

Corrections Officer Trainee

**“If I had the wings of an
angel,
over these prison walls
I would fly.”**

Pennsylvania State Civil Service Commission

Steve Berkley (717) 787-5974 ext.3535

PA Department of Corrections

24 Institutions

35,000 Inmates

- Male 96%
- Female 4%
- White 33%
- Black 57%
- Hispanic 10%

PA Department of Corrections

- Staff of over 12,000
- Over 7,000 Officers
- 10,000 Beds since 1990
- 10,000 More Cells Soon
- 4,000 Applicants/Yr..
 - 700 Hires/Yr..

COT Appointments and Promotions 1/1/95 to 9/30/96 (N=779*)

- Male 90%
- Female 10%
- White 93%
- Black 5%
- Hispanic 1%
- **20% of civil service appointments**

The Screening Process

Civil Service Examination

Candidates Interviewed by DOC

Following a Conditional Offer of
Employment

- Medical Examination
- Urinalysis Screening for Drugs
- Physical Fitness Tests
- Psychological Evaluation
- Background Investigation

COT Examination

WRITTEN TEST

- Observation
- Following Oral Instructions
- Understanding Rules & Regulations
- Following Written Instructions

WRITING EXERCISE

- Accuracy & Completeness
- Clarity of Expression

ORAL EXAM

- Oral Communication
- Judgment & Problem-Solving
- Poise & Self-Confidence

Annual COT Testing Costs*

| | |
|--------------------|-------------------|
| • Written Test | \$ 80,000 |
| • Writing Exercise | \$ 38,000 |
| • Oral Exam | \$ <u>453,000</u> |
| – TOTAL | \$ 571,000 |

Cost per hire (N=700) = \$800

**Does not include other components
of the assessment process.*

Intercorrelation of Tests

| <u><i>Test Part</i></u> | <u><i>Oral</i></u> | <u><i>Written</i></u> |
|-------------------------|--------------------|-----------------------|
| Writing Exercise | .27 | .50 |
| Written Test | .36 | |

Corrections Officer Trainee Test Score Differences by Race

| <u>Test Part</u> | <u>Score Differences</u> | | <u>Mean</u> |
|------------------|--------------------------|-----------------|-----------------|
| | <u>Points</u> | <u>SD Units</u> | <u>Diff.</u> |
| | | | <u>Sig. .05</u> |
| Written Test | -3.00 | -0.34* | Yes |
| Writing Ex. | -0.75 | -0.20 | No |
| Oral Test | +0.98 | +0.18 | No |

*smallest differences on video based test parts (-0.09 to -0.24)

COT Test Validation Study

The Sample

506 COTs hired 1/25/93 to 4/18/94

White - 93%

Black - 7%

Male - 92%

Female - 8%

Veterans - 87%

Non-Vets - 13%

High School

**Education or more -
98%**

College Degree 7%

Age 20-29 - 57%

30-39 - 25%

40-49 - 15%

over 50 - 3%

The Criteria

- *COT Survey Form Ratings*

Sum of perf. ratings by one Training Lt. and two Training Sgts.

- *Academy Tests*

Sum of four tests

- *Academy & Job Performance*

Academy tests weighted 1/3

Job Perf. ratings weighted 2/3

COT Survey Form Factors

- *Understands & Follows Oral Instructions*
- *Oral Communication Skills*
- *Understands & Follows Written Rules, Regulations, and Instructions*
- *Observation Skills*
- *Writing Skills*

COT Survey Form Factors Cont.

- *Judgment & Problem-Solving*
- *Security Techniques*
- *Poise & Self-Confidence*
- *Reliability*
- *Overall*
- *Total Score (sum of 10 factors above)*

Correlation of FER with Criteria

| <u><i>Criteria</i></u> | <u><i>Uncorr. Correlation</i></u> | <u><i>Corrected Correlation</i></u> |
|------------------------------------|---------------------------------------|---|
| <i>Academy Perf.</i> | .36 | .65 |
| <i>Job Perf.</i> | .29 | .57 |
| <i>Academy & Job Perf.</i> | .39 | .69 |

Validity Coefficients

Academy & Job Performance

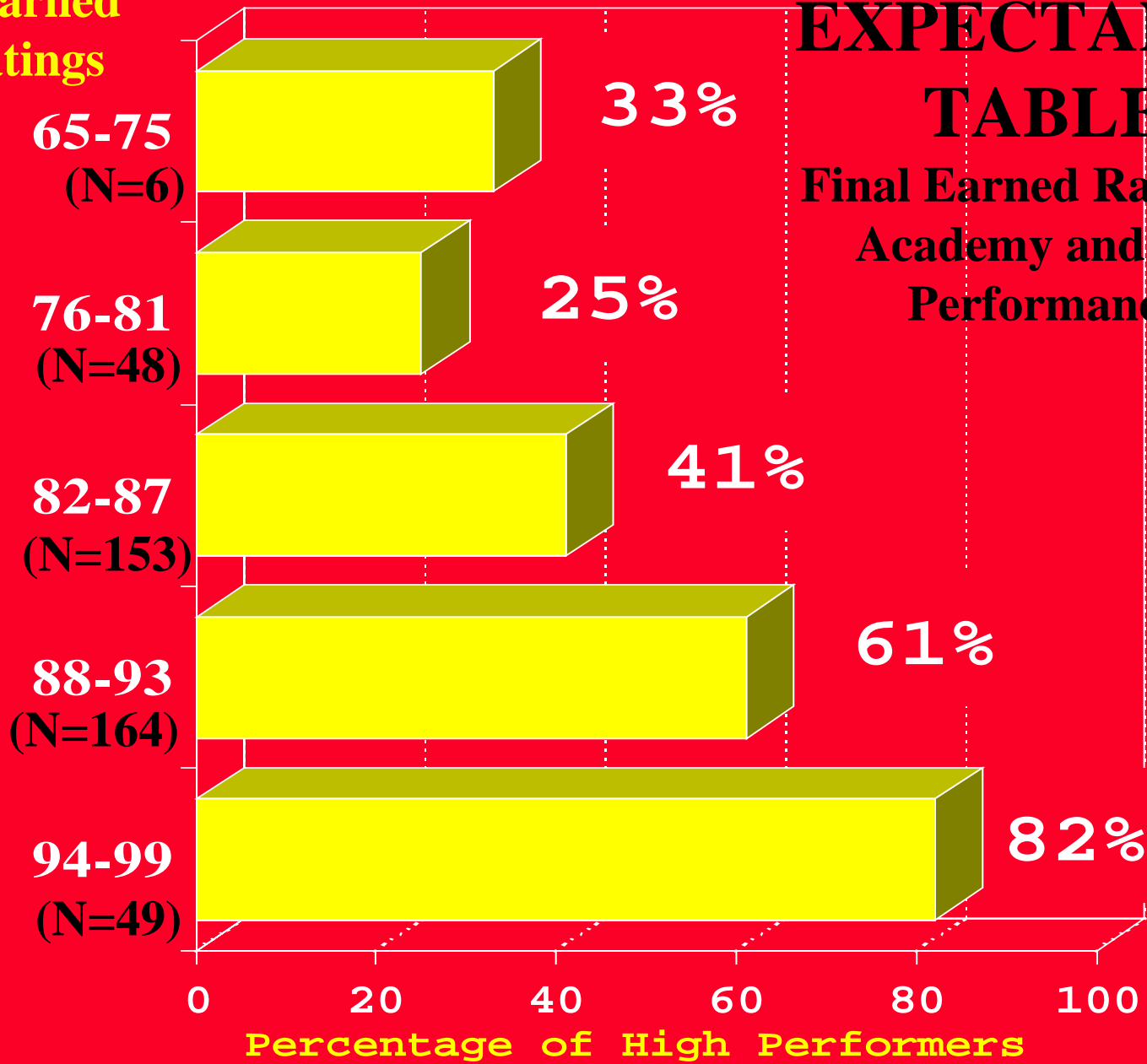
| <i>Predictor</i> | <i>Uncorrected</i> | <i>Corrected*</i> |
|-------------------------|--------------------|-------------------|
| <i>Written Test</i> | <i>.39</i> | <i>.64</i> |
| <i>Oral Exam</i> | <i>.18</i> | <i>.27</i> |
| <i>Writing Exercise</i> | <i>.23</i> | <i>.38</i> |
| <i>FER</i> | <i>.39</i> | <i>.69</i> |

**Corrected for predictor range restriction*

Final Earned Ratings

EXPECTANCY TABLE

Final Earned Rating & Academy and Job Performance



Multiple Regression

Dependent Variable = Academy & Job Performance

Equation

| <u>Step</u> | <u>Beta Weights</u> | <u>Multiple R</u> |
|-------------|--|-------------------|
| 1 | Written | .39 |
| 2 | Written (.38) Oral (.15) | .42 |
| 3 | Written (.34) Oral (.15) Writ. Ex. (.14) | .44 |

Validity Coefficients

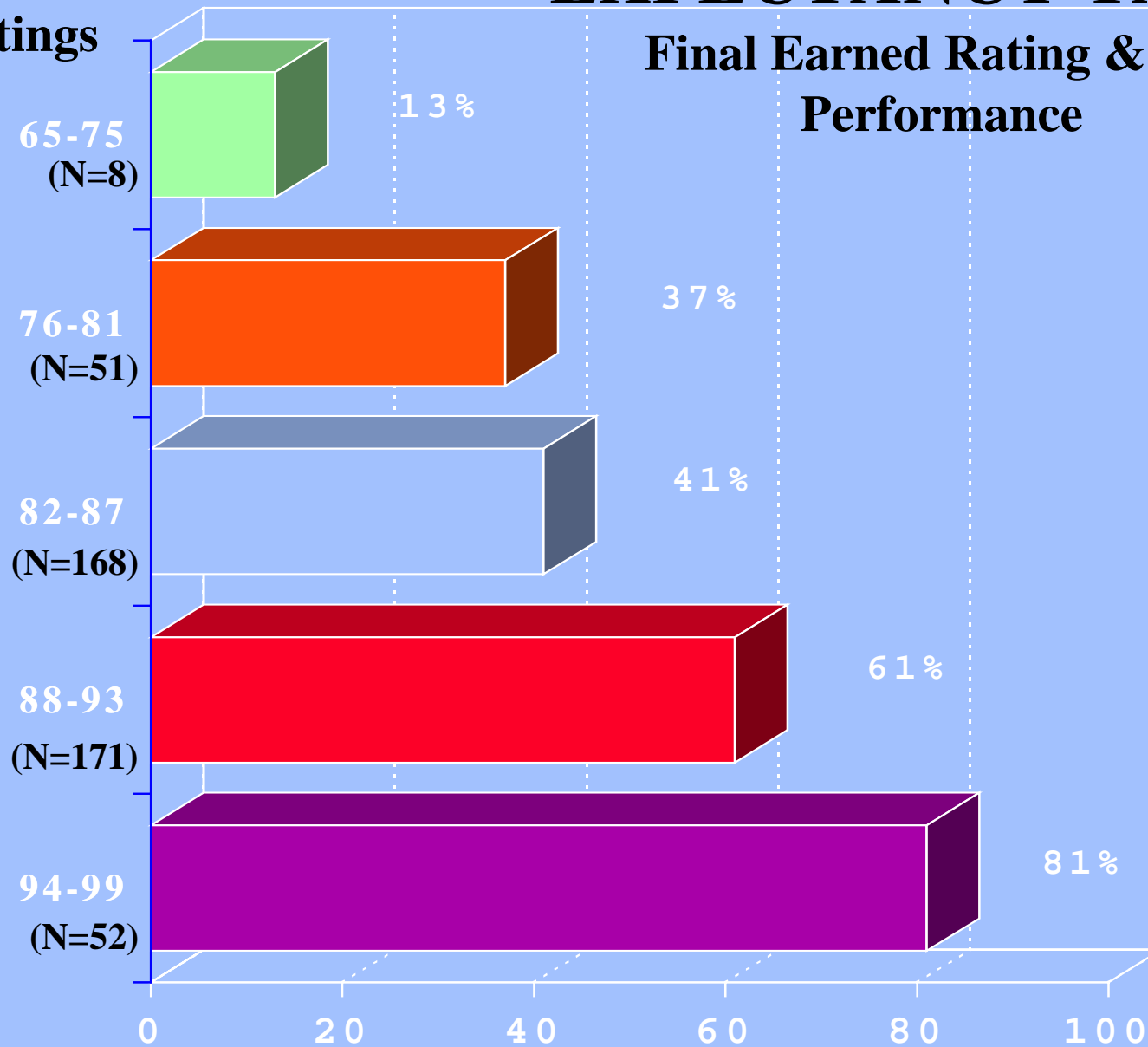
Job Performance

| <i>Predictor</i> | <i>Uncorrected</i> | <i>Corrected</i> |
|-------------------------|--------------------|------------------|
| <i>Written Test</i> | <i>.24</i> | <i>.43</i> |
| <i>Oral Exam</i> | <i>.17</i> | <i>.25</i> |
| <i>Writing Exercise</i> | <i>.17</i> | <i>.28</i> |
| <i>FER</i> | <i>.29</i> | <i>.57</i> |

Final Earned Ratings

EXPECTANCY TABLE

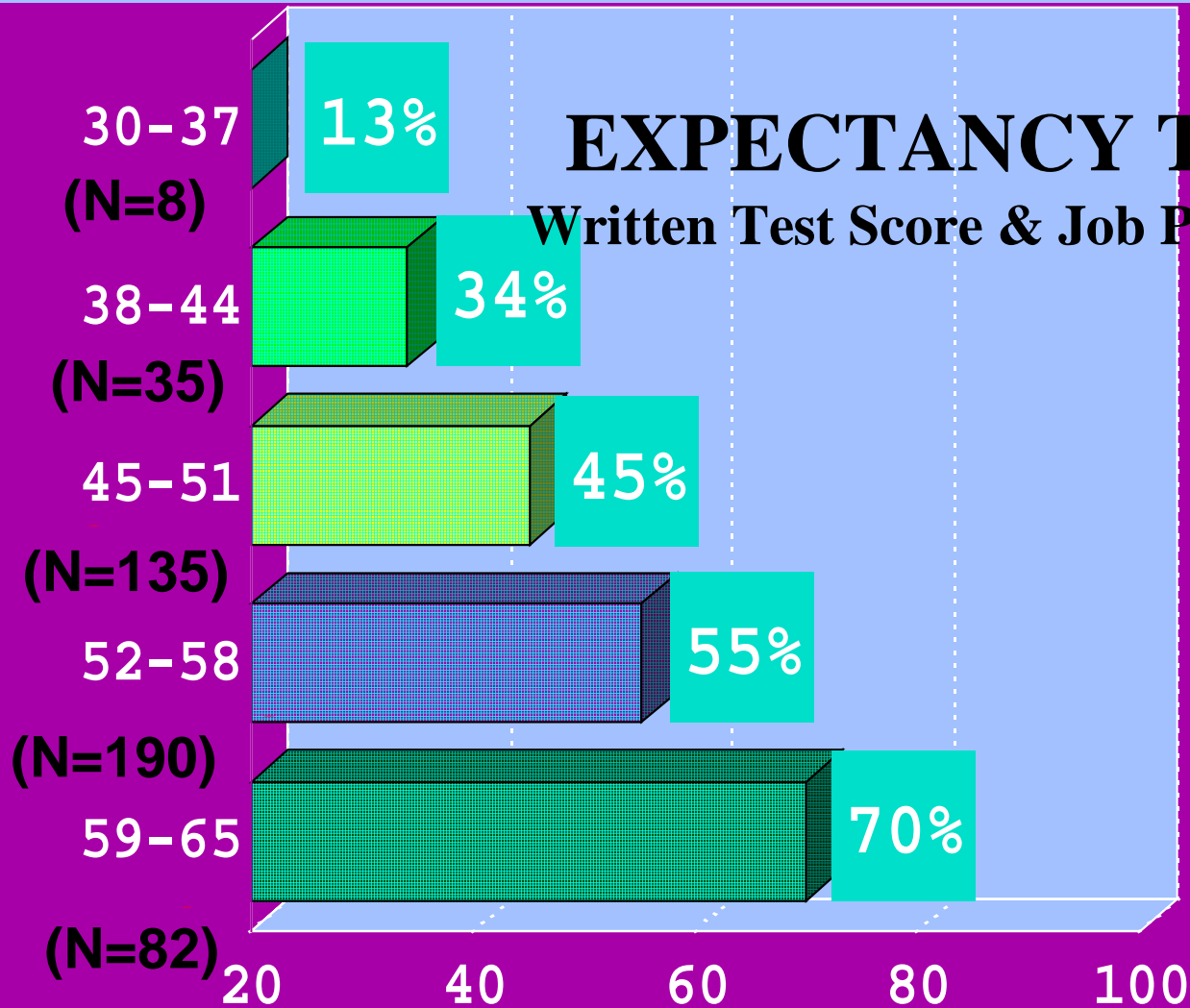
Final Earned Rating & Job Performance



Percentage of High Performers

EXPECTANCY TABLE

Written Test Score & Job Performance



Percentage of High Performers

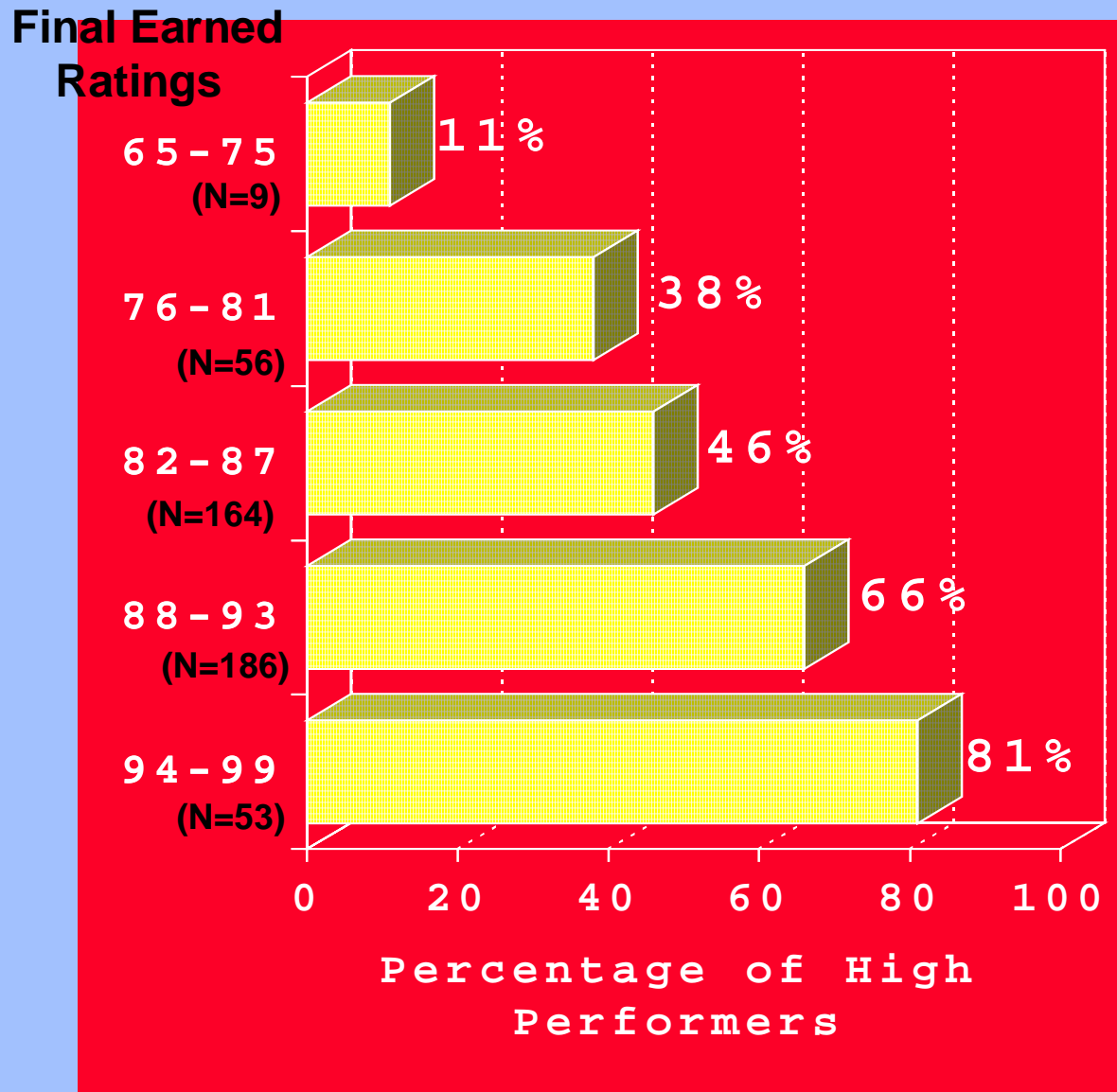
Validity Coefficients Academy Performance

| Predictor | Uncorrected | Corrected* |
|------------------|-------------|------------|
| Written Test | <i>.48</i> | <i>.72</i> |
| Oral Exam | <i>.08</i> | <i>.12</i> |
| Writing Exercise | <i>.18</i> | <i>.30</i> |
| FER | <i>.36</i> | <i>.65</i> |

*Corrected for predictor range restriction

EXPECTANCY TABLE

Final Earned Rating & Academy Performance



Correlation of Oral Exam Factors & Job Perf. Factors

| Oral Exam Factors | Oral Comm. | Judgement & Problem- Solving | Poise & Self- Confidence |
|----------------------|---------------|------------------------------------|-----------------------------|
| Oral Comm. | .17 | - - - | - - - |
| Judg. & Prob. S. | - - - | .04* | - - - |
| Poise & Self-Con. | - - - | - - - | .07* |

**Not Significant at .05 level*

Correlation of Writing Exercise

Factors & Job Perf. Factors

*Writing
Exercise*

Job Perf. Factors

Factors

Observ.

Writing

| | | |
|--|--------------|-------------|
| Accuracy & Completeness | .10 | .08* |
| Clarity of Expression | - - - | .16 |
| Writing Total | - - - | .14 |

Not Significant at .05 Level

Recommendations

1. Jettison the oral exam
2. Assess judgment and problem-solving with video scenarios
3. Retain the written test and writing exercise
4. Explore holistic scoring of writing exercise and raise the passing point or use P/F scoring
5. Change test weights
6. Hire from top of list

Impact of Test Parts by Race

FER = 90 and Above (1/3/of Passers)

Applicants 7/15/94 to 7/15/96 (N=7,171)

Passers (N=4,231)

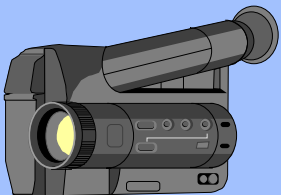
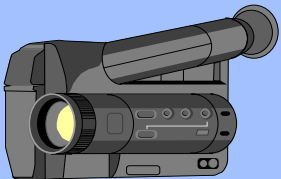
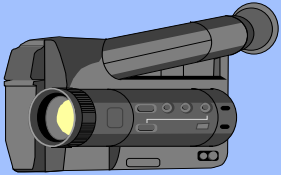
| | <u>Written/ Wr.Ex./Oral</u> | <u>Written/ Wr. Ex.</u> | <u>Written</u> |
|----------|---------------------------------|-----------------------------|----------------|
| Black | 51 | 53 | 52 |
| Hispanic | 14 | 15 | 15 |
| White | 1,342 | 1,405 | 1,400 |
| Other | 8 | 4 | 6 |

2 Recent References

- Chan, David and Schmitt, Neal. 1997.
Journal of Applied Psychology, 82 (1): 143-159. *Video-Based Versus Paper & Pencil Method of Assessment in Situational Tests: Subgroup Differences in Test Performance and Face Validity Perceptions*
- Weekly, Jeff and Jones, Casey. 1997.
Personnel Psychology, 50. *Video-Based Situational Testing*

1997 COT Exam

All Written Multiple-Choice Items



- Observation
- Following Oral Instructions
- Understanding Rules & Regs.
- Following Written Instructions
- Clarity of Expression
- Judgment & Problem-Solving

Judgment Scenarios

- Sour Milk / Hair on Cake
 - Extra Pork Chop
 - Missing Keys
 - Drunk Worker
 - Suicide Threat
- Golfing While Sick
 - Blade Threat
- Fighting Visitors

May prisoners become angels, not
flyers. Don't drink spoiled milk.
And, don't cross Tyrah.

The End

**CORRECTIONS OFFICER TRAINEE
CRITERION-RELATED VALIDATION STUDY
EXECUTIVE SUMMARY
January 31, 1996**

I. Background and Description

The Pennsylvania State Civil Service Commission (SCSC), with the cooperation of the Pennsylvania Department of Corrections (DOC), developed a video-based Corrections Officer Trainee (COT) entrance examination in the early 1990s. The examination consists of a written test and writing exercise, both video-based, and an oral examination. Since its initial use in the Fall of 1992, this examination has been administered to approximately 15,000 candidates.

A criterion-related, predictive test validation study was completed in January, 1996. In addition to this 1996 validation study, the SCSC has prepared other reports relating to the COT assessment and selection process. These include: Validation Report (Berkley 1984), Job Analysis Report (Bagshaw 1991), Analysis of Examination Data (Sproule 1993), Examination Development Report (Bagshaw 1993), Adverse Impact Report (Berkley and Nelson 1995), Analysis of Alternate Test Forms (Schneider 1995), Supplemental Report on Writing Skills Assessment (Schneider 1995), and Pre-Employment Psychological Screening (Berkley 1995).

II. Validation Strategy

The COT job analysis and test development process underlie the validity of the COT examination. However, in order to ascertain the practical utility of the examination, test scores were compared to measures of job success. The question to be answered was: Do those job candidates who score high on the examination perform better on the job than low-scoring candidates?

III. Validation Study Subjects

The participants in the validation study were the first 506 COTs hired as a result of taking the video-based examination. These COTs were hired between January 25, 1993 and April 18, 1994.

The demographic breakdown of the validation subjects is:

- 91% White, 7% Black, 2% Other
- 92% male, 8% female
- 87% veterans, 13% non-veteran
- 34% education beyond high school, 7% four or more years of college

- 57% age 20 to 29, 25% age 30 to 39, 18% age 40 or older
- 61% were hired at correctional institutions which began operation during or after 1992.

The study subjects reflected the demographics of the candidate pool fairly well with the following two exceptions. Most candidates (71%) are non-veterans; whereas, few COTs in the validation sample (13%) are non-veterans. The second exception is that the percentage of candidates who are females (16%) is higher than the percentage of female COTs in the validation sample (8%).

IV. Measures of Job Success

The two measures of job success used for this study were Academy test scores and job performance ratings. These two measures were not highly correlated.

The Academy test scores used in this study were from four tests. One test is administered after each week of training. These four scores were summed for each COT. The Academy tests were fairly easy, as evidenced by the fact that the average COT correctly answered 46 of 50 questions on each test.

The performance ratings were collected on an evaluation form designed specifically for use in evaluating the job performance of COTs participating in the validation study. The form contains ten rating factors, most of which mirrored factors assessed by the examination. To the extent possible, each COT was evaluated by two Training Sergeants and one Training Lieutenant. Most evaluations were completed after the COTs completed Phase III of on-the-job training. Thus, most of the validation study subjects had been COTs for ten or more months before being evaluated. The level of agreement between Sergeants and Lieutenants on ratings was not as high as expected. However, we believe three ratings combined result in an accurate account of each COT's job proficiency.

V. Analysis of Test Data

Some of the COTs in the validation study had very low scores on one or more parts of the examination. These COTs were hired either because of DOC hiring practices or because they received higher scores on other test parts. Generally, these COTs were likely to be poor performers on the job.

Each of the four written subtests ("Observation Skills," "Following Oral Instructions," "Understanding Rules and Regulations," and "Following Written Instructions") was roughly equal in difficulty and each is measuring a different skill or ability, as intended.

Both writing exercise factors ("Accuracy and Completeness" and "Clarity of Expression") appear to be assessing the same factor. Correlations between these two factors and total score on the writing exercise were .93 and .84, respectively.

The three oral examination factors ("Oral Communication Skills," "Judgement and Problem-Solving," and "Poise and Self-Confidence") appear to be assessing a single factor as the ratings were highly correlated.

The three test parts (written test, writing exercise, and oral examination) do not correlate highly with one another, indicating the test parts are assessing different skills, abilities, and personal characteristics, as intended.

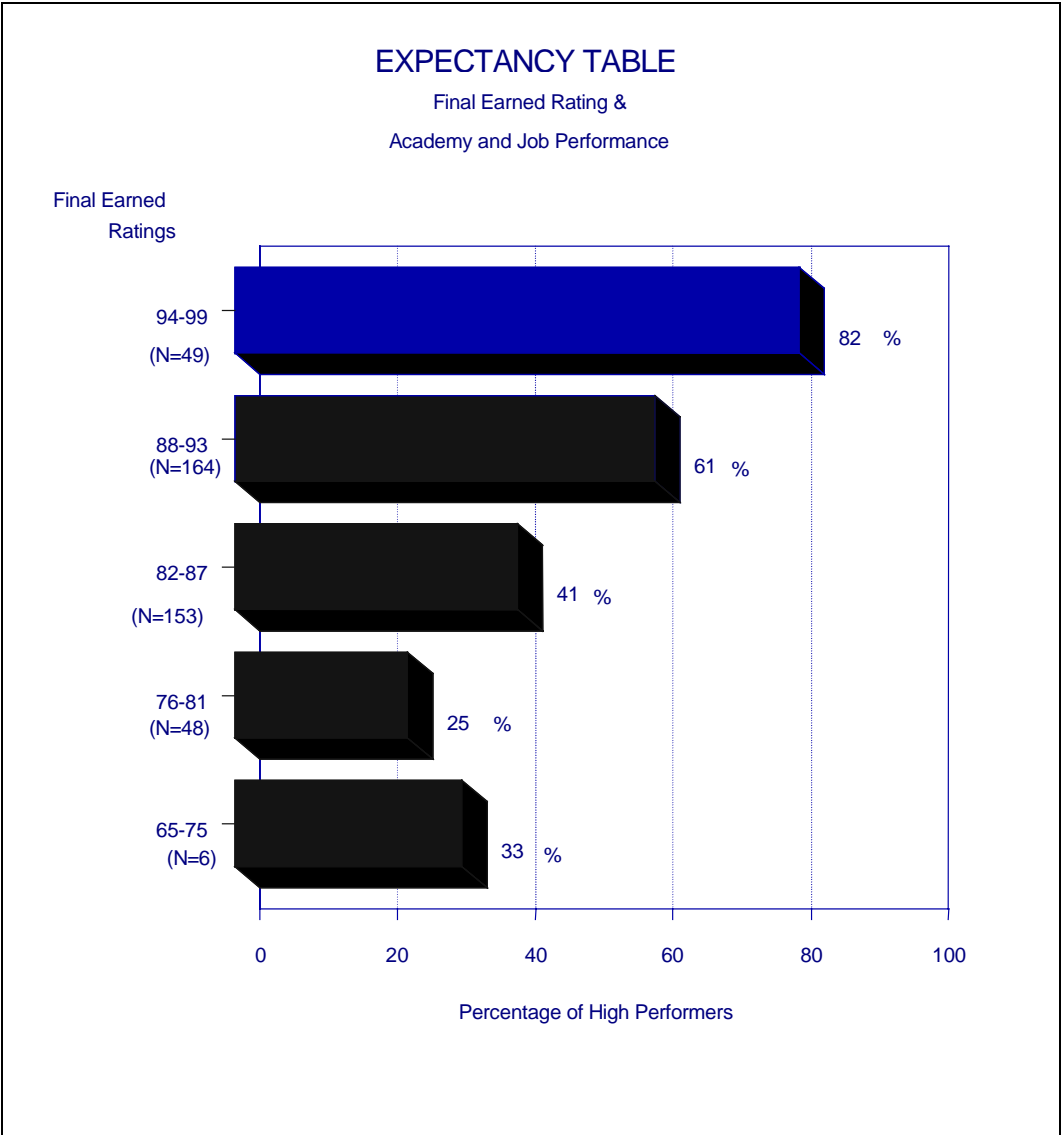
VI. Validity Analysis

The final examination scores (final earned ratings) of candidates were significantly correlated with Academy performance (.36), job performance (.29) and Academy and job performance combined (.39). When the two criteria were combined to form "Academy and job performance," Academy performance was weighted one-third and job performance was weighted two-thirds. This reflects the authors' opinion of the relative importance of these measures of job success.

The validity coefficients were corrected for range restriction because the test scores of COTs (hired candidates) are much more tightly bunched than the scores of all candidates. The corrected validity coefficients between final examination scores and the criteria were: Academy performance (.65), job performance (.57), and Academy and job performance (.69).

Multiple regression analysis showed that Academy and job performance is best predicted by weighing the written test 52%, the oral examination 23%, and the writing exercise 25%. These percentages differ from the existing weights - written test 45%, oral examination 45%, and writing exercise 10%. With a two-part examination consisting only of a written test and writing exercise the ideal weights are written test 70% and writing exercise 30%.

The following expectancy table shows graphically the percentage of COTs in each final earned rating score range who were the better performers (approximately the top 50%) at the Academy and on the job.

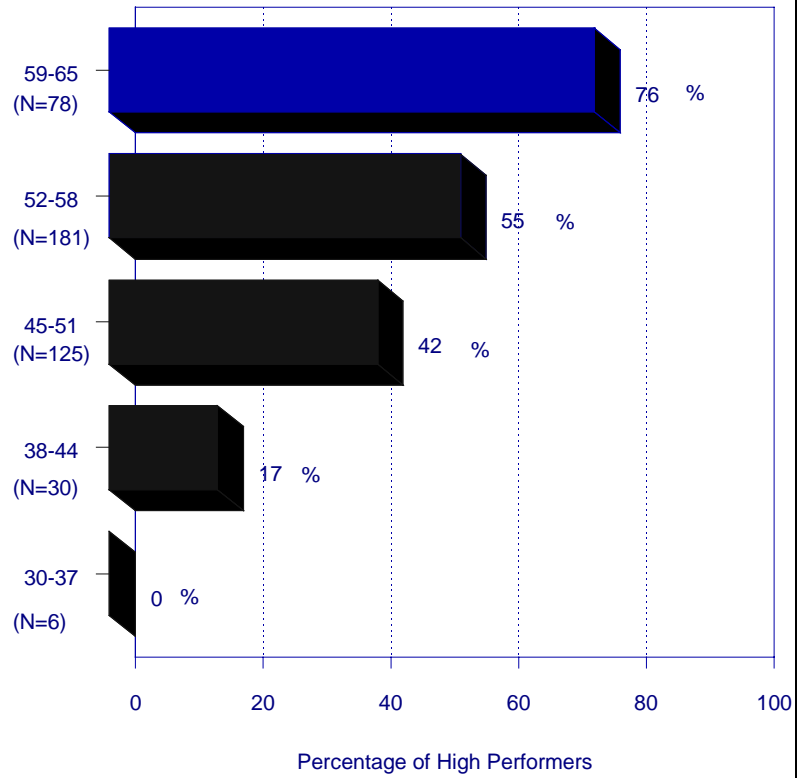


The following three expectancy tables indicate the relationship between each of the three test parts and Academy and job performance combined.

EXPECTANCY TABLE

Written Test Score &
Academy and Job Performance

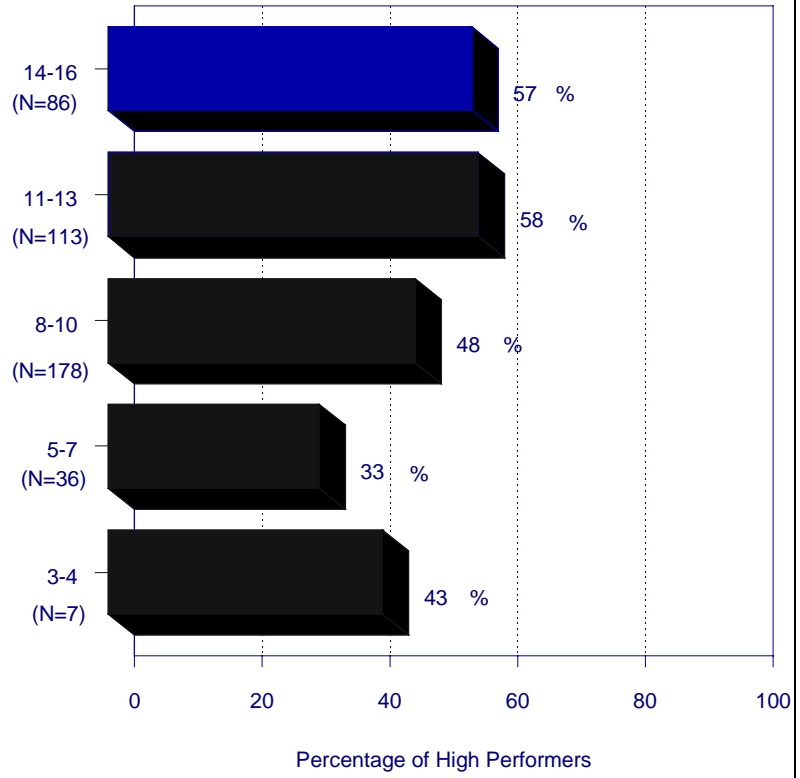
Test Scores



EXPECTANCY TABLE

Writing Exercise Score &
Academy and Job Performance

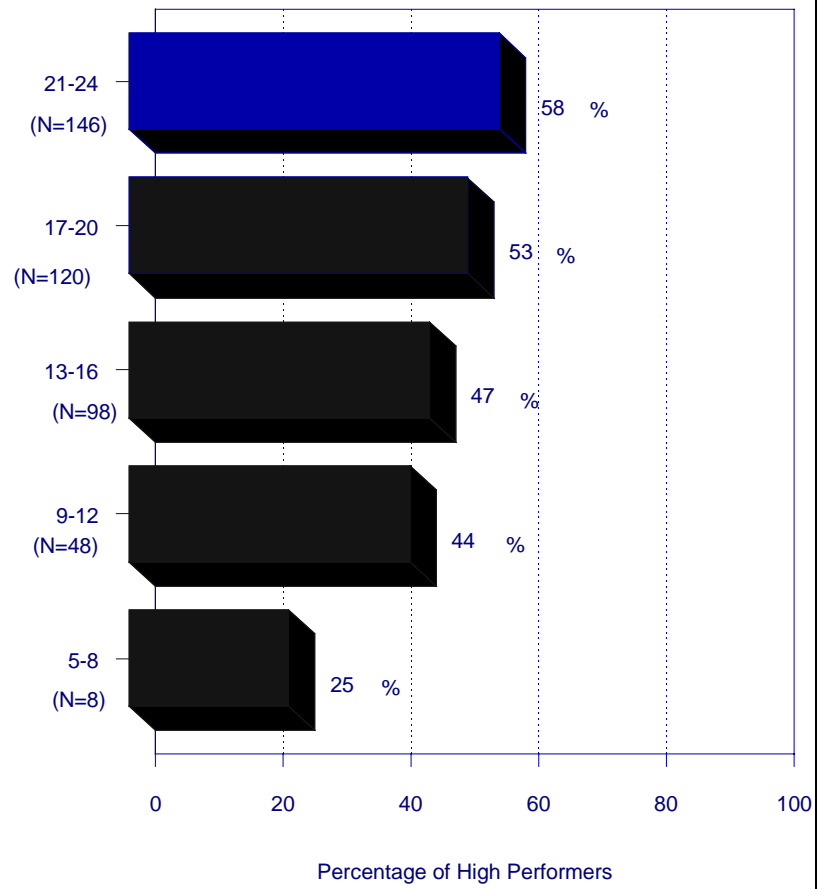
Test Scores



EXPECTANCY TABLE

Oral Examination Score &
Academy and Job Performance

Test Scores



The written test scores were, by far, the best predictor of Academy performance, job performance, and Academy and job performance combined (.64 after correcting for range restriction). The writing exercise predicted Academy and job performance (.38 corrected) better than the oral examination (.27 corrected) predicted Academy and job performance.

The written subtest scores and factor scores on the oral examination and writing exercise were not particularly good predictors of ratings on similar aspects of job performance. For example, when "Judgement and Problem-Solving" factor scores from the oral examination were compared to ratings of judgement and problem-solving on the job, there was no significant relationship.

VII. Sub-Group Analysis

The validation sample did not include enough females and minorities for an analysis of test fairness by sex or race. However, group differences by veterans' status, education, and age were examined. There were significant differences by age in Academy and job performance; COTs age 30 or older outperformed younger COTs. Candidates with more than 12 years of education outscored candidates with less education on all test parts. Candidates age 29 or younger outperformed older candidates on the written test only.

Of the 506 COTs in the study, 18 (4%) were dismissed and 34 (7%) resigned, for a turnover rate of 11%. The only statistically significant difference between candidates who were dismissed and those who remained employed was that dismissed employees, as expected, had lower levels of Academy and job performance. They did not, however, exhibit significant differences in test performance. COTs who resigned did not differ significantly in either test or job performance from those who remained employed.

VIII. Recommendations

The authors of the study made the following recommendations:

Serious consideration should be given to discontinuing use of the oral examination. The pros and cons of retaining or eliminating the oral examination should be discussed within the SCSC and with the DOC. Deliberations should factor in findings from sources which supplement this report, namely the "Analysis of Examination Data" report, the Adverse Impact report, the Job Analysis report, and the Examination Development report. The costs, benefits, and incremental value of the oral examination should be considered.

If the oral examination is discontinued, the selection interviews conducted at correctional facilities should be used to identify candidates with deficient communication skills or insufficient poise and self-confidence.

If the oral examination is retained, the passing point should be raised. This could be accomplished by redefining the "not presently suitable" anchors on the factor rating scales.

The passing point on the written test should be raised. The written test should possibly include a video-based judgement subtest, if the oral examination is discontinued.

The SCSC should explore scoring the writing exercise holistically, rather than on two separate factors. During the examination, candidates should, perhaps, prepare two written reports based on two video-taped incidents in order to increase the reliability and validity of measurement. The possibility of scoring the writing exercise on a pass/fail basis should also be considered.

The weights of the test parts should be changed to reflect the ideal weights indicated by multiple regression analysis.

The DOC should be encouraged to avoid appointing COT candidates with low final examination scores.

Follow-up research, several years from now, should examine the usefulness of the COT examination in predicting career advancement. Also, if the COT examination is changed substantively, the effectiveness of the changes should be evaluated.

The findings and recommendations of the 1996 validation study should be discussed within the SCSC and with the DOC and the American Federation of State, County, and Municipal Employees.