

CPI-434[®]

Police And Public Safety Selection Report[™] Technical Manual

Second Edition

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Preface to the Second Edition

The first version of the CPI Police and Public Safety Selection Report was released in 1995, and in the twenty plus years since then it has become the most widely used measure of normal personality functioning for police candidate pre-employment assessment (Corey, 2016). This second edition of the Technical Manual documents new and improved features added to the CPI-434 Police and Public Safety Selection Report, Version 2.0 released in 2018.

Version 2.0 of our selection report introduces several new features and a choice of different ways to profile applicant testing results but maintains the same underlying data and special normative samples of the original report. These new features include percentiles that are calculated for each special norm group as well as new profile options that will be familiar to users of the MMPI-2-RF test report. We believe the additional data provided in Version 2.0 of the report and the new profile options will improve the accuracy of the psychological evaluation and give the psychologist additional flexibility in how they choose to use testing data in their formulation of a job suitability determination.

Background

Introduction

The CPI-434 Police and Public Safety Selection Report is a specialized report designed to be used by licensed psychologists in conducting psychological evaluations of applicants for police and other public safety positions. The CPI-434 Police and Public Safety Selection Report is based on the 434-item version of the California Psychological Inventory, which was first published in 1995 (Consulting Psychologists Press, 1996). This special report, which is based on a normative sample of more than 50,000 public safety job applicants, supplements the basic CPI instrument and its interpretive lore with a number of innovative features designed to improve the accuracy and fairness of employment screening decisions in the public safety field. These features include the following:

- Risk statements that estimate the likelihood that the applicant will have a pre-hire history of problems in specific selection relevant areas.
- Risk statements that estimate the likelihood – based on the applicant’s CPI results – that when all selection data is considered the applicant will be rated as poorly suited for the position by an evaluating psychologist.
- Risk statement that estimates the likelihood that the applicant will be “involuntarily departed” after being hired.
 - For all risk statements both the probability value, or estimated likelihood of the applicant demonstrating the problem, is presented as well as the percentile of that score occurring when compared to the scores of other job applicants. This helps the psychologist use the prediction equations as an index of the degree to which a particular applicant is an outlier when compared to other applicants.
- CPI scale profiles based on norms for six different public safety job incumbent categories, which allow the applicant’s test scores to be compared to those of applicants who were subsequently hired and successfully held the job that the applicant is applying for.
- CPI scale profiles based on norms for public safety job applicants, which allow the applicant’s test scores to be compared to those of applicants who were evaluated for the same position that the applicant is applying for.
- Multiple profile viewing options. All scale profiles, whether comparing the applicant to incumbent or applicant norms, are available in one of two options. The data depicted in each option are identical but the look and feel of the two options are different. This new feature allows the psychologist the choice of how the applicant’s data is presented.
 - The first option uses the special norm group to compute a T score for the applicant that indicates how many standard deviation units they fall from the mean of the relevant job comparison group. The second option highlights departures from the comparison group mean by displaying shaded bar overlays on the standard community norm profile representing the mean of the comparison group and plus or minus one standard deviation.

- Percentile information indicating where the applicant falls, on a percentage basis, along the distribution of scores in the comparison group. This data permits the screening psychologist to instantly identify applicants who are “outliers” when compared to the comparison group.
- A list of individual “selection-relevant” CPI items endorsed by the applicant, indicating responses identified by a panel of expert psychologists, and by a research study on officer performance, that may be indicators of possible job performance problems.
- A summary list of CPI scales for which the applicant’s scores are favorable or unfavorable indicators of the applicant’s likely performance on specific job functions or job problem areas that were identified by a research study on officer performance and that may be indicators of possible job performance problems

This manual presents information for both the novice and experienced employment selection psychologist in the proper use of this special report, including a detailed description of each of the special features listed above.

Professional Issues

Before choosing a psychological test to use as an aid in conducting pre-employment screening, a psychologist should investigate and understand the theoretical orientation of the test, the job functions expected of the applicant as they may be reflected in test results, the appropriateness of the standardization sample for the population to be screened, and the adequacy of the test’s reliability and validity. This test manual is intended to provide a detailed explanation of how the CPI-434 Police and Public Safety Selection Report addresses important professional issues confronting the selection psychologist.

To assist psychologists in the selection of an appropriate test for a specific assessment goal, the Handbook of Psychological Assessment (Groth-Marnat, 1997) identifies three major questions that should be answered about the norms used by any test chosen for psychological assessment: (1) Is the standardization group representative of the population on which the examiner would like to use the test? (2) Is the standardization group large enough? and (3) Does the test have specialized subgroup norms to give the examiner greater flexibility and confidence if they are using the test with similar subgroup populations?

The CPI selection report described in this manual responds directly to these important questions. The report is based on norms derived from the pre-employment test data of thousands of previous applicants for public safety positions, who were subsequently hired and performed satisfactorily as job incumbents. This job incumbent data set is large enough that it has been used to create statistically reliable test norms for individual public safety job categories. These test norms allow the report to create a “job incumbent comparison profile” for each new job applicant, tailored to the job category applied for, which compares the applicant’s test data to the test data of similar applicants who subsequently became successful job incumbents. (Tables presented later in this manual describe the size and CPI scale characteristics of the samples used to create the job incumbent norms that are used in the report.)

Another professional issue that has long been debated by assessment psychologists is the relative merit of clinical versus actuarial prediction. While defending the value of the clinical approach to integrating data and arriving at assessment decisions, Groth-Marnat (1997) states emphatically that “. . . formal prediction rules can and should be used more extensively as a resource to improve the accuracy of clinical decision making.” Consistent with this recommendation, the CPI-434 Police & Public Safety Report contains a series of risk statements about the applicant’s likelihood of being rated as “poorly suited” for the job being applied to, by psychologists with expertise in public safety selection; and the applicant’s likelihood of exhibiting negative behaviors that are relevant to the job (such as inadequate anger management

skills or poor job performance). These risk statements are generated from prediction equations that have been calibrated and cross-validated on large samples of previous applicants.

In summary, this selection report based on the CPI has been designed to address many of the practical, legal and ethical issues confronted by psychologists conducting pre-employment evaluations of applicants to public safety positions, including police officer, firefighter/EMT, corrections officer, communications/dispatcher and juvenile probation counselor.

Caveats

The CPI-434 Police and Public Safety Selection Report is sold only to qualified professionals. Interpretation of the report requires familiarity with the CPI and an understanding of the information contained in this manual. The usefulness and validity of the CPI-434 Police and Public Safety Selection Report is directly related to the knowledge and experience of the qualified professional who interprets this report. This report is not a replacement for professional knowledge and expertise.

Administration and scoring of the CPI-434 Police and Public Safety Selection Report scoring software is straightforward and can be accomplished by personnel other than psychologists who have been trained in the administration of self-report measures to individuals and groups. In all cases, test administrators should be working under the supervision of a qualified professional, as defined in the *Standards for Educational and Psychological Testing* (American Educational Research Association, American Psychological Association, & National Council on Measurement in Education, 1999).

This special CPI-based screening report is a key element in the screening process for public safety officers. It is intended to serve as a professional-to-professional consultation, and should aid in the formulation of a selection decision. Hypotheses generated from this report should be compared to other test data, a thorough review of the applicant's personal and occupational history, and a structured interview that focuses on job-relevant behaviors. It is inappropriate to make screening decisions based solely on the results of this report.

An Overview of the California Psychological Inventory

Harrison Gough published the first scales of what was to become the California Psychological Inventory (CPI) in 1948. Over the next few years, he and his colleagues derived additional scales, and, in 1956, Consulting Psychologist's Press (CPP) published the 18-scale CPI Form 480. It featured 18 folk scales derived from the 480-item set, following a very thorough construct-validation research program. Since then, the two fundamental aims of the inventory have been to (1) describe how ordinary people will be perceived by one another, and (2) predict how people will behave in a variety of social contexts.

The CPI rapidly became a valuable tool in a number of broadly different settings, such as business and organizational development, counseling, and employment selection, including law enforcement selection. Descriptively robust scales that are anchored in normal-range human behavior have made the CPI attractive to psychologists in industrial and organizational psychology settings (employment selection), as well as to practitioners in clinical settings (treatment and diagnosis). The CPI's relatively non-intrusive and inoffensive content seems to invite people to describe themselves accurately whether they respond to the CPI in a counseling or an employment selection setting.

Unlike the MMPI, the CPI was normed, validated, and intended for use in non-medical settings. It was added to law enforcement screening batteries as early as 1972 by the senior author because it was seen as the instrument of choice for describing the normal-range personality characteristics that play such an important role in how an applicant is likely to perform the essential job functions of the police officer position. Over the last 30 years, psychologists

working in the law enforcement field have come to rely on the CPI as the test of choice for dealing with the suitability portion of their assessment work.

In 1987, the 480-item version of the CPI was revised to yield the CPI form 462. Gough added two more folk scales (Independence and Empathy) to this version of the instrument. He also added three structural or “vector” scales (v1, v2, and v3), which are used to produce the now familiar CPI Type (Alpha, Beta, Gamma, and Delta) and Level (1-7) classifications that have become so useful for providing a descriptive overview of the test taker’s interpersonal functioning. Type and Level distinctions among police and other public safety applicants have proven to be particularly useful to screening psychologists because of the direct overlap between the test characterizations, applicant self-reported negative behavior, and job performance requirements.

The CPI-434 revision, created in 1995, was undertaken in recognition of the fact that a high percentage of CPI users work in employment selection environments, and that legislation and litigation presented significant obstacles to the use of conventional psychological tests for employee selection. This legislation and litigation included Title VII of the 1964 Civil Rights Act, the Americans with Disabilities Act (ADA), and the 1991 Civil Rights Act.

The CPI-434 was designed for use in the employment selection environment. Working together with a panel of psychologists who are active in this specialty area, Gough and the staff at CPP reviewed every CPI item. After significant debate, 28 items were chosen for deletion from the CPI-462 to form the CPI-434. Most of the deleted items had content that was clearly medical in nature and could be viewed as violating the intent of ADA if the test were administered prior to a conditional job offer, despite the fact that none of these items singly or collectively was ever used to identify or diagnose medical or psychiatric problems. Other items were omitted because they were judged to be too invasive for the selection setting or had content that was considered dated or sexist.

Although most of the 20 folk scales survived the item deletion intact or lost no more than 1 or 2 items, the Well Being scale lost 7 items, and the Intellectual Efficiency scale lost 5 items. In order to maintain both the original number of items and the reliability of each scale, Gough examined the relationship of each of the remaining 434 items to the underlying psychological constructs by re-computing correlation data between the new CPI-434 versions of the scales and the original construct validity ratings provided by spouses, co-workers, and trained psychologists. In this way, he was able to replace deleted items from affected scales with psychometrically equivalent items from the original item pool that is available for the 6,000 people in the new community normative sample. Thus, he was able to maintain the length and robust nature of all of the CPI scales without adding new items to the inventory. Subsequent analyses comparing the CPI scales in their new and old versions demonstrated correlations in the high .90’s in the community normative sample (Gough, 1996), and in the public safety applicant sample (Roberts and Johnson, 1996).

Report Objectives

The CPI-434 Police and Public Safety Selection Report is designed to assist psychologists who are involved in the pre-employment screening of police and other public safety job applicants, and in the evaluation of current public safety employees being considered for admission to a variety of special unit assignments (e.g., SWAT, Hostage Negotiation, Critical Incident Team). The principal contribution of the Report is to help the evaluator assess the psychological suitability of the applicant for the position in question.

In addition to determining that an applicant’s traits, characteristics and past behavioral history make them suitable to perform the functions required by the job, psychologists who practice in the public safety selection area must also certify that the applicant meets a psychological stability standard. This mandate to certify emotional stability requires screening

out applicants who display “job-relevant psychopathology,” and some state laws (e.g., California, New Mexico, Michigan) reflect this standard that has become a de facto requirement for other states. Tests designed to measure psychopathology, such as the Personality Assessment Inventory (PAI) and Minnesota Multiphasic Personality Inventory-2-RF are particularly well suited to address this requirement for emotional stability. Despite the very low incidence of psychopathology among public safety job applicants, as reflected in the psychological test data, it is essential to use a recognized objective test of psychopathology during the post job offer phase of screening weapon carrying public safety officers, because psychologists perform a certification of emotional stability based on objective testing, and because objective testing indicating stability would help avoid legal complications in the event of problem behavior by an incumbent employee who was certified “stable” during the screening phase.

In contrast to the stability orientation of the PAI or MMPI-2-RF, the CPI is more useful in identifying traits that may interfere with, or enhance, an applicant’s effective performance of specific job functions. This suitability focus of the CPI accounts for its central role in formulating selection decisions because its scale content is directly relevant to job requirements, and because the CPI Report’s many features offset the difficult to interpret modal profiles usually produced by tests using community norms. Table 1 presents the face valid linkages between CPI scales and the POST constructs. Note that Table 1 is not an exhaustive list of CPI scales and prediction equations that are relevant to the POST dimensions. The influence of community norms on job applicant profiles will be presented in detail in the “Testing Job Applicants” section of this manual.

Table 1

POST Dimension	CPI Scale(s)
Social Competence	<ul style="list-style-type: none"> • Sociability (Sy) • Social Presence (Sp) • Empathy (Em) • Good Impression (Gi)
Teamwork	<ul style="list-style-type: none"> • Achievement via Conformance (Ac) • Tolerance (To)
Assertiveness/Persuasiveness	<ul style="list-style-type: none"> • Dominance (Do) • Capacity for Status (Cs) • Self-Acceptance (Sa) • Independence (In) • Alpha Type
Decision-Making/Judgment	<ul style="list-style-type: none"> • Intellectual Efficiency (Ie)
Adaptability/Flexibility	<ul style="list-style-type: none"> • Flexibility (Fx)
Emotional Self-Regulation/Stress Tolerance	<ul style="list-style-type: none"> • Self-Control (Sc) • Well Being (Wb)

Avoiding Substance Abuse & Risk-Taking Behavior Impulse Control/Attention to Safety	<ul style="list-style-type: none"> • Integrity (Itg) • Gamma Type • Responsibility (Re)
Conscientiousness/Dependability	<ul style="list-style-type: none"> • Socialization (So) • Reliability (Re)
Integrity/Ethics	<ul style="list-style-type: none"> • Socialization (So) • Integrity Risk Statement

This special selection report based on the CPI should be viewed as only *one* component of a comprehensive screening procedure that includes at least one other psychological test based on abnormal personality functioning, a comprehensive personal history questionnaire, and a structured interview focused on job-relevant behavior are also recommended. In addition to the CPI Selection Report, the senior author and his colleagues routinely include, as part of the psychological screening evaluation, the Personality Assessment Inventory (PAI; Morey, 1990), the State-Trait Anger Expression Inventory (STAXI; Spielberger, 1996), and the Psychological History Questionnaire (PsyQ) (Johnson, Roberts, & Associates, 2001). In addition to these core measures, other instruments -- such as the Wonderlic Personnel Test (Wonderlic, 1992) -- are sometimes used when permitted by the referring agency agencies.

Regardless of the instruments used, the final screening decision should be based on corroborating information gathered from all data sources. In practice, this means reviewing all testing and personal history results prior to the interview, developing and refining hypotheses during the face-to-face interview with the applicant, and, when possible, examining the admissions made during the polygraph examination and/or the findings provided in a departmental background investigation.

Appropriate Test Populations and Testing Environment

The CPI-434 Police and Public Safety Selection Report is appropriate for individuals ages 18 years and older. The CPI items are written at an eighth-grade reading level. Additional reading level characteristics of the CPI items are provided in the CPI Manual.

The CPI can be administered to individuals or groups using test booklets and Scantron answer sheets, or online by logging onto the JRA website. In all cases, the testing environment should be proctored and arranged to protect the privacy and confidentiality of each individual's responses. The testing environment should be relatively quiet, free from distraction, and adequately illuminated.

Normative Information for the JRA CPI Police and Public Safety Selection Report

The applicant comparison profiles presented in the CPI-434 Police and Public Safety Selection Report are based on normative data from a sample of 50,488 job applicants who applied for entry level positions at over 100 public safety agencies throughout the United States. Approximately 25% of the applicants applied to agencies in the Midwest, 32% applied to agencies on the East Coast, and 40% applied to agencies on the West Coast, with the remainder applying to agencies in various other portions of the country, including Alaska and Hawaii. The applications were for five public safety positions: police officer, corrections officer, firefighter or emergency medical technician, communications dispatcher, and juvenile probation counselor. Table 1 contains the sample sizes for each of the five public safety positions covered

by the report. Although a majority of the sample, 40,814 applicants, applied for the police officer position, the sample sizes for the remaining positions were also substantial, ranging from a high of 5,055 applicants for corrections officer to a low of 1,174 for juvenile probation counselors. Normative data for Incumbents - applicants who were subsequently hired and became successful employees in the job category to which the applicant was applying, are also displayed in Table 3.

(Note: In Table 2, the proportion of job Incumbents to total Applicants varies considerably from one position to another. These differences in proportions do not reflect corresponding differences in the selection ratios for the different job categories. In fact, the screen-to-hire ratio, for applicants who progress to the psychological evaluation, is approximately 50% for all five job categories. The differences among job categories in the incumbent-to-applicant proportions indicated in the table are due primarily to differences in the level of cooperation that employers in different job categories extended in providing hiring and job outcome information about their employees.)

Table 2

Size Of The Public Safety Job Applicant Normative Sample by Job Category, For All Applicants And Those Who Became Job Incumbents

Job Category	All Applicants	Applicants Who Became Job Incumbents
Police Officer/ Deputy Trooper	40,814	10,680
Corrections Officer	5,885	2,074
Firefighter/ EMT	1,399	326
Juvenile Probation Counselor	1,174	83
Communications Dispatcher	1,216	213
Total	50,488	13,376

Table 3 contains, for applicants in each of the five job categories, a summary of various characteristics, including gender, ethnicity, education, previous job experience, drug use, and criminal convictions. Most of this information was obtained from the pre-offer JRA Personal History Questionnaire, which was administered as part of the application process. As the table indicates, the applicants in the five job categories tend to have similar characteristics, although there are a few differences. In particular, applicants for communications dispatcher positions are the most likely to be female and the least likely to have been convicted of a crime. Applicants for firefighter positions are the most likely to be male. Applicants for corrections positions are the least likely to have completed college and the most likely to have been convicted of a crime. Applicants for juvenile probation counselor positions are the most likely to be college graduates, non-white, and bilingual.

Table 3 contains a breakdown of the total sample by gender and ethnicity. Although a majority of the normative sample Applicants (26,774), were white males, the sample sizes for non-white categories of gender and ethnicity were also substantial, ranging from a high of 5,188 cases for African-American males to a low of 502 cases for Asian-American females.

Table 3

Characteristics Of The Public Safety Job Applicant Normative Sample, By Job Category

	Police Officer (N= 40814)	Corrections Officer (N = 5885)	Firefighter (N = 1399)	Communi- cations Dispatcher (N = 1216)	Probation Officer (N = 1174)
% Male	84	79	91	22	62
% Non-white	36	35	27	33	59
% High school graduate	97	92	98	96	99
% College graduate	28	12	25	19	66
% Fired from previous job	18	20	16	22	17
% Prior public safety experience	28	17	24	20	28
% Used marijuana > 20 times	4	5	5	7	9
% Used cocaine	9	6	12	15	12
% Ever arrested	26	35	22	14	24
% Convicted of a Crime	14	20	17	10	15
% Bilingual	19	12	20	17	32
Mean age	28	30	29	33	33
Mean Wonderlic score	20	21	26	25	22

Table 4

***Composition Of The Public Safety Job Applicant Normative Sample,
By Gender And Ethnicity***

Group	N	%
Gender		
Male	41,042	81
Female	9,432	19
Missing/No answer	14	*
Ethnicity		
Caucasian (non-Hispanic)	32,212	64
African American	7,341	15
Hispanic	5,753	11
Asian	3,291	7
Other	1,532	3
Missing/No answer	359	1
Gender & Ethnicity		
Caucasian male (Non-Hispanic)	26,774	53
Caucasian female (Non-Hispanic)	5,433	11
African American male (Non-Hispanic)	5,188	10
African American female (Non-Hispanic)	2,152	4
Hispanic male	4,766	9
Hispanic female	987	2
Asian/Pacific Islander male	2,789	6
Asian/Pacific Islander female	502	1
Other/Missing/No answer	1,897	4
Total	50,488	100

Note: * indicates a percentage value < .5

Validity Issues

Testing Job Applicants

Psychologists have long been aware that factors in the testing environment, such as the examiner's gender or ethnic background, influence the way a test-taker responds to a specific procedure. Similarly, it has been commonly observed (Butcher, 1989) that job applicants appear to respond to the validity and response distortion scales of objective personality tests in what is described as a "defensive" fashion. Early research estimated that defensiveness produced elevations resulting in test invalidity in less than 10% of job applicant profiles (Butcher).

In addition to the marked elevations produced by applicants on validity scales used to assess "faking good," such as the CPI Good Impression (Gi) scale, the PAI Positive Impression Management (PIM) scale, and the MMPI-2 RF L-r scale test results for public safety job applicants also show a suppression of T scores on content and clinical scales when compared to community norms. These two interrelated departures from "normal" test-taking profiles produced by job applicants on personality tests has led to a tendency among some psychologists to focus their interpretive comments on the validity scales, because these scales are the *only* ones that fall above cutoff scores in over 95% of public safety job applicants (Roberts & Johnson, 1995).

This dilemma is present for psychologists in the employment-screening context who use any psychological test based on community normative samples. By contrast, the CPI-434 Police and Public Safety Selection Report addresses these two critical profile distortions (elevated "fake good" scales and suppressed content scales) by supplementing the publisher's community norms with two sets of norms based on data from job applicants: (a) norms based on job applicants who subsequently became incumbents in the same occupation the applicant is applying for, and (b) norms based on job applicants applying for the same job the applicant is applying for.

Omitted Items

Although almost all job applicants complete all 434 items of the CPI, a small percentage leave four or five blank, and occasionally someone will omit many items. The number of unanswered items is printed in the report's "General CPI Results" section. If 18 or more items are omitted the scoring program will not print the report but will list each of the unanswered items.

The psychologist should always review the list of omitted items to determine if there is a pattern of item content in the omitted items that may be relevant to the selection decision. If the test has been invalidated because of omitted items, the answer sheet should be given back to the applicant to complete the unanswered items to the best of his or her ability. The completed test may then be re-scored and interpreted if other validity indices meet acceptable levels. However, if the applicant did not respond to 18 or more items in this testing situation the psychologist should attempt to determine whether the non-responsiveness was due to the item content or is an example of a careless disregard of instructions that may represent a dispositional trait when responding to organizational demands.

Random Responding

Another relatively rare profile validity concern in job applicants is random responding. This can occur in applicants who become bored or frustrated by the lengthy written testing

protocol required for public safety applicants. A good indicator of random answering is a very low raw score on the Communality scale (Cm) or a Random Index score exceeding the cutoff reported in the CPI Manual. This can be due to accidental mismarking of the answer sheet, but in some cases may reflect a poor reading ability or English language proficiency.

Since about 15% of the applicant sample is bilingual, it is important to rule out poor English language skill as a cause. The interviewer should ask about languages spoken other than English (especially in the home), examine a writing sample obtained during the testing, and utilize a standardized cognitive test like the Wonderlic to address this issue.

Faking Bad

Except in the rarest of circumstances, applicants do not “fake bad” on pre-employment psychological tests. Although faking bad on the CPI can usually be detected by the presence of extremely low scores on scales like Well-Being, Communality and Good Impression, or a Fake Bad Index exceeding the cutoff reported in the CPI Manual, an applicant who produces such scores is generally observed to have a history of negative behavior consistent with the scale scores. Generally, psychologists working in the public safety field will only see fake bad indications when conducting post-employment fitness for duty evaluations (FFDE’s) but since the CPI Selection Report should not be used for FFDE’s (because the special group norms are based on job applicants, not employees mandated for psychological evaluation) this problem should not be encountered by the screening psychologist.

It should be noted that although some applicants are not identified as “faking bad” their atypical response to the CPI item content may be due to “over-scrupulousness.” In an attempt to be completely truthful these applicants do not respond with the characteristic defensiveness of most applicants in a job selection process. This over-scrupulous response style results in marked departures from comparison group means. Although the psychologist may identify some mitigating factors in the applicant’s history it must be noted that while the significant departures from comparison group means may not be a valid representation of the applicant, the applicant’s endorsement of critical item content can still represent a selection concern.

Faking Good

Unlike other profile validity issues, “faking good” is one issue that is quite common in the pre-employment public safety assessment process. It is very difficult to differentiate between someone who has a superior level of adjustment and is trying to “put their best foot forward” and a person who has falsified their responses to the test questions. Good indicators of the level of defensiveness of a test-taker’s profile are the Good Impression scale and the Fake Good Index. As the Good Impression scale approaches the 90th percentile among job applicants (~80T, Community norms) or the Fake Good Index exceeds the cutoff reported in the CPI Manual the data provided by the profile becomes increasingly “indeterminable.”

It is important that the screening psychologist understand the distinction between an “indeterminable” and an “invalid” protocol. In the preemployment screening environment an applicant’s defensive and minimizing approach to the testing situation may result in test profiles that are unusable or uninterpretable, but useful information may still be gleaned from a profile rendered indeterminable. In particular, individual scale scores or item endorsements that reflect negatively on the applicant can and should be considered in formulating a suitability recommendation because these scores were produced in spite of the applicant’s extremely defensive test taking approach. In such circumstances, it would be inappropriate to describe the test protocol as “invalid,” and these authors recommend that the applicant’s approach to the testing be noted in the narrative report to the agency as well as a careful consideration of the information offered by the indeterminable profile.

Although screening psychologists generally have access to the departmental polygraph and/or background investigation results to help them determine whether the applicant's defensive test-taking strategy is part of a larger integrity concern, in many instances these collateral sources may not be available. In the absence of corroboration that the applicant has a high level of adjustment and integrity it is recommended that the psychologist report that the applicant's indeterminable test results makes it impossible to use the testing to rule out the presence of negative traits or characteristics that would otherwise be addressed by the testing.

Report Features

This chapter discusses the information presented on each page of the CPI-434 Police and Public Safety report. As indicated above, one of the new features of Version 2.0 is the incorporation of percentile data throughout the report. This percentile data describes the relative position of the applicant's score compared to the distribution of scores from the appropriate job category comparison group, on a percentage basis. The comparison group used to calculate the percentile is job-specific whether or not the user chooses Applicant or Incumbent norms.

Page One

Page one of the report, seen in Figure 1 below, contains identifying information for the applicant, protocol validity information, high level CPI data, and probability risk estimates. New features of Version 2.0 include the incorporation of percentile data, a summary validity snapshot, and a new ordering of the risk estimate data. Note that all percentile values reported on page one of the report are job-specific and for the Applicant comparison group within the chosen job category.

Identifying Information

The first page of the report begins with some basic information that identifies and describes the applicant. This includes the applicant's name, social security number (or other identification number), age, gender, and ethnicity. It also includes the test date, the position being applied for, the applicant's highest level of education, the types of public safety positions previously held, and the number of times the applicant has previously taken pre-employment psychological tests. (Note: The applicant's name and social security number, and the test date, is repeated as a header on the remaining pages of the report.)

Profile Validity Indicators

The Profile Validity Indicators section of the report, found in the upper right corner of page one, provides the user with a quick snapshot of the protocol's validity. In this section, the CPI scales Good Impression and Communality - which are measures of impression management and random responding, respectively - and the three Validity Indices (Fake Good, Fake Bad, and Random) are reported. The T scores reported in this section are community T scores based on the nongendered sample of 6,000 members of the general community. Percentiles reported for both CPI scales and Validity Indices are Applicant percentiles for the appropriate job class. Values are printed in bold font for the Validity Indices if they exceed the cutoff reported in the CPI Manual. In the case of the standard impression management scales values are printed in boldface if they meet or exceed the 90th percentile in the case of Good Impression, or if the percentile is 10 or less in the case of Communality.

Figure 1: Page one of the CPI-434 Police and Public Safety Selection Report

California Psychological Inventory (434) Police and Public Safety Selection Report©

by Michael D. Roberts, Ph.D., Michael Johnson, Ph.D., and Ryan M. Roberts, Ph.D.

Suicide, After (105-60-0001)
 35 year old other ethnic male
 Tested on Wednesday, October 13, 2010
 Applying for the position of Police Officer, Deputy, Trooper
 Highest level of education: Some college
 Employment experience in public safety field: No response
 Previous psychological testing: Twice

General CPI Results

Type	Alpha
% of applicants with this type	65%
Level	Level: 4
% of applicants at this level or lower (based on v.3)	12%
Selection Relevant CPI Items	
Number of Selection Relevant items endorsed atypically* ..	13
% of applicants endorsing this many items or more	13%
Number of unanswered items	None

* These items should be treated as topics of further inquiry.

Job Suitability Snapshot

Probability of being rated a 'poorly suited' applicant by psychologists with expertise in public safety screening ^a	59%	Percentile 93
Probability of involuntary departure ^b	19%	86
Probability of having background problems related to ^c		
Job performance	68%	97
Integrity	47%	86
Anger management	81%	99
Alcohol use concerns	28%	86
Illegal drug use	20%	83
Substance abuse proclivity	49%	86

Notes:

- When formulating a selection recommendation, each of the probability estimates listed above should be considered along with other data sources, such as an interview, a background check, and a polygraph.
- The formulas used to estimate the probabilities listed above were based on the following samples: (a) 23,580 public safety applicants, (b) 3,390 police officers, and (c) 37,700 public safety applicants.
- In the Profile Validity Indicators section, the T scores for the Gi and Cm scales are non-gendered and based on a sample of 6,000 cases in the CPI community sample. The percentiles are based on a comparison sample of 40,814 applying for the position of police officer/deputy/trooper. For the Gi Scale, very high percentiles are undesirable; percentiles of 90% or more are boldfaced. For the Cm scale, very low scores are undesirable; percentiles of 10% or less, are boldfaced. For the Validity Indices, the raw scores are non-gendered and based on a sample of 2,000 cases in a CPI community sample. Raw scores that exceed the thresholds specified in the CPI manual are boldfaced. Percentile values -- which are based on a comparison sample of 40,814 applying for the position of police officer/deputy/trooper -- are not boldfaced, even if they equal or exceed 90%.

California Psychological Inventory (CPI) © 1986, 1995, 2000 CPP, Inc. Police and Public Safety Selection Report © 1995, 2000, 2001, 2017 Johnson, Roberts and Associates, Inc. (510) 530-1963

3/6/2018

(v12.0.0)

Test Serial No.

General CPI Results

The first page of the report also presents the applicant's General CPI Results, which consists of three types of basic CPI information.

The first type of basic CPI information is the CPI Type and Level. This information, which indicates the applicant's general interpersonal style and level of self-realization, helps the psychologist focus on the areas that are the most likely to produce job-relevant information during the follow-up interview. In Version 2.0, additional new data is provided including the percent of the Applicant comparison group that is in the same Type category. Level, indicating degree of self-realization and ranked from 1 (low) to 7 (high) is reported along with the percentile value for v3, the vector scale used to compute Level, based on the Applicant comparison group. (More detailed information about the applicant's CPI Type and Level is presented in the section of the report, titled "Applicant Type and Level").

The second type of basic CPI information is the number of "Selection Relevant CPI Items" that are endorsed by the applicant in the atypical, or "negative" direction. "Selection Relevant CPI Items" are those that (a) have been judged by psychologists to have content that is relevant to the determination of applicant suitability, and (b) are endorsed in the "negative" direction by relatively few applicants. Table 5 lists the percentile value associated with each possible number of "Selection Relevant CPI Items" endorsed, based on the public safety job applicant normative sample. The specific content of each critical item endorsed by the applicant is listed later in the report, on the page titled "Selection Relevant CPI Items". Percent-based information in the Report for Selection Relevant CPI items indicates the percent of Applicants of the same job category that endorsed as many items or more than applicant did (i.e, 100 – percentile).

Table 5

Percentiles Associated With The Number Of Selection Relevant Items Endorsed, In The Public Safety Job Applicant Sample (N = 50,488)

No. Of Items Endorsed	Percentile
0	6
1	17
2	30
3	41
4	51
5	58
6	65
7	70
8	75
9	78
10	81
11	84
12	86
13	88
14	89
15	90
16	92
17	93
18-19	94
20	95
21-22	96
23-25	97
26-30	98
31 or more	99

The third type of basic CPI information is a count of the number of items that are unanswered by the applicant. If the applicant leaves 18 or more items blank, the profile is considered invalid and the body of the report will not print, but the omitted items will be listed for review by the psychologist. Even when a profile is valid (omitted \geq 18 items), the psychologist should review the omitted items that are printed in the report and discuss the content of any items with the applicant if they appear to be job relevant. Any items the applicant did not respond to are printed at the end of the Selection Relevant CPI Items section of the report.

Job Suitability Snapshot

Finally, the first page of the report presents a “Job Suitability Snapshot” which estimates various kinds of job-related risks associated with hiring the applicant. Absolute risk estimates (probability scores) are presented next to a horizontal light blue “gas gauge” visually depicting the risk estimated. To the right of that value, in the margin of the page the percentile of the applicant’s score compared to Applicant comparison group is printed for the job position applied to (police, corrections, etc.).

The risk estimates are divided into two sections, one presenting the risk presented by the applicant’s score when compared to actual outcome criteria, and the second, the risk when compared to criteria based on pre-hire admissions of negative behavior by a large sample of applicants.

In the first, predictive validity section, the first displayed risk estimate concerns the applicant’s likelihood of being rated as “poorly suited/fail” by psychologists with expertise in this practice area. The second risk estimate, which is printed only for police officer applicants, is the Probability of Involuntary Departure.

In the second section, six risk estimates concern the likelihood that the applicant has a pre-hire history of having engaged in “problem” behaviors in each of six categories: Job Performance, Integrity, Anger Management, Alcohol Use, Illegal Drug Use, And Substance Abuse. The risk statements in the Job Suitability Snapshot are generated from prediction equations based on logistic regression analyses that have been calibrated and cross validated on large samples of public safety job applicants. Chapter 3 of this manual contains a detailed discussion of the research on which the risk statements are based.

The risk statements are valuable to the screening psychologist because they suggest which area of an applicant’s adult life history is most likely to include behavior that would raise concerns about their suitability for work as a public safety officer. The psychologist should be especially thorough in reviewing behaviors related to risk levels that are exceedingly rare in the applicant population (~90th percentile) or that represent highly problematic behavior (e.g. involuntary departure/termination).

It is important that the psychologist become familiar with the kind of behaviors that make up each risk category, as listed in Table 6. The base rates for each negative behavior that make up a risk composite vary considerably, so it is useful to determine whether or not the risk rating is supported by a serious negative behavior in the applicant’s history, or a more benign one. Specifically, if an applicant was rated as having a high risk of Anger Management problems it is important during the interview to ask the applicant about each of the five behaviors that make up this criterion (such as “been in a physical fight since age 18” or “struck a spouse or romantic partner”). If an applicant is rated as a high risk for any of the behavioral problem areas but denies any actual behavior that would support the prediction, it is advisable to recommend that the department rule out concerns in these areas during the polygraph and background investigation.

Table 6

PHQ Problem Responses Used to Create Composite PHQ Problem Variables

Composite variable	Item	Problem response	%
Job Performance	204	Is late to work once a month or more	7
	209	Fired 2 or more times	3
	210	Resigned a job to avoid being fired	11
	214	Received 2 or more job reprimands	15

	217	Has had 2 or more emotional arguments at work	10
	308	Military discharge was general or less than honorable	11 ^a
	309	Had 2 or more disciplinary actions in military	5 ^a
	411	As an officer, had 3 or more citizens complaints	9 ^b
	412	As an officer, had a citizens' complaint sustained	5 ^b
	413	Received three or more reprimands as an officer	6 ^b
	414	Suspended from law enforcement duty	10 ^b
	423	Fired from a law enforcement job after probation	3 ^b
	425	Been the subject of an internal affairs investigation	10 ^b
		Any of above responses	38
Illegal drug use	815	Used marijuana 21 or more times	4
	816	Used marijuana during the last 12 months	1
	820	Used cocaine 3 or more times	3
	823	Used cocaine during the last 12 months	*
	826	Has used hallucinogens	3
	850	Has driven after using drugs	9
	852	Has sold drugs	2
		Any of above responses	13
Integrity	703	Has been arrested 2 or more times	8
	704	Convicted of a misdemeanor	15
	705	Convicted of a felony	1
	711	Stole items worth \$25 or more	4
	717	Committed or arrested for embezzlement	3
	221	Stole goods worth \$25 or more from work	4
	222	Stole money from work	3
	926	Rejected from job because of a background investigation	4
	928	Rejected from job because of a polygraph examination	2
		Any of above responses	27

Table 6 (continued)

PHQ Problem Responses Used to Create Composite PHQ Problem Variables

Composite variable	Item	Problem response	%
Alcohol abuse	724	Has been arrested for DUI	5
	802	Once drank 3 or more drinks each day	7
	804	Drinks heavily several times a month or more	2
	808	Has been in fights after drinking alcohol	5
	812	Sometimes drives while drinking	6

		Any of above responses	16
Anger management	217	Had 2 or more emotional arguments at work	10
	720	Committed or arrested for assault	8
	808	Has been in fights after drinking alcohol	5
	915	Has been in fights since age 18	27
	917	Has hit romantic partner	7
		Any of above responses	38
Substance abuse	724	Arrested for DUI	5
	802	Once drank 3 or more drinks each day	7
	804	Drinks heavily several times a month or more	2
	808	Has been in fights after drinking alcohol	5
	812	Sometimes drives while drinking	6
	815	Used marijuana 21 or more times	4
	816	Used marijuana during the last 12 months	1
	820	Used cocaine 3 or more times	3
	823	Used cocaine during the last 12 months	*
	826	Has used hallucinogens	3
	850	Has driven after using drugs	9
	852	Has sold drugs	2
	856	Smokes half a pack of cigarettes, or more, a day	13
		Any of above responses	33

Note. % values represent the percent of applicants with a problem response, computed for the sub-sample of 36,276 applicants for whom PHQ data was available. * indicates a percentage value < .5

^a Percentages computed within the subset of applicants who have military experience.

^b Percentages computed within the subset of applicants who have law enforcement experience.

Scale Profiles

Scale profiles reporting the primary CPI Folk Scales and Research and Special Purpose Scales include several options that may be configured by the user to customize the selection of profiles they view when scoring CPI reports. Although each profile is optional, they will be discussed in order they would be presented if one chose to produce all profile options.

Comparison Profile #1: Incumbent and Community Norms

This profile displays the applicant's CPI scale scores in the form of two graphic profiles that relate the applicant's test scores to those of two other groups: (a) incumbent employees in the same job category (e.g., police or firefighter) as the one the applicant is applying for, as represented by the job incumbent normative sample, and (b) members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000 (3,000 men and 3,000 women).

The two profiles are based on T scores that compare the applicant's raw scores on each CPI scale to the mean scores (and standard deviations) on that scale for each of the two different normative groups (public safety job Incumbents and members of the general community). Both

sets of T scores are scaled to have a mean of 50 and a standard deviation of 10. Beneath the chart containing the two graphic profiles, the report also prints out the two sets of T scores (using Incumbent and Community norms). In addition, the percentile value of the score produced by the applicant when compared to the Incumbent sample, and finally, the applicant's raw scores for each scale. Percentiles of 10% or less are boldfaced because for most CPI scales very low scores are undesirable. For the Gi scale, very high scores are undesirable so values at 90th or higher percentile are boldfaced.

The profile based on job Incumbent norms is presented because job incumbents are the most appropriate standard of comparison for entry level applicants. The individuals who make up the Incumbent norm samples took the CPI as part of a selection process similar to the one the current applicant is going through, were hired, completed probation, and continued to be employed in the same job category as the one the applicant is applying to. Ideally, agencies would like new job applicants to have traits and characteristics similar to those of previous applicants who subsequently became successful incumbent officers. (Note that the CPI data used to create the norms for the job incumbents was collected during pre-employment selection, not after the individuals had been hired. That is, the Incumbent norms take into account the situational demands of the "high stakes" job applicant situation that results in "fake good," defensive profiles).

The profile based on community norms is presented for purposes of comparison because this is the standard CPI profile that psychologists are accustomed to seeing in CPI reports that are not designed expressly for public safety selection. There is an extensive research literature supporting the validity and selection utility of the CPI scales, as well as a body of interpretive lore available from other authors (Gough, 1995; Meyer and Davis, 1992; McAllister, 1988, 1995).

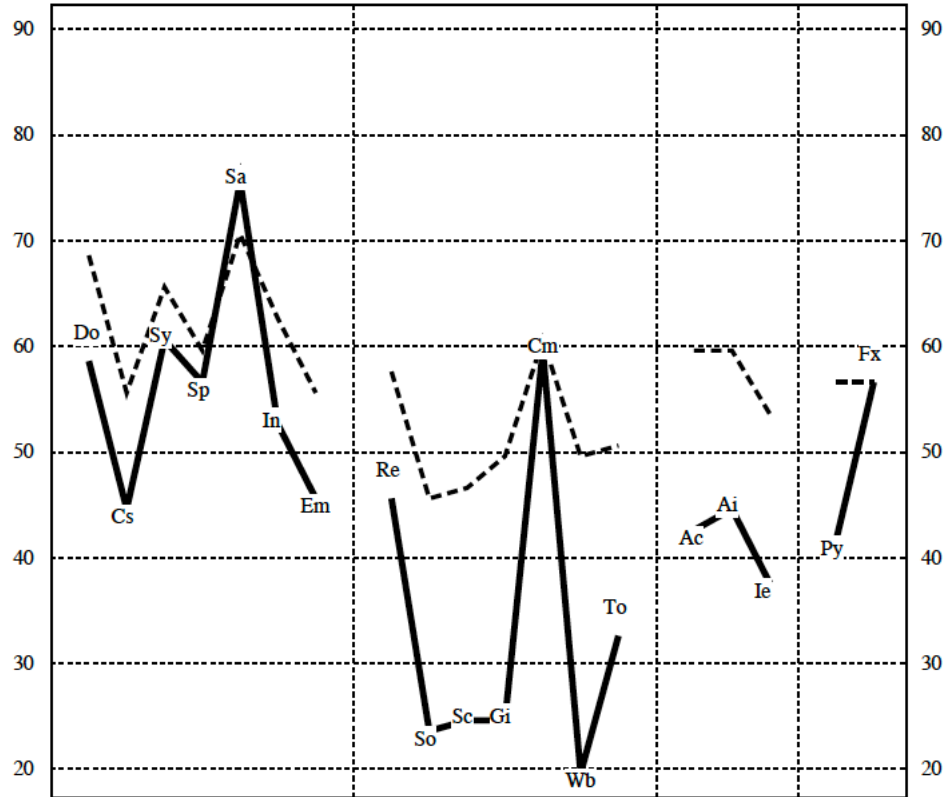
Because public safety job incumbents tend to have more homogeneous CPI scores than do members of the general community, profiles based on job incumbent norms tend to have more highs and lows than do profiles based on community norms. Thus, it is typical for an applicant to have a profile based on community norms that is only slightly above or below the midpoint of 50, which does not suggest or support a serious concern about the applicant, while the same test scores can produce a profile based on job incumbent norms that deviates considerably from the midpoint of 50, and therefore does attract the attention of the screening psychologist. In other words, the applicant's CPI scores could be within the normal range of variation with respect to community norms, but not within the normal range of variation with respect to public safety job incumbent norms, and viewing the two profiles on the same page reflects this clearly.

It is important to note that the validity of the CPI scales as measures of the relevant underlying construct were established using the general community sample. Comparison group T scores (Incumbent, Applicant) should only be used to identify outlier status on the construct when compared to the comparison group population. For example, a job applicant whose raw score on the So scale produces a T score of 46 on the So scale when compared to Community norms ("average") but an Incumbent T score of 24 (an outlier, problematic) should not be described as being viewed by others as more rule and norm violating than the average person, but rather more so than the typical applicant who goes on to be a successful employee. The "spikes" produced on the Incumbent normative profile are particularly useful in identifying applicants who have a pattern of behavior involving violation of societal rules, norms and regulations. This characteristic is most notable on scales So, Re, Sc, and Ac.

Figure 2: Comparison Profile #1 – Incumbent and Community Norms

Comparison Profile #1 Incumbent and Community Norms

The test taker's Incumbent T scores (shown below as a solid line) were computed using norms based on the pre-employment scores of a sample of 10,680 police officers/deputies/troopers, who successfully completed at least one year of employment. The test taker's Community T scores (shown below as a dotted line) were computed using non-gendered norms based on a sample of 6,000 members of the general community.



Legend: — police officer/deputy/trooper - - - - general community

	Do	Cs	Sy	Sp	Sa	In	Em	Re	So	Sc	Gi	Cm	Wb	To	Ac	Ai	Ie	Py	Fx
Raw scores	31	18	28	29	25	21	22	29	28	18	17	38	29	20	31	25	30	17	16
Community T	69	56	66	60	71	63	56	58	46	47	50	61	50	51	60	60	54	57	57
Incumbent T	59	45	61	57	76	53	46	46	24	25	25	60	15	33	43	45	38	42	57
*Incumbent %tile	86	36	92	80	100	70	41	38	2	2	1	100	1	8	27	34	14	28	79

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Incumbent norm sample. For all of the scales except the Gi scale, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Incumbent norm sample have scores as low or lower than the test taker) are boldfaced. For the Gi scale, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Incumbent norm sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #2: Incumbent and Community Norms For the CPI Special Purpose Scales

This report displays the applicant's CPI Special Purpose scale scores in the form of two additional graphic profiles that relate the applicant's test scores to those of two other groups: (a) incumbent employees in the same job category (e.g., police or firefighter) as the one the applicant is applying for, and (b) members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000.

These special purpose scales were created after the development of the CPI basic folk scales. Detailed descriptions of these scales are provided in the CPI manual (Gough, 1995).

Some of the Special Purpose scales (such as Amicability, Hostility, Narcissism, Work Orientation, and Managerial Potential) have particular value in assessing how an applicant may respond to the agency's commitment to community policing, or to similar demands for an active involvement with the community he or she serves.

There are also several notable new additions to the Special Purpose Scales. The first of these is the inclusion of subscales of the CPI Socialization scale developed by Harrison Gough. Gough developed these subscales by drawing on factor analytic investigations of the Socialization scale by other researchers and by refining the results produced by factor analyses by making modifications based on his extensive experience with the CPI and a review of item content with the overall goal to increase construct validity. The four subscales his work produced are Optimism (So1), Self-Discipline (So2), Favorable Memories of Family and Childhood (So3), and Interpersonal Awareness and Situational Sensitivity (So4). These Socialization subscales aid the assessing psychologists in determining the reasons the Socialization scale may be lower than typical applicants, but empirical data also suggests these subscales have predictive validity in their own right. In particular Roberts, et. al. (2018) investigated pre-employment CPIs of police officers and found that the So subscales were correlated with on the job behavior. Specifically, So2 (Self-Discipline) was associated with Alcohol Abuse, So3 (Favorable Memories of Family and Childhood) with dishonesty and lack of integrity, and So4 (Interpersonal Awareness and Situational Sensitivity)+ with personal relationship problems. In another study that analyzed pre-employment CPIs of police officers additional negative job outcomes were found to be associated with scores on the So subscales. Roberts (2014) found that So4 was associated with citizen's complaints and that So3 was associated with a number of negative behaviors and job outcomes including sustained IA complaints, relationship problems, and unethical behavior.

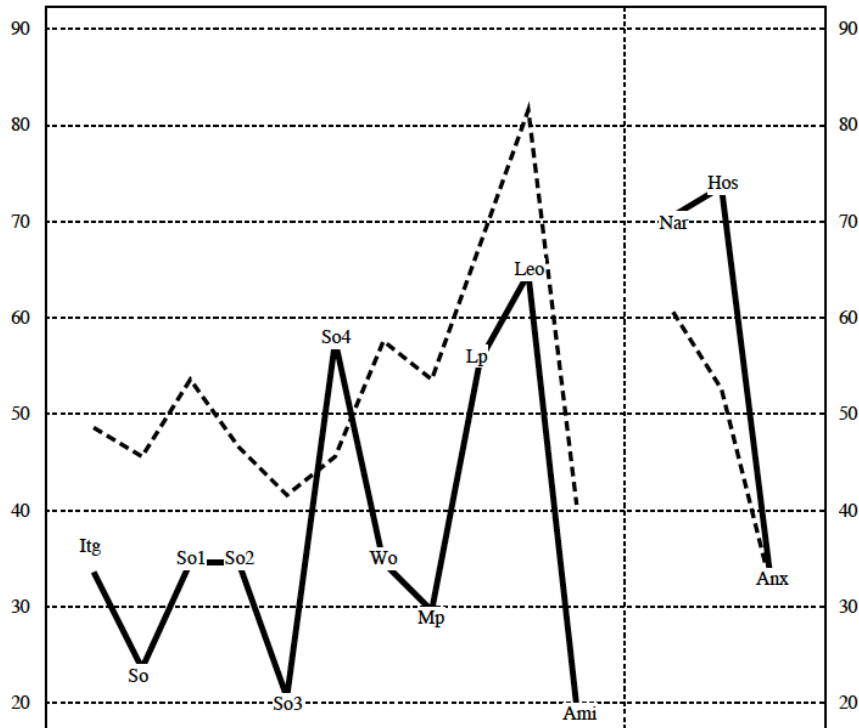
The second notable inclusion is the Integrity scale (Gough, Roberts, Johnson, & Bradley, 1999) that was developed and validated on police officer applicants against the criterion of lying about recent illegal drug use. Unlike other CPI scales, the Itg scale was constructed in the very population that police psychologists assess which increases its theoretical predictive validity. Indeed, several studies have shown that it is not only predictive of on the job behavior but that it also has a much broader interpretive value in the preemployment screening context.

As in Comparison Profile #1, Comparison Profile #2 presents the applicant's Incumbent T score, Community T score, and raw score are shown for each scale as well as the percentile based on the Incumbent comparison group for the job position applied for. Percentiles of 10% or less are boldfaced. For the Nar, Hos, and Anx scales, very high scores are undesirable so percentiles of 90% or more are boldfaced.

Figure 3: Comparison Profile #2: Incumbent and Community Norms for the CPI Special Purpose Scales

Comparison Profile #2 Incumbent and Community Norms For the CPI Special Purpose Scales

The test taker's Incumbent T scores (shown below as a solid line) were computed using norms based on the pre-employment scores of a sample of 10,680 police officers/deputies/troopers, who successfully completed at least one year of employment. The test taker's Community T scores (shown below as a dotted line) were computed using non-gendered norms based on a sample of 6,000 members of the general community.



Legend: — police officer/deputy/trooper - - - - - general community

	Itg	So	So1	So2	So3	So4	Wo	Mp	Lp	Leo	Ami	Nar	Hos	Anx
Raw scores	27	28	10	9	4	5	32	20	63	37	17	30	16	2
Community T	49	46	54	47	42	46	58	54	68	82	41	61	53	33
Incumbent T	34	24	35	35	21	58	35	30	56	65	10	71	74	34
*Incumbent %tile	8	2	14	15	5	80	9	5	73	97	0	97	97	1

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Incumbent norm sample. For the Itg to Ami scales, *very low* scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Incumbent norm sample have scores as low or lower than the test taker) are boldfaced. For the Nar to Anx scales, *very high* scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Incumbent norm sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #3: Applicant and Community Norms

This profile displays the applicant's CPI scale scores in the form of two graphic profiles that relate the applicant's test scores to those of two other groups: (a) applicants in the same job category (e.g., police or firefighter) as the one the applicant is applying for, as represented by the

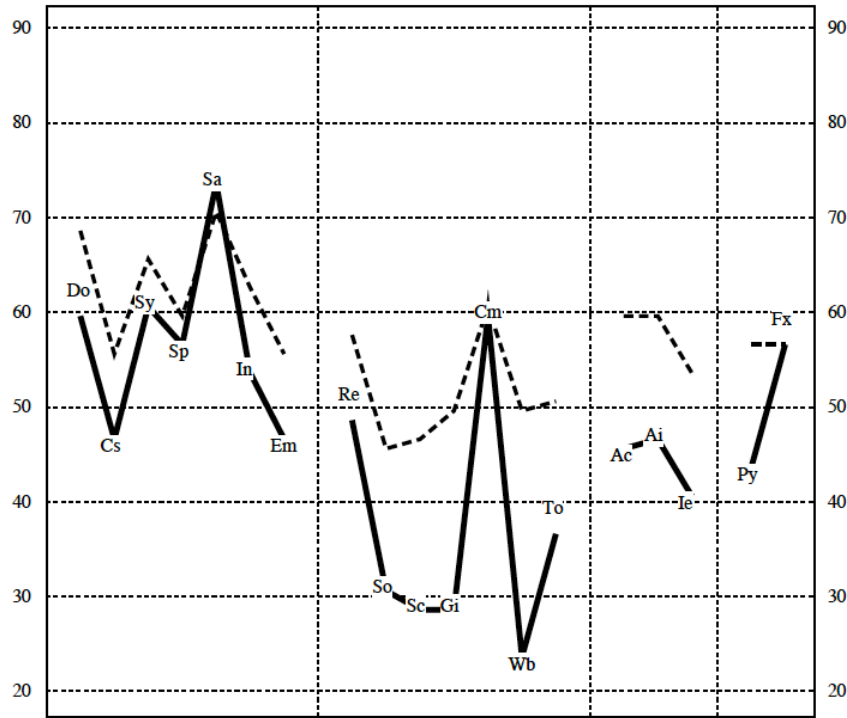
applicant normative sample, and (b) members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000.

The two profiles are based on T scores that compare the applicant's raw scores on each CPI scale to the mean scores (and standard deviations) on that scale for the two normative groups (public safety applicants and members of the general community). The features of this profile are identical to those of Comparison Profile #1 except that the Applicant comparison group is displayed for the Folk Scales rather than the Incumbent comparison group. The Applicant comparison group is provided as an option special norm group for those users who wish to use a larger normative sample, or would like to use a common metric and frame of reference when they use the JRA CPI Selection Report with other selection measures, like the MMPI-2 RF that do not profile Incumbent norms.

Figure 4: Comparison Profile #3 – Applicant and Community Norms

Comparison Profile #3 Applicant and Community Norms

The test taker's Applicant T scores (shown below as a solid line) were computed using norms based on a sample of 40,814 applicants applying for the positions of police officer/deputy/trooper. The test taker's Community T scores (shown below as a dotted line) were computed using non-gendered norms based on a sample of 6,000 members of the general community.



Legend: — police officer/deputy/trooper - - - - general community

	Do	Cs	Sy	Sp	Sa	In	Em	Re	So	Sc	Gi	Cm	Wb	To	Ac	Ai	Ie	Py	Fx
Raw scores	31	18	28	29	25	21	22	29	28	18	17	38	29	20	31	25	30	17	16
Community T	69	56	66	60	71	63	56	58	46	47	50	61	50	51	60	60	54	57	57
Applicant T	60	47	61	57	74	54	47	49	31	29	29	60	24	37	46	47	41	44	57
*Applicant %tile	87	42	92	79	100	71	43	48	6	4	3	100	3	14	36	40	20	33	80

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Applicant norm sample. For all of the scales except the Gi scale, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Applicant norm sample have scores as low or lower than the test taker) are boldfaced. For the Gi scale, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Applicant norm sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #4: Applicant and Community Norms For the CPI Special Purpose Scales

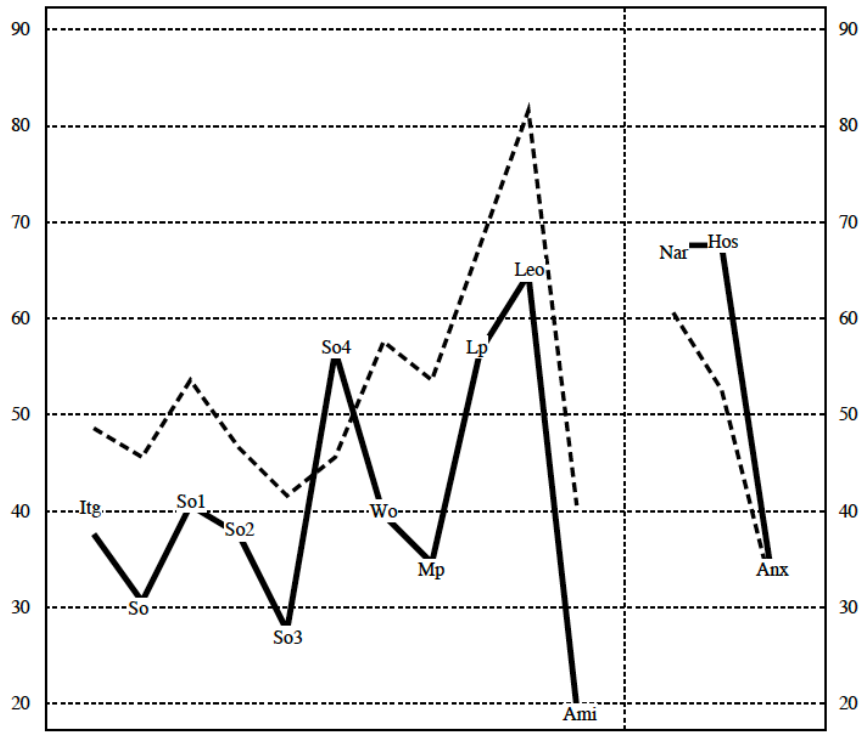
This report displays the applicant's CPI Special Purpose scale scores in the form of two graphic profiles that relate the applicant's test scores to those of two other groups: (a) applicants in the same job category (e.g., police or firefighter) as the one the applicant is applying for, as represented by the applicant normative sample, and (b) members of the general community, as

represented by the CPI publisher's nongendered community normative sample of 6,000. As in Comparison Profile #2, below the profile the applicant's applicant T score, Community T score, and raw score are shown for each scale as well as the percentile based on the applicant comparison group for the job position applied for. Percentiles of 10% or less are boldfaced. For the Nar, Hos, and Anx scales, very high scores are undesirable and percentiles of 90% or more are boldfaced.

Figure 5: Comparison Profile #4 - Applicant and Community Norms For the CPI Special Purpose Scales

Comparison Profile #4 Applicant and Community Norms For the CPI Special Purpose Scales

The test taker's Applicant T scores (shown below as a solid line) were computed using norms based on a sample of 40,814 applicants applying for the positions of police officer/deputy/trooper. The test taker's Community T scores (shown below as a dotted line) were computed using non-gendered norms based on a sample of 6,000 members of the general community.



Legend: — police officer/deputy/trooper - - - - general community

	Itg	So	So1	So2	So3	So4	Wo	Mp	Lp	Leo	Ami	Nar	Hos	Anx
Raw scores	27	28	10	9	4	5	32	20	63	37	17	30	16	2
Community T	49	46	54	47	42	46	58	54	68	82	41	61	53	33
Applicant T	38	31	41	38	28	57	40	35	57	65	20	68	68	35
*Applicant %tile	13	6	22	20	9	78	16	10	78	97	1	94	93	1

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Applicant norm sample. For the Itg to Ami scales, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Applicant norm sample have scores as low or lower than the test taker) are boldfaced. For the Nar to Anx scales, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Applicant norm sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #5: Community Norms and Incumbent Comparison Sample

This report displays the applicant's CPI Folk Scale scores in the form of a graphic profile that relates the applicant's test scores to members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000. This Community T score

profile uses the exact same data as the profile displayed on Comparison Profile #1, just provides a different way to depict outlier status. To aid the user in detecting how a particular applicant's scores deviate from the comparison group, a profile of vertical shaded bars representing the mean and plus or minus one standard deviation for each scale is shown for the Incumbent comparison group of the job class applied for.

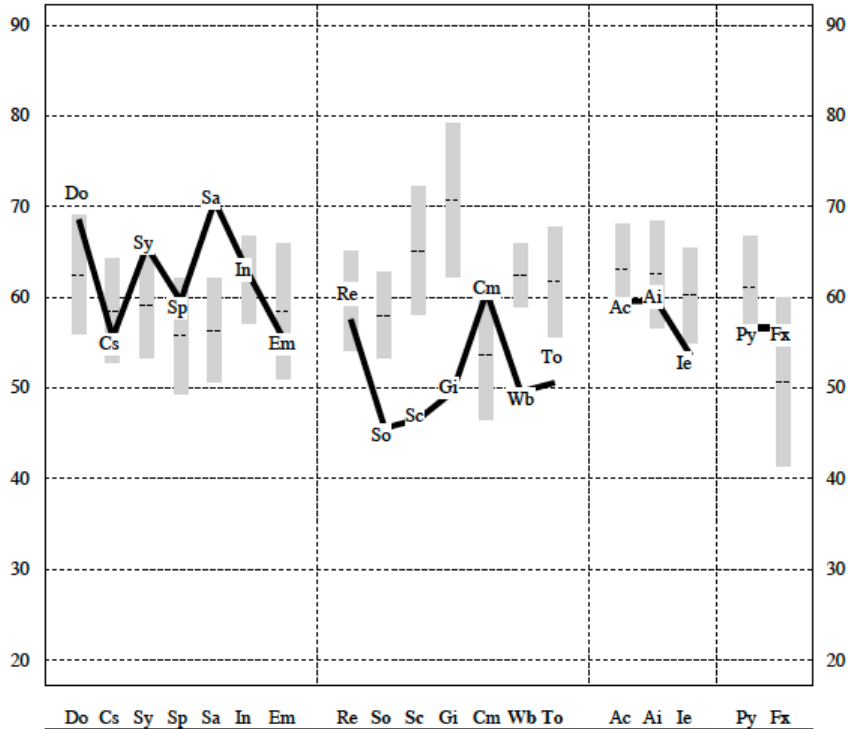
The information displayed in this profile is identical to that displayed in Comparison Profile #1 and is included for the benefit of user's who are accustomed to interpreting reports that display comparison group data in this manner, such as the MMPI-2-RF. As is show in Comparison Profile #1, below the profile the applicant's Incumbent T score, Community T score, and raw score are shown for each scale as well as the percentile based on the Incumbent comparison group for the job position applied for.

Figure 6: Comparison Profile #5 - Community Norms and Incumbent Comparison Sample

Comparison Profile #5 Community Norms & Incumbent Comparison Sample

The test taker's Community T scores (shown below as a solid line) were computed using norms based on the scores of a sample of 6,000 members of the general community.

The profile below compares the test-taker's Community T scores with the pre-employment Community T scores of the Incumbent Comparison Sample. (The Incumbent Comparison Sample consists of 10,680 police officers/deputies/troopers, who successfully completed at least one year of employment.) The shaded vertical bars on the profile show the mean Community T scores for the Incumbent Comparison sample, plus and minus one standard deviation.



	Do	Cs	Sy	Sp	Sa	In	Em	Re	So	Sc	Gi	Cm	Wb	To	Ac	Ai	Ie	Py	Fx
Test Taker Data																			
Raw Score	31	18	28	29	25	21	22	29	28	18	17	38	29	20	31	25	30	17	16
T Score	69	56	66	60	71	63	56	58	46	47	50	61	50	51	60	60	54	57	57
*Percentile	86	36	92	80	100	70	41	38	2	2	1	100	1	8	27	34	14	28	79
Comparison Sample Data																			
Mean T Score	63	59	59	56	56	62	58	60	58	65	71	54	62	62	63	63	60	61	51
Standard Dev	7	6	6	6	6	5	8	5	5	7	8	7	3	6	5	6	5	6	9

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Incumbent Comparison Sample. For all of the scales except the Gi scale, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Incumbent Comparison Sample have scores as low or lower than the test taker) are boldfaced. For the Gi scale, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Incumbent Comparison Sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #6: Community Norms and Incumbent Comparison Sample

This report displays the applicant's CPI Folk Scale scores in the form of a graphic profile that relates the applicant's test scores to members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000. This Community T score

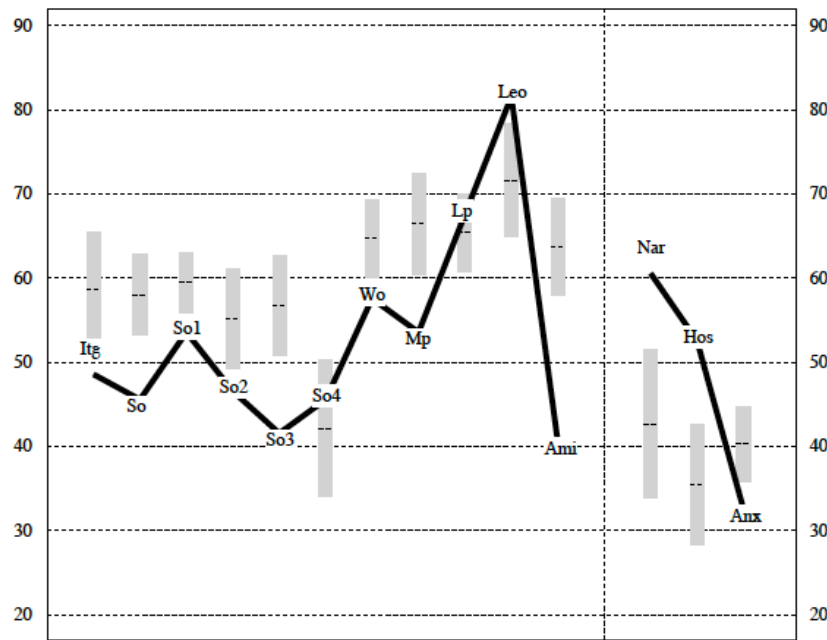
profile is identical to the profile displayed on Comparison Profile #1. To aid the user in detecting deviations from the comparison group, a profile of shaded bars representing the mean and plus or minus one standard deviation for each scale is shown for the incumbent comparison group of the job class applied for. The information displayed in this profile is identical to that displayed in Comparison Profile #1 and is included merely for the benefit of user's who are accustomed to interpreting reports that display comparison group data in this manner such as the MMPI-2-RF. As is show in Comparison Profile #1, below the profile the applicant's Incumbent T score, Community T score, and raw score are shown for each scale as well as the percentile based on the incumbent comparison group for the job position applied for.

Figure 7: Comparison Profile #6 - Community Norms and Applicant Comparison Sample

Comparison Profile #6 Community Norms & Incumbent Comparison Sample For the CPI Special Purpose Scales

The test taker's Community T scores (shown below as a solid line) were computed using norms based on the scores of a sample of 6,000 members of the general community.

The profile below compares the test-taker's Community T scores with the pre-employment Community T scores of the Incumbent Comparison Sample. (The Incumbent Comparison Sample consists of 10,680 police officers/deputies/troopers, who successfully completed at least one year of employment.) The shaded vertical bars on the profile show the mean Community T scores for the Incumbent Comparison sample, plus and minus one standard deviation.



	Itg	So	So1	So2	So3	So4	Wo	Mp	Lp	Leo	Ami	Nar	Hos	Anx
Test Taker Data														
Raw Score	27	28	10	9	4	5	32	20	63	37	17	30	16	2
T Score	49	46	54	47	42	46	58	54	68	82	41	61	53	33
*Percentile	8	2	14	15	5	80	9	5	73	97	0	97	97	1
Comparison Sample Data														
Mean T Score	59	58	59	55	57	42	65	66	65	72	64	43	35	40
Standard Dev	7	5	4	6	6	8	5	6	5	7	6	9	7	4

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Incumbent Comparison Sample. For the Itg to Ami scales, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Incumbent Comparison Sample have scores as low or lower than the test taker) are boldfaced. For the Nar to Anx scales, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Incumbent Comparison Sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #7: Community Norms and Applicant Comparison Sample

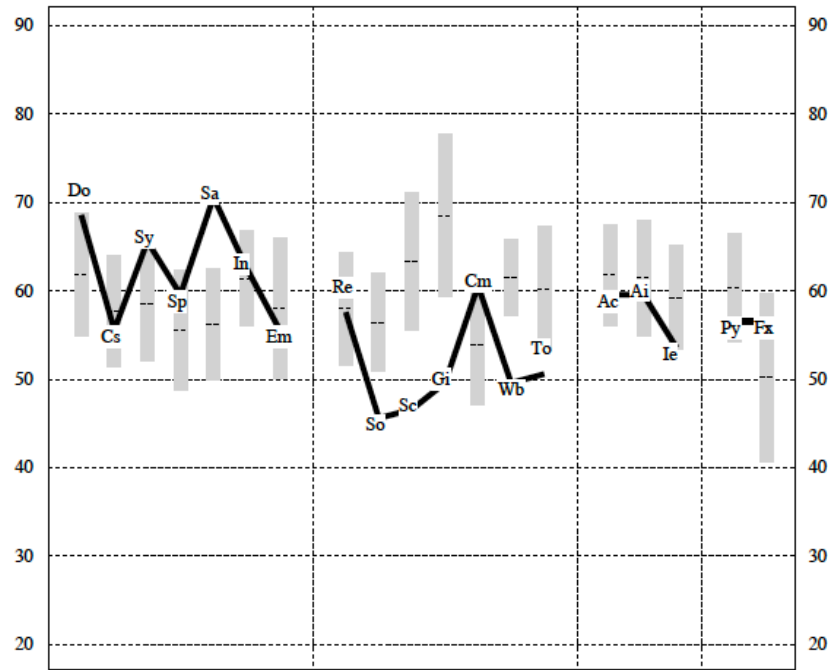
This report displays the applicant's CPI Folk Scale scores in the form of a graphic profile that relates the applicant's test scores to members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000. This Community T score profile is identical to the profile displayed on Comparison Profile #3. To aid the user in detecting deviations from the comparison group, a profile of shaded bars representing the mean and plus or minus one standard deviation for each scale is shown for the applicant comparison group of the job class applied for. The information displayed in this profile is identical to that displayed in Comparison Profile #3 and is included merely for the benefit of user's who are accustomed to interpreting reports that display comparison group data in this manner such as the MMPI-2-RF. As is shown in Comparison Profile #3, below the profile the applicant's applicant T score, Community T score, and raw score are shown for each scale as well as the percentile based on the applicant comparison group for the job position applied for.

Figure 8: Comparison Profile #7 – Community Norms and Applicant Comparison Sample

Comparison Profile #7 Community Norms & Applicant Comparison Sample

The test taker's Community T scores (shown below as a solid line) were computed using norms based on the scores of a sample of 6,000 members of the general community.

The profile below compares the test-taker's Community T scores with the Community T scores of the Applicant Comparison Sample. (The Applicant Comparison Sample consists of 40,814 people who were applying for the position of police officer/deputy/trooper.) The shaded vertical bars on the profile show the mean Community T scores for the Applicant Comparison sample, plus and minus one standard deviation.



	Do	Cs	Sy	Sp	Sa	In	Em	Re	So	Sc	Gi	Cm	Wb	To	Ac	Ai	Ie	Py	Fx
Test Taker Data																			
Raw Score	31	18	28	29	25	21	22	29	28	18	17	38	29	20	31	25	30	17	16
T Score	69	56	66	60	71	63	56	58	46	47	50	61	50	51	60	60	54	57	57
*Percentile	87	42	92	79	100	71	43	48	6	4	3	100	3	14	36	40	20	33	80
Comparison Sample Data																			
Mean T Score	62	58	59	56	56	61	58	58	56	63	69	54	62	60	62	61	59	60	50
Standard Dev	7	6	7	7	6	5	8	6	6	8	9	7	4	7	6	7	6	6	9

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Applicant Comparison Sample. For all of the scales except the Gi scale, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Applicant Comparison Sample have scores as low or lower than the test taker) are boldfaced. For the Gi scale, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Applicant Comparison Sample have scores as high or higher than the test taker) are boldfaced.

Comparison Profile #8: Community Norms and Applicant Comparison Sample For the CPI Special Purpose Scales

This report displays the applicant's CPI Special Purpose Scale scores in the form of a graphic profile that relates the applicant's test scores to members of the general community, as represented by the CPI publisher's nongendered community normative sample of 6,000. This Community T score profile is identical to the profile displayed on Comparison Profile #4. To aid

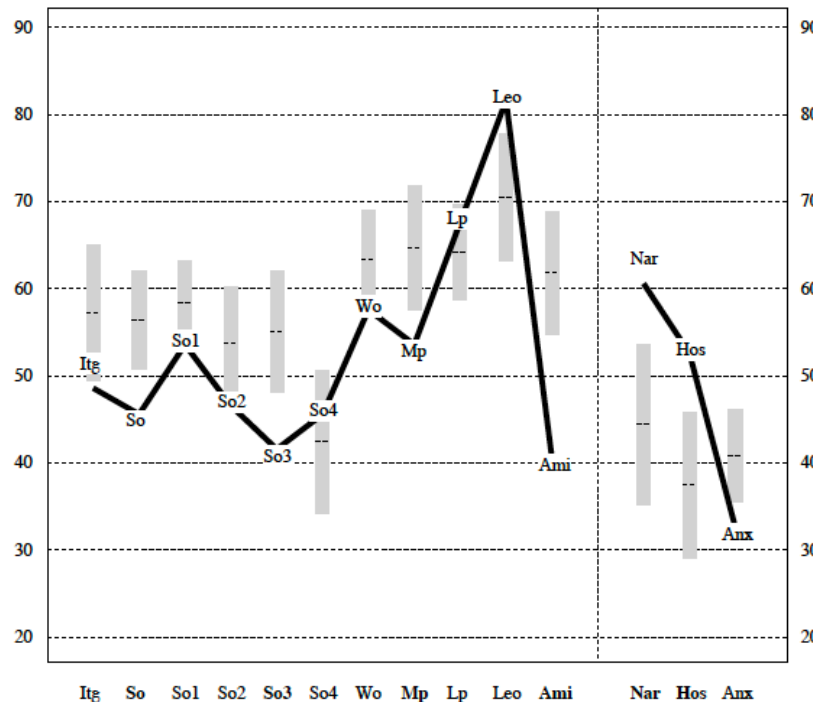
the user in detecting deviations from the comparison group, a profile of shaded bars representing the mean and plus or minus one standard deviation for each scale is shown for the applicant comparison group of the job class applied for. The information displayed in this profile is identical to that displayed in Comparison Profile #4 and is included merely for the benefit of user's who are accustomed to interpreting reports that display comparison group data in this manner such as the MMPI-2-RF. As is show in Comparison Profile #4, below the profile the applicant's applicant T score, Community T score, and raw score are shown for each scale as well as the percentile based on the applicant comparison group for the job position applied for.

Figure 9: Comparison Profile #8 – Community Norms and Applicant Comparison Sample For the CPI Special Purpose Scales

Comparison Profile #8 Community Norms & Applicant Comparison Sample For the CPI Special Purpose Scales

The test taker's Community T scores (shown below as a solid line) were computed using norms based on the scores of a sample of 6,000 members of the general community.

The profile below compares the test-taker's Community T scores with the Community T scores of the Applicant Comparison Sample. (The Applicant Comparison Sample consists of 40,814 people who were applying for the position of police officer/deputy/trooper.) The shaded vertical bars on the profile show the mean Community T scores for the Applicant Comparison sample, plus and minus one standard deviation.



	Itg	So	Sol	So2	So3	So4	Wo	Mp	Lp	Leo	Ami	Nar	Hos	Anx
Test Taker Data														
Raw Score	27	28	10	9	4	5	32	20	63	37	17	30	16	2
T Score	49	46	54	47	42	46	58	54	68	82	41	61	53	33
*Percentile	13	6	22	20	9	78	16	10	78	97	1	94	93	1
Comparison Sample Data														
Mean T Score	57	56	58	54	55	42	63	65	64	70	62	44	37	41
Standard Dev	8	6	5	7	7	8	6	7	5	7	7	9	8	5

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Applicant Comparison Sample. For the Itg to Ami scales, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Applicant Comparison Sample have scores as low or lower than the test taker) are boldfaced. For the Nar to Anx scales, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Applicant Comparison Sample have scores as high or higher than the test taker) are boldfaced.

Applicant Type and Level

This section of the report titled “Applicant Type and Level,” provides a description of the applicant’s approach to the world, in terms of CPI Type and Level classifications. See Figure 10, below.

The CPI Type designation indicates which of four basic Types (Alpha, Beta, Gamma, Delta) best describes a test-taker based upon the interaction of his or her scores on two orthogonal scales: externality-internality (v1), and norm-favoring versus norm-questioning (v2).

The report illustrates the applicant’s Type orientation graphically, with a chart that plots the applicant’s scores on the v1 and v2 scales. The horizontal and vertical axes represent the CPI community norms for the v1 and v2 scales. The shaded box Overlay represents the mean and plus or minus one standard deviation for both v1 and v2 scales for the Applicant norm group of the job position the applicant is applying for.

In addition to the graphical display, the report contains a narrative discussion of the characteristics associated with the Type to which the applicant is assigned, as well as an indication of the proportion of the Applicant normative sample with that Type classification.

Table 7 contains the percentage of public safety job applicants who exhibit selection relevant problems, tabulated separately for applicants who are classified into each of the four CPI types. The problem variables analyzed are the eight problem variables that are represented in the Job Suitability Snapshot portion of the report (Job Performance, Integrity, Anger Management, Alcohol Use, Illegal Drug Use, Substance Abuse, Failing The Psychological Evaluation, and Job Termination). As the table indicates, the incidence of scoring as the highest risk compared to all applicants ($\geq 90^{\text{th}}$ percentile) is consistently higher for applicants classified as Gamma and Delta, than for applicants classified as Alpha and Beta. For example, the percentage exhibiting Anger Management problems is 40 and 19, respectively, for applicants classified as Gamma and Delta, but only 9 and 4, respectively, for applicants classified as Alpha and Beta.

Table 7

Percentage Of Public Safety Applicants Who Admit Selection Relevant Problems, By CPI Type

Problem	Alpha	Beta	Gamma	Delta
Fail Psychological Evaluation ^a	7	5	41	30
Substance Abuse ^b	8	6	42	30
Illegal Drug Use ^b	7	4	46	28
Alcohol Use ^b	10	6	30	20
Anger Management ^b	9	4	40	19
Integrity ^b	10	6	27	18
Job Performance ^b	6	3	44	23
Job Termination ^c	11	5	24	12

Note: CPI Type based on general community norms.

^a Sample size = 22,867. ^b Sample size = 36,276. ^c Sample size = 3,390.

The report also contains information about the applicant’s CPI Level classification, which is based on the applicant’s score on the v3 scale. The Level classification is used to provide additional meaning to the Type designation, by indicating the degree to which the person has

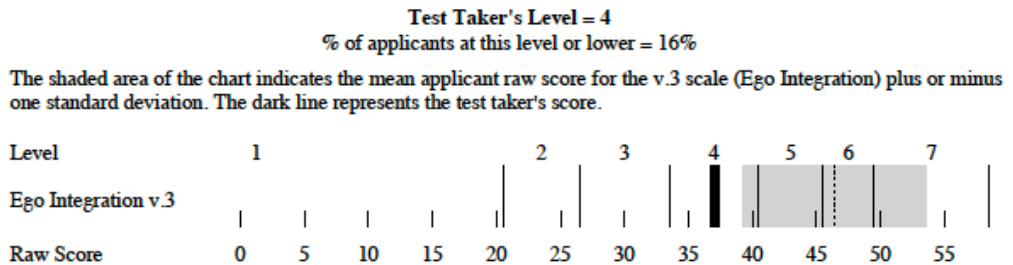
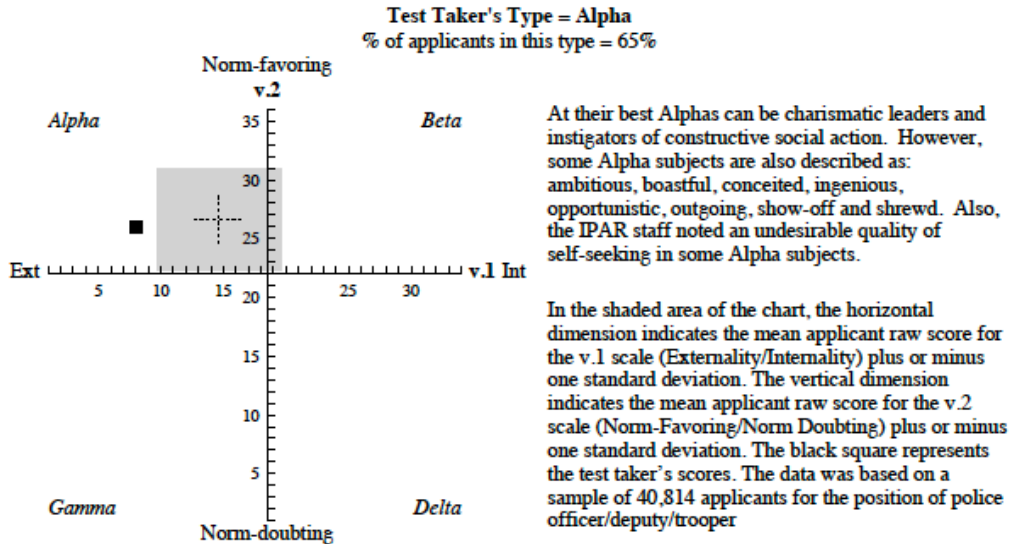
managed to integrate the Type characteristics towards becoming fully developed and self-realized.

The CPI Level and underlying v3 scale are depicted graphically at the bottom of the page in a “gas-gauge” display. Above the display the applicant’s Level score is shown along with the proportion of the Applicant comparison group for the job position applied for at the Level of the applicant or lower. A bold vertical line indicates the applicant’s v3 scale score plotted against the cut points for Level. A shaded rectangular box represents the mean v3 scale score plus or minus one standard deviation for the Applicant comparison group for the position applied for.

In addition to the two graphic displays of the Vector scales and the Type and Level classifications, there is a table of Vector scale scores and the associated Applicant percentiles at the bottom of the page. For v1, very high scores are undesirable. Percentiles of 90% or more are boldfaced. For v2 and V3, very low scores are undesirable. Percentiles of 10% or less are boldfaced.

Figure 10: Applicant Type and Level

Applicant Type and Level



VECTOR SCALE SCORES

Scale	Scale Label	Raw Score	Applicant Percentile*
v.1	Externality/Internality	8	7
v.2	Norm-Favoring/Norm Doubting	26	46
v.3	Ego Integration	37	12

* For each scale, the percentile value indicates where the test taker's scale score falls, on a percentage basis, along the distribution of scale scores for the Applicant norm sample. For v.1, very high scores are undesirable. Percentiles of 90% or more (indicating that only 10% of the Applicant norm sample have scores as high or higher than the test taker) are boldfaced. For v.2 and V.3, very low scores are undesirable. Percentiles of 10% or less (indicating that only 10% of the Applicant norm sample have scores as low or lower than the test taker) are boldfaced.

Selection Relevant CPI Items

This section of the report summarizes the applicant's endorsement of Selection-Relevant CPI Items. See Figure 11, below. These are individual CPI items that meet two conditions: (a) they were judged by a panel of expert psychologists to contain content that is particularly relevant to public safety job performance, and (b) they are answered in the "negative" direction by only a small proportion (generally ten per cent or less) of public safety job applicants. For example, one Selection Relevant item is "It is hard for me to start a conversation with strangers", which is endorsed as "true" by less than 10% of the public safety job applicants in the job applicant normative sample. Another is "I would do anything on a dare" which is endorsed as "true" by only 1% of public safety job applicants.

In addition to being rated as highly job relevant by the panel of expert psychologists, some of the Selection Relevant items were also demonstrated to be correlated with substandard police performance, on three or more job function categories in a study in which police sergeants rated the performance of officers they supervised (Johnson, Benner, & Roberts, 1990). For each Selection-Relevant item that the applicant endorses in the atypical direction, the report lists the actual item content and the proportion of public safety job applicants who endorse these items in the same, atypical way. For the items that were shown to be correlated with substandard performance, the item content is printed in italics.

The listing of items is organized by the job function category to which each item is most relevant. The job function categories are: Self-initiative/motivation, Following rules and regulations, Interpersonal skills/relationships with coworkers and the public, Self-control, and Assertiveness.

The listing of Selection Relevant item endorsements in the report provides insights about the applicant that are not always discernable from scale scores alone. It is useful for screening psychologists to discuss the content of these item endorsements (without stating them literally, in the interest of not "teaching them the test") during the interview with the applicant. This may help individualize the suitability assessment, and will also serve to rule out mismatches or misunderstandings by the applicant.

Figure 11: Selection Relevant CPI Items

Selection Relevant CPI Items

Items endorsed by test taker

The items printed below were endorsed by this test taker as indicated by the T(true) or F(false) in the parentheses after each item. The percent following the T or F endorsement is the percent of police and public safety applicants who endorsed the item in the same direction. Items printed in italics were correlated with substandard performance on three or more police officer job function categories as rated by sergeants who knew the post probation officers well. It is useful to discuss selected item endorsements with the applicant during the interview. This practice may help individualize the suitability assessment, and will also serve to rule out mismarks or misunderstandings by the applicant.

Self-initiative/motivation (1 items endorsed)

147. I certainly feel useless at times. (T-7%)

Following rules and regulations (1 items endorsed)

212. *I have never been in trouble with the law.* (F-34%)

Interpersonal skills/relationships with coworkers and the public (2 items endorsed)

81. *I must admit I often try to get my own way regardless of what others may want.* (T-18%)

194. I like to keep people guessing what I'm going to do next. (T-15%)

Self control (8 items endorsed)

44. Sometimes I feel like smashing things. (T-10%)

91. *Sometimes I think of things too bad to talk about.* (T-10%)

114. At times I feel like picking a fist fight with someone. (T-2%)

115. Sometimes I have the same dream over and over. (T-14%)

187. *I am inclined to take things hard.* (T-9%)

232. Sometimes I feel that I am about to go to pieces. (T-2%)

276. I have very few quarrels with members of my family. (F-7%)

309. I have been afraid of things or people that I knew could not hurt me. (T-7%)

Assertiveness (1 items endorsed)

309. I have been afraid of things or people that I knew could not hurt me. (T-7%)

Decision making (No items endorsed)

Social concerns (No items endorsed)

Unanswered Items (No unanswered items)

Indicators Of Essential Job Functions And Job Performance Problems

This section of the report, “Indicators Of Essential Job Functions and Job Performance Problems for Police Officer Applicants,” is printed only when the applicant is applying for the position of police officer/deputy/trooper. See Figure 12, below. This page lists each CPI scale or subscale that meets the following criteria: (a) the scale has been shown to be significantly correlated with ratings of officer performance on a specific job function or job problem area, and (b) the applicant’s scale score differs by at least one standard deviation from the average score for public safety job applicants. The scale is listed as a “favorable indicator” if the item is endorsed in the direction that is correlated with satisfactory performance, and as an “unfavorable indicator” if the item is endorsed in the direction that is correlated with unsatisfactory performance.

This feature of the report relies on a study in which 247 post-probationary police officers from one large urban department were rated on a series of job performance and job problem dimensions (Johnson, Benner, & Roberts, 1990). In this study, the sergeants providing the ratings were promised anonymity, and guaranteed that ratings of individual officers would not be shared with department management. These safeguards led to an unusual level of frankness about substandard behavior among these incumbent officers. (For example, 12% of the officers rated were described as having problems with excessive force; a level that would never be found in standard performance ratings made within a police department).

The listing of indicators is presented in a table that contains a row for each of ten essential job functions (e.g., “patrol responsibility” or “relations with citizens”) and each of ten job performance problems (e.g., “excessive/ unnecessary force” or “unethical behavior”). For each row of the table, there is a column listing the acronyms of the CPI scales that are favorable indicators, and a column listing the acronyms of the CPI scales that are unfavorable indicators. At the bottom of the table is a count of the total number of favorable and unfavorable indicators listed for the applicant. (Note: a single CPI scale may be listed in more than one row of the table; this redundancy indicates the “broadband” nature of many scales’ linkage to job performance.)

The information presented in this page of the report helps the screening psychologist relate the CPI scale scores presented in the report to specific job performance concerns about the applicant.

Figure 12: Indicators of Essential Job Functions And Job Performance Problems for Police Officer Applicants

Indicators of Essential Job Functions and Job Performance Problems for Police Officer Applicants

The table below identifies test results that are associated with either favorable or unfavorable supervisory ratings on (1) job functions that are considered essential for success as a public safety officer, and (2) potential job performance problems. Note that a single indicator may be listed in the table in more than one location; this redundancy reflects the "broadband" nature of many indicators' linkages to selection criteria.

Favorable Indicators	Unfavorable Indicators
ESSENTIAL JOB FUNCTIONS	
Job knowledge	Ami
Written communications	Mp, Lvl
Verbal communications	Mp, Ami, Lvl, Hos, Sc, Wb
Problem solving/decisions	So, Ami, So3, Lvl, Hos
Patrol responsibility Leo	
Control of conflict	So, Sc, Ami, So3, Nar
Reliability	So, Ami, So3, Nar
Relations with co-workers	So, Ami, So3
Relations with citizens	So, Sc, Gi, Ami, So3, Nar, Hos
Overall percentile rating	So, Ami, So3
JOB PERFORMANCE PROBLEMS	
Excessive/unnecessary force	Nar
Alcohol abuse	So
Illegal drug use	
Firearms misuse	So, So3
Unethical behavior	So, Mp, Ami, So3
Excessive disability use	
Sick leave abuse	Leo
Dishonesty	So, So3
Personal realtion problems	So, Wb, Mp, Ami
Favoritism	So
Other problems	Hos
TOTAL INDICATORS	
1	53

Item Responses

The last page of the report lists the applicant's response (true or false) to each of the 434 CPI items. See Figure 13, below. This information can be compared to the marks on a CPI answer sheet, if not taken online, in order to verify the accuracy of the data entry.

Figure 13 : Item Responses

Item Responses

1. T	41. T	81. T	121. F	161. F	201. T	241. F	281. F	321. F	361. T	401. F
2. F	42. T	82. T	122. F	162. T	202. T	242. T	282. F	322. T	362. F	402. F
3. F	43. F	83. F	123. T	163. T	203. T	243. F	283. T	323. F	363. F	403. T
4. T	44. T	84. F	124. F	164. F	204. T	244. F	284. F	324. F	364. F	404. F
5. F	45. F	85. F	125. T	165. T	205. F	245. T	285. F	325. F	365. F	405. F
6. T	46. T	86. T	126. T	166. T	206. F	246. T	286. F	326. T	366. F	406. F
7. F	47. F	87. T	127. T	167. T	207. F	247. T	287. F	327. F	367. F	407. F
8. T	48. T	88. T	128. T	168. F	208. T	248. T	288. F	328. F	368. T	408. T
9. F	49. T	89. F	129. T	169. F	209. T	249. T	289. T	329. F	369. F	409. F
10. T	50. T	90. F	130. F	170. F	210. F	250. F	290. F	330. F	370. F	410. T
11. F	51. T	91. T	131. T	171. F	211. T	251. F	291. F	331. F	371. T	411. F
12. F	52. T	92. F	132. F	172. T	212. F	252. F	292. T	332. F	372. F	412. T
13. F	53. T	93. F	133. T	173. F	213. T	253. T	293. T	333. T	373. T	413. T
14. F	54. F	94. F	134. F	174. F	214. T	254. F	294. F	334. F	374. F	414. T
15. F	55. T	95. F	135. F	175. T	215. F	255. F	295. T	335. F	375. T	415. T
16. F	56. F	96. T	136. T	176. F	216. T	256. T	296. T	336. T	376. T	416. F
17. F	57. T	97. F	137. F	177. F	217. F	257. F	297. F	337. F	377. T	417. F
18. F	58. F	98. T	138. T	178. F	218. T	258. F	298. T	338. F	378. F	418. F
19. F	59. T	99. F	139. F	179. T	219. T	259. T	299. F	339. F	379. F	419. F
20. F	60. F	100. T	140. F	180. T	220. F	260. T	300. F	340. F	380. T	420. T
21. T	61. T	101. F	141. T	181. T	221. T	261. F	301. F	341. F	381. F	421. F
22. T	62. F	102. T	142. T	182. T	222. F	262. T	302. F	342. F	382. T	422. F
23. F	63. T	103. F	143. T	183. F	223. T	263. T	303. T	343. T	383. F	423. F
24. T	64. F	104. F	144. F	184. T	224. T	264. T	304. T	344. F	384. F	424. T
25. F	65. F	105. F	145. F	185. F	225. T	265. T	305. T	345. T	385. F	425. F
26. T	66. T	106. F	146. T	186. F	226. T	266. T	306. F	346. T	386. T	426. F
27. F	67. F	107. T	147. T	187. T	227. F	267. F	307. F	347. T	387. F	427. F
28. F	68. F	108. T	148. F	188. F	228. F	268. T	308. F	348. T	388. F	428. T
29. F	69. F	109. T	149. T	189. F	229. T	269. T	309. T	349. F	389. T	429. F
30. T	70. F	110. T	150. F	190. F	230. T	270. F	310. T	350. F	390. F	430. T
31. F	71. F	111. F	151. F	191. T	231. F	271. T	311. F	351. T	391. F	431. F
32. F	72. F	112. T	152. F	192. F	232. T	272. T	312. T	352. F	392. T	432. T
33. F	73. F	113. F	153. F	193. T	233. F	273. F	313. F	353. F	393. F	433. T
34. T	74. F	114. T	154. F	194. T	234. F	274. F	314. T	354. T	394. T	434. T
35. F	75. F	115. T	155. F	195. T	235. T	275. F	315. F	355. T	395. T	
36. F	76. F	116. F	156. F	196. F	236. F	276. F	316. T	356. F	396. T	
37. T	77. T	117. T	157. F	197. T	237. F	277. T	317. T	357. F	397. F	
38. F	78. T	118. T	158. T	198. T	238. T	278. F	318. F	358. F	398. F	
39. T	79. F	119. F	159. F	199. T	239. F	279. F	319. T	359. T	399. F	
40. F	80. T	120. T	160. F	200. T	240. F	280. T	320. T	360. F	400. T	

End of Report

Development And Validation Of Predictive Statements In The Job Suitability Snapshot

As described in previous sections of this chapter, the CPI-434 Police and Public Safety Selection Report contains one equation that is an estimate of the likelihood that an applicant for a public safety position would be “involuntarily departed,” while a second equation indicates how likely it is that the applicant would be rated as “poorly suited” for the job by psychologists with expertise in public safety screening. The report also contains other estimates of the likelihood that the applicant has a history of job-relevant behavioral problems in each of six behavioral categories. Each of these likelihood estimates is based on a prediction formula that relates CPI scale scores to a particular criterion variable. This section of the manual describes the research that was done to develop and cross-validate these prediction formulas.

Sample Composition

The prediction formulas were derived and tested using three subsamples of the total public safety job applicant normative sample for which CPI data was available (N = 50,488). One subsample, used to predict “involuntary departure” contained 3,390 police officers. The officers in this sample were administered the CPI as part of their pre-employment screening test battery, were hired, and went on to work as police officers. The second sample, used to predict the psychological ratings, contained 22,867 cases. The applicants in this sample received a complete psychological evaluation as part of the process of applying to be a public safety officer. This evaluation included the administration of the CPI, along with other tests and an interview, and culminated in a rating (A, B, C, D, F) of the applicant’s suitability for the public safety position. The last subsample, used to predict the job-relevant behavioral problems, contained 36,276 cases. The applicants in this sub-sample completed the CPI and the JRA Personal History Questionnaire, as part of the process of applying to be a public safety officer.

Table 8 compares the characteristics of the three prediction sub-samples with respect to gender and ethnic group. As the table indicates, the three sub-samples have highly similar distributions with respect to gender and ethnic group. It is noteworthy that each subsample includes a higher proportion of each ethnic group than are present in the USA population at large, and reflect the proportion of minorities applying for these public safety jobs. In the case of gender representation, each subsample includes roughly 20% female applicants, which is typical of the applicant pool for sworn officers nationally, although in job categories like communication dispatcher the gender representation is reversed, with 80% of applicants being female.

Before conducting the analysis; the three sub-samples were split randomly into two equal halves. The first half of each sub-sample was used to calibrate the prediction equations, and the second half of each sub-sample was used to cross-validate the prediction equations.

Criterion Variables

In the sub-sample containing job outcome data, the police officer applicants received a complete psychological evaluation and were subsequently hired by the agency they applied to. The base rate of police officers that were “involuntarily departed” (forced to resign, terminated, failed the academy, or failed probation) from their employment was 11%.

In the sub-sample containing psychological ratings as a criterion variable, the applicants received a complete psychological evaluation. Typically, this evaluation included the CPI, either the MMPI-2 (from 1989 to 1997) or PAI (from 1995 to the present), the STAXI, the Johnson, Roberts Personal History Questionnaire, and a structured interview. Based on this information, the applicants were assigned by the evaluating psychologist to one of five suitability categories (A, B, C, D, or F). For purposes of the prediction used in this CPI report (and for certain screening purposes), these categories were combined into two broader categories: “suitable/pass” (i.e., ratings of A, B, and C) and “poorly suited/fail” (i.e., ratings of D and F).

Roberts and colleagues have conducted several longitudinal studies to examine the predictive accuracy of these psychological ratings when made by psychologists who were trained in the use of the rating system (Johnson, Roberts & Benner, 1991, 1996; Zwemke, Johnson, & Roberts, 1990). The data indicated that “poorly suited” (i.e., D-rated) applicants who were subsequently hired as police officers were almost twice as likely to fail during probation as applicants rated “suitable” (i.e., rated A, B, or C). Additionally, D-rated applicants who were hired and completed the probationary year were three times as likely to be terminated for cause and, in a second study, twice as likely to have significant disciplinary records. Based on a review of these data and negative experience with D-rated applicants who were hired, many of the senior author’s client agencies have instituted a policy of not hiring D-rated applicants, or doing so rarely and only when the background and polygraph exams do not corroborate the psychological concerns.

In the subsample containing PHQ data, applicants completed the CPI and the Johnson, Roberts, & Associates Personal History Questionnaire along with the rest of the applicant testing protocol. As previously described in this chapter, the Johnson, Roberts Personal History Questionnaire contains approximately 300 questions covering various job-relevant aspects of an applicant’s background, including education, employment, military experience, law enforcement experience, driving record, financial history, criminal record, substance use, and general information. It is important to note that admissions of negative behavior on the PHQ were more likely than would be expected in a typical job applicant setting, because of the threat of verification through the polygraph and background investigation.

Table 8

Characteristics Of Public Safety Job Applicants For Whom PHQ and Psychological Evaluation Data Is Available

	PHQ Data Available (N = 36,276)	Psychological Evaluation Data Available (N = 22,867)	Involuntary Departure Data Available (N = 3,390)
Gender			
% Male	80	82	85
% Female	20	18	15
% Missing	*	*	*
Ethnicity			
% Caucasian (Non-Hispanic)	62	62	62
% African American	15	17	8
% Hispanic	12	13	16

% Asian/Pacific Islander	8	5	9
% Native American	1	1	1
% Other	2	1	2
% Missing/No Answer	0	0	2

Note: Values represent percentages of those who have each type of data.

Using the data from the PHQ, six composite problem variables were formed, reflecting job-relevant problems in the following areas: Job Performance, Integrity, Anger Management, Alcohol Use, Illegal Drug Use, And Substance Abuse. Each composite variable was based on a number of individual questions. For each of these individual PHQ questions, endorsements of one or more of the available response options were identified as “problem” responses (i.e., they were judged to represent a serious behavioral admission for a public safety applicant). For example, one of the questions on which the Job-related problems variable was based was “Have you ever been fired from any employment?” For this question, endorsing the response that indicated the applicant was fired “two or more times” was regarded as a problem response. Table 6 (in Chapter 3) summarizes the set of responses that were used as indicators of a problem. For each of the six composite problem variables, the table presents the PHQ item numbers and responses on which the composite problem variable was based.

Each of the composite problem variables was assigned one of two values: 1 (problem) or 0 (non-problem). A composite problem variable was assigned a value of 1 (problem) if an applicant responded to any of the questions on which the composite problem variable is based in a manner that indicated “problematic” behavior. For example, the composite variable reflecting Anger Management problems is based on the following sets of problem responses: (a) has slapped or punched a romantic partner one or more times; (b) had one or more personal fights since age 18; (c) had one or more fights after consuming alcohol; (d) had two or more arguments at work where voice was raised or profanity was used; and (e) was arrested for, or admits committing, assault on another person. If an applicant’s answers to the PHQ included any of the above responses, he or she would be regarded as having a problem with respect to the composite variable, Anger Management.

Table 6 presents, for each of the six composite problem variables, the percentage of applicants who endorsed each of the responses making up that composite variable at or above the cutoff level (e.g., is late to work *once a month or more*). Table 5 also presents, for each of the composite variables, the base rate of applicants who reported at least one item for that variable. For example, 38% of the applicant normative sample endorsed one or more items included in the Job Performance composite variable.

Prediction Models

For each of the predictions made in this CPI Public Safety Screening Report (i.e., the prediction of involuntary departure, a “poorly suited” psychological rating, and the predictions of the six composite problem variables), the form of the prediction equations is the same; that is, a dichotomous (1,0) criterion variable is being predicted from a set of continuous predictor variables (i.e., the CPI scale scores). Logistic regression analysis (Hosmer & Lemeshow, 1989) was used to create all of the prediction equations. In each case, a stepwise procedure was conducted to select predictor variables from a larger pool of potential variables and to assign regression weights. The specific algorithm used was the SPSS Logistic Regression Analysis procedure (Norusis, 1997). A separate prediction equation was developed for each of the criterion variables.

Table 9 shows the goodness of fit statistics from the calculations that were performed to calibrate the prediction formulas. Two goodness of fit statistics are shown in the table: a correlation coefficient and the percentage correctly classified. The correlation coefficients are point biserial correlation coefficients between (a) scores on the observed value of the dichotomous criterion variable (i.e., problem versus no problem, suitable versus poorly suited) and (b) the predicted value of the criterion variable based on the logistic regression equation. The percentage correctly classified statistics reflect the percentage of cases correctly classified on the criterion variable (problem/no problem), based on the predicted value from the logistic regression equation. (Note: For assigning cases to problem or no problem outcomes, based on the prediction equation, the cutoff values were set so that the proportions of the predicted values assigned to each outcome agreed with the proportions of the observed values assigned to each outcome. For example, if 66% of the cases were observed to have problem scores for a particular criterion variable, the cutoff value for the prediction equation was set so that the highest 66% of predicted values were assigned to the problem category.)

Table 9 indicates that the calibration formulas were successful in predicting the criterion variables. The equation predicting involuntary departure had a correlation coefficient of .15 and correctly classified 89% of the cases in the sample. The equation predicting the outcome of the psychological suitability rating had a correlation coefficient of .38 and correctly classified 76% of the cases in the sample. The equations predicting the various composite problem variables had correlation coefficients ranging from .25 to .38 and correct classification rates ranging from 64% to 82%.

Cross-Validation Analysis

The goodness of fit statistics computed to measure of the accuracy of the prediction formulas were based on the same samples of data that were used to calibrate the prediction formulas. These goodness of fit statistics could be misleading. Whenever a prediction formula is calibrated on a particular set of data, there is a possibility that the formula will be tailored to the idiosyncrasies of that data set in a way that will not be replicated in other data sets. In order to investigate how well a prediction formula will predict in the future, it needs to be cross-validated by testing the prediction formula in a new data set that was not used in the calibration of the formula. For these reasons, a cross-validation analysis was performed to test the goodness of fit of the CPI prediction equations in new data sets. As discussed above, the subsamples used for the prediction analyses were randomly split into two halves, with one half being used for calibration and the other half used for cross-validation.

Table 9

Measures Of Goodness Of Fit For Equations Predicting Problem Variables From CPI Scale Scores

Problem	r		% correctly classified	
	Calibration	Cross-validation	Calibration	Cross-validation
Fail Psychological Evaluation ^a	.38	.37	76	75
Involuntary Departure ^b	.15	.13	89	89
Substance Abuse ^c	.29	.28	66	66
Illegal Drug Use ^c	.25	.23	82	82

Alcohol Use ^c	.25	.25	78	79
Anger Management ^c	.32	.32	66	66
Integrity ^c	.38	.35	74	74
Job Performance ^c	.27	.28	64	64

^a Sample size = 22,867. ^b Sample size = 3,390. ^c Sample size = 36,276.

Table 9 also presents the goodness of fit statistics for the cross-validation analyses. As the table shows, there was no appreciable reduction in the goodness of fit statistics when the prediction formulas were applied in the new, cross-validation sample. Specifically, for predicting involuntary departure, the correlation coefficient was .15 in the calibration sample and .13 in the cross-validation sample. The percentage of correct classifications was 89% in the calibration sample and 89% in the cross-validation sample. For predicting psychological suitability, the correlation coefficient was .38 in the calibration sample and .37 in the cross-validation sample. The percentage of correct classifications was 66% in the calibration sample and 66% in the cross-validation sample. For predicting the composite problem variables, the largest drop in correlation coefficients between the calibration and cross-validation samples was .03 (i.e., from .38 to .35) for “Integrity Problems.” For all six of the problem variables, the percentage of correct classifications was the same in the cross-validation sample as it was in the calibration sample.

The results of the cross-validation analysis demonstrate that the prediction formulas used in the CPI Police and Public Safety Selection Report accurately predict the outcome of psychological screening and self-reported negative behaviors, even when the formulas are applied to new samples of screening data that were not involved in calibrating the formulas. This finding should increase confidence that the formulas will continue to provide valid predictions when they are used for new groups of public safety job applicants. Additionally, in the years since the creation and initial cross-validation of the prediction formulas, subsequent job outcomes studies have supported the predictive validity of a number of these equations. See Appendix A.

Future Upgrades

The CPI Police and Public Safety Selection Report was designed to assist psychologists in going beyond the minimum objective of emotional stability certification when screening public safety applicants. Since the creation of the report, the goal of assessing for suitability, rather than emotional stability, has been adopted by California POST and is now the standard of best practice throughout the country. To that end, the senior author and his colleagues have focused on providing special report scales and indices that guide the screening psychologist toward job-relevant issues by presenting normative and validity data based on actual screening programs that will help to support the final recommendation.

The addition of percentiles and new options for viewing scale profiles in Version 2.0 was designed to facilitate accurate interpretation of the features of the report. The new data and simplified ways of presenting test results provides new ways of accessing the value of the CPI Report and increases its value to the psychologist formulating a suitability recommendation.

The authors intend to provide future updates that will continually expand the value of this report for the screening psychologist. For example, the authors will include larger normative samples of job applicants in general, as well as applicants who were hired (Incumbents) for each job category and also add a new profile for security guards/security officers. Additional new features for the report will include an optional table of narrative scale descriptions that are triggered by scale score levels that are selection-relevant. It is also a long-term goal to develop an interpretive report for the CPI Police and Public Safety Selection Report that will be anchored in peer-reviewed and published job-outcome studies. This future version of the report would greatly increase the power of the Report and provide additional strength to interpretations suggested by its findings.

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