DEVELOPMENT OF A STANDARDIZED MEASURE TO PREDICT EMPLOYEE PRODUCTIVITY

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ABSTRACT: The London House Employment Productivity Index (EPI-3) is a broad-based personality-oriented measure designed to predict successful employees. This paper focuses on the development and validation of the EPI-3 Dependability, Drug Avoidance, Interpersonal Cooperation, Safety, Validity, and overall Productivity scales. Three validation studies are reviewed. The first is a predictive study using 1,236 subjects from the retail industry. The second predictive study involved 167 subjects from a large discount retail chain. The final concurrent study involved 247 college students employed in various companies. All studies documented the validity of the EPI-3 as a pre-employment selection instrument. This paper also reviews adverse impact research, utility of the instrument for selection and ethical concerns when implementing this type of selection instrument.

INTRODUCTION

The problem of hiring counterproductive employees has reached epidemic proportions and is costing companies considerable financial loss. For example, nonviolent crimes against American business cost 50 billion dollars a year, the equivalent of Exxon Corporation's annual sales (Journal of Security Administration, 1983). Even more alarming is the estimate that approximately one third of all business failures are due to employee theft and dishonesty (Morgenstern, 1977). According to Hollinger and Clark (1983), approximately 40% of employees may exhibit some form of dishonesty at work. Significant financial losses may also result from such behaviors as poor job performance, inadequate customer relations skills, absenteeism, tardiness, high turnover, on-the-job accidents, violations of company policy, and on-the-job drug use.

Identifying potentially counterproductive employees before hiring them is a major challenge facing employers. To date, various methods...
have been pursued to detect tendencies toward counterproductivity, including: polygraph screening; biographical data analysis; special keys for standard personality tests; "clear purpose" honesty tests, which typically include specific questions about attitudes toward and admissions of theft behavior; and specially developed personality tests (Ash, 1988). This paper will focus on the development and validation of the London House Employment Productivity Index (EPI-3) (Employment Productivity Index; London House, 1986; Terris, 1986), a broad-based personality oriented measure designed to predict the "successful" employee.

DEVELOPMENT OF THE EPI-3

Pre-employment polygraph testing, which seems doomed to imminent demise, was one of the early attempts to identify job applicants at high-risk for engaging in counterproductive behavior (e.g., theft, drug abuse, excessive absenteeism) once hired. Paper and pencil tests, designed to identify potentially counterproductive applicants, are becoming more dominant in this ever-expanding market. Recent legal developments (Massachusetts Polygraph Act, Chapter 149, Section 19-B, of the State of Massachusetts, approved as amended—effective 9/30/86) prohibit the use of "pre-employment lie detector tests, including written examinations, to render a diagnostic opinion regarding the honesty of an individual." Indeed, overt honesty tests, per se, have a more limited scope, focusing more on industrial security issues, as opposed to general employee productivity.

In recent years, employers have expressed an interest in a psychological test that would "screen in" employees who are likely to be highly productive, successful workers. These "successful" workers are very unlikely to be fired because of poor performance, excessive absenteeism, or other reasons (e.g., rule breaking). These productive workers are conscientious, hard working, and possess a strong work ethic. They would not engage in inappropriate behaviors in the workplace such as using drugs during work hours, or engaging in employee sabotage. As the costs of employee selection and training continue to increase, many employers would like a screening test designed to identify individuals who are likely to remain on the job for long periods of time. Moreover, some human resource professionals have expressed an interest in tests that are less offensive than the more overt honesty tests. The EPI-3 was developed in response to these needs and is appropriate for situations where overt honesty tests cannot be used.

The EPI-3 was developed by selecting validated items from the London House Personal Selection Inventory (PSI) (Personnel Selection Inventory; London House, 1986). The PSI consistently predicts reliable,
productive work behavior. However, only PSI items that make no reference to honesty or theft were selected for the EPI-3. The validity of the PSI series has been well established in over 65 studies to date. In the area of employee counterproductivity, past research (Alvord, 1985; Brown, Jones & Terris, 1987; Brown & Joy, 1985; Jones, 1980; Moretti, 1980, 1986; and Berte, Moretti, Joy, Frost and Cook, 1987; Jusko & Leonard, 1981) has indicated that PSI scores were significantly related to various forms of on-the-job counterproductivity (e.g., employee theft, damage or destruction of company property, waste of supplies, company shrinkage, absenteeism and tardiness, employee reprimands and suspensions, drug and alcohol use on the job). Additional items were developed to measure other various important attributes (e.g., dependability, productivity, interpersonal cooperation).

RELIABILITY OF EPI-3 SCALES

A large sample of employees (N = 3251) from various industries and occupations including retail, hotel/motel, restaurant, and grocery was used to calculate the reliabilities and conduct the original item analyses of the EPI-3 sub-scales. These results are listed below.

The **Dependability Scale** measures applicants' willingness to obey company rules while completing the work assigned, as well as the likelihood that applicants will show up for work on schedule once employed. Sample items are: "How many employees don't call in when they stay home from work?," and "How often do you really try hard to do well at work or school?". This scale was designed to identify more responsible, productive employees. The reliability of this scale (coefficient alpha) has been calculated at .84.

The **Drug Avoidance Scale** measures the likelihood that applicants will not use illegal drugs on the job once employed. On-the-job drug use leads to poor work performance and industrial accidents. This scale consists of both attitudinal and behavioral items which have demonstrated high degrees of success in predicting on-the-job drug use. Sample items include: "How many people use marijuana socially?", and "How often do you drink alcoholic beverages?". The reliability of this scale (coefficient alpha) has been calculated at .72. The validity of this scale has been well documented using job-related criterion (e.g., Alvord, 1985; Brown, Jones, Terris, & Steffy, 1987; Jones, 1979 a, b, & c, 1980, 1982; Jones & Terris, 1983; Joy, Frost & Cook, 1987; Terris, 1979 a, b, 1985).

The **Interpersonal Cooperation Scale** measures the likelihood that applicants will be courteous and cooperate with others once employed. This includes cooperation with supervisors, co-workers, vendors and customers. Sample items include: "How often have you thought of hitting
someone who really deserved it?”, and “How often do you lose your temper?”. The reliability of this scale (coefficient alpha) has been calculated at .83.

Information from these three sub-scales contributes to an overall composite scale called the Productivity Index. Personnel selection decisions are based on the use of this composite index. The reliability of this composite index (coefficient alpha) has been calculated at .91. The sub-scale scores are used mainly for supplementary information, while the overall index is used for personnel selection.

Another version of the Employment Productivity Index, the EPI-3S, contains all of the above scales and an additional safety scale. This scale is described in depth by Jones & Wuebker, 1988, in Accident Prevention through Personnel Selection.

In addition, the EPI-3 contains a Validity Scale that assesses accuracy of response. This scale has been constructed to detect patterns of responses that are unlikely to occur when applicants both understand the inventory and answer the questions in a careful manner. This scale identifies rare response patterns on individual items. An item response is considered to be rare if less than two percent of the population responds in that manner. If applicants make too many rare responses, we can conclude that their test booklet was not accurately completed. Research has shown that this scale can detect 95% of all test booklets completed in a random, careless, or distorted manner (Rafilson, 1988).

VALIDITY

Predictive Validity. In the largest predictive validation study to date of the EPI-3 (Terris, 1986), 1,236 applicants in a retail setting completed the EPI-3 and were hired regardless of their scores. After six months, employees’ job status was assessed. Six hundred and fifty-one “successful employees” were identified who worked a minimum amount of time and were not fired for any reason. These employees had successful work performance records and consistently showed up for work on time. Three other groups were also identified: (1) 329 employees who were fired for poor performance, (2) 172 employees who were fired for excessive absenteeism or tardiness, and (3) 84 employees who were fired for other reasons (e.g., violation of company rules). Using several cutoff score standards, the EPI-3 acceptance rate of the successful group was compared to the EPI-3 acceptance rates for all of the termination groups combined. For each set of cutoff scores, the acceptance rates of the termination group were significantly lower than the acceptance rates of the successful group. The acceptance rates for the group of successful employees ranged between 60% and 78%, depending on cutoff score. The
Table 1
Percent of Applicants Accepted/Rejected by the EPI-3

<table>
<thead>
<tr>
<th>Composite Productivity Index</th>
<th align="right">ACCEPTED</th>
<th align="right">REJECTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard Used</td>
<td align="right">(N = 651)</td>
<td align="right">(N = 585)</td>
</tr>
<tr>
<td>40</td>
<td align="right">78.2</td>
<td align="right">61.9</td>
</tr>
<tr>
<td>45</td>
<td align="right">72.7</td>
<td align="right">55.3</td>
</tr>
<tr>
<td>50</td>
<td align="right">59.9</td>
<td align="right">38.7</td>
</tr>
</tbody>
</table>

* \( p \leq .000 \\
(Note: counterproductive employees were classified into three groups: 
Fired for poor work performance (N = 329); 
Fired for absenteeism or tardiness (N = 172); 
Fired for violations of rules/policies (N = 84))

acceptance rates for the group of counterproductive employees ranged between 39% and 70%. This represents a significant difference in acceptance rates for successful vs. counterproductive employees (Chi Square values range from 39.3 to 54.0, \( p < .0001 \) in all cases) (see Table 1).

In a second predictive validation study by Joy and Frost (1987), a sample of 167 applicants for jobs to a large discount retail chain completed the EPI-3 as part of the pre-employment hiring process. Test scores were not used in making hiring decisions. Approximately 3 months later, supervisors evaluated the job performance of these employees using a standardized performance appraisal form. Completed performance appraisal forms were returned for the 167 applicants and these data were used for correlational analyses. The testing procedure was completely independent of the rating procedure. Because only corporate executives had access to test scores, neither test administrators nor supervisors were aware of applicants’ EPI-3 scores.

The performance appraisal forms were organized into six dimensions: *Customer Service* (six items: e.g., “Does this employee consistently give pleasant service?”), *Employee Relations* (four items: e.g., “Does this employee make an effort to get along with his/her co-workers?”), *Absenteeism and Tardiness* (five items: e.g., “Does this employee come late to work?”), *Employee Conduct* (eleven items: e.g., “Does the employee comply with rules and regulations?”), *Productivity* (seven items: e.g., “How often does this employee try to do a good job?”), and *Safety/Sani-
vation (five items: e.g., "Does this employee have many accidents on the job?"). The range of options on each performance item was from one (never) to five (very often). Scores were determined for each of these dimensions by averaging the supervisors' ratings for all of the contributing items. All of these performance ratings were coded so that a higher value represented better performance. Since higher scores are also better on the EPI-3, positive correlations were expected.

The first analysis examined correlations between the EPI-3 scales and each of the performance dimensions. The correlation matrix is presented in Table 2.

As can be seen in this table, 19 of 24 correlations were significant (using a one-tailed test) at the .05 level. All significant correlations were in the expected direction; as EPI-3 test scores increased, so did the supervisors' ratings of these individuals' performance.

Table 3 shows the multiple correlations between the three EPI-3 subscales and total scores of each of the performance dimensions. The EPI-3 scales showed a significant relationship with:

### Table 2

Correlations Between EPI Scales and Work Performance Dimensions

<table>
<thead>
<tr>
<th>Performance Dimensions</th>
<th>EPI Scales</th>
<th>Overall Productivity Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dependability</td>
<td>Interpersonal Cooperation</td>
</tr>
<tr>
<td>Customer Service</td>
<td>.253** (.126)</td>
<td>.171* (.126)</td>
</tr>
<tr>
<td>Employee Relations</td>
<td>.170** (.163)</td>
<td>.170** (.163)</td>
</tr>
<tr>
<td>Safety/Sanitation</td>
<td>.191** (.162)</td>
<td>.201** (.162)</td>
</tr>
<tr>
<td>Absentism/Tardiness</td>
<td>N.S.</td>
<td>N.S.</td>
</tr>
<tr>
<td>Employee Conduct</td>
<td>.170** (.159)</td>
<td>.190** (.159)</td>
</tr>
<tr>
<td>Productivity</td>
<td>.254** (.159)</td>
<td>.153* (.159)</td>
</tr>
</tbody>
</table>

* p < .05  
** p < .01
Table 3

Multiple Correlations Between EPI Scales and Work Performance Dimensions

<table>
<thead>
<tr>
<th>Performance Dimensions</th>
<th>EPI Scales</th>
<th>r</th>
<th>F(3,122)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Service</td>
<td>Dependability, Interpersonal Cooperation, Drug Avoidance</td>
<td>.259*</td>
<td>2.92</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employee Relations</td>
<td></td>
<td>.187</td>
<td>1.93</td>
</tr>
<tr>
<td>Safety/Sanitation</td>
<td></td>
<td>.227*</td>
<td>2.86</td>
</tr>
<tr>
<td>Absenteeism/Tardiness</td>
<td></td>
<td>.207</td>
<td>2.06</td>
</tr>
<tr>
<td>Employee Conduct</td>
<td></td>
<td>.197</td>
<td>3.99</td>
</tr>
<tr>
<td>Productivity</td>
<td></td>
<td>.268**</td>
<td>3.99</td>
</tr>
</tbody>
</table>

*N p < .05  
**p < .01  
(Note: performance dimension scores were computed for each subject only if none of the items that comprise that dimension were missing)

(R = .259, p < .05), Safety/Sanitation (R = .227, p < .05), and Productivity (R = .268, p < .01).

A narrative summary of these results indicate that the Dependability scale should help to select employees who will consistently give more pleasant service, be more courteous and enthusiastic when initiating contact with customers, and be less likely to argue with co-workers or spread rumors or gossip which may cause trouble at work. This scale was also found to identify employees who try harder to do a good job, contribute to a team effort and are likely to be praised for doing an outstanding job.

Use of the Interpersonal Cooperation scale was found to predict employees who try harder to get along with fellow workers and are more likely to do the work assigned without getting angry or annoyed when told what to do. This scale also identified people who are less likely to argue with their supervisors.
Use of the Drug Avoidance scale was found to identify employees who are less likely to leave work early without permission or not to show up for work when scheduled. These employees took fewer sick days and were less likely to abuse alcohol or other drugs while at work.

The composite Productivity index was best able to predict employees who did not ignore work orders or were not involved in the use or sale of alcohol or drugs on the job. These employees suffered fewer injuries on the job and practiced better personal hygiene and grooming. Hence, a number of important areas of performances can be improved through the use of the EPI-3. The results of this predictive validity study provide further evidence that the EPI-3 is a valid and useful predictor of future on-the-job behavior.

**Concurrent Validity.** A final study by Rafilson (1987) used 247 male and female college students, employed part-time and full-time in various companies, as subjects. All subjects completed the EPI-3, as well as an anonymous questionnaire that assessed 45 different forms of counterproductive behaviors employees might possibly have engaged in while on the job. Hence, this is a concurrent (both the test and the criterion data were collected at the same time) criterion-related validation study.

The purpose of the analysis was to examine both the frequency and extent of the subjects' counterproductive behaviors in the workplace, and to examine correlations between the EPI-3 scales and the counterproductivity data from the anonymous questionnaire. All subjects scored in the acceptable range on the accuracy scale and were included in the analysis.

The anonymous questionnaire assessed admissions of counterproductivity in five areas: *Time Deviance*, (i.e., missed work because of physical illness, came to work late, left work early without permission, etc.), *Co-worker Relations*, (i.e., spread rumors or gossip which may have caused trouble at work; argued with customers, co-workers, or supervisors; etc.), *Drug Abuse* (i.e., came to work hungover from alcohol or drugs, etc.), *Merchandise/Property Damage* (damaged company merchandise, property, or equipment accidentally, but did not report it; etc.), and *Work Quality*, (i.e., did work badly or incorrectly on purpose, did slow or sloppy work on purpose, etc.).

Subjects' scores were computed as the average of the item responses for each of the 5 areas of counterproductivity. In addition, a “Total Counterproductivity Score” was computed for each subject by averaging the responses from all of the 45 items on the admissions questionnaire. Scores for all counterproductivity dimensions were coded so that a higher value represented more productive behavior and a lower value represented more counterproductive behavior. Positive correlations were expected because on all EPI-3 scales, higher scores are more favorable.
Table 4
Correlations of EPI-3 Scales with Counterproductivity Data

<table>
<thead>
<tr>
<th>EPI-3 Scales</th>
<th>Counterproductivity</th>
<th>Time Deviance</th>
<th>Co-worker Relations</th>
<th>Drug Abuse</th>
<th>Merchandise/Property Damage and Waste</th>
<th>Work Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependability</td>
<td>r = .450**</td>
<td>r = .419**</td>
<td>r = .307**</td>
<td>r = .409**</td>
<td>r = .311**</td>
<td>r = .378**</td>
</tr>
<tr>
<td>N = 225</td>
<td>N = 232</td>
<td>N = 236</td>
<td>N = 236</td>
<td>N = 233</td>
<td>N = 234</td>
<td></td>
</tr>
<tr>
<td>Interpersonal</td>
<td>r = .380**</td>
<td>r = .338**</td>
<td>r = .344**</td>
<td>r = .354**</td>
<td>r = .242**</td>
<td>r = .306**</td>
</tr>
<tr>
<td>Cooperation</td>
<td>N = 225</td>
<td>N = 232</td>
<td>N = 236</td>
<td>N = 233</td>
<td>N = 234</td>
<td></td>
</tr>
<tr>
<td>Drug Avoidance</td>
<td>r = .357**</td>
<td>r = .409**</td>
<td>r = .230**</td>
<td>r = .498**</td>
<td>r = .214**</td>
<td>r = .157*</td>
</tr>
<tr>
<td>N = 225</td>
<td>N = 232</td>
<td>N = 236</td>
<td>N = 236</td>
<td>N = 233</td>
<td>N = 234</td>
<td></td>
</tr>
<tr>
<td>Productivity Index</td>
<td>r = .414**</td>
<td>r = .426**</td>
<td>r = .308**</td>
<td>r = .486**</td>
<td>r = .271**</td>
<td>r = .248**</td>
</tr>
<tr>
<td>N = 225</td>
<td>N = 232</td>
<td>N = 236</td>
<td>N = 236</td>
<td>N = 234</td>
<td>N = 234</td>
<td></td>
</tr>
</tbody>
</table>

* p < .01
** p < .001
(Note: higher criteria scores mean less counterproductivity)
Subjects' admissions of counterproductive behavior were frequent. Fifty-six percent (N = 144) of the subjects admitted to using company supplies or equipment for personal use on a regular basis. Thirty-two percent (N = 81) admitted to having argued with customers, co-workers, or supervisors at least occasionally. Twenty-four percent (N = 59) admitted to engaging in drug use or alcohol consumption while on the job, and 14 percent (N = 35) admitted to having falsified a company document for personal gain. The subjects' Total Counterproductivity Scores indicated that 15 percent (N = 41) of the employees repeatedly engaged in some form of counterproductive behavior at work.

As can be seen in Table 4, all correlations with the counterproductivity data were significant in the predicted direction at the .01 level or beyond. As the EPI-3 test scores increased, the frequency of productive behaviors in the workplace also increased.

As can be seen in Table 5, multiple correlations of the EPI-3 Dependability, Drug Avoidance, and Interpersonal Cooperation scales with each of the counterproductivity dimensions were all highly significant at the .001 level. Significant correlations range from R = .317 (Merchandise/Property Damage) to R = .517 (Drug Abuse).

The results of the three aforementioned studies demonstrated significant relationships between EPI-3 scores and work behavior. Subjects who made fewer admissions of counterproductivity were more likely to have acceptable EPI-3 scores. Productive workers tend to: score higher on dependability, drug avoidance and interpersonal cooperation.

ADVERSE IMPACT

A large study was recently conducted to examine the EPI-3 pass/fail rates for protected sex and racial groups. For this analysis 4,065 applicants completed the EPI-3. The highest passing rate for a racial group (Whites) was compared to the passing rates of Blacks and Hispanics. In addition, male and female passing rates were compared. All passing rates were well within the four fifths rule established by the EEOC for employee selection (DeGroot, Fienberg, Kadane, 1986) (see Table 6). Thus, the EPI-3 does not exhibit adverse impact against any protected group.

UTILITY ANALYSIS

Although equations for determining the economic or dollar impact of a selection procedure have been available for many years, only recently have researchers developed practical methods for management
<table>
<thead>
<tr>
<th>EPI-3 Scales</th>
<th>Counterproductivity Score</th>
<th>Time Deviance</th>
<th>Co-worker Relations</th>
<th>Drug Abuse</th>
<th>Merchandise/Property Damage and Waste</th>
<th>Workmanship</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dependability</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interpersonal</td>
<td>R = .484*</td>
<td>R = .478*</td>
<td>R = .350*</td>
<td>R = .517*</td>
<td>R = .317*</td>
<td>R = .407*</td>
</tr>
<tr>
<td>Cooperation</td>
<td>F(3,238)</td>
<td>F(3,238)</td>
<td>F(3,243)</td>
<td>F(3,242)</td>
<td>F(3,240)</td>
<td>F(3,241)</td>
</tr>
<tr>
<td></td>
<td>= 23.5</td>
<td>= 23.5</td>
<td>= 11.3</td>
<td>= 29.4</td>
<td>= 8.9</td>
<td>= 18.0</td>
</tr>
<tr>
<td>Drug Avoidance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* p < .001
Table 6
EPI-3 Adverse Impact Analysis—Racial Analysis

<table>
<thead>
<tr>
<th>EPI-3</th>
<th>Recommended</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard</td>
<td>White</td>
</tr>
<tr>
<td>Composite Score</td>
<td>40</td>
<td>79%</td>
</tr>
</tbody>
</table>

EPI-3 Adverse Impact Analysis—Sex Analysis

<table>
<thead>
<tr>
<th>EPI-3</th>
<th>Recommended</th>
<th>Percent Passing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Standard</td>
<td>Male</td>
</tr>
<tr>
<td>Composite Score</td>
<td>40</td>
<td>77%</td>
</tr>
</tbody>
</table>

to use. These methods are thoroughly described in Schmidt, Hunter, McKenzie, and Muldrow, (1979); Hunter and Schmidt (1982 & 1983); and Schmidt and Rauschenberger, (1986). Utility analyses estimate the return on investment a company can expect from implementing a valid personnel selection program.

An illustrative utility analysis was computed using retail clerks as the targeted job. For this utility analysis, the following variables are needed: TV (validity of the selection procedure or test); NS (number of employees selected); SR (selection ratio of the procedure used); SDy (standard deviation of selected employees’ annual salaries); Zx (average standard score on the test of those selected); and, C (cost of selection for each employee). For the purpose of this analysis, the validity of the EPI-3 is computed as the average multiple correlation, weighted by sample size, of the EPI-3 predictor scales with work “productivity” data from studies two and three (R = .268, N = 155; R = .484, N = 238). This coefficient is calculated at .40.

For this example, assume that one hundred retail clerks will be selected with a .70 selection ratio. This ratio is quite common when using the EPI-3 for selection. The average salary of our retail clerk employees is 15,000 dollars and we will use a conservative estimate of 6,000 dollars (40% of annual salary) as the standard deviation of the employees’ annual salary for the equation (Hunter and Schmidt, 1983). The average standard score on the test of those selected can be estimated based on the selection ratio and the height of the normal curve at that proportion. The final variable, cost of administering the EPI-3, is estimated
at 12 dollars per test booklet, per applicant. The equations used for this analysis (based on Schmidt & Rauschenberger, 1986) are expressed below:

\[
UT = (TV*SDy*Zx) - C/SR = \$1,182.86 \\
TUT = (NS*TV*SDy*Zx) - NS(C/SR) = \$118,285.72
\]

Where UT is the gain in productivity in dollars from the use of the selection procedure per year per clerk and TUT is the total gain in productivity in dollars per year for all those selected.

The results of this analysis are quite compelling. In this example, retail clerks make an average of $15,000 per year in a company that hired 100 new clerks using the EPI-3 at an average cost of $12 per applicant. The gain in productivity due to the use of the EPI-3 as a selection procedure would be $1,182.86 per clerk per year and $118,285.72 per year for the total group of 100. These are indeed very impressive bottom line figures, and document the expected utility of the EPI-3. Of course, the expected financial gain would be much higher for larger retail corporations that screen tens of thousands of applicants annually!

CONCLUSION

The EPI-3 is a scientifically sound personnel selection instrument. It has useful levels of validity and utility. Moreover, it exhibits no adverse impact against protected groups.

The EPI-3 has several useful applications. This instrument is appropriate where theft is not a major concern for employers, yet improved productivity is. The EPI-3 can provide employers with invaluable information about their applicants that has been shown to be predictive of employee retention, work performance, and productivity in general.

Use of an instrument such as the EPI-3 raises several ethical issues. The role of personnel psychologists in our society is not to pass judgment on the character of an individual. That role belongs to the courts, the judges, and juries. Our duty as personnel specialists is to accurately assess job applicants' attitudes, and to determine, through research and scientific investigation, the degree to which those attitudes are predictive of successful performance in the workplace. This goal can only be achieved through rigorous efforts to determine the validity of the EPI-3 or any psychological inventory for its specific purpose. Fair administration of the instrument to applicants of all racial and sex groups, as well as the consistent application of uniform standards (cutoffs) to all individuals, is also of key importance. These goals can be consistently achieved through training of those who use the EPI-3. Users
need to be trained in test interpretation, handling of individual test results and confidentiality issues. Only through intensive efforts in these areas can we maintain our ethical code and our high standards for the practice of psychology in organizations.

REFERENCES

Commerce Clearing House, Paragraph 24175, Chapter 149, Section 19-B of the general laws of the State of Massachusetts.


