

ProfileXT[®]

Executive Summary

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INTRODUCTION

In these days of change, one of the primary goals for business is to stay a step ahead of unpredictability. To maximize certainty and reduce expenses the key strategic advantage for most companies is maintaining the performance of their employees. Employees who are well matched to their positions have higher attendance records, less turnover, higher job satisfaction, and superior job performance. Both the employee and the employer share enhanced job matching benefits and the company is better prepared for changes in the business world.

The ProfileXT[®] (PXT) is designed to facilitate achieving the best possible fit for positions in the working world where the characteristics measured can be used to help predict job performance. It works by identifying the individual attributes of those who display the competencies associated with successful performance in a given job. Our clients use our PXT to develop effective work teams, design optimal training programs based on the trainees' style of learning, help supervisors determine which approach will work best when working with a particular employee, and help develop succession plans.

The PXT is a psychometric instrument with a development history extending more than 25 years. Over 600,000 job applicants and incumbents have participated in its development. These sample groups represent a diverse cross section of ages, ethnic groups, income levels, educational levels, job titles, companies, and industries. The PXT is the result of collaboration between several test development psychologists and specialists coordinated by Profiles International, Inc.

The PXT is a test battery and investigates three areas (Thinking Style, Interests, and Behavioral Traits) as part of evaluating how an individual fits into a particular job. By reviewing broad areas of Thinking Style, Interests, and Behavioral Traits we expand our ability to discover which areas will be most effective in determining job fit for a given position. By attending to each of the three areas, we enhance the opportunity to identify the factors that will lead to the best job fit.

The three areas are composed of a variety of constructs reported on 20, ten-point standardized scales or STEN scales. Each scale represents a construct related to one of three sections found in the PXT:

1. *Thinking Style*: Cognitive abilities are a key predictor of success in occupational pursuits (Hunter and Hunter, 1984).
2. *Interests*: Holland's person-environment typology theory – that one's motivation for work can be associated with various interest categories (Holland, 1985).
3. *Behavioral Traits*: The psychological premise that observable behavior is a reflection of cognitive states suggests there is a relationship between personality and behavior. Personality is a key factor in job performance (Tett, Jackson and Rothstein, 1991).

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The contribution of each of the three areas to successful job placement is well documented in the literature. They were selected for inclusion in the PXT because of their potential contribution to the goal of successful job placement.

Using Performance Models

The job match process for the PXT is an effective approach which minimizes the time required to efficiently describe jobs, people, and their degree of match. The descriptive process usually starts by examining the score patterns of those who are most successful within a position and those who seem to be overly challenged by the position. From this information a pattern of scores across various dimensions measured by the PXT may be developed to serve as the initial “success profile,” or Performance Model, upon which the job matching is based.

The PXT allows for the concurrent study of available incumbents, job requirement assessments by those who know the job, preliminary job models from the Profiles Performance Model Library, or a combination of these. Even with a small sample you have a good place to start the process. It should be noted this initial success profile will be continuously updated as more empirical information becomes available. This is an important part of maintaining the job relevance of any process used in employee placement. Based on this “success profile” we can build a Performance Model for each factor. This model consists of a range along each scale in which the scores of the most effective performers tend to fall. The farther outside this range (Performance Model) a score falls, the less likely there will be a good fit of the individual to the job in regard to that particular factor. In the PXT reports, job match is reported as a percent match to a specific Performance Model. This allows for variations between persons who share a good job fit to a position. By using a Performance Model, it is easier to quickly identify the individuals who would fit best into the selected positions. This information is important for both job placement and job training.

The scores on each scale of the PXT are reported on a STEN (10-point) scale starting with a one at the low end and ending with a ten on the high end. The raw scores have been normed so the distribution of scores for the typical working population will fall on each scale with a normal distribution. In other words, for each scale, about 2/3 of the scores will fall at 4, 5, 6, or 7 and as you move toward either end of the scale, the frequency of scores will taper off.

Once a good Performance Model has been established it may be used to evaluate the match to that job for anyone who has taken the PXT. The Performance Model is composed of a range of scores for each scale. Because they are not absolute, the typical model will be three to five units wide. This range represents the area in which those who are expected to fit most successfully into the job will score. The farther outside this range (model) a score falls, the less likely there will be a good fit of the individual to the job in regard to that particular factor.

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As mentioned earlier, job match is reported as a percent match to a specific Performance Model. The range of reported job matches is from 25% to 95%. A match percentage is provided for each of the three sections, Thinking Style, Interests, and Behavioral Traits, as well as for the total match. The higher the match reported, the higher the expectancy the individual will fit well in the job under consideration. While this Performance Model approach to matching individuals to jobs provides information of great value and should be an important part of the placement decision, remember, the results from any assessment should never make up more than a third of the final decision.

The Three Sections of the ProfileXT[®]

The Thinking Style Section (Cognitive)

Description

The Learning Index score in the Thinking Style section is a composite of these four sub-scales - Verbal Skill, Verbal Reasoning, Numerical Ability, and Numeric Reasoning. This represents an index of expected learning, reasoning, and problem solving ability. Typically, the more easily an individual processes information, the greater the pace at which they may learn those skills used on the job. Maximizing learning means finding the approach that makes the most of an individual's available learning skills.

Reliability

Coefficient alpha is a statistical measure of reliability. The higher an assessment's coefficient alpha, the more consistent the questions are for that assessment. The average coefficient alpha for the four Thinking Style scales is .81. Excellent test-retest reliability has been demonstrated as well across all scales of the Thinking Style section.

Validity

The relationship between the Thinking Style section scores and job performance criteria has been demonstrated across a variety of positions in different industries. In the development of the PXT, a sample of 3,260 individuals was evaluated in 52 studies examining 110 job titles in 15 industries. The results support the effectiveness of scores on the Thinking Style section in predicting job performance.

Our ongoing adverse impact analysis of the PXT Thinking Styles section demonstrates no practical impact is made on an individual's job match percentage.

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The Interests Section

Description

It can be argued the greater the degree of similarity between a person's interests and the interests of those who have demonstrated success in a job, the more likely it is there will be a successful match. This suggests the person will be more satisfied, will remain in their job longer, and will be motivated to perform the job better. The results of our studies clearly support this "best fit" job screening and placement strategy.

The Interests section contains 86 activities in 43 paired sets. The assessment user selects one activity from each pair to express their level of personal interest. This section of the ProfileXT[®] was specifically developed to measure an individual's interest in six major occupational themes, Enterprising, Financial/Administrative, People Service, Technical, Mechanical, and Creative. These scales are described in more detail in the Technical Manual.

Reliability

Coefficient alpha is a statistical measure of reliability. The higher an assessment's coefficient alpha, the more consistent the questions are for that assessment. The average coefficient alpha for the six Interest scales is .77. Excellent test-retest reliability has also been demonstrated across all the scales for the Interests section.

Validity

A diverse range of relevant criterion groups such as sales, financial, construction, and architects tend to have occupational interest profiles consistent with the scale meanings. In addition, work outcome measures such as turnover and work performance are significantly related to the constructs measured by the Interests section.

Analysis of the Interests section indicates the following:

- The Interests section scales are internally consistent and independent from each other
- The Interests section is a reliable measuring instrument
- It has been shown to categorize, or classify, job applicants and employed individuals in ways consistent with the scale meanings
- High point scale patterns have been shown to be significantly related to specific occupational groups
- The Interests section has been shown to predict statistically significant differences in average scale scores for diverse occupational groups and for work outcome measures

Our ongoing adverse impact analysis of the PXT Interests section demonstrates that no practical impact is made on an individual's job match percentage.

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The Behavioral Traits Section

Description

The Behavioral Traits section consists of nine Behavioral Traits scales and a Distortion scale. The nine scales are Energy Level, Assertiveness, Sociability, Manageability, Attitude, Decisiveness, Accommodation, Independence, and Objective Judgment. A description of each is found in the Technical Manual.

The research for this section spans more than 17 years. Between 1992 and 2009 more than 600,000 job applicants and incumbents were administered the Behavioral Traits scales. In the last year alone, this section has been administered to tens of thousands as part of its ongoing development and improvement, including updating the norms. The Technical Manual summarizes the results of our validation projects which examine the relationship between the Behavioral Traits scales and a diverse range of criteria.

The results of these projects provide consistent and substantial support for the predictive validity of the Behavioral Traits section. Correlations between Behavioral Traits scale scores and measures of sales success, management performance, customer service, conscientiousness, turnover, and organizational status were consistently strong (correlation coefficients in the middle .40's).

As an example of the findings, the Energy Level scale and the Assertiveness scale tend to be significantly related to sales success, management performance, and organizational skills whereas Attitude, Accommodating, and Objective Judgment scales tend to be significantly related to customer service effectiveness, employee conscientiousness, and turnover.

Reliability

Reliability refers to how consistently an assessment measures what it is designed to measure. Reliability levels are generally acceptable if .70 or higher. Reliabilities for the nine Behavioral Traits scales for a sample of more than 600,000 job applicants and incumbents were computed. Coefficient alpha reliabilities for the nine Behavioral Traits scales for this sample averaged .79.

Reliability analyses indicate the nine Behavioral Traits scales are reliable and produce consistent results. Excellent test-retest reliability has also been demonstrated across all scales of the Behavioral Traits section.

Validity

With regard to the internal validity of the Behavioral Traits section, an analysis of the correlation among the Behavioral Traits scales indicated a pattern of converging and diverging relationships that are clearly consistent with expectations based on the constructs being measured.

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Construct validity studies report good congruence with other measures of Behavioral Traits such as the California Psychological Inventory, the Guilford-Zimmerman Temperament Survey, and the Gordon Personal Profile-Inventory.

Studies have shown the Behavioral Traits scales are effective in making placements for a good job fit. To summarize the results of some of the studies reported in the PXT Technical Manual:

- High positive correlation between related scales
- Negative correlation between polar opposite scales
- Insignificant correlation between unrelated scales
- Good correlation between scale scores and measures of job performance

Our ongoing adverse impact analysis of the ProfileXT[®] Behavioral Traits section demonstrates no practical impact is made on an individual's job match percentage. In summary, statistical analysis of the nine scales for the PXT Behavioral Traits section clearly indicates it provides a reliable and accurate measure of various relevant dimensions of normal adult personality useful for predicting a number of important business-related criteria.

The Distortion Scale

Scores on the PXT Distortion scale provide a method for determining an assessment-taker's level of disclosure and the veracity of his or her overall scale scores. Analysis consists of reviewing individual item response rates for the entire population to show that the majority of subjects respond to an item in a specific way, thereby making the alternative responses highly uncommon. If the assessment-taker's responses on this scale are atypical, this unusual response style may be present throughout the assessment.

Illustrations of the ProfileXT[®] at Work

A study for a large nationwide sales company illustrates a typical application for the PXT. The results demonstrate how the PXT produces information that significantly improves the employee selection and placement process. More importantly, this process saves companies a substantial amount of money and time.

The employer initially provided the success qualities of their 12 top performers to develop the Performance Model. The criterion was from an in-house process the company routinely used to assess the performance of their sales people.

The standard PXT software was utilized to build a Performance Model. This was done by using the software's integral Concurrent Study process. The resulting top performer Performance Model was used for all subsequent job matching.

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All subjects, including the original set of top performers, were matched against the resulting top performer Performance Model with a 79% or greater match designated as an acceptable matching point. Analysis yielded the following results:

- Of the 12 top performers, 92% matched the model at, or above, the matching point
- Of the 15 bottom performers, as identified by the employer, only 20% matched the model at, or above, the matching point
- Of the remaining subjects who were identified as performing in the middle range, approximately ½ matched the model at, or above, the matching point selection rate of 52%

To summarize this study:

- Approximately nine out of ten of the top performers were selected as a good match to the Performance Model, while four out of five of the bottom performers were not selected
- While only 54% of the current sales people were selected as a good match to the Performance Model, 92% of the most successful sales persons were included in the selected group and only 20% of those who seemed challenged by the position were included
- More than half of the salespersons selected were proven top performers (52%)

Additional Studies

Users of the PXT frequently report the results of applying Performance Models to help resolve difficulties in their businesses. Brief summaries of a few of these studies are reported here to demonstrate the effectiveness of the assessment in actual use.

The ProfileXT[®] in use by a Credit Union

A financial institution conducted a 12-month study to focus on the turnover rate for its Member Services Representatives and the correlation with scores on the PXT.

Summary

These data suggest that had only those who scored an overall job match percentage of 75% or greater been hired, the turnover would have been 25 percent (25% x 60 hires x \$6,000 each hire = \$90,000 turnover cost). This would have resulted in a savings of \$198,000.

The ProfileXT[®] in use by a Psychiatric Hospital

A mental health facility found itself devoting a great deal of time to a weekly hiring board. Turnover was increasing year by year and intervention was needed. The PXT was utilized to help identify top performers and decrease turnover and the associated time spent in hiring board meetings at the facility. The reduction in turnover by 52% yielded a savings in excess of \$300,000.

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During the study, new employees maintained better retention rates and involuntary terminations dropped significantly while the time and expense for terminations and rehiring also decreased to more favorable and efficient levels. The process of identifying top performers through a Performance Model proved to be a valid means for the selection and retention of Mental Health workers.

The ProfileXT[®] in use by a Travel Agency

A travel agency conducted two studies approximately 18 months apart. The intent of the first study was to identify trends based on performance data and the relationship of these trends to the Overall Job Match Percent for the PXT. The second study focused on analyzing turnover rates and the use of the PXT.

Summary: Performance Issues

By selecting candidates based on an objective overall match for the PXT, more top performers may be selected than bottom performers saving on training budgets and enhancing overall sales performance. The process of identifying top performers through the Performance Model is a valid means for improving the productivity of a sales department.

Summary: Turnover Issues

During the study, 181 new employees were hired; 29 separated from the company. This represented a 43% reduction in turnover (down to 16% turnover from the pre-PXT rate of 28%). The company reported a savings of \$330,000 in hiring costs alone. The process of identifying top performers through a Performance Model proved to be a valid means for selection and retention in the study.

The ProfileXT in use by a Retail Company

A retail office supply business conducted a 22-month study to focus on the turnover rate and performance for 370 Corporate Account Managers and their relationship to job match using the PXT.

Summary

Matching to a well-developed Performance Model helped to decrease turnover, save money, and save training time. Top and bottom performance could be predicted before a candidate was selected greatly enhancing sales. The process of identifying top performers through the Performance Model was a productive means for selection and retention at this company.

The ProfileXT[®] in use by a Hospital

A large hospital system requested a study to aid in the selection of Registered Nurses. The study was conducted to investigate the possible use of the PXT Performance Model program to further refine their selection process and identify those with the potential to become top performers.

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If an Overall Job Match of 83% had been used to select the individuals into two groups, top performers and bottom performers, 83% of the top performers would have been selected for the top group, and none (0%) of the bottom performers would have been selected for the top group.

SUMMARY AND CONCLUSIONS

In conclusion, the concurrent and predictive validity data summarized in the PXT Technical Manual consistently support the thesis that employees, well matched with their occupations and with the organizations in which they are employed, are inclined to be satisfied with their job, remain with their employer, and be more productive employees. A diverse range of relevant criterion groups such as sales, administrative, management, and supervisors tend to have profiles which are predicted and are consistent with the scale meanings.

Work outcome measures such as turnover and work performance have also been demonstrated to be significantly related to scale scores. The PXT provides accurate and useful information for employment screening/placement and for occupational and career guidance.

The PXT was designed to facilitate placing persons in the best jobs by building Performance Models and by using an Overall Job Match Percent when reviewing an individual for possible placement. By building Performance Models with either actual top performers (Concurrent Study method) or by analysis of a job by those who know the job well (Job Analysis Survey method) and with the aid of preliminary models from the Performance model Library, a valid model may be developed.

Because the overall match to a Performance Model blends information about an individual's fit in Thinking Style, Interests, and Behavioral Traits, the impact of any one scale is only a small portion of the total. This helps protect against introducing adverse impact into the placement process. In one study presented in the Technical Manual more than 500 ethnically mixed individuals (Caucasian, Asian, African-American, and Hispanic) were matched to Performance Models in four diverse jobs - Customer Service Representative, Administrative Assistant, Human Resource Manager, and Sales. Using the government's Rule of 4/5 as a criterion, no adverse impact was noted.

Taken altogether, the full process used with the PXT is designed to help one understand what is required for success in a job and then know how well a given individual will fit into that job. Employers enjoy success in making good job placements when they use the PXT to find out what is relevant for success in a position and to measure those things well. As we said initially, the key strategic advantage for most companies is the performance of their employees. The PXT has proven to be an excellent tool for matching employees to the jobs that will maximize their performance.

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REFERENCES

- Holland, J.L. (1985a). *Making vocational choices: A theory of vocational personalities and work environments*. Odess, FL: Psychological Assessment Resources.
- Hunter, J.E. & Hunter, R.F. (1984). Validity and utility of alternative predictors of job performance. *Psychological Bulletin*, 96, 72098.
- Tett, R. P., Jackson, D. N., Rothstein, M., & Reddon, J. R. (1994). Meta-analysis of personality-job performance relations: A reply to Ones, Mount, Barrick, and Hunter (1994). *Personnel Psychology*, 47, 157-172.