

# B-PAD®

# TECHNICAL REPORTS

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VALIDITY  RELIABILITY  ADVERSE IMPACT  TEST CONSTRUCTION  SCORING  PRACTICE EFFECTS   
EFFECTS OF EXPERIENCE  ADA AND CRA COMPLIANCE  REFERENCE CITATIONS

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# Test Construction & Validation

B-PAD video tests assess an applicant's interpersonal skills and judgment. Scenarios portraying difficult interpersonal challenges are used to elicit a rich and wide variety of behavior. Behavioral responses to standardized, realistic, job-relevant situations provide for the most valid prediction of future work behavior. Eight scenarios/role plays from a larger pool of scenes are presented to ensure that each applicant's competence is assessed across an appropriate range of situations. In testing parlance, B-PAD is referred to as a *high fidelity* test because it uses realistic representations of task situations and provides applicants with an opportunity to respond as if they were actually facing the situation on the job.

B-PAD's rationale and construction is based on the model of test construction developed by Goldfried and D'Zurilla (1969) called the Behavioral-Analytic Model for Assessing Competence. According to this model, the preferred goal of assessment is the appraisal of *competence* rather than the presence or absence of more global attributes or traits.

Toward the goal of creating a video test that samples an adequate range of job-relevant competence, the construction of each B-PAD video test began with the collection of numerous problematic vignettes, obtained from a variety of sources. Scenarios were gathered from a diverse group of subject matter experts (SMEs) including women, ethnic minorities, professionals with urban and rural experience, line employees, supervisors and administrators. Additional SMEs were then used to rate written scripts of the various scenarios on the basis of realism, importance and difficulty. The final decision about which scenes to videotape was made by considering SME input and the need for a representative range of situations. Each vignette, however, reflects a job function regarded by the SMEs as essential.

Once the scenes were selected, their scripts were refined, story boards were developed, actors and actresses were chosen, and the scenes were professionally produced. The eight scenes contained in each version of a B-PAD video tests are configured to allow for a sampling of an adequate depth of competence across an adequate breadth of situations. Promotional video tests are nearly always customized, allowing SMEs from each agency to select the specific eight scenes most appropriate for the particular position and agency.

The validation and reliability-testing procedures used by THE B-PAD GROUP are conducted in accordance with the "Standards for Educational and Psychological Testing" published jointly by the American Educational Research Association, the American Psychological Association, and the National Council on Measurement in Education. In addition, the procedures comply with the "Principles for the Validation and Use of Personnel Selection Procedures" published by the Society for Industrial and Organizational Psychology. Selected research briefs addressing validity, reliability, adverse impact, and other issues are attached.

# The B-PAD Testing Procedure and Scoring

Applicants taking a B-PAD video test are seated before a workstation and webcam. After receiving instructions they are presented a series of eight simulations selected from a larger pool of available scenes. At a particular point in each scene, the word “respond” appears on the monitor and the applicant then has between 45 seconds and 2 minutes to respond verbally, as if he or she were actually at the scene responding to real people in a real situation. At the end of each response, the scene fades out and the next scene begins. A webcam records the applicant’s responses for later scoring by trained raters from the hiring agency or from B-PAD.

B-PAD requires less than 30 minutes to administer and can be scored in under ten minutes. Raters are not present during test administration. A practiced rating panel, usually one to three raters, can easily score 35-55 applicants per day. Because the applicants are video recorded, raters can score at their convenience.

The scoring of applicant responses to B-PAD video tests focuses on interpersonal competence as measured by two content scales: task orientation (a measure of the applicant’s problem solving ability) and interpersonal skills (a measure of the behaviors used by the applicant to relate appropriately to the subjects in the scene), and a weighted scale, overall effectiveness (a unitary measure of interpersonal competence based on the scores assigned to the two content scales). Each scale is assigned a score of 1-4, with 4 reflecting the highest level of competence.

The panel scores may then be used in a variety of ways to select applicants for further screening. Typically, cut-off scores are established to screen out applicants scoring below the designated score. Alternatively, applicants may be rank-ordered for further consideration. THE B-PAD GROUP offers expert consultation from its staff of licensed psychologists in establishing cut-off scores and other decision rules.

## *B-PAD Research Brief #1*

# The Validity of B-PAD As a Measure of Problem-Solving Skills

Purpose of the Study. The purpose of this study was to evaluate the validity of B-PAD's Scale 1 (Task Orientation) in selecting police and corrections/detention officer applicants. The study utilized a construct validation strategy, contrasting the B-PAD scale scores with an independent measure of problem-solving competency. Other independent measures of validity also have been conducted and reported elsewhere (c.f. Rand, 1987; Dolan, 1989; Young, 1992). This research is a summary of a study reported in full by Corey & MacAlpine (1993).

Methodology and Subjects. This study involved 50 applicants who were administered B-PAD as a part of the psychological screening protocol. The subjects applied to one of four California police or sheriff's agencies; 40 were police applicants and the remaining ten were corrections/detention applicants. Written testing was completed first and included Cattell's Sixteen Personality Factor Questionnaire (16PF). B-PAD scoring was conducted without knowledge of the applicant's 16PF scores.

Results. All but one of Cattell's 16 factors measure personality traits, with the one exception being Factor B—a rough measure of problem-solving ability and intelligence, according to its developers. It was hypothesized that Factor B would have at least a modest correlation with B-PAD's Scale 1 (Task Orientation or problem-solving judgment). Also, since Scale 3 (Overall Effectiveness) is partly dependent on Scale 1, a modest correlation between this scale and Factor B was expected. The results of the analysis reveal the expected relationships. Scale 1 correlated significantly with Factor B only ( $r = .39, p < .01$ ), and Scale 3 showed a modest correlation with Factor B ( $r = .31, p < .05$ ). No significant correlations were found, as expected, between the personality trait scales and the B-PAD scales.

Conclusion. The results of this analysis confirm the correlation between Scale 1 scores and an independent measure of an applicant's problem-solving ability. Combined with data showing that Scale 1 does not correlate with personality measures, the results support the valid use of B-PAD's Scale 1 as a measure of problem-solving competence.

## *B-PAD Research Brief #2*

# The Validity of B-PAD As a Measure of Interpersonal Skills

Purpose of the Study. The purpose of this study was to evaluate the validity of Scale 2 (Interpersonal Skills) of B-PAD in selecting police officer applicants. The study utilized a construct validation strategy, contrasting the B-PAD scale scores with independent measures of interpersonal/communication skills and overall suitability for police work. Complete details of this study are available in Young (1992).

Methodology and Subjects. This study involved the administration of *B-PAD for Police* to 203 applicants for deputy sheriff positions with Contra Costa County, located in the eastern San Francisco Bay Area. The sheriff's office serves nearly 760,000 residents and employs 630 sworn personnel. Deputy sheriffs initially serve an average of two years as correctional officers in the detention facility prior to beginning training as patrol officers. The study followed a "double-blind" methodology: none of the three external raters had knowledge of the applicants' standing in the assessment process on any measure until scoring had been completed. Similarly, the agency's internal evaluators remained ignorant of the applicants' B-PAD performance. Interpersonal/communication skills were assessed by the agency using a two-rater panel observing a structured group exercise involving several applicants, combined with a structured interview with a background investigator. This assessment resulted in a Composite Communications Skills score which, as B-PAD, utilized a 4-point scale, with a score of 4 reflecting the highest level of competence.

Results. A total of 60 applicants with low scores on the Composite Communications Skills rating were dropped from further consideration. This group of applicants obtained statistically lower B-PAD Scale 2 (Interpersonal Skills) scores, significant at the .01 level of confidence (applicants with low Composite Communications Skills scores averaged 20.38 on B-PAD's Scale 2, S.D. = 3.78; all others averaged 23.09, S.D. = 3.58). Even larger significant mean differences were obtained in a comparison of the hired applicants (N = 32, mean = 24.45, S.D. = 2.53) vs. applicants not hired due to poor communication skills.

Conclusion. B-PAD was shown in this important study to be a valid and cost-effective tool for identifying applicants with adequate interpersonal/communication skills, as well as those capable of being hired and trained vs. those not capable of completing the assessment process. Conservative estimates indicate that in this study alone, B-PAD would have resulted in a savings of more than \$60,000 had B-PAD been used to select applicants for further processing.

### *B-PAD Research Brief #3*

## The Validity of B-PAD As a Measure of Expected Job Performance

Purpose of the Study. This study was conducted as part of the initial validation research carried out on B-PAD by Rand (1987). The purpose of this segment of the study was to determine the concurrent validity of B-PAD's Scale 3 (Overall Effectiveness) as a predictor of on-the-job interpersonal competence among police officers.

Methodology and Subjects. 30 police officers from municipal police agencies in Marin County, California, were recruited as volunteers for participation in this study. All subjects were administered B-PAD in a manner consistent with pre-employment test administration outlined in B-PAD's *Administrator & Proctor Manual* (Second Edition). The subjects represented a diverse group in terms of demonstrated skill as measured by their B-PAD scores (subject scores on the Overall Effectiveness scale for 8 scenarios ranged from a low of 10 to a high of 29). Following the advice of Hunter (1984), the predictive criterion of interest was on-the-job interpersonal competence as rated by the subject's work supervisor. The raters who scored the subject's B-PAD performance were not informed of the subject's supervisory ratings. The supervisory ratings were for use in the study only and had no impact on the subjects' personnel records.

The study's methodology adheres to the admonition of Wernimont and Campbell (1968), Burbeck and Furnham (1985), and Latham (1989) that predictors should represent realistic samples of behavior and that the criteria should be as similar as possible to the predictors. Supervisors in this study were asked to rate each subject's expected competency in handling the same interpersonal scenarios used as test stimuli in the B-PAD assessment.

Results. Supervisory ratings of interpersonal competence correlated significantly with B-PAD ratings of interpersonal competence ( $r = .72, p < .01$ ).

Conclusion. Hunter & Hunter, in their meta-analysis of the validity and utility of alternative predictors of job performance, determined that the average validity of ability tests is .53 and concluded that "this very high level of validity is the standard against which all alternative predictors must be judged" (p. 81). Rand's observed validity coefficient of .72 compares well with this high standard and supports the use of B-PAD as a valid predictor of on-the-job performance.

## *B-PAD Research Brief #4*

# B-PAD and Adverse Impact On Women and Minorities

Purpose of the Study. The purpose of this study was to evaluate the presence or absence of adverse impact of B-PAD video testing on women and ethnic minority police officer applicants. Since B-PAD scoring criteria emphasize demonstrated behavioral competencies involving non-technical skills (including common sense judgment and interpersonal behavior), it was hypothesized that there would be no differences in the mean scores of men vs. women and white vs. non-white applicants. Prior studies (e.g., Young, 1992) have shown an absence of discrimination on the basis of gender and race.

Methodology and Subjects. This study involved the analysis of B-PAD scores for 2,126 applicants from 23 police agencies in ten states. All scores were derived from local agency raters, each of whom was trained and certified as proficient in scoring of B-PAD responses. The 2,126 subjects returned voluntary self-reports directly to The B-PAD Group using pre-stamped, self-addressed forms. The serial-numbered forms provided for the confidential reporting of gender and ethnicity data. Agency rater scores were reported on forms containing serial numbers that matched the self-report forms.

Among the 2,126 applicants, 1,805 were male and 321 were female. There was the following distribution by ethnic group: 55 American Indians, 135 Asians, 125 African-Americans, 212 Hispanics, and 1,599 white applicants. Nine subjects failed to classify themselves and were eliminated from this study.

Results. According to the *Uniform Guidelines*, adverse impact means a “substantially different rate of selection in hiring, promotion, or other employment decision which works to the disadvantage of members of a race, sex, or ethnic group” (EEOC et al., 1978, Sec. 16-B). Although adverse impact alone does not equate to discrimination or violation of Title VII of the Civil Rights Act of 1964, it is a first step toward such a determination in court. Table 1 (page 7) summarizes the results.

Conclusion. As a measure of interpersonal competence, B-PAD is unbiased in its measurement of the competencies of women and ethnic minorities. The absence of adverse impact is one of the most important attributes of a test used for employee selection, and the validity and usefulness of a selection instrument is greatly restricted as the degree of adverse impact increases. Thus, the capacity of the B-PAD scoring criteria to yield scores that do not produce disparate impact on the basis of gender and ethnicity renders this selection tool a valuable adjunct to applicant screening.



Table 1

## National Analysis of B-PAD Mean Scores and Pass Rates

(2,126 applicants from 23 agencies in 10 states)

### BY RACE

<u>Ethnic Group</u>	<u>N</u>	<u>Mean</u>	<u>SD</u>	<u>Pass Rate</u> <sup>1</sup>	<u>Chi-Square</u> <sup>2</sup>	<u>p</u> <sup>3</sup>
American Indian	55	21.56	3.84	58.18%	.09	.77*
Asian	135	21.22	5.10	55.56%	1.10	.29
African-American	125	21.97	4.96	64.00%	.71	.40
Hispanic	212	21.98	5.10	63.21%	.73	.39
White	1,599	21.45	4.69	60.16%	n/a	n/a

<sup>1</sup> Based on a B-PAD Scale 3 cutoff score of 21.00.

<sup>2</sup> Pearson chi-square analyses were based on comparisons of pass rates of minority vs. white applicants. Chi-square of .55, ( $p = .46$ ) resulted from comparison of the group with the highest probability of selection (African-Americans) to the group with the lowest probability of selection (American Indians).

<sup>3</sup> Significance level of the chi-square statistic for this group was determined by using Fisher's exact test due to the small sample size.

Note: Analysis of variance (ANOVA) yielded no differences in mean B-PAD scores based on ethnic group ( $F = 1.00, df = 4, p > .40$ ).

### BY SEX

<u>Sex</u>	<u>N</u>	<u>Mean</u>	<u>SD</u>	<u>Pass Rate</u> <sup>4</sup>	<u>Chi-Square</u> <sup>5</sup>	<u>p</u>
Female	321	21.93	4.51	62.31%	.61	.44
Male	1,805	21.45	4.79	60.00%	n/a	n/a

<sup>4</sup> Based on a B-PAD Scale 3 cutoff score of 21.00.

<sup>5</sup> Pearson chi-square analysis was based on comparison of pass rates of female and male applicants. Comparison of mean scores reveals no difference in means ( $t = 1.67, df = 2,124, p > .09$ ).

## *B-PAD Research Brief #5*

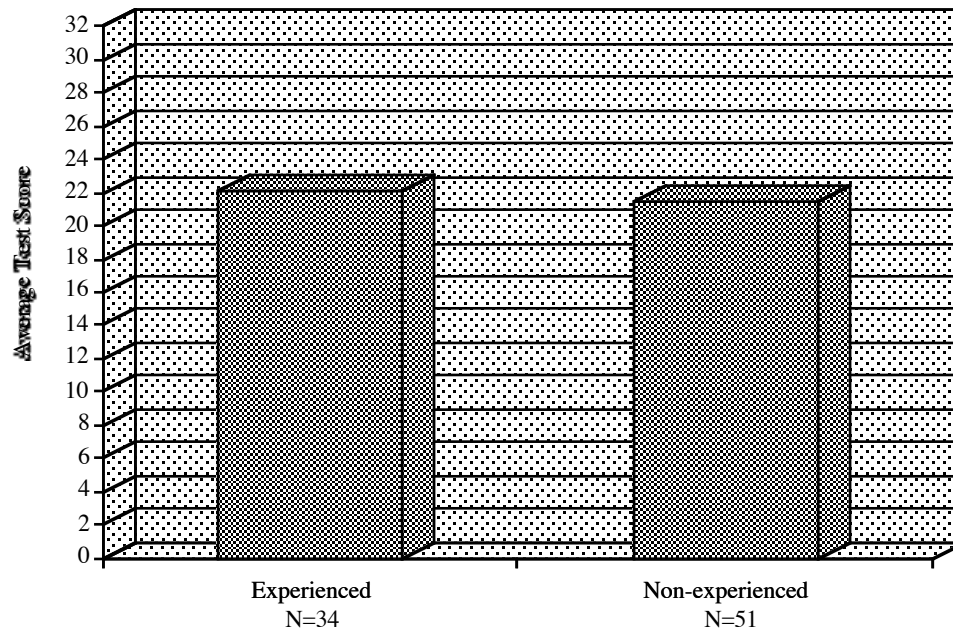
# The Effect of Job Experience On B-PAD Scores

Purpose of the Study. The purpose of this study was to determine whether applicants with experience in police work score higher on B-PAD compared to non-experienced applicants. Since B-PAD is intended to be a test of non-technical competence, it was hypothesized that there would be no significant differences between these two groups of applicants.

Methodology and Subjects. The B-PAD Scale 3 (Overall Effectiveness) scores of 34 experienced applicants from a single police agency were compared with those of 51 non-experienced applicants from the same agency. None of the applicants had received background or psychological screening prior to B-PAD testing. All scores were determined by the agency's trained raters in the normal course of the agency's assessment process. The 34 experienced officers ranged in age from 21 to 43 years (mean age = 27.8 years) and had an average of 3.96 years of experience. The 51 non-experienced applicants ranged in age from 20 to 44 years (mean age = 29.6). They were judged to be non-experienced by the fact that they had neither academy training nor law enforcement job experience.

Results. The B-PAD Overall Effectiveness scores of experienced applicants averaged 22.10 (S.D. = 4.04) and the scores of non-experienced applicants averaged 21.44 (S.D. = 5.80). A comparison of means revealed no significant differences between these two mean scores ( $t = .581, p = .56$ ). Pearson correlation analysis of B-PAD scores and length of experience in years revealed no linear relationship ( $r = .13, p > .10$ ).

Conclusion. The results show that B-PAD Overall Effectiveness scores are not a function of job experience. Thus, non-experienced, entry-level applicants may expect to score as well on B-PAD as applicants with experience.



<sup>1</sup>A comparison of means revealed no significant difference between the mean scores of applicants with and without prior police work experience ( $t = .581, p = .56$ ).

## *B-PAD Research Brief #6*

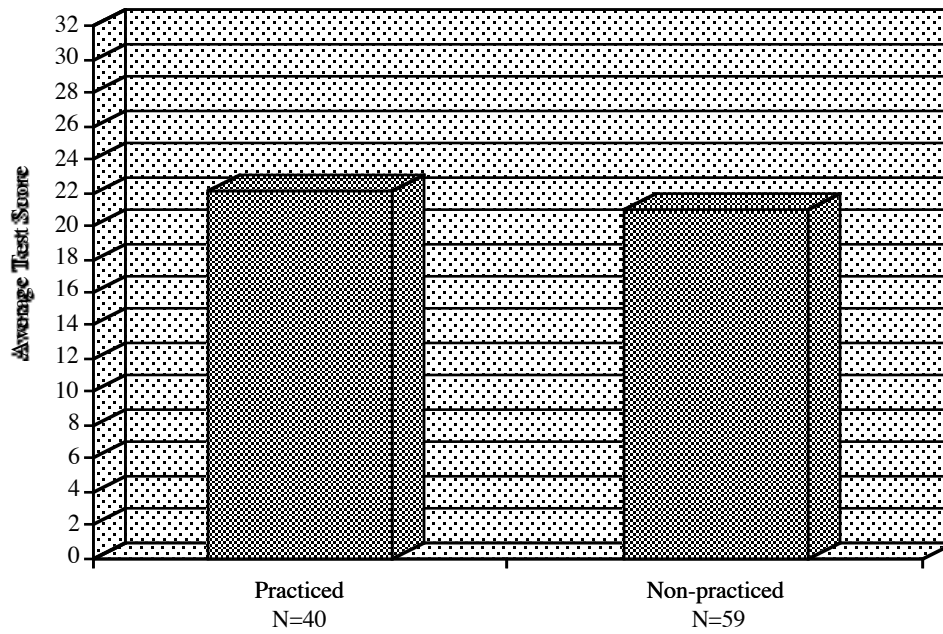
# The Effect of Practice On B-PAD Scores

Purpose of the Study. The purpose of this study was to determine the effects of prior B-PAD test-taking experience (practice) on subsequent performance in an actual pre-employment testing situation.

Methodology and Subjects. 99 applicants from a single police agency in the San Francisco Bay Area (where more than a dozen agencies utilize B-PAD as a part of their entry-level screening procedure) were administered B-PAD and then asked whether or not they had taken B-PAD previously for another agency. 59 applicants reported never having taken B-PAD before and 40 reported having taken it on at least one prior occasion. The B-PAD Scale 3 (Overall Effectiveness) scores of the two applicant groups were compared. The agency raters who scored the applicant responses were uninformed of the applicant's prior test-taking history.

Results. The B-PAD Scale 3 scores of applicants with no prior exposure to B-PAD averaged 21.01 (S.D. = 5.39) and the scores of prior B-PAD test-takers averaged 22.04 (S.D. = 4.30). A comparison of means revealed no significant difference in mean scores ( $t = 1.03, p = .31$ ). Using the agency's qualifying cutoff score of 22.56, 47.5% of practiced applicants passed the B-PAD assessment compared to 45.76% of the non-practiced applicants. Pearson chi-square analysis reveals this difference to be not statistically significant (chi-square = .029,  $df(1), p = .87$ ).

Conclusion. The results support the conclusion that an applicant's performance on B-PAD testing is not significantly improved by prior exposure to B-PAD scenarios or prior B-PAD test-taking experience.



<sup>1</sup> A comparison of means revealed no significant difference between the mean scores of practiced and non-practiced applicants ( $t = .103, p = .31$ ).

## *B-PAD Research Brief #7*

# B-PAD's Correlation With Observed Competencies in the Police Academy

Purpose of the Study. The purpose of this study was to determine the relationship between B-PAD Overall Effectiveness (Scale 3) scores and instructor ratings of key competencies of police recruits.

Methodology and Subjects. 40 police (constable) recruits attending the Ontario (Canada) Regional Police College were administered *B-PAD for Police* during the mid-course of their academy training. As part of Ontario's province-wide police constable recruitment and assessment program, key essential competencies of police constables were identified and rated at the completion of the recruits' training program. B-PAD's Overall Effectiveness score for each recruit was analyzed in contrast to the various essential competency ratings to determine its correlations with observed competencies.

Results. Seven essential competencies (analytic thinking, self-assurance, accurate self-assessment, communication/understanding, communication/listening-expressing, flexibility, and self-control) achieved adequate content and statistical requirements for inclusion in this study. Of these, four (self-assurance, accurate self-assessment, communication/listening-expressing, and self-control) revealed moderate correlation with B-PAD's Overall Effectiveness score. Among the 40 recruits, 16 subjects received supervisory ratings of less-than-minimally-acceptable competency on each of the four key competencies; 24 subjects earned a minimum competency rating on at least one of the four categories. The B-PAD Scale 3 scores of the 16 Ontario recruits with no minimum competencies averaged 21.56 (SD = 4.40); the 24 recruits with at least one competency earned a mean Scale 3 score of 24.47 (SD = 4.44) ( $t = 2.04, p < .05$ ).

Conclusion. The results add to the growing independent evidence of the relationship between an applicant's B-PAD score and criterion measures of job-relevant performance. The sample size in this study is small and warrants replication. The Ontario Police Constable Selection Project, under the auspices of the Office of the Solicitor General and Hay Management Group of Canada, have selected B-PAD as a component of its model selection protocol and will study the predictive utility of B-PAD as it monitors the progress of thousands of applicants currently under assessment throughout the province. Its most recent analysis of more than 2,000 applicants reveals that using B-PAD as a qualifying test produces no differences in selection rates among gender and ethnic groups.

## *B-PAD Research Brief #8*

# The Validity of B-PAD As a Measure of Supervision and Management Skills

Purpose of the Study. The purpose of this study was to evaluate the validity of B-PAD's Scale 3 (Overall Effectiveness) score as a measure of observed supervision and management skills. The study utilized a construct validation strategy, contrasting the B-PAD Scale 3 score with independent measures of supervision and management skills.

Methodology and Subjects. This study involved the administration of *B-PAD for Police Promotions* to 26 incumbent police supervisors or managers, each of whom was competing for internal promotion, in two police agencies (one in Northern California and the other in Southern Washington). In addition to B-PAD, a minimum of three subordinate police officers reporting to each subject was given the Clark Wilson Survey of Management Practices (c.f. Wilson, 1988) The Survey of Management Practices (SMP) contains 145 statements of management behaviors comprising the six factors in Wilson's "managerial task cycle": clarification of goals and objectives, orderly work planning, facilitating the work of others, obtaining and providing feedback, exercising control, and recognition of good performance. The study followed a "double-blind" methodology: the employees rating their supervisors' behavior had no knowledge of the B-PAD ratings, and the B-PAD rater had no knowledge of the SMP scores. Employees completing the SMP were assured of confidentiality; their completed surveys were mailed directly by the employees to the test publisher, and only aggregate data was used in subsequent analyses.

Results. 4 of the 6 SMP factors evidenced statistically significant ( $p < .01$ ) Pearson product moment correlations with the B-PAD Overall Effectiveness score. These managerial factors were: clarification of goals and objectives ( $r = .63$ ), orderly work planning ( $r = .65$ ), facilitating the work of others ( $r = .68$ ), and recognition of good performance ( $r = .57$ ). A fifth factor, "exercising control," consisted of four subfactors (time emphasis,  $r = .39$ ; control of details,  $r = .20$ ; goal pressure,  $r = -.45$ ; and, delegation,  $r = .43$ ). Of these, goal pressure and delegation were significantly correlated with B-PAD scores. No correlation was achieved between B-PAD scores and "obtaining and providing feedback" ( $r = .13$ ).

Conclusion. The results evidenced significant correlations between rater judgments of police promotional applicants' responses to job-relevant video scenarios and employee judgments of those applicants' management skills. With respect to the noncorrelation between "obtaining and providing feedback" and B-PAD scores, it is noted that the SMP survey statements for this factor refer to behaviors which may be independent of interpersonal competence (e.g., "Gives honest opinions of the work people do", "Honestly says what he/she thinks about the group's performance", etc.). These behaviors, in other words, may be as characteristic of interpersonally competent managers as they are of interpersonally deficient managers. In summary, this study supports the use of B-PAD Overall Effectiveness scores as predictors of management performance in key areas of competence.

## *B-PAD Research Brief #9*

# The Validity of B-PAD As a Measure of Ability to Function as Part of a Team

Purpose of the Study. The purpose of this study was to assess the validity of the B-PAD behavioral response test as a measure of observed ability to function as part of a team. The study utilized a criterion validation strategy, contrasting the B-PAD Scale 3 (Overall Effectiveness) score with independent measures of job relevant interpersonal teamwork skills. Also assessed was the relationship between the B-PAD Scale 3 score and a validated written test of cognitive abilities (see “The Validation of ESV Entrance Fire Service Written Tests”, McCann Associates, Inc., Langhorne, Pennsylvania, 1995). It was hypothesized that there would be no relationship between these scores because they presume to measure independent constructs.

Methodology and Subjects. This study involved the administration of B-PAD for Fire/EMS to 29 incumbent firefighter/paramedics from a large metropolitan fire department in the Virginia. Subject B-PAD responses were scored by two independent rater panels from a midsize municipal fire department. Each panel consisted of three raters, comprised of captains and division chiefs. The raters had completed formal training in the B-PAD scoring procedures and had not previously scored outside of the training forum.

Criterion raters consisted of Medical Zone Supervisors and Fire Company Officers from the employing agency. The raters knowledge of the subjects’ work performance was based on personal observation. The criterion measure was the sum score of two independent Likert ratings of a subject’s observed ability to function as part of a team. This was defined for raters as “subordinating oneself to team goals, getting along with other department members in non-emergency situations,” and the extent to which the subject acts in an “unselfish and non-disruptive fashion.” The study followed a double-blind methodology: the B-PAD raters and criterion raters had no knowledge of each others scores.

Results. The two independent B-PAD panels produced scores that were significantly correlated ( $r = .77, p < .001$ ). Their combined scores correlated significantly with the criterion measure ( $r = .44, p < .02$ ). As expected, the B-PAD scores did not correlate significantly with the McCann written test of cognitive abilities ( $r = .19, p > .10$ ).

Conclusion. The results support the use of B-PAD as a predictor of on-the-job interpersonal behavior contributing to effective teamwork. The data also support the conclusion that interpersonal behavior, as measured by the B-PAD behavioral response test, and cognitive abilities, as measured by the McCann written test instrument, are independent constructs.



## *B-PAD Research Brief #10*

# The Effect of Fire/EMS Job Experience on B-PAD Scores

Purpose of the Study. The purpose of this study was to determine the effect of an applicant's prior fire suppression or emergency medical job experience on B-PAD Overall Effectiveness (Scale 3) scores. It was hypothesized that prior job-relevant training and/or experience would provide no advantage to applicants. This finding would be consistent with previous studies of police applicants showing that B-PAD scores are not a function of job-specific work experience.

Methodology and Subjects. This study involved the administration of B-PAD for Fire/EMS to 502 firefighter/paramedic applicants to a large metropolitan fire department in the Northwest. B-PAD scores were determined by 3-person rater panels. The raters were not informed of the applicants' prior work experience. The scores were used in making selection decisions. The experienced applicants (those candidates having one month or more of previous work experience as a paid firefighter, volunteer firefighter, or paramedic) had an average 45.53 months of experience ( $N = 381$ ;  $SD = 41.17$ ). The subjects' experience ranged from 1 month to 302 months. There were 121 applicants with no prior experience or job training.

Results. The correlation between months of experience and B-PAD score was not statistically significant ( $r = .096$ ,  $p > .05$ ). The difference in the mean B-PAD score of the experienced candidates (mean = 22.48;  $SD = 4.51$ ) and the non-experienced candidates (mean = 22.30;  $SD = 4.90$ ) was not statistically significant ( $p > .10$ ).

Conclusion. The results support the findings from previous studies of police applicants showing that B-PAD scores are not a function of prior job-specific work experience. The data also support the conclusion that the interpersonal skills and judgment of experienced job applicants cannot be assumed to be greater than those of non-experienced applicants.

## *B-PAD Research Brief #11*

# THE VALIDITY OF B-PAD AS A MEASURE OF INTERPERSONAL SKILLS FOR PUBLIC SAFETY DISPATCHERS

Purpose of Study. The purpose of the study was to determine if the Behavioral Personnel Assessment Device for Public Safety Dispatchers could effectively test and measure interpersonal skills as they relate to Public Safety Dispatchers and the 9-1-1 Communications Center. These agencies are required to offer 24 hour-a-day availability to the public, as well as being a crucial link in time of disaster and emergency between the public and medical, police, and fire personnel. Therefore, communication and understanding when dealing with the public is of the utmost importance in the emergency service field. A failure on the part of a Public Safety Dispatcher can be costly not only in terms of money, but in terms of lives as well. The present pre-employment screening utilized in most communities leans heavily on the assessment of technical skills.

Methodology and Subjects. The study involved the administration of the Behavioral Personnel Assessment Device (B-PAD) for Public Safety Dispatchers to 21 volunteer Dispatchers. Two mental health professionals determined B-PAD scores. The raters were not informed of the applicants' prior work experience. The subjects responses were rated for interpersonal and problem-solving skills based on three behaviorally anchored scales of: (1) Task Orientation, (2) Interpersonal Skills, and (3) Overall Effectiveness. The B-PAD for Public Safety Dispatchers is a videotape of 10 SME developed, problematic, content validated situations encountered by Public Safety Dispatchers. Subjects were videotaped while verbally responding to each of the 10 scenes as they were presented on the TV monitor.

Results. Interrater reliability correlations ranged from 0.95 to 0.96. Intrarater reliabilities ranged from 0.99 to 1.00. Internal consistency reliability coefficients ranged from 0.78 to 0.81. Concurrent validity was established by correlating subjects' B-PAD scores for scenes to supervisor ratings. Moderately strong correlations from 0.42 to 0.59 were observed.

Conclusion. Preliminary results indicate that B-PAD for Public Safety Dispatchers is a reliable and valid tool for assessing interpersonal competence, skill and judgment for use in the pre-employment psychological screening of Public Safety Dispatchers.

# Compliance Issues: ADA and the Civil Rights Act of 1991

## The Americans with Disabilities Act of 1990

The ADA is a wide-ranging federal act that prohibits discrimination against qualified individuals with disabilities in employment as well as other areas of social and community life. Users of B-PAD should be certain that they are administering the video test in a way that complies with this law and the implementation regulations published by the Equal Employment Opportunity Commission (EEOC). THE B-PAD GROUP is not liable for a user's discriminatory use of B-PAD. For example, if B-PAD scores are to be used to exclude candidates on the basis of their video test performance, then *all* applicants from that applicant pool must be given the test; it cannot be given merely to certain applicants who may appear to lack certain abilities.

Users can be confident, however, that B-PAD itself is a nondiscriminatory assessment instrument: it does not screen or tend to screen individuals with a disability, or a class of individuals with disabilities, on the basis of disability. Rather, B-PAD is a test of an applicant's ability to perform certain essential job functions.

The EEOC regulations related to ADA's Title I (employment) regulations state, in part:

*A covered entity may make pre-employment inquiries into the ability of an applicant to perform job-related functions, and/or may ask an applicant to demonstrate how, with or without reasonable accommodation, the applicant will be able to perform job-related functions" (§1630.14). In addition, §1630.7 states, in relevant part, "It is unlawful for a covered entity to use standards, criteria, or methods of administration, which are not job-related and consistent with business necessity, and . . . [t]hat have the effect of discriminating on the basis of disability.*

B-PAD utilizes behavioral tests of essential job functions and uses scoring criteria that are job-related and consistent with business necessity, and it does not inquire as to whether an applicant is an individual with a disability or as to the nature or severity of such disability (see EEOC regulations §1630.13). Thus, B-PAD may be administered *prior* to the conditional job offer and the results of the test may be used as selection or exclusionary criteria.

## The Civil Rights Act of 1991

As with ADA regulations, B-PAD is compatible with the Civil Rights Act of 1991 (CRA) but the user is responsible for ensuring that the test is used in a manner consistent with the Act. Technical assistance should be sought by the user, through its human resource personnel or legal counsel, if the user intends to utilize B-PAD in any way other than that described in the *Manual of Administration & Scoring*.

The CRA states that an unlawful employment practice based on disparate impact is established “only” if:

*[A] complaining party demonstrates that a respondent [employer] uses a particular employment practice that causes a disparate impact on the basis of race, color, religion, sex or national origin and the respondent fails to demonstrate that the challenged practice is job related for the position in question and consistent with business necessity. (42 U.S.C. §2000e-2 (k) (1) (A) (i)).*

The Act’s formulation of the employer’s burden (i.e., “to demonstrate that the challenged practice is job related for the position in question and consistent with business necessity”) is the same one that appears in the ADA (42 U.S.C. §12112 (b) (6)). The Act does not define “job related” or “business necessity.” It should be a fairly simple task to demonstrate the job-relatedness of B-PAD in the event that an applicant challenges an employer’s use of the video test as discriminatory. B-PAD clearly has a “manifest relationship to the employment in question” (c.f. *Griggs v. Duke Power Company*, 401 U.S. 424, 91 S. Ct. 849 (1971)). With respect to the issue of “business necessity,” the U.S. Supreme Court has held that, for a practice to be considered consistent with business necessity, it must “significantly serve the legitimate employment goals” of the employer (c.f. *New York Transit Authority v. Beazer*, 440 U.S. 568, 99 S. Ct. 1355 (1979)). Further, Justice O’Connor indicated flexibility in the standard:

*In the context of subjective or discretionary employment decisions, the employer will often find it easier than in the case of standardized tests to produce evidence of a ‘manifest relationship to the employment in question.’ It is self-evident that many jobs, for example those involving managerial responsibilities, require personal qualities that have never been considered amenable to standardized testing. In evaluating claims that discretionary employment practices are insufficiently related to legitimate business purposes, it must be borne in mind that ‘[c]ourts are generally less competent than employers to restructure business practices, and unless mandated to do so by Congress they should not attempt it.’ (Watson v. Fort Worth Bank and Trust, 108 S. Ct. 2777 (1988)).*

Thus, the central issue appears to be whether a selection practice has a “manifest relationship to the employment in question” and whether the practice serves the “legitimate business purposes” of the employer. B-PAD video tests are designed to meet both standards.

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