An Aspin-Welch *t*-test was 3.058 with 2.185 degrees of freedom and a *p*-value of 0.083. The *p*-value was not small enough to reject the idea that the mean for the incidences of paid sick leave prior to the implementation of Title I and this number after its implementation were equal. In addition, the Kolmogorov-Smirnov test implied no significant difference between the data groups. In summary, the decision tests supported the rejection of the alternative hypothesis that the frequency of paid sick leave packages decreased with the implementation of Title I. This stereotypical assumption was rejected.

FIG. 2. Frequency that employers offer paid sick leave benefits (PSL)



Source: Bureau of Labor Statistics, 2000.

Conclusions

In general, there was no statistically significant conclusive evidence that the number of U.S. occupational injuries and illnesses increased with the passage of Title I. Also, there was no statistically significant conclusive evidence that American employers decreased paid sick leave benefit offerings. If Title I led to more people with disabilities integrating the workforce, the number of injuries and illnesses did not reflect that they were more likely to be injured on-the-job. Therefore, it is not rational to think that employers should fear soaring workers' compensation costs, heightened liabilities, or outrageous medical costs.

One reason for the decline in injuries and illnesses is that a high percentage of educated workers now take steps to prevent workplace mishaps. Also, increased safety training by employers to lower insurance premiums is

another possible explanation. The U.S. labor shift from high risk manufacturing to service industries may also contribute. Increased regulation and enforcement by the federal Occupational Safety and Health Administration, the tightening of state workers' compensation statutes, and the intense monitoring and follow-up by disability insurance companies were other potential explanations.

Also, there were no indications that people with disabilities were more likely to use sick leave or that employers compensated for perceived looses by cutting these benefits. It is not rational to think that employees with disabilities increased workplace costs because of excessive sick leave use. One reason for the benefit's steadiness is that the high growth American economy forced employers to offer competitive benefit packages to attract skilled workers. Also, some state wage and hour laws now mandate employers to provide minimum levels of sick leave benefits, and many contractual agreements between employers and insurers dictate sick leave programs.

The queries explored in this study directly underscore the intricate relationships between the two parties at the heart of Title I: employees and employers. The push by people with disabilities to improve their stature and well being in the United States has been directly linked to the implementation of Title I. The results support that the levels of benefits offered by U.S. employers and the numbers of occupational injuries and illnesses incurred at the workplace have been unaffected by the ADA. However, there is no evidence to indicate that the steps of providing protection to people with disabilities caused American employers excessive burdens or reduced employee sick leave benefits.

References

135 CONG. REC. 57 (1989).

Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101-12213 (2000).

Aspin, A.A. (1949) Tables for use in comparisons whose accuracy involves two variances, separately estimated, *Biometrica,* 36, pp. 290-292.

Barnett, A.A. (1997,March). Fixing Dysfunction Family Leave, *Bus. & Health,* p.2.

Blanck, P.D. (1994) *Communicating the Americans with Disabilities Act, transcending compliance: A case report on Sears, Roebuck, and Co.* (District of Columbia, The Annenberg Washington Program in Communications Policy Studies of Northwestern University).

Bureau of Labor Statistics (1999) *Table 6. Incidence rates of occupational injuries and illnesses for private industry by selected case types, 1973-98.* (District of Columbia, Department of Labor).

Bureau of Labor Statistics (2000) *Employee benefits survey: Incidence of paid sick leave (EBUSICKINC0000ML)* (District of Columbia, Department of Labor).

Chakravart, I.M., Laha, R.G. & Roy, J. (1967) *Handbook of methods of applied statistics* (Volume I) (New York, John Wiley).

Civil Rights Act of 1964, 42 U.S.C. §§ 1981-2000h-8 (2000).

Durbin, J. & Watson, G.S. (1951) Testing for serial correlation in least-squares regression, *Biometrika, 38,* pp. 159-157.

E. I. du Pont de Nemours and Company (1996) *Equal to the task* (Wilmington, Delaware, Author).

Equal Employment Opportunity Commission (1992) *A technical assistance manual on the employment provisions (Title I) of the Americans with Disabilities Act* (District of Columbia, Author).

Floyd, J.M. (1994) Americans with Disabilities Act: Impact of Workers' Compensation - Friend or Foe? A Primer for the Corporate Insurance Department and Outside Counsel, *17 Am. J. Trial Advoc. 637,* pp. 643-44.

Fram, D.K. (2000). *Resolving ADA workplace questions: How courts and enforcement agencies are dealing with evolving employment issues* (8th ed.). Washington, DC: National Employment Law Institute.

Job Accommodation Network (1999) *Accommodation benefit/cost data: Tabulated through July 30, 1999* (West Virginia University, Author).

Kolmogorov, A. (1941) Confidence limits for an unknown distribution function, *Annals of Mathematical Statistics, 12,* pp. 461-463.

Levene H. (1960) Robust tests for equality of variance. In I. Olkin (Ed.), *Contribution to probability and statistics* (pp. 278-292) (Stanford, California, Stanford University Press).

Lilliefors, H. W. (1967) On the Kolmogorov-Smirnov test for normality with mean and variance unknown, *Journal of the American Statistical Association, 64,* pp. 399-402.

Mosley R. & Lawson, R. (1999, June) *Cost containment return to work strategies in workers' compensation & integrated disability management,* Paper presented at the 4th International Congress on Medical-legal Aspects of Work Injuries (Toronto, Canada).

O'Quinn, R.P. (1991, August 9) *The Americans with Disabilities Act: Time for amendments* (Policy Analysis No. 158) (District of Columbia, Cato Institute).

Ogle, R. (2000, July 26) Ready and willing for the disabled. *Wall Street Journal,* pp. A25.

Shapiro, S.S., & Wilk, M.B. (1965) An analysis of variance test for normality (complete samples), *Biometrika, 52,* pp. 591-611.

SPSS Version 10.0 [Computer software] (2000) Chicago, IL: SPSS Inc.

Student (Gossett, W.S.) (1938) Comparison between balanced and random arrangements of field plots, *Biometrika, 29, 3/4,* pp. 363-378.

Student (Gossett, W.S.) (1908) The probable error of a mean, *Biometrika, 6, 1,* pp. 1-25.

Thompson, K.D. (1993, April) Workers' Compensation Premiums Soar, *Black Enterprise,* pp. 33.

U.S. CONST. amend. XIV and U.S. CONST. art. I, § 8, cl. 3.

Washington Business Group on Health (1998, June) *Investing in people for corporate growth and success* (District of Columbia: Author).

Welch, B. L. (1938) The significance of the differences between two means when the population variances are unequal, *Biometrika, 29, 3/4,* pp. 350-362.