



Pearson
TalentLens



Work Style Lens™ (WS-Lens)
Technical Manual and User Guide

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Introduction

Background

The Work Style Lens™ (WS-Lens) is the newest edition of the Workplace Personality Inventory. The original Workplace Personality Inventory was introduced in 2007, designed to measure 16 work-related personality traits that are important for success in a wide range of occupations. This inventory was based on the work styles model developed by U.S. Department of Labor for the Occupational Information Network (O*NET®) online database (Borman, Kubisiak and Schneider, 1999). The second edition, the Workplace Personality Inventory–II, was introduced in 2013. It was an enhanced, updated version of the Workplace Personality Inventory that improved the functioning of the scales and included a Development Report.

WS-Lens includes an enhanced Profile Report and updated norm groups. Most of the changes focus on improving interpretability and helping candidates and company representatives understand the meaning of WS-Lens scores.

What WS-Lens Measures

Work styles are those aspects of personality most important for success at work. The Work Style Lens™ (WS-Lens) measures the personality characteristics that contribute to and influence job success. The work styles measured by WS-Lens can be thought of as the individual's typical patterns of thinking, feeling and behaving.

The WS-Lens scales map directly to a taxonomy of job characteristics called O*NET, a database that provides up-to-date information about the importance of these work styles for over 900 occupations¹ (www.onetonline.org).

WS-Lens takes only 30 minutes to complete, and the score reports are designed to be easy to interpret. It measures 16 work styles organized into the following four themes.

1. **Relating to People** includes scales that describe how we typically approach others, treat each other, work and interact with each other, react to others, and listen to them. It includes all of the interpersonal traits that are part of WS-Lens.
2. **Dealing with Emotions** includes scales that focus on how we manage our inner lives in ways that affect our behavior. They focus is on how we deal with our own emotions (such as anger), external pressures (such as criticism), and changes in the environment.
3. **Approaching Work** includes all of those traits involved in getting work done. It includes how we set goals, work toward those goals, persist to complete work tasks, fulfill obligations and meet deadlines. It also includes our tendency to take on new tasks, pay careful attention to details, and follow rules.
4. **Thinking Styles** focuses on our behaviors and preferences around working with information, ranging from a preference for clear direction and standard ways of doing things to preferring more independence, creativity, or carefully thinking things through.

Table 1 lists the WS-Lens scales that are included in each theme and provides scale definitions.

¹ See Appendix A for a description of O*NET and the development of the work styles model.

Table 1. WS-Lens Broad Themes and Scales

Broad Theme	WS-Lens Scale	Scale Definition	Number of Items
Relating to People	Leadership Orientation	Tends to be assertive and to take charge; willingly offering opinions, persuading and inspiring.	11
	Social Orientation	Tends to seek out and be comfortable in social situations. Prefers being surrounded by people and the focus of attention.	11
	Cooperation	Good-natured, approachable, and quick to help others.	12
	Concern for Others	Perceptive, caring, and in tune with other coworkers' feelings and personal problems.	12
Dealing with Emotions	Self-Control	Tends to maintain composure, control anger, and keep emotions in check, even in difficult situations.	11
	Stress Tolerance	Prefers high-pressure environments, works well under stress, and accepts criticism.	11
	Flexibility/ Adaptability	Tends to embrace new things, change, and variety.	11
Approaching Work	Dependability	Can be counted on to be on time, fulfill obligations, and meet deadlines.	11
	Attention to Detail	Tends to focus on details, catch errors, and complete all tasks thoroughly and carefully.	11
	Rule Following	Adheres to rules and regulations, behaves honestly and ethically, and follows set procedures.	12
	Achievement/ Effort	Strives for success and recognition, to get ahead, and be the best; sets difficult work goals and works hard.	11
	Persistence	Tends to persist and complete work tasks, even when faced with obstacles or difficulties, or when success is unlikely.	12
	Initiative	Willing to take on and enjoys new or additional work responsibilities and challenges.	12
Thinking Styles	Innovation	Prefers thinking creatively and coming up with original ideas and unique ways to solve problems	12
	Analytical Thinking	Prefers analyzing complex issues in depth and using logic to address work-related issues or problems.	11
	Independence	Prefers freedom to guide self with little or no supervision and developing own way of doing things.	11

WS-Lens results are based on self-description, so the accuracy of these results depends on the respondent's honesty and openness in answering the questionnaire. WS-Lens includes an Unlikely Virtues scale that flags respondents who have responded in an unrealistic or overly favorable manner.

Suggested Applications

WS-Lens can be a useful tool in both hiring and development contexts, including team development.

Selection

Every job requires a unique combination of personality characteristics for optimal performance, so the relevance of each work style varies by job. WS-Lens is based on a comprehensive taxonomy of 16 personality-based work styles that are required, in various combinations, for most jobs within organizations today.

The WS-Lens was initially developed for use in employment selection and it has been shown to predict job effectiveness in positions that require interpersonal and work style skills. Personality generally has low

correlations with measures of cognitive ability, so WS-Lens has good potential for improved prediction of job performance and other important outcomes (i.e., incremental validity) when used in combination with measures of ability. The WS-Lens can also be used for information purposes – for example, if a candidate scores relatively low on one or more work styles important for a role, this information can be used to build a structured interview to collect more in-depth information about the relevant behaviors. Similarly, WS-Lens can be used to identify areas that might need improvement, which could be useful during on-boarding.

Development

Assessments can be helpful in better understanding a person’s strengths and weaknesses so that appropriate development goals and activities can be set. People with insight into their own work styles can more easily identify how to capitalize on strengths and minimize the impact of potential weaknesses. For example, they may be able to make more suitable career choices or to identify projects and tasks that provide opportunities to develop skills that need improvement.

Research shows that personality characteristics are relatively stable. However, the behaviors related to personality characteristics are malleable, especially given targeted efforts for behavior change.

Career Guidance

The WS-Lens can be used in outplacement or career guidance, for example, when someone is facing redundancy, a change of circumstances, or experiencing a lack of opportunity in his or her current role or profession and seeking an alternative. In career guidance, the purpose of the assessment process is to provide a broad perspective on suitable career paths and to help individuals choose options that best suit their own abilities, needs, and interests.

WS-Lens profiles offer insight into an individual’s likely fit to the work style requirements of a variety of occupations. While people can modify their behaviors in order to be effective, a poor fit on a number of the important work styles for a job suggests the person may not be well suited to that role. There is no right or wrong personality profile, however different profiles will fit better in some roles than others.

Testing Considerations and Administration

The WS-Lens is administered through Pearson’s online testing platform, an Internet-based testing system designed for the administration, scoring, and reporting of professional assessments. Candidates’ responses are instantly processed, and the system immediately generates an interpretive report upon completion of the test. The TalentLens online product catalog’s technical information section includes a variety of useful materials:

- this manual
- sample reports
- frequently asked questions
- norm composition tables (descriptions of the samples used to generate the norms).

Browser Requirements

The online testing platform is reliable and stable. If a computer loses connectivity during the test, all responses are saved. When connectivity is restored and the computer is logged back into the platform, testing resumes at the last unanswered test item. The following Internet browsers are compatible with the platform:

- Internet Explorer® 8.0 or higher
- Edge®
- Firefox® (latest version, must use auto-update)
- Google Chrome™ (latest version, must use auto-update)
- Safari® (Mac 5.0+) No additional hardware or software is required. If administrators or examinees encounter technical difficulties, contact TalentLens for assistance.

Unsupervised Administration

Unsupervised, online administration of the WS-Lens is suitable for selection or development contexts where administration is required, and an administrator is not available or needed. Time, and therefore cost, of administration are significantly reduced. This is often the most convenient approach in the early stages of recruitment for employment or career development. Candidates can take the test in their own location, provided they have a computer and online access, saving time and cost. Scoring is automatic, and score reports are immediately available to test administrators via the online testing platform.

Verify the email addresses for all examinees. Email or speak to each examinee to provide all of the relevant information (e.g., purpose of test, confidentiality, online administration, if and how feedback is provided). Give remotely located examinees a method to report technical problems (ideally, to their administrator). Ask examinees about any disabilities or special accommodations required.

After adding an examinee to the platform, the system generates an email invitation that can be amended before it is sent. The platform administers the test according to the standardized procedures, and instructions appear and guide them through completing the inventory. The inventory is not timed; people typically complete the full inventory in about 30 minutes. You may want to verify unsupervised test results under supervised conditions prior to making final placement decisions.

Supervised Administration

Preparing for Administration

The administration of the WS-Lens should comply with the professional practice standards of the organization administering it, applicable government regulations, and the recommendations of the publisher.

Verify that the organization's TalentLens account provides access to the test.

Before they take the WS-Lens, individuals should be informed about the nature of the assessment, why they are being asked to complete it, the conditions under which they will be evaluated (e.g., for selection applications or for development), and the nature of any feedback they will receive. The WS-Lens was written at an eighth-grade reading level. The administrator should confirm that individuals can read at this level and that they have at least some work experience so that they can respond to the questions in a meaningful way.

It is the administrator's responsibility to ensure that examinees understand the purpose of the administration and assessment use. The administrator also should ensure that all relevant background information from the individual is collected and verified.

Though not required, it is a good idea for the administrator to obtain informed consent from the individual. The informed consent form is a written statement, signed by the individual taking the inventory, that explains the type of assessment instrument to be administered, the purpose of the evaluation, as well as who will have access to the report(s) or assessment data.

Be thoroughly prepared before administering the test to maximize efficiency. Administrators should be familiar with the administration instructions. Administrators who take the test themselves (complying with all directions) prior to testing others often improve their own familiarity with the test's procedures and ability to anticipate questions or issues that may arise.

Only individuals who have been trained and certified in the administration and use of assessments in an occupational or higher education setting may administer the WS-Lens and interpret the results. After the WS-Lens has been completed online, the administrator can use the link Pearson provides to review that individual's interpretive report.

Administration Conditions

The administrator should ensure that the individual takes the inventory in a quiet, well-lit room. The following conditions facilitate creating a favorable attitude in the individual taking the inventory, and producing accurate WS-Lens data: adequate time (25 to 45 minutes) to complete the inventory, good lighting, comfortable seating, adequate space, comfortable positioning of the computer monitor, a working keyboard and mouse, and freedom from noise and other distractions.

Answering Questions

The instructions for completing the WS-Lens are provided on-screen. However, it is important for the administrator to develop and maintain rapport with individuals taking the assessment. The administrator is responsible for ensuring that they understand all requirements and how to respond appropriately.

If individuals have questions about how to interpret an inventory item, the administrator should encourage them to respond to the item as they understand it. The administrator also should encourage them to avoid spending too much time thinking about any one item. The administrator should advise them that their first reactions to the items will likely lead to the most accurate information about their work styles.

Administering the WS-Lens

If an individual's computer develops technical problems during the assessment, move them to another suitable computer location, if possible. If the technical problems cannot be solved by moving to another computer location, contact TalentLens for assistance.

Data Security

WS-Lens scores are confidential and should be stored in a secure location accessible only to authorized individuals. It is unethical and poor practice to allow access to data by individuals who do not have a legitimate need for the information. Storing WS-Lens scores and reports in password protected folders or in a locked cabinet (for hard copies) that can only be accessed by designated individuals will help ensure the security of the WS-Lens scores. The security of results (e.g., access to online information) and protection of copyright must also be maintained by customers.

Accommodating Examinees with Disabilities

The Americans with Disabilities Act (ADA) requires a prospective employer to reasonably accommodate the known disability of a qualified job applicant, provided such accommodation would not cause an “undue hardship” to the operation of the employer’s business.

The administrator should provide reasonable accommodations to enable candidates with special needs to comfortably take the inventory. Reasonable accommodations may include, but are not limited to, modifications to the medium (e.g., having a reader read items to the candidate, or increasing the onscreen font size of items) (Society for Industrial and Organizational Psychology, 2003). Interpretive data as to whether scores on WS-Lens are comparable for candidates who are provided reasonable accommodations are not available at this time, due to the small number of candidates who have requested such accommodations.

Interpreting WS-Lens Results

Scoring the WS-Lens is automatic and the Profile Report is typically available within a minute after the inventory has been completed. A link to the report is available in your administrator’s account on Pearson’s online testing platform. Adobe® Acrobat Reader® is required to view and download the report. The administrator may view, print, or save an individual’s report.

Selecting a Norm Group

The WS-Lens scores are generated by comparing an individual’s responses with those of a group of individuals who completed the instrument previously (a normative sample or norm reference group). A variety of different norm groups are available for the WS-Lens, some based on Occupational groups and some based on Position Type/Level. The U.S. 2020 norm groups are as follows.

Occupation

- Accountants
- Consultants
- Engineers
- Human Resource Professionals
- Information Technology Professionals
- Health Care Professionals
- Sales Representatives
- Customer Service Representatives

Position Type/Level

- Executives/Directors
- Managers
- Administrative Personnel
- Working Adults in the U.S.
- Skilled Trades
- General Labor
- Principals/Superintendents (2016)

Further details for these norm groups are included in the technical information section of the online product catalog. Norm groups for other countries are also included. The norm composition tables describe the people included in each of these norm groups. When choosing a norm group, it is important to consider which is most similar to the candidate or those in the position for which the candidate is being considered.

For many applications, the Working Adults in the U.S. norm group is likely to be most appropriate. Scores based on this norm group are generally easier to interpret. There are 16 scales on WS-Lens, and when other norm groups are used it requires the user to keep the norm group in mind when reviewing the scales. Also, many users won't have a clear idea of how the norm group is expected to score on all 16 personality dimensions. Finally, the Working Adults norm is most appropriate to use when comparing assessment results to the ratings of the importance of each work style from the O*NET.

Understanding WS-Lens Score Reports

Percentile scores

WS-Lens Profile Reports graphically display the 16 scale scores as percentiles, which range from 1 to 99. Figure 1 provides an example of one of the WS-Lens scales, including the broad theme in which it is included (Approaching Work). The percentile score indicates the percentage of individuals in the normative sample who scored the same or lower than the respondent. Percentile scores often are used in feedback to test takers, because percentile scores are easily understood and enable test takers to understand how they have done in comparison to others. This means that a test taker who scores at the 70th percentile has scored higher than 70 percent of the norm group. A score at the 30th percentile is better than 30 percent of the norm group.

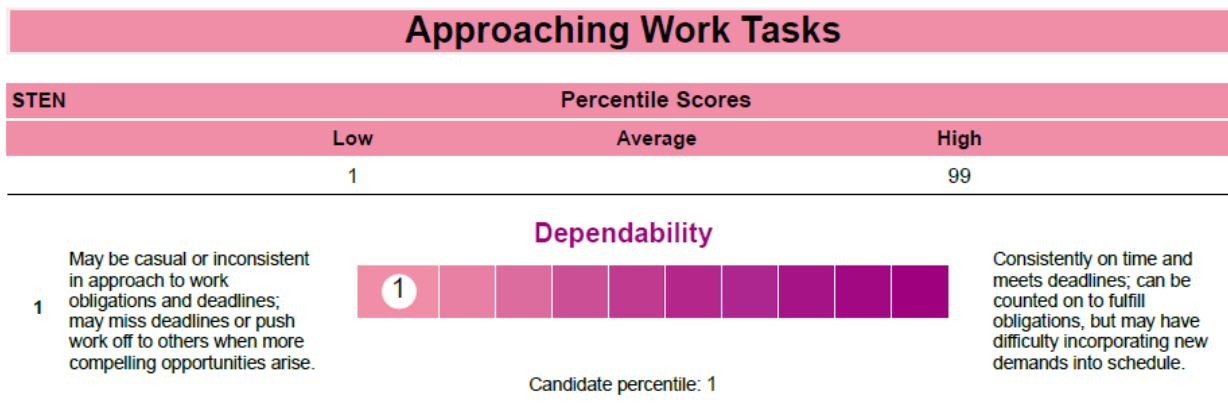


Figure 1. Example of a WS-Lens Scale and its Broad Theme from the Profile Report

Percentiles, however, are not equal units. They show the test taker's relative position or ranking in comparison to the norm group, but do not illustrate the amount of difference between scores. In a normal distribution, cases cluster more closely at the center of distribution than at the extremes. Differences are more exaggerated at the mid-point while those at the extremes are relatively understated. For this reason, it is not appropriate to conduct statistical analyses using percentile scores (e.g., addition or correlation with other scores).

STEN Scores

Standard Ten (STEN) scores have also been included in the WS-Lens. STEN scores are provided at the far left of each scale (see Figure 1; in this case the STEN score is 1). STEN is a standardized scale ranging from 1 to 10 (with

a mean of 5.5 and a standard deviation of 2 in the normative sample). Higher scores indicate better performance. When scores are normally distributed, 67% of test takers will score a STEN of between 4 and 6.

These scores have several advantages over percentile scores, and users have the option of using either type of scores. One advantage of STEN scores is that they represent an even scale—that is, the difference between scores of 7 and 8 is the same as the difference between scores of 4 and 5. In addition, it is possible to apply the standard error of measurement to a STEN to allow for a band of error around the score. It is also possible to add and subtract STEN scores and to correlate them with other measures. Generally, STEN scores should not be shared as feedback to untrained people or test takers, as they can be difficult to comprehend without some understanding of statistics. That said, the smaller range can be easier to understand, as there is less risk of overinterpreting small differences.

Interpreting WS-Lens Scale Scores

An important part of the score report is the scale anchors, provided on the right and the left of the graphical display of the percentile score. The text to left of the graph describes the likely behaviors of those who score at the lowest levels, and the text to the right describes the likely behaviors of those who score at the highest levels. The behaviors of those who score nearer the middle of the scale will be less extreme or less consistent. These anchors should be reviewed carefully when interpreting scores, to avoid over-interpreting scale labels or misinterpreting what behaviors are included.

It is most meaningful to interpret WS-Lens results in the context of the person's current job, goals, and/or plans. WS-Lens profiles offer insight into an individual's likely fit to the work style requirements of a given job. While people can modify their behaviors in order to be effective, a poor fit on a number of the important work styles for a job suggests the person may not be well suited to that role. There is no right or wrong personality profile, different profiles will fit better in some roles than others. One of the strengths of the assessment is the ability to assess fit to different jobs.

Because WS-Lens results tell us how people work, there will likely be positives for low scores on a scale and/or negatives for high scores, and these are reflected in the anchors that help define the scale. However, because personality scales generally have moderate positive correlations with job performance, on average, higher scores on the scales relevant for the target job are better.

WS-Lens scales reflect behavioral tendencies. Scores should be viewed as indicators of how a person is likely to behave, not absolutes. Because the results are based on self-description, the accuracy of the results depends on the respondent's honesty and openness in answering the questionnaire. WS-Lens includes an Unlikely Virtues scale that flags respondents who have responded in an unrealistic manner.

Finally, keep in mind that It is extremely rare to obtain a high score across many or all scales. The percentile scores are based on a comparison to norm samples. By definition, half of all people will score below the 50th percentile on each scale.

Using WS-Lens Scores in the Selection Process

Many organizations use testing as a component of their employment selection process. Employment selection programs typically use cognitive ability tests, aptitude tests, personality inventories, and basic skills tests to screen out unqualified candidates, to categorize prospective employees according to their probability of success on the job, or to rank a group of candidates according to merit.

The WS-Lens was designed to assist in the selection of employees for jobs based on the work style requirements of the particular job under consideration. To determine which work styles are relevant, an optimal procedure is to conduct a job analysis and a local validation study. Job analysis and local validation of the WS-Lens for selection purposes should follow accepted human resource research procedures and conform to existing guidelines concerning fair employment practices.

The following guidelines outline standard practice for how to use the WS-Lens in employment selection. Further information is also available from the Society for Industrial and Organizational Psychology (www.SIOP.org). See also Society for Industrial and Organizational Psychology (2003).

1. Define the job or role for which you want to make a hiring decision. There are many ways to define a job, from performing a formal job analysis to simply writing a job description based on the hiring/department manager's needs.

A personality-based job analysis will reveal the work-related personality dimensions (or work styles) that are important for successful performance in the job for which you are hiring. Answer the following questions.

- ✓ What are the specific tasks the individual must perform?
 - ✓ What are the key indicators of successful performance of the role? What should the tasks listed produce for the organization, if done well by the individual(s) eventually hired?
 - ✓ The work context and tools. For example, will the individual work in a cubicle, or an office with a door, or outdoors? Will the individual work in a fast-paced environment with recurring deadlines?
2. Determine the knowledge, skills, abilities, and other characteristics (KSAOs) that are required to perform well in the job being filled. The personality-based (i.e., work style) requirements for the position fall under the Other category of requirements.
 3. Review the personality-based work styles, as defined in this document. Based on the definitions and your KSAO requirement list, select those work styles that are important to target. In general, it is best to identify those work styles that an individual should have high levels of rather than to identify those styles which you prefer an individual not to have.

One of the key advantages of the WS-Lens is that the dimensions it measures have a one-to-one correspondence with the O*NET Work Styles. Therefore, O*NET can also help you identify the work styles that are important for the job. To do so, go to O*NET Online and find the occupation for which you want to make a hiring decision. Work Style importance scores are provided for hundreds of occupations.

The following information will help guide interpretation of the O*NET Importance Scores:

- 0 = Not Important
- 25 = Somewhat Important
- 50 = Important
- 75 = Very Important
- 100 = Extremely Important

These scores provide an indication of the unique combination of the 16 work styles that is important for successful performance in the occupation that you have selected. The closer your job description and requirements match the occupational requirements (e.g., tasks, work activities, and work context) provided by O*NET, the more likely your ratings of importance will coincide with the O*NET Importance Scores.

4. Document which work styles you will use in the hiring decision for the particular role and how they will be incorporated into the hiring decision in a consistent manner. You should decide the following.
 - ✓ When the test will be administered (before the interview or after the interview).
 - ✓ How you will combine the selected WS-Lens scores with other information obtained during the selection process. Many organizations use a holistic approach, where the interview results, resume review, assessment results (including the WS-Lens) and other information are considered together to generate a comprehensive profile of the individuals being considered. This approach is generally the best, because it takes into account multiple predictors and provides a more complete view of each candidate.

Once you define the procedure for how you will use the WS-Lens results to make the hiring decisions, follow the procedure consistently. Consistent use of the WS-Lens is essential to ensure effectiveness and legal defensibility.

5. Select a norm group to use in scoring the WS-Lens. There are commercially published norms for the WS-Lens. The list of norms is updated periodically, and the composition of each norm group is available at the WS-Lens product support page on the platform. Some organizations prefer to create and use their own norms (local norms).

Using the Unlikely Virtues Scale

The WS-Lens Unlikely Virtues (UV) scale should be used to evaluate the forthrightness of the test taker during the assessment session and whether or not the assessment results are meaningful. The WS-Lens UV scale accumulates responses to a set of items that are unlikely to be true of most people and compares the individual's response patterns with those of the base sample. Very high percentile scores represent a higher probability of misrepresentation.

When scores are excessively high (i.e., higher than 90% of the norm sample), the test user is advised to interpret the WS-Lens results with caution and focus more on other sources of information to come to their decisions concerning the test taker. In no case should the UV scores be used to make any decision besides the usability of

WS-Lens scores. Good candidates sometimes represent themselves to be more virtuous than they truly are and may score above average on the UV scale. Where UV scores are below the 90th percentile this scale should simply be ignored.

Differences in Reading Ability, Including the Use of English as a Second Language

The WS-Lens is written at the eighth-grade reading level. As a result, a level of reading proficiency in the English language is assumed and reflected in the items. When the inventory is used to measure the work styles of candidates whose first language is not English, reasonable precautions need to be taken. If a candidate experiences difficulty with the language or the reading level of the inventory, note this information and consider it when interpreting the inventory scores. In some cases, it may be more appropriate to test such individuals with another assessment procedure that fully accommodates their language of preference.

Legal Considerations

Governmental and professional regulations cover the use of all personnel selection procedures. Relevant source documents that the user may wish to consult include the *Standards for Educational and Psychological Testing* (AERA et al., 1999); the *Principles for the Validation and Use of Personnel Selection Procedures* (Society for Industrial and Organizational Psychology, 2003); and the federal *Uniform Guidelines on Employee Selection Procedures* (Equal Employment Opportunity Commission, 1978). For an overview of the statutes and types of legal proceedings that influence an organization's equal employment opportunity obligations, the user is referred to Cascio and Aguinis (2005) or the U.S. Department of Labor's (1999) *Testing and Assessment: An Employer's Guide to Good Practices*.

Fair employment regulations and their interpretation are continuously subject to changes in the legal, social, and political environments. Therefore, users of the WS-Lens should consult with qualified legal advisors and human resources professionals as appropriate.

Group Differences and Adverse Impact

According to the *Uniform Guidelines on Employee Selection Procedures* (Equal Employment Opportunity Commission, 1978), adverse impact is indicated when the selection rate for one group is less than 80% (or four out of five) of another group. Unlike cognitive ability tests, which typically have substantial adverse impact, work style inventories have low to minimal adverse impact (Pearson, 2007, Ryan, Ployhart, & Friedel, 1998; Schmitt, Rogers, & Chan, 1997). A situation of low to minimal adverse impact would eliminate or significantly reduce the likelihood of an applicant seeking legal recourse under Title VII of the Civil Rights Act to complain against the use of a work style inventory as a selection tool (Ryan et al., 1998).

Local validation is particularly important if there is a possibility that a selection test could lead to adverse impact. A local validation study, in which WS-Lens scores are correlated with job performance indicators, can provide evidence to support the use of the test in a particular job context. An evaluation that demonstrates that the WS-Lens (or any employment assessment tool) is equally predictive for protected subgroups, as outlined by the Equal Employment Opportunity Commission, will assist in the demonstration of fairness of the test.

Monitoring the Selection System

An organization's ability to evaluate selection strategies and to implement fair employment practices depends on its awareness of the demographic characteristics of applicants and incumbents. Monitoring these characteristics and accumulating test score data are clearly necessary for establishing legal defensibility of a selection system, including those systems that incorporate the WS-Lens.

The hiring organization should ensure that its selection process is clearly job related and focuses on characteristics that are important to job success. Good tests that are appropriate for the job contribute to effective hiring and minimize the major sources of bias in selection procedures. The WS-Lens is a reliable and valid instrument for the assessment of a number of work-related personality attributes. When used for the assessment of candidates or incumbents for work that requires these attributes, the WS-Lens can be useful in the selection of better candidates.

Using WS-Lens Scores for Development and Career Guidance

Many organizations use assessments, including cognitive ability tests, personality inventories, simulations, and basic skills tests, as a component of their employee development programs. The WS-Lens measures interpersonal and self-management skills (i.e., soft skills).

It is important to conduct a competency analysis so that the relationships between WS-Lens scales and competencies valued by the organization are clear. Much of the information presented in the previous section on selection can also be helpful for development uses.

When you are ready to prepare an employee development plan:

1. Define the job or role you want to develop (e.g., front line manager). There are many ways to define a job, from formal competency analysis, which is recommended, to simply writing a job description based on the organization's needs.
2. A personality-based analysis reveals work-related personality dimensions (or work styles) that are important for successful performance. Create a role requirements list that contains:
 - a. a list of key tasks to be performed by individuals in this role;
 - b. a list of key metrics or indicators of successful performance (what should the key tasks produce for the organization, if done well by the individual[s] in the role?); and
 - c. the work context. Will the individual supervise others? If so, what is the span of their authority? Does the organization require flexibility or innovation to be successful?
3. Based on the definitions and your role requirements list, select those work styles that are important for job performance. In general, it is best to identify those work styles that an individual should have high levels of rather than to identify those styles you prefer an individual not to have.

Then, compare the individual's WS-Lens profile of scores with the work styles that are important for the target job. Self-awareness is the first step in professional development and the WS-Lens gives employees personal feedback on important work style behaviors. Differences can provide the foundation for a developmental plan focused on behaviors related to the work styles for which there are larger gaps.

History and Development of WS-Lens

Workplace Personality Inventory

The original Workplace Personality Inventory was developed in 2006-2007. The goal was to create a personality inventory that was work relevant, easy to interpret, reliable, valid and fair, resistant to faking, and reasonably short.

Developing Workplace Personality Inventory Items

Some Workplace Personality Inventory items were drawn from two existing item banks, and over half the items were written by four Pearson research directors with backgrounds in industrial/organizational psychology and

vocational/career counseling psychology. Items were selected that aligned well with only one of the 16 work styles, were judged easy to adapt for other cultures, and had a reading level of approximately the eighth grade. Items that had been tested previously were favored over untested items, and items that were more subtle were favored over less subtle items.

Scale-level criteria (i.e., for the set of items hypothesized to comprise a scale) were also used in choosing items, including: coverage of the full definition of the work style; ensuring a relatively high proportion of subtle items; ensuring a mix of items tapping high and low levels of each trait and a mix of negatively and positively worded items. After several round of review, the result was a total of 246 items in this pilot item bank, with 10 to 15 items per scale. More details concerning development piloting of the initial Workplace Personality Inventory items can be found in *Development of the Workplace Personality Inventory* (Pearson, 2007).

Workplace Personality Inventory Sample Demographic Characteristics

A Workplace Personality Inventory pilot study was carried out between November and December of 2006, consisting of 687 individuals from a cross-section of jobs and organizational levels. All participants completed a questionnaire containing 246 Workplace Personality Inventory items, 13 Marlowe-Crowne Social Desirability scale items (based on Reynolds, 1982), and 10 demographic items. Some participants also completed the Hogan Personality Inventory (n = 99) or the Occupational Personality Questionnaire (n = 74), and/or had supervisors who completed ratings on their job performance (n = 417).

Selecting Final Workplace Personality Inventory Items

Several types of analyses were used to determine which Workplace Personality Inventory items to use in the final scales, including Item Response Theory (IRT) analyses (Samejima, 1969); differential item functioning (DIF) analyses for age, gender, and race/ethnicity, using the Mantel-Haenszel (Mantel & Haenszel, 1959) technique; and traditional Classical Test Theory analyses, focused on reliability and validity. These analyses focused on item difficulty, item discrimination, item-total correlations, and coefficient alpha (Cronbach, 1970), as well as item-level correlations with job performance.

The extent to which this personality inventory measures dimensions or traits that exist in people was considered secondary in comparison to its ability to predict important job-related behaviors. Items were, therefore, evaluated by examining both their corrected correlation with the total scale score and their correlation with supervisory ratings of a corresponding criterion. Items that had unexpected relationships with the criterion (e.g., significant negative correlation when a significant positive correlation was expected) were not selected, even if their corrected correlation with the total scale score was high. Generally, however, items with higher scale correlations were selected and every effort was made to ensure that each work style scale had an appropriate spread of item difficulty.

Workplace Personality Inventory—II

Goals of the Revision

Based on continuous monitoring from 2007 to 2013 for item and scale functioning to evaluate effectiveness, a revision was undertaken in 2013 with the following goals.

1. The traits assessed by the Workplace Personality Inventory comprise six domains: Achievement Orientation, Interpersonal Orientation, Social Influence, Self Adjustment, Conscientiousness, and Practical Intelligence. Domain level scores were added, and the 16 work style scales regrouped according to the empirical data. Based on research, support from the extant personality literature, and

customer feedback, slight adjustments were made to the Workplace Personality Inventory framework to include domain scales and two scales were moved to different domains. The original and revised domains and scales for the Workplace Personality Inventory are presented in Table 2.

2. The Workplace Personality Inventory generally performed well, but several areas for improvement were identified. Item and scale functioning were enhanced by replacing poor items with new ones and adding items to scales to increase variance. A few items that were not performing as well as desired (e.g., highly skewed or low item-total correlation) were replaced. The Analytical Thinking scale was the only scale with an internal consistency estimated below .70. With only eight items, the scale was constricted and small raw score differences appeared large in the percentile metric, so new items were added to increase variance. The last area to be improved was the Integrity/Rule-Following scale. Because it measured adherence to rule-following rather than a broader trait of integrity, ethical judgment items were added to broaden the construct beyond strict rule-following.
3. Customers also wanted to use the personality inventory for employee development or high potential programs, so a new Development Report was created, and the Profile Report was updated so that customers can use the inventory for both selection and development.

Table 2. Realigned Workplace Personality Inventory Domains and Scales

Workplace Personality Inventory		Workplace Personality Inventory–II	
Domains	Scales	Domains	Scales
Achievement Orientation	Achievement/Effort	Achievement Orientation	Achievement/Effort
	Initiative		Initiative
	Persistence		Persistence
Interpersonal Orientation	Concern for Others	Interpersonal Orientation	Concern for Others
	Cooperation		Cooperation
	Social Orientation	Social Influence	Social Orientation
Social Influence	Leadership Orientation		Leadership Orientation
Self Adjustment	Self Control	Self Adjustment	Self Control
	Stress Tolerance		Stress Tolerance
	Adaptability/Flexibility		Adaptability/Flexibility
Conscientiousness	Attention to Detail	Conscientiousness	Attention to Detail
	Dependability		Dependability
	Integrity/Rule Following*		Rule Following
Independence	Independence	Practical Intelligence	Independence
Practical Intelligence	Analytical Thinking		Analytical Thinking
	Innovation		Innovation

* Integrity/Rule Following was renamed Rule Following for Workplace Personality Inventory–II

Developing Workplace Personality Inventory—II Items

Existing items in each scale were reviewed and compared to each aspect of the work style definition (listed in Table 1). Specific areas were targeted in the item writing to ensure strong coverage across all dimensions of the work style definitions. For example, Analytical Thinking includes: (a) uses logic to address work-related issues; and (b) analyzes work issues in depth to come up with high quality, useful information. Items were written to correspond to both areas and were aimed at behaviors applicable to professional positions. Some of the existing items had appeared too elementary for a working professional, particularly on the Integrity/Rule-Following scale. Items for the Workplace Personality Inventory—II were written by Pearson staff, using the same guidelines and criteria for the original inventory.

Experimental items were tested in two studies. In the first study, experimental items were inserted in the Workplace Personality Inventory as non-scored items. This practice was conducted from 2007 to 2012 and generated eight items used in the second edition. The second study was conducted in June 2012, testing a larger pool of new items, as well as the eight experimental items already identified.

Selecting Final Workplace Personality Inventory—II Items

A series of statistical analyses were conducted to identify existing items that did not contribute information to their respective scales. Mean item response (highly skewed, above 3.0) and low item-total correlation were the two prime selection criteria. Six Workplace Personality Inventory items did not meet the selection criteria and were dropped from the second edition. Criteria similar to those used in selecting Workplace Personality Inventory items were used to select new items. Both classical test criteria (mean item response and item total correlation) and IRT-based statistics (ICC) were used to guide item selection. As a result, 31 new items were added across fourteen Workplace Personality Inventory—II scales, for a final total of 192 items.

Demographic Characteristics of the Workplace Personality Inventory—II

A sample of 951 participants was used to evaluate the quality of the items. The sample was restricted to respondents who had a raw score below 30 on the Unlikely Virtues scale. More details about this sample and the development of the Workplace Personality Inventory-II can be found in Workplace Personality Inventory II: Technical Manual and User's Guide (Pearson, 2013).

Work Style Lens

In 2019, a second revision of the Workplace Personality Inventory was undertaken. The Workplace Personality Inventory—II items and scales were functioning very well, so no changes were made to the items or the scales themselves or the scoring. The revision goals centered around the interpretability of the results that are presented in the score reports and support materials. The goals were to:

- create a new more user-friendly Profile Report that includes enhanced instructions, definitions, and scale anchors;
- include STEN (Standard Ten) scores in addition to percentile scores; and
- update the available norms.

Revised Profile Report

As mentioned above, domain scores had been added to the Workplace Personality Inventory—II score reports. These six scores became a focus of the reports, with domain scores featured on the first page of results and the domains used to organize the scales. Clients often found this confusing – some users learned to ignore the domains completely – and it drew focus away from the carefully defined scales. For the WS-Lens, the domain

scores were removed and scores were organized into four broad intuitive themes to help highlight the conceptual and empirical relationships among scales, but still keep the focus on the scale scores themselves.

The Workplace Personality Inventory—II did not include scale definitions; instead scales were simply defined by the labels and the anchors defining high and low scores. For WS-Lens, a definition was added for each scale to help provide a general understanding of what the assessment measures and to clarify the description of what's included in each scale.

Finally, discussions with users revealed that the Workplace Personality Inventory—II scale anchors often did not contain enough information for a complete understanding of what high and low scores mean. In some cases, users would have a strong reaction to low scores, and yet additional description of the scale content allowed them to see their typical behavior in their scores and Workplace Personality Inventory—II.

In order to flesh out and expand the anchors to better help candidates and administrators understand the meaning of scores, we conducted a content analysis of the items. This content analysis was also helpful in developing dimension definitions. Each scale contains two anchors, one describing high scorers and one describing low scorers. Both were expanded to more completely describe the behaviors and other characteristics included in the work style. These new anchors describe not only the positive aspects of high scores but also any potential problems or weaknesses associated with high scores. Similarly, the anchors describing low scores also highlight any potential benefits.

The introduction to the WS-Lens Profile Report was also expanded to provide additional information to aid in interpretation. The new introduction includes a more detailed description of what the WS-Lens measures and how results can be used. It also includes guidance on how to interpret scores, including the importance of a person's fit to job requirements, and the relevance of O*NET for assessing fit.

The new Profile Report format and the expanded anchors were reviewed by several client organizations and additional changes were made based on their input.

STEN scores

Standard Ten (STEN) scores were added to the WS-Lens. STEN is a standardized scale ranging from 1 to 10 (with a mean of 5.5 and a standard deviation of 2 in the normative sample). Higher scores indicate better performance. When scores are normally distributed, 67% of test takers will score a STEN of between 4 and 6.

Updated Norms

The norm groups were also updated and now include much larger samples of data. All of the groups were updated except Principals, which still includes the 2016 norm data. Finally, all WS-Lens materials have been reformatted and updated to reflect current Pearson branding guidelines.

Evidence of Reliability

The reliability of an assessment tool refers to the consistency of scores obtained under the theoretical concept of the repeated testing of the same individual on the same test under identical conditions (including no changes to the individual). This can never be done in practice, but various estimates of reliability can be obtained.

The reliability of a test is expressed as a correlation coefficient that can range from .00 to 1.00. A perfectly reliable test would have a reliability coefficient of 1.00, and a completely unreliable test would have a reliability coefficient of .00. A commonly used indicator of the reliability of a test is coefficient alpha (Cronbach, 1970).

Coefficient alpha yields a reliability estimate of internal consistency by examining the homogeneity of the responses to questions within a test.

Workplace Personality Inventory

The median coefficient alpha for the original Workplace Personality Inventory scales was .76. As shown in Table 3, 16 of the 17 original scales had alphas at or higher than .70. One scale, Analytical Thinking, had an alpha less than .70, at least partially attributable to the shortness of the scale (eight items) and the relatively broad range of content it covers (e.g., inquisitiveness, analyticity, systematicity). Although these reliability coefficients demonstrate that overall, the reliability of the original Workplace Personality Inventory is good, one goal of the revision to create Workplace Personality Inventory-II was to increase the internal consistency estimates, most notably of the Analytical Thinking Scale.

Workplace Personality Inventory-II

The internal consistency estimates for the Workplace Personality Inventory–II scales range from .73 to .85 with a median of .79. As shown in Table 3, the internal consistency estimate for the Analytical Thinking scale increased significantly to a very respectable .82.

WS-Lens

The internal consistency estimates for the WS-Lens, which uses the same items and scoring as the Workplace Personality Inventory-II, were estimated based on a sample of 13,963 test takers who completed the inventory between 2013 and 2016. They range from .73 to .86 with a median of .80. Note that these reliabilities are based on a much larger sample than the others, so they are likely more stable estimates.

Table 3. Coefficient Alpha: Original Workplace Personality Inventory, Workplace Personality Inventory–II and WS-Lens

Broad Domain	Scale	Workplace Personality Inventory (N=687)	Workplace Personality Inventory–II (N=951)	WS-Lens ² (N=13,963)
Relating to People	Leadership	.80	.82	.77
	Social Orientation	.78	.82	.76
	Cooperation	.73	.73	.77
	Concern for Others	.75	.75	.77
Dealing with Emotions	Self-Control	.75	.78	.80
	Stress Tolerance	.76	.81	.83
	Adaptability	.79	.85	.86
Approaching Work	Dependability	.72	.78	.82
	Attention to Detail	.79	.81	.82
	Rule Following	.71	.74	.81
	Achievement	.70	.76	.79
	Persistence	.76	.78	.73
	Initiative	.77	.81	.81
Thinking Styles	Innovation	.81	.82	.78
	Analytical Thinking	.60	.82	.80
	Independence	.74	.80	.76
Response Validity	Unlikely Virtues	.76	.82	.83

² Estimate based on sample of Workplace Personality Inventory–II respondents tested between 2013 and 2016.

Lines of Evidence Supporting Validity

Validity refers to the degree to which specific data, research, or theory support the interpretation of test scores entailed by proposed uses of tests (American Educational Research Association [AERA], American Psychological Association [APA], & National Council on Measurement in Education [NCME], 1999). Validity is a unitary concept. It is the extent to which all the accumulated evidence supports the intended interpretation of test scores for the proposed purpose (AERA et al.). “Validity is high if a test gives the information the decision maker needs” (Cronbach, 1970).

Evidence of Content Validity

For a workplace or career assessment, content validity is established by demonstrating that the item content measures characteristics relevant in the workplace. An advantage of the WS-Lens is that it directly assesses work styles required in many jobs and occupations in the U.S. economy (Borman, Kubisiak, & Schneider, 1999). The Occupational Information Network (O*NET®) website (<http://online.onetcenter.org>) provides detailed information on the work styles (as well as knowledge, skills, abilities, etc.) necessary for successful performance in hundreds of occupations.

WS-Lens item content (which comes from the Workplace Personality Inventory and Workplace Personality Inventory–II) was written specifically to correspond to the O*NET descriptions of each work style. Further, all items were reviewed by the TalentLens research staff for fidelity to the O*NET definitions and for workplace relevance.

Evidence of Convergent Validity

Evidence of convergent validity is obtained when scores on a test relate to scores on other tests or variables that purport to measure similar traits or constructs (AERA et al, 1999). This evidence was collected using the original Workplace Personality Inventory. Tables 4 through 6 present correlations from studies showing that Workplace Personality Inventory scores relate to scores on theoretically related scales from the Occupational Personality Questionnaire (OPQ; Saville, & Holdsworth, 1990) and the Hogan Personality Inventory (Hogan & Hogan, 1992) in an expected manner.

The OPQ is a 260-item questionnaire that assesses 32 dimensions. The OPQ and Workplace Personality Inventory were administered to 79 individuals from various occupations and organizational levels, with the largest proportion from Operations occupations (27.8%) and the Individual Contributor/Professional organizational level (26.6%). Table 4 shows the OPQ dimensions that correlated highest with each of the 17 Workplace Personality Inventory scales. As shown, 11 of the 17 scales correlated .6 or better with a similar OPQ dimension, and 16 of the 17 Workplace Personality Inventory scales correlated .5 or better with a similar OPQ dimension. Attention to Detail was the one Workplace Personality Inventory scale that correlated less than .5 with a similar OPQ scale ($r = .39$ with OPQ Detail Conscious).

Table 4. Correlations of Workplace Personality Inventory and OPQ Scales ($n = 74$)

Workplace Personality Inventory	OPQ	Correlation
Achievement/Effort	Achieving	.62**
	Evaluative	.58**
	Innovative	.53**
	Conceptual	.51**

Workplace Personality Inventory	OPQ	Correlation
Adaptability	Variety Seeking	.68**
	Innovative	.53**
	Conventional	-.53**
	Vigorous	.52**
	Achieving	.50**
Analytical Thinking	Evaluative	.56**
	Innovative	.56**
Attention to Detail	Detail Conscious	.39**
Concern for Others	Caring	.56**
	Affiliative	.54**
Cooperation	Caring	.54**
Dependability	Conscientious	.52**
Independence	Variety Seeking	.63**
	Conventional	-.61**
	Innovative	.50**

Workplace Personality Inventory	OPQ	Correlation
Initiative	Variety Seeking	.67**
	Achieving	.66**
	Innovative	.61**
	Vigorous	.59**
	Conventional	-.54**
	Outgoing	.51**
Innovation	Innovative	.80**
	Conventional	-.60**
	Conceptual	.57**
	Variety-Seeking	.57**
	Achieving	.52**
Integrity/Rule-Following	Rule Following	.75**
Leadership Orientation	Outspoken	.65**
	Controlling	.62**
	Worrying	-.60**
	Persuasive	.54**
	Innovative	.51**
	Socially Confident	.50**
Persistence	Conscientious	.56**
	Innovative	.52**
Self Control	Tough Minded	.62**
	Social Desirability	.54**
Social Orientation	Outgoing	.75**
	Affiliative	.74**
	Socially Confident	.64**
Stress Tolerance	Tough Minded	.70**
	Relaxed	.58**
	Worrying	-.56**
	Socially Confident	.50**
Unlikely Virtues	Social Desirability	.70**

Note. All correlations shown are uncorrected. ** $p < .01$.

The Hogan Personality Inventory (HPI) is a 206-item measure of normal personality that contains seven primary scales and 41 subscales or Homogenous Item Composites (HICs). The HPI and Workplace Personality Inventory were administered to 92 individuals from various occupations and organizational levels, with the largest proportion from project manager/coordinator occupations (17.4%) and the director organizational level (32.6%).

Table 5 shows the HPI dimensions that correlated highest with each of the 17 Workplace Personality Inventory scales. All relationships shown are consistent with interpretation of the Workplace Personality Inventory scales and the dimensions measured by the HPI.

Table 5. Correlations of Workplace Personality Inventory with HPI Scales (*n* = 99)

Workplace Personality Inventory	HPI	Correlation
Achievement/Effort	Leadership	.41**
Adaptability	Ambition	.43**
	Leadership	.42**
	Sales Potential	.42**
Analytical Thinking	Intellectance	.40**
Attention to Detail	Mastery	.32**
Concern for Others	Service Orientation	.57**
	Empathy	.55**
	Likeability	.48**
	Virtuous	.44**
Cooperation	Service Orientation	.56**
	Empathy	.49**
	Virtuous	.48**
	Likeability	.42**
Dependability	Mastery	.43**
Independence	Leadership	.55**
	Ambition	.52**
Initiative	Leadership	.46**
	Ambition	.43**
Innovation	Generates Ideas	.60**
	Experience Seeking	.46**
	Sales Potential	.44**
	Intellectance	.42**
	Not Spontaneous	-.40**
Integrity/Rule Following	Prudence	.42**
Leadership Orientation	Ambition	.60**
	Leadership	.56**
	Sales Potential	.52**
	No Social Anxiety	.50**
	Sociability	.43**
	Competitive	.40**

Workplace Personality Inventory	HPI	Correlation
Persistence	Mastery	.32**
	Even-tempered	.32**
Self Control	Even-tempered	.61**
	Adjustment	.58**
	Impression Management	.52**
	Service Orientation	.51**
	Prudence	.49**
	Virtuous	.49**
	Empathy	.47**
	Stress Tolerance	.46**
	Not Anxious	.43**
	Moralist	.41**
	Exhibitionistic	-.41**
Social Orientation	Sales Potential	.74**
	Sociability	.69**
	Likes People	.60**
	Likes Parties	.57**
	No Social Anxiety	.55**
	Likes Crowds	.52**
	Entertaining	.50**
	Ambition	.45**
	Likeability	.45**
	Exhibitionistic	.41**
	Experience Seeking	.40**
	Trusting	.41**
	Stress Tolerance	Not Anxious
Stress Tolerance		.57**
Adjustment		.56**
Calmness		.45**
Empathy		.40**
Service Orientation		.40**
Unlikely Virtues	Moralist	.49**
	Service Orientation	.48**
	Virtuous	.48**

Note. All correlations shown are uncorrected. ** $p < .01$.

Because the Workplace Personality Inventory scales are designed to be somewhat narrower than HPI primary scale scores (but generally broader than the HPI HICs), the prediction of HPI primary scale scores was examined, using a multiple correlation approach. Workplace Personality Inventory scales had multiple correlations of .7 or better with five of the seven primary HPI scales, and .6 or better with six of the seven primary HPI scales. HPI School Success was the one primary scale that had a multiple correlation of less than .5 with the Workplace Personality Inventory ($r = .51$).

Table 6. Multiple Correlations of Workplace Personality Inventory with HPI Primary Scales ($n = 99$)

HPI Primary Scale	Workplace Personality Inventory Multiple Correlation
Adjustment	.70**
Ambition	.72**
Sociability	.75**
Likeability	.72**
Prudence	.73**
Intellectance	.65**
School Success	.51**

Note. All correlations shown are uncorrected. ** $p < .01$

The relationship between the Workplace Personality Inventory Unlikely Virtues scale and the 13-item short form (Reynolds, 1982) of the Marlowe-Crowne Social Desirability scale (Crowne & Marlowe, 1960) was also evaluated. The Workplace Personality Inventory Unlikely Virtues scale was designed to identify individuals who present an overly favorable image of themselves in responding to questions. Similarly, the Marlowe-Crowne Social Desirability scale was designed to identify the extent to which individuals respond to questions in a socially approved manner (Crowne & Marlowe, 1960). Scores on the two scales correlated .67, indicating a high degree of relationship between them.

Evidence of Criterion-Related Validity

Criterion-related validity evidence addresses the inference that individuals who score better on tests will be successful on some criterion of interest. Criterion-related validity evidence indicates the statistical relationship (e.g., for a given sample of job applicants or incumbents) between scores on the test and one or more criteria, or between scores on the test and independently obtained measures of subsequent job performance. By collecting test scores and criterion scores (e.g., job performance ratings, grades in a training course, supervisor ratings), one can determine how much confidence may be placed in using test scores to predict job success. Typically, correlations between criterion measures and scores on the test serve as indices of criterion-related validity evidence.

Criterion-Related Validity of the Original Workplace Personality Inventory

A project conducted by Pearson (2007) provides evidence for the criterion-related validity of the Workplace Personality Inventory. The study examined the relationship between Workplace Personality Inventory scores and on-the-job performance for incumbents in various occupations. Job performance was defined as supervisory ratings on behaviors and metrics determined through research to be important to many jobs in the United States. Aspects of job performance rated included work style behaviors (for 16 work styles), behaviors reflecting

intellectual capacity (e.g., ability to learn quickly), absenteeism, tardiness, overall performance, overall potential, and overall rank relative to employees in a similar role. Relationships between Workplace Personality Inventory scores and job performance were analyzed for a combined group of directors and managers, managers, customer service representatives, and project managers. Table 7 shows a summary of key findings by group.

Table 7. Correlations of Workplace Personality Inventory Scales with Job Performance Ratings (2007)

Group	Workplace Personality Inventory	Job Performance Indicator	Validity Coefficient
Directors and Managers (n = 93)	Innovation	Overall Performance	.23*
	Concern for Others	Overall Performance	.22*
	Concern for Others	Overall Potential	.21*
	Analytical Thinking	Overall Ranking Relative to Peers	-.21*
Managers (n = 57)	Persistence	Overall Performance	.34**
	Self Control	Overall Performance	.29*
	Leadership Orientation	Overall Performance	.24
	Analytical Thinking	Overall Potential	.32*
	Analytical Thinking	Overall Ranking Relative to Peers	-.36**
Customer Service Representatives (n = 74)	Dependability	Tardiness	-.38**
Project Managers (n = 47)	Self Control	Overall Performance	.27
	Concern for Others	Overall Performance	.22
	Self Control	Overall Potential	.30*
	Adaptability/Flexibility	Overall Potential	.23
	Innovation	Overall Potential	.23
	Dependability	Tardiness	-.29*

Note. For tardiness and overall rank, lower rating scores indicated better performance (i.e., less tardiness and higher rank). All correlations shown are uncorrected. * $p < .05$; ** $p < .01$.

Overall, the results clearly show that Workplace Personality Inventory scales are related to on-the-job performance of incumbents. As shown, at least one Workplace Personality Inventory scale correlated .21 or higher with overall performance, overall potential, overall ranking, and/or tardiness in each of the four groups. Scales that correlate .21 and higher with job performance are generally “likely to be useful” based on U.S. Department of Labor guidelines (1999).

Several studies conducted after publication of the Workplace Personality Inventory provide additional support for the criterion-related validity. The results of these studies are presented in Table 8.

Table 8. Correlations of Workplace Personality Inventory Scales with Job Performance Ratings (2008–2011)

Group	Workplace Personality Inventory	Job Performance Competency	Validity Coefficient
Principals (n = 196)	Rule Following	Challenging Status Quo	-.23*
	Initiative	Challenging Status Quo	.21*
	Attention to Detail	Challenging Status Quo	-.21*
	Innovation	Challenging Status Quo	.19*
	Social Orientation	Trust-Building	.18*
	Initiative	Strategic Planning	.23*
	Social Orientation	Strategic Planning	.21*
	Social Orientation	Team-Building	.26**
	Initiative	Team-Building	.20*
	Stress Tolerance	Team-Building	.19*
	Initiative	Acting with Urgency	.27**
	Rule Following	Acting with Urgency	-.21*
	Achievement	Acting with Urgency	.20*
	Innovation	Acting with Urgency	.20*
	Social Orientation	Network Building	.28**
	Initiative	Network Building	.20*
	Initiative	Overall Ranking Relative to Peers	.19**
Nursing Directors (n = 29)	Persistence	Clinical Knowledge	.47*
	Leadership Orientation	Clinical Knowledge	.43*
	Attention to Detail	Customer Focus	.39*
	Independence	Financial Management	.44*
	Attention to Detail	Information Technology	.46*
	Cooperation	Information Technology	-.38*
	Initiative	People Mgmt Skills Total	.47**
	Leadership Orientation	People Mgmt Skills Total	.41*
	Initiative	People: Communicating Effectively	.43*
	Social Orientation	People: Communicating Effectively	.40*
	Initiative	People: Leadership	.40*
	Leadership Orientation	People: Performance Management	.53**

Group	Workplace Personality Inventory	Job Performance Competency	Validity Coefficient
	Initiative	People: Performance Management	.37*
	Persistence	Quality	.49**
	Dependability	Quality	.47*
	Leadership Orientation	Quality	.42*
	Achievement	Quality	.40*
	Achievement	Overall Rating	.42*
	Initiative	Overall Rating	.42*
	Leadership Orientation	Overall Rating	.41*
Press Employees (n = 73)	Cooperation	Absenteeism	-.31*
	Adaptability	Absenteeism	-.30*
	Attention to Detail	Absenteeism	-.28*
	Dependability	Absenteeism	-.28*
	Attention to Detail	Voluntary Turnover	-.23*
Bindery Employees (n = 115)	Initiative	14-day overall rating	.29*
	Initiative	14-day core task rating what is this?	.30*
	Initiative	14-day composite rating what is this?	.26*
	Initiative	Voluntary Turnover	-.24*
	Persistence	Voluntary Turnover	-.19*

* $p < .05$, ** $p < .01$

In a 2011 study of K–12 school principals from across the country (n = 196), the relationship between Workplace Personality Inventory scores and performance-related competencies was examined. As hypothesized, the Workplace Personality Inventory scales significantly predicted a number of competencies that had been identified as important for successful performance as a principal.

A study in 2008 evaluated the utility of using work style scales for predicting job performance competencies associated with the position of Nursing Director. Twenty-nine Nursing Directors at the flagship hospital of a regional healthcare facility completed the Workplace Personality Inventory and were rated by their supervisors on competencies important to job success. Although the sample size was small, a number of significant correlations were reported, and overall, the results support the validity of using Workplace Personality Inventory scales for the selection of Nursing Directors.

A 2009 study examined the relationship between the Workplace Personality Inventory scales and job performance indicators in a sample of Press (n = 70) and Bindery (n = 115) employees in a print/digital solutions company. Data was collected over time. Performance measures for Press employees at 60 days and Bindery

employees after 14 days on the job is presented. The correlations between work styles scales and job performance, absenteeism and turnover are shown in Table 8.

Evidence of Workplace Personality Inventory–II Criterion-Related Validity

The relationship between Workplace Personality Inventory–II scales and on-the-job performance of 49 incumbents in director- and executive-level positions in a large urban healthcare system was evaluated for evidence of criterion-related validity. Specifically, the relationship between the new domain scales and job performance, and the work styles scales and job performance, were evaluated. Overall, the results clearly show that Workplace Personality Inventory–II domain scores significantly correlated to on-the-job performance of the incumbents (see Table 9). Four of the six domain scales correlated .30 or higher. Three of the six domain scales correlated .28 or higher. Achievement, Practical Intelligence, and Social Influence were most highly related to the incumbent’s potential to excel at higher levels within the organization.

Table 9. Correlations of Workplace Personality Inventory–II Domain Scales with Job Performance Ratings (Executive/Director Sample, *n* = 49)

Workplace Personality Inventory–II Domain	Job Performance Indicator	Validity Coefficient
Achievement	Achievement-Related Behaviors	.44**
	Overall Performance	.29*
	Overall Potential	.28
Conscientiousness	Conscientiousness-Related Behaviors	.30*
	Overall Performance	.14
	Overall Potential	-.08
Interpersonal	Interpersonal-Related Behaviors	.15
	Overall Performance	.16
	Overall Potential	-.24
Practical Intelligence	Practical Intelligence-Related Behaviors	.41**
	Overall Performance	.44**
	Overall Potential	.27
Self Adjustment	Self Adjustment-Related Behaviors	.30*
	Overall Performance	.28*
	Overall Potential	.12
Social Influence	Social Influence-Related Behaviors	.17
	Overall Performance	.06
	Overall Potential	.39**

Note. All correlations shown are uncorrected. **p* < .05; ***p* < .01

The relationship between the Workplace Personality Inventory–II Work-Style Scales and job performance indicators is presented in Table 10. As with the Domain Scales, the results clearly show that Workplace Personality Inventory–II Work Style Scales were significantly related to numerous aspects of on-the-job performance of the incumbents. As shown, 12 of the 16 Work Style scales correlated .21 or higher with performance ratings in respective areas of behavior. Initiative, Self Control, Innovation, and Analytical thinking were most highly related to overall job performance. Initiative, Leadership Orientation, and Analytical Thinking were most highly related to the incumbent’s potential to excel at higher levels within the organization.

Table 10. Correlations of Workplace Personality Inventory–II Work-Style Scales with Job Performance Ratings (Executive/Director Sample, *n* = 49)

Workplace Personality Inventory–II Work Style	Job Performance Indicator	Validity Coefficient
Achievement	Achievement-Related Behaviors	.30*
	Overall Performance	.20
	Overall Potential	.27
Persistence	Persistence-Related Behaviors	.35*
	Overall Performance	.18
	Overall Potential	.15
Initiative	Initiative-Related Behaviors	.47**
	Overall Performance	.34*
	Overall Potential	.30*
Leadership Orientation	Leadership-Related Behaviors	.43**
	Overall Performance	.07
	Overall Potential	.37**
Cooperation	Cooperation-Related Behaviors	.01
	Overall Performance	.12
	Overall Potential	–.27
Concern for Others	Concern-Related Behaviors	.23
	Overall Performance	.17
	Overall Potential	–.16
Social Orientation	Social-Related Behaviors	–.02
	Overall Performance	.03
	Overall Potential	.24
Self Control	Self Control-Related Behaviors	.31*
	Overall Performance	.37**
	Overall Potential	.03
Stress Tolerance	Stress Tolerance-Related Behaviors	.21
	Overall Performance	.00
	Overall Potential	–.04

Workplace Personality Inventory–II Work Style	Job Performance Indicator	Validity Coefficient
Adaptability/Flexibility	Adaptability-Related Behaviors	.21
	Overall Performance	.28
	Overall Potential	.29*
Dependability	Dependability-Related Behaviors	.27
	Overall Performance	.20
	Overall Potential	.08
Attention to Detail	Attention to Detail -Related Behaviors	.23
	Overall Performance	.11
	Overall Potential	-.07
Rule Following	Rule Following -Related Behaviors	.18
	Overall Performance	-.01
	Overall Potential	-.21
Independence	Independence-Related Behaviors	.09
	Overall Performance	.20
	Overall Potential	.13
Innovation	Innovation-Related Behaviors	.40**
	Overall Performance	.35*
	Overall Potential	.20
Analytical Thinking	Analytical Thinking-Related Behaviors	.35*
	Overall Performance	.47*
	Overall Potential	.32*

Note. All correlations shown are uncorrected. * $p < .05$; ** $p < .01$

Evidence of Construct Validity: Group Differences

Tables 11 and 12 show validity evidence for the Workplace Personality Inventory based on group differences that are consistent with job requirements and occupational characteristics. Using the original Workplace Personality Inventory validation sample, several different occupations were compared. For example, Sales Representative was the highest scoring occupational group on Social Orientation, Customer Service Representative was the highest scoring on Concern for Others, and Information Technology (IT) Occupations was the highest scoring on Analytical Thinking. In contrast, Sales Representative was the lowest occupational group on Attention to Detail, IT Occupations the lowest on Concern for Others, and Researchers the lowest on Social Orientation.

Table 11. Highest and Lowest Scoring Occupations by Workplace Personality Inventory Scale

Scale	Highest Scoring Occupation	Lowest Scoring Occupation	<i>d</i>	<i>p</i>
Achievement/Effort	Researcher	Administrative Assistant	0.68	.0050
Adaptability/Flexibility	Sales Representative (non-retail)	Customer Service Representative	0.53	.0059
Analytical Thinking	Information Technology Occupations	Operations Occupations	0.85	.0001
Attention to Detail	Administrative Assistant	Sales Representative (non-retail)	0.78	.0007
Concern for Others	Customer Service Representative	Information Technology Occupations	0.83	<.0001
Cooperation	Customer Service Representative	Project Managers/ Coordinators	0.82	<.0001
Dependability	Customer Service Representative	Sales Representative (non-retail)	0.69	.0002
Independence	Sales Representative (non-retail)	Customer Service Representative	0.92	<.0001
Initiative	Sales Representative (non-retail)	Customer Service Representative	0.77	<.0001
Innovation	Researcher	Operations Occupations	0.68	.0037
Integrity/Rule Following	Customer Service Representative	Project Managers/ Coordinators	0.95	<.0001
Leadership Orientation	Sales Representative (non-retail)	Researcher	0.80	.0010
Persistence	Customer Service Representative	Sales Representative (non-retail)	0.33	.0693
Self Control	Administrative Assistant	Sales Representative (non-retail)	0.43	.0539
Social Orientation	Sales Representative (non-retail)	Researcher	0.99	<.0001
Stress Tolerance	Sales Representative (non-retail)	Researcher	0.51	.0319

Note. Occupations analyzed included Administrative Assistant (*n* = 41), Customer Service Representative (*n* = 111), Information Technology Occupations (*n* = 44), Operations Occupations (*n* = 44), Project Managers/Coordinators (*n* = 68), Researchers (*n* = 32), and Sales Representatives (*n* = 42).

Table 12. Highest and Lowest Scoring Organizational Levels by Workplace Personality Inventory Scale

Scale	Highest Scoring Organizational Level	Lowest Scoring Organizational Level	<i>d</i>	<i>p</i>
Achievement/Effort	Directors	Administrative/ Clerical	1.02	<.0001
Adaptability/Flexibility	Executives	Customer Service/ Retail Sales	0.68	.0011
Analytical Thinking	Executives	Administrative/ Clerical	1.06	<.0001
Attention to Detail	Administrative/ Clerical	Executives	1.29	<.0001
Concern for Others	Customer Service/ Retail Sales	Directors	1.08	<.0001
Cooperation	Customer Service/ Retail Sales	Executives	0.91	<.0001
Dependability	Customer Service/ Retail Sales	Executives	1.11	<.0001
Independence	Executives	Customer Service/ Retail Sales	1.89	<.0001
Initiative	Directors	Customer Service/ Retail Sales	1.17	<.0001
Innovation	Directors	Administrative/ Clerical	0.81	<.0001
Integrity/Rule Following	Customer Service/ Retail Sales	Executives	1.23	<.0001
Leadership Orientation	Executives	Administrative/ Clerical	1.59	<.0001
Persistence	Customer Service/ Retail Sales	Executives	0.35	.1179
Self Control	Directors	Managers	0.30	.0810
Social Orientation	Directors	Administrative/ Clerical	0.66	.0004
Stress Tolerance	Executives	Administrative/ Clerical	0.75	.0007

Note. Organizational levels analyzed included Executives ($n = 31$), Directors ($n = 56$), Managers ($n = 101$), Professionals/Individual Contributors ($n = 217$), First-line Supervisors ($n = 40$), Administrative/Clerical ($n = 67$), and Customer Service/Retail Sales ($n = 95$).

Executive also was the highest scoring position on Adaptability/Flexibility and Analytical Thinking, Customer Service/Retail Sales was the highest scoring on Concern for Others, and Director was the highest scoring on Achievement/Effort. In contrast, Administrative/Clerical was the lowest scoring on Leadership Orientation, and Executive the lowest on Attention to Detail and Rule Following.

Additional evidence of group differences can be found in a 2009 study of three different occupational groups (Chartrand, Yang, & Filgo, 2009). As shown in Figure 2, the Workplace Personality Inventory work style scores of administrative assistants, nurses, and executives differ in meaningful ways that are consistent with the expectations of their job. Administrative assistants and nurses scored significantly higher than executives on Cooperation and Concern for Others. Administrative assistants scored significantly higher than the others on Attention to Detail.

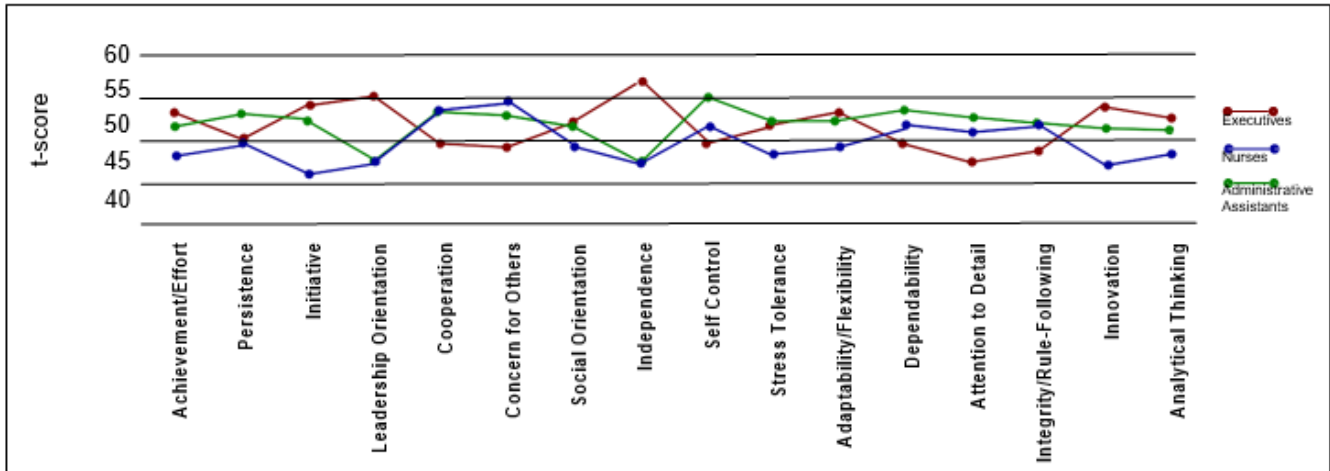


Figure 2. Workplace Personality Inventory Profiles: Administrative Assistants, Nurses, and Executives

Executives scored significantly higher than administrative assistants on Achievement and Initiative, but significantly lower on Persistence; that construct emphasizes a “stick to it” quality that reflects a conscientious style. Collectively, these results strongly support the fact that people in different occupations possess different work style levels, and that these levels correspond to work style requirements of the job.

The 2011 study of school principals provides additional evidence of Workplace Personality Inventory validity, based on a different type of group difference (i.e., higher- versus lower-performing principals). As shown in Figure 3, high-performing principals scored significantly higher than the lower-performing principals on Initiative and Social Orientation.

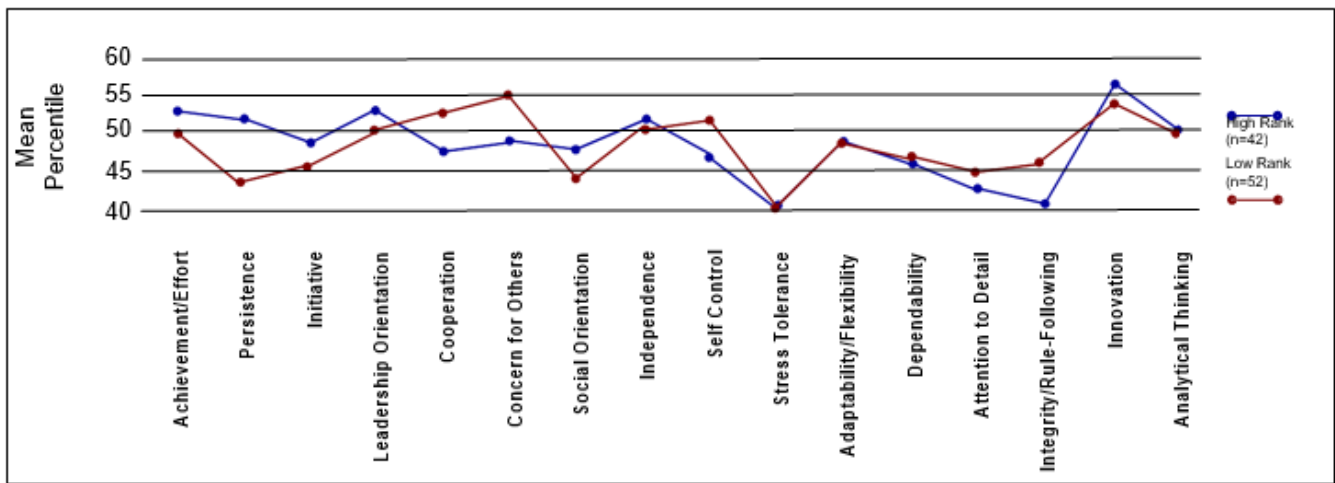


Figure 3. Workplace Personality Inventory Profiles of Principals: Higher vs. Lower Performers

Evidence of Construct Validity: Internal Structure

Work Style Lens

The same sample used to generate the WS-Lens 2020 norms was used to examine the intercorrelations between the WS-Lens scales, and results are shown in Table 13. Appendix D shows the intercorrelations for the Workplace Personality Inventory and Workplace Personality Inventory—II scales.

The pattern of correlations among the WS-Lens scales are generally consistent with theoretical expectations, providing additional evidence that the scales assess the work styles intended. For example, as shown in Table 13, Stress Tolerance correlated .54 with Adaptability/Flexibility and .57 with Self-Control. Achievement/Effort correlated .60 with Persistence, Dependability correlated .61 with Attention to Detail, and Concern for Others correlated .67 with Cooperation.

Many WS-Lens scales also appear to be fairly independent, again in ways consistent with theoretical expectations. For example, Analytical Thinking and Achievement/Effort showed no significant relationship with Concern for Others. A few correlations, such as between Initiative and Adaptability ($r = .71$), exceeded the expected values.

Table 13. Intercorrelations of WS-Lens Scales (N=16,712)

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1 Achievement/Effort	1.00																
2 Adaptability/Flexibility	.50	1.00															
3 Analytical Thinking	.56	.48	1.00														
4 Attention to Detail	.42	.18	.31	1.00													
5 Concern for Others	.17	.26	.15	.19	1.00												
6 Cooperation	.37	.37	.27	.36	.67	1.00											
7 Dependability	.58	.34	.38	.61	.31	.52	1.00										
8 Independence	.21	.33	.26	-.20	-.08	-.10	-.10	1.00									
9 Initiative	.68	.71	.53	.29	.20	.35	.46	.36	1.00								
10 Innovation	.37	.46	.39	.01	.17	.18	.08	.38	.44	1.00							
11 Leadership Orientation	.46	.42	.42	.06	-.09	-.0	.15	.41	.51	.39	1.00						
12 Persistence	.60	.44	.43	.51	.25	.43	.65	.09	.57	.21	.30	1.00					
13 Rule Following	.28	.19	.13	.50	.33	.51	.57	-.31	.22	-.09	-.0	.46	1.00				
14 Self Control	.34	.37	.30	.33	.37	.53	.51	-.05	.32	.06	-.0	.48	.50	1.00			
15 Social Orientation	.42	.42	.28	.14	.31	.35	.27	.09	.43	.33	.48	.32	.17	.18	1.00		
16 Stress Tolerance	.40	.54	.39	.26	.14	.28	.40	.13	.47	.20	.35	.47	.34	.57	.35	1.00	
17 Unlikely Virtues	.26	.26	.16	.39	.27	.40	.44	-.20	.22	.03	.02	.43	.53	.54	.20	0.43	1.00

Faking and the Workplace Personality Inventory

Job applicants sometimes attempt to present an overly favorable image of themselves on personality tests. A meta-analysis of 51 studies found that the means of applicant samples on personality tests tend to be from 0.48 to 0.65 standard deviations above the means of incumbent samples (Viswesvaran & Ones, 1999).

A study was conducted to estimate the extent to which applicants inflated their scores on the Workplace Personality Inventory in an attempt to make a favorable impression. The Workplace Personality Inventory was administered to a sample group of 53 employed adults who were asked to respond to the items in an honest and forthright manner (“honest” condition). Afterward, the same sample was instructed to respond to the same set of items as if they were in a job selection situation, seeking a position they very much wanted to acquire (“applicant” condition). Table 14 presents the means and standard deviations of each experimental administration, as well as the mean differences, t-scores, significance, and effect size of the differences between administrations.

Overall, scores on the majority of Workplace Personality Inventory scales increased significantly as expected. However, the amount of change was generally less than changes reported in similar studies on other personality inventories, with standardized mean score differences (i.e., *d* values) between .06 and .44 (median = .29).

Table 14. Workplace Personality Inventory Score Differences Between Honest and Applicant Conditions ($n = 53$)

Trait	Honest Mean	Honest SD	Applicant Mean	Applicant SD	Mean Difference	T	p	d	r
Achievement/ Effort	32.4	3.5	33.5	3.8	1.09	2.84	0.00638	0.3	.71**
Adaptability/ Flexibility	27.9	3.7	28.7	3.8	0.77	1.55	0.12620	0.21	.54**
Analytical Thinking	22.0	2.0	23.0	2.4	0.98	3.32	0.00166	0.44	.54**
Attention to Detail	27.2	3.0	28.0	3.1	0.79	2.14	0.03726	0.26	.61**
Concern for Others	30.2	3.2	30.3	3.4	0.19	0.51	0.61449	0.06	.66**
Cooperation	35.2	2.2	36.1	3.2	0.92	2.40	0.01999	0.34	.52**
Dependability	26.5	2.6	27.7	2.9	1.17	3.31	0.00173	0.43	.57**
Independence	23.6	2.9	24.4	3.1	0.75	2.30	0.02574	0.25	.68**
Initiative	28.6	3.4	29.8	3.9	1.19	2.68	0.00996	0.33	.61**
Innovation	24.3	2.8	24.8	2.8	0.49	1.46	0.15037	0.17	.62**
Integrity/Rule- Following	27.1	3.1	28.0	3.1	0.91	2.14	0.03687	0.29	.51**
Leadership Orientation	25.4	3.3	26.0	3.5	0.60	1.42	0.16258	0.18	.59**
Persistence	26.2	2.6	26.7	2.8	0.50	1.21	0.23295	0.19	.39**
Self Control	24.0	3.4	24.8	3.6	0.77	2.13	0.03784	0.22	.73**
Social Orientation	24.0	3.0	25.1	3.5	1.11	2.59	0.01244	0.34	.54**
Stress Tolerance	25.5	3.2	27.0	3.8	1.54	2.63	0.01141	0.44	.27*
Unlikely Virtues	22.6	2.8	23.9	4.6	1.33	2.65	0.01061	0.35	.61**

Note. All correlations shown are uncorrected. * $p < .05$; ** $p < .01$.

Table 15 shows correlations of Workplace Personality Inventory scores across the honest and applicant conditions. Across conditions, scores on 15 of the 17 scales correlated between moderate and high (i.e., between .51 and .73), suggesting general consistency in the rank order of people’s scores on the scales. However, the correlations were not so high as to suggest a one-to-one relationship of scores. It appears that a few people were able to misrepresent their scores and make themselves appear more desirable than potentially better-qualified candidates.

Table 15. Correlation of Unlikely Virtues with Score Inflation Across “Honest” and “Applicant” Conditions (n = 53)

Score Inflation Measure	Correlation with Unlikely Virtues
Achievement/Effort Difference	.33*
Adaptability/Flexibility Difference	.46**
Analytical Thinking Difference	.45**
Attention to Detail Difference	.19
Concern for Others Difference	.27
Cooperation Difference	.35*
Dependability Difference	.45**
Independence Difference	.08
Initiative Difference	.50**
Innovation Difference	.35*
Integrity/Rule Following Difference	.28*
Leadership Orientation Difference	.41**
Persistence Difference	.55**
Self-Control Difference	.41**
Social Orientation Difference	.62**
Stress Tolerance Difference	.54**
Unlikely Virtues Difference	.79**

Note. All correlations shown are uncorrected. Score inflation was calculated as (Workplace Personality Inventory applicant condition score– Workplace Personality Inventory honest condition score). For the Unlikely Virtues measure, applicant condition scores were used.

* $p < .05$; ** $p < .01$

References

- American Educational Research Association, American Psychological Association, & National Council on Measurement in Education (1999). *Standards for educational and psychological testing*. Washington, D.C.
- Americans With Disabilities Act of 1990, Titles I & V (Pub. L. 101-336). *United States Code, Volume 42, Sections 12101–12213*.
- Barrick, M. R., & Mount, M. K. (1991). The big five personality dimensions and job performance: A meta-analysis. *Personnel Psychology, 44*, 1–26.
- Bentz, V. J. (1985). A view from the top: A 30-year perspective of research devoted to the discovery, description, and prediction of executive behavior. Paper presented at the annual meeting of the American Psychological Association, Los Angeles.
- Borman, W. C., Kubisiak, U. C., & Schneider, R. J. (1999). Work styles. In N. G. Peterson, M. D. Mumford, W. C. Borman, P. R. Jeanneret, & E. A. Fleishman (Eds.), *An occupational information system for the 21st century: The development of O*NET* (pp. 213–226). Washington, DC: American Psychological Association.
- Cascio, W. F., & Aguinis, H. (2005). *Applied psychology in human resource management* (6th ed.). Upper Saddle River, NJ: Prentice Hall.
- Chartrand, J. M., Yang, Z., & Filgo, S. K. (2009). Utility and validity of O*NET's Work Styles taxonomy. Paper presented at the 2009 meeting of the Society of Industrial/Organizational Psychology, New Orleans.
- Civil Rights Act of 1991. 102nd Congress, 1st Session, H.R.1. Retrieved August 4, 2006. Access: <http://usinfo.state.gov/usa/infousa/laws/majorlaw/civil91.htm>
- Costa, P. T., Jr., McCrae, R. R., & Dye, D. A. (1991). Facet scales for agreeableness and conscientiousness: A revision of the NEO Personality Inventory. *Personality and Individual Differences, 12*, 887–898.
- Cronbach, L. J. (1970). *Essentials of psychological testing* (3rd ed.). New York: Harper & Row.
- Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology, 24*, 349–354.
- Equal Employment Opportunity Commission. (1978). Uniform guidelines on employee selection procedures. *Federal Register, 43*(166), 38295–38309.
- Goldberg, L. R. (1993). The structure of phenotypic personality traits. *American Psychologist, 48*, 26–34.
- Gough, H. G. (1987). *The California psychological inventory: Manual*. Palo Alto, CA: Consulting Psychologists Press.
- Hogan, R. & Hogan, J. (1992). *The Hogan personality inventory: Manual*. Tulsa, OK: Hogan Assessment Systems.
- Hogan, R. (1991). Personality and personality measurement. In M. D. Dunnette and L. M. Hough (Eds.), *Handbook of industrial and organizational psychology: Vol. 2* (2nd ed., pp. 873–919). Palo Alto, CA: Consulting Psychologists Press.
- Hough, L. M. (1997). Personality at work: Issues and evidence. In M. Hakel (Ed.), *Beyond multiple choice: Evaluating alternatives to traditional testing for selection* (pp. 131–166). Hillsdale, NJ: Erlbaum.

- Mantel, N., & Haenszel, W. (1959). Statistical aspects of the analysis of data from retrospective studies of disease. *Journal of the National Cancer Institute*, 22, 719–748.
- Pearson (2007). *Development of the Workplace Personality Inventory (Technical Report)*. Bloomington, MN: Author.
- Pearson (2013). *Workplace Personality Inventory II: Technical Manual and User's Guide*. Bloomington, MN: Author.
- Ployhart, R. E., & Holtz, B. C. (2008). The diversity-validity dilemma: Strategies for reducing racioethnic and sex subgroup differences and adverse impact in selection. *Personnel Psychology*, 61(1), 153–172.
- Raymark, P. H., Schmit, M. J., & Guion, R. M. (1997). Identifying potentially useful personality constructs for employee selection. *Personnel Psychology*, 2, 723–736.
- Reynolds, W. M. (1982). Development of reliable and valid short forms of the Marlowe-Crowne Social Desirability Scale. *Journal of Clinical Psychology*, 38, 119–125.
- Ryan, A. M., Ployhart, R. E., & Friedel, L. A. (1998). Using personality testing to reduce adverse impact: A cautionary note. *Journal of Applied Psychology*, 83, 298–307.
- Samejima, F. (1969). Estimation of latent ability using a response pattern of graded response scores. *Psychometrika*, 34(4, Pt.2).
- Saville, P. & Holdsworth, R. (1990). *Occupational Personality Questionnaire manual*. Surrey, England: Saville & Holdsworth.
- Schmitt, N., Rogers, W., & Chan, D. (1997). Adverse impact and predictive efficiency of various predictor combinations. *Journal of Applied Psychology*, 82, 719–730.
- Society for Industrial and Organizational Psychology. (2003). *Principles for the validation and use of personnel selection procedures (4th ed.)*. Bowling Green, OH: Author.
- Tellegen, A. (1982). *Brief manual for the Multidimensional Personality Questionnaire*. Unpublished manuscript, University of Minnesota at Minneapolis.
- U.S. Department of Labor. (1999). *Testing and assessment: An employer's guide to good practices*. Washington, D.C.: Author.
- Viswesvaran, C. & Ones, D. S. (1999). Meta analyses of fakability estimates: Implications for personality measurement. *Educational and Psychological Measurement*, 59, 197–210.

Appendices

Appendix A – The O*NET Work Styles Model

The goal in the development of the U.S. Department of Labor’s Work Styles model was “to identify a comprehensive yet reasonably small number of personal characteristics that describe the important interpersonal and work style requirements in jobs and occupations in the U.S. economy” (Borman et al., 1999, p.213). To achieve this goal, several models used in the area of personnel selection were reviewed:

- Assessment of Background and Life Experiences (Hough, 1997)
- California Personality Inventory (Gough, 1987)
- Five-factor model (e.g., Barrick & Mount, 1991; Goldberg, 1993)
- Hogan Personality Inventory (Hogan & Hogan, 1992)
- Multidimensional Personality Questionnaire (Tellegen, 1982)
- Occupational Personality Questionnaire (Saville & Holdsworth, 1990).

The taxonomy developed by Guion and colleagues (e.g., Raymark et al., 1997) to measure personality requirements of jobs and several additional studies on personality structure (e.g., Costa, McCrae, & Dye, 1991) also were reviewed.

In choosing the work styles to include, the O*NET taxonomy authors focused on styles that had been shown to correlate with important job behaviors or work-related criteria (Borman et al., 1999). These work styles were identified via literature reviews (e.g., Hogan, 1991), meta-analyses (e.g., Barrick & Mount, 1991), and criterion-related validity studies (e.g., Bentz, 1985).

After the final model was developed, its effectiveness at differentiating personality-related job requirements for different occupations was evaluated. The occupations used in this research, selected to reflect very different types of employment, included general managers, top executives, computer programmers, registered nurses, police patrol officers, janitors and cleaners, and maintenance repairers/general utility. Each of these jobs was rated on the importance of each work style for successful job performance by subject matter experts familiar with the jobs. The research showed that the work style scales provided a meaningful description of the similarities and differences among jobs. For example, nurses, computer programmers, and police patrol officers were the occupations with the highest Attention to Detail ratings, and nurses and police patrol officers were the occupations with the highest Dependability ratings (Borman et al., 1999).

Appendix B – Workplace Personality Inventory Development/Pilot/Normative Sample

Table B.1. Workplace Personality Inventory Normative Sample by Occupation (N = 687)

Occupation	% of Total Sample
Customer Service Representative	16.2
Project Manager	9.9
Manufacturing and Operations Occupations	9.0
Information Technology Occupations	6.4
Sales Representative/Non-Retail	6.1
Administrative Assistant	6.0
Researcher	4.7
Human Resources Occupations	3.1
Consultant	2.8
Teaching Occupations	2.8
Accountant	1.9
Financial Analyst	1.2
Other	29.9

Table B.2. Workplace Personality Inventory Normative Sample by Organizational Level (N = 687)

Organizational Level	% of Total Sample
Professionals/Individual Contributors	31.3
Managers	14.4
Customer Service/Retail Sales	13.7
Executives and Directors	12.6
Administrative/Clerical	9.8
First-line Supervisors	5.2
Other	13.0

Table B.3. Workplace Personality Inventory Normative Sample by Age, Sex, Education, and Race/Ethnicity (N = 687)

Characteristic	% of Total Sample
Age	
≥ 40 years old	57.4
≤ 40 years old	42.6
Sex	
Female	63.4
Male	36.6
Education	
Master's degree or higher	27.5
Some post graduate work	7.1
Bachelor's degree	27.0
Some college	25.3
High school diploma or GED	12.8
Some high school	0.3
Race/Ethnicity	
White (not Hispanic)	66.7
Black/African American	6.1
Hispanic/Latino	23.2
Asian/Pacific Islander	1.5
Native American	0.4
Other	2.0

Appendix C – Workplace Personality Inventory—II Pilot Sample

Table C.1. Workplace Personality Inventory—II Pilot Sample by Occupation (N = 951)

Occupation	% of Total Sample
Manufacturing and Operations Occupations	13.4
Student	9.3
Accountant	5.8
Administrative Assistant	4.6
Consultant	4.5
Project Manager	4.3
Information Technology Professional	4.2
Medical Professional	4.2
Skilled Trades	3.6
Marketing Professional	3.0
Human Resource Professional	2.8
Customer Service Representative	2.7
Engineer	2.5
Sales Representative	2.3
Financial Analyst	2.2
General Labor	2.0
Other	28.6

Table C.2. Workplace Personality Inventory—II Pilot Sample by Organizational Level (N = 951)

Organizational Level	% of Total Sample
Manager	21.9
Professional/Individual Contributor	21.1
Executive	14.0
Skilled Trades/General Labor	13.8
Director	11.0
Administrative/Clerical	7.9
Customer Service/Retail Sales	5.7
Supervisor	1.8
Other	2.8

Table C.3. Workplace Personality Inventory—II Pilot Sample by Age, Sex, Education, and Race/Ethnicity (N = 951)

Characteristic	% of Total Sample
Age	
≥ 40 years old	48.6
≤ 40 years old	49.1
Not reporting	2.3
Sex	
Female	36.5
Male	62.1
Not reporting	1.4
Education	
Master's degree or higher	31.7
Bachelor's degree	36.3
Some college	21.2
High school diploma or GED	10.0
Some high school	0.2
Not reporting	0.6
Race/Ethnicity	
White (not Hispanic)	77.5
Black/African American	7.4
Hispanic/Latino	4.9
Asian/Pacific Islander	5.0
Native American	0.4
Multiracial	1.7
Other	1.1
Not reporting	2.0

Appendix D – Scale Intercorrelations for Workplace Personality Inventory and Workplace Personality Inventory—II

Original Workplace Personality Inventory

The pattern of correlations among the Workplace Personality Inventory scales was generally consistent with theoretical expectations, providing additional evidence that the scales assess the work styles intended.

For example, as shown in Table 13, Stress Tolerance correlated .55 with Adaptability/Flexibility and .53 with Self-Control. Achievement/Effort correlated .46 with Persistence, Dependability correlated .47 with Attention to Detail, and Innovation correlated .44 with Analytical Thinking.

The Workplace Personality Inventory scales appeared to be fairly independent (see Table D.1). For example, Analytical Thinking and Achievement/Effort showed no significant relationship to Concern for Others, and although Innovation and Analytical Thinking were related ($r = .44$), the correlations were not so high as to suggest they measure the same construct. Two correlations that exceeded expected values were between Initiative and Adaptability ($r = .67$), and between Concern for Others and Cooperation ($r = .69$).

Workplace Personality Inventory—II

The pattern of correlations among the Workplace Personality Inventory—II scales is based on the sample of 951 subjects who were administered the Workplace Personality Inventory during the item selection phase of the revision.

The scale correlation pattern of the Workplace Personality Inventory—II (see Table D.2) is similar to the pattern of the original (see Table D.1). For example, Stress Tolerance correlated .52 with Adaptability/Flexibility and .53 with Self Control. Achievement/Effort correlated .62 with Persistence, Dependability correlated .59 with Attention to Detail, and Innovation correlated .43 with Analytical Thinking.

The Workplace Personality Inventory—II scales are fairly independent. For example, Achievement/Effort and Attention to Detail show no significant relationship to Concern for Others, and Innovation and Analytical Thinking are related ($r = .43$), at a level that makes sense conceptually. Some correlations did exceed expected values, most notably Initiative and Adaptability/Flexibility ($r = .72$).

Table D.1. Workplace Personality Inventory Scale Intercorrelations (*N* = 687)

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Achievement/Effort	1.00															
2 Adaptability/Flexibility	.43	1.00														
3 Analytical Thinking	.38	.30	1.00													
4 Attention to Detail	.20	-.05	.08	1.00												
5 Concern for Others	.01	.12	.01	.12	1.00											
6 Cooperation	.12	.21	.07	.22	.69	1.00										
7 Dependability	.31	.20	.03	.47	.22	.30	1.00									
8 Independence	.22	.36	.26	-.31	-.13	-.15	-.13	1.00								
9 Initiative	.58	.67	.34	.11	.06	.18	.29	.35	1.00							
10 Innovation	.39	.49	.44	-.06	.07	.12	-.02	.41	.47	1.00						
11 Integrity/Rule-Following	.09	.05	-.05	.35	.30	.43	.46	-.35	.14	-.10	1.00					
12 Leadership Orientation	.44	.49	.30	-.08	-.18	-.10	.12	.36	.53	.37	-.07	1.00				
13 Persistence	.46	.43	.21	.40	.20	.32	.60	.04	.55	.25	.39	.29	1.00			
14 Self-Control	.14	.28	.15	.12	.32	.39	.41	-.01	.25	.08	.42	.09	.43	1.00		
15 Social Orientation	.29	.41	.11	-.09	.24	.27	.07	.11	.38	.26	.08	.48	.20	.15	1.00	
16 Stress Tolerance	.22	.55	.24	-.07	.08	.13	.21	.24	.42	.24	.16	.44	.37	.53	.31	1.00

Note. All correlations shown are uncorrected. Correlations greater than or equal in magnitude to .08 are $p < .05$; correlations greater than or equal in magnitude to .10 are $p < .01$.

Scale	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1 Achievement/Effort	1.00															
2 Adaptability/Flexibility	.49	1.00														
3 Analytical Thinking	.58	.52	1.00													
4 Attention to Detail	.33	.07	.21	1.00												
5 Concern for Others	.12	.14	.05	.09	1.00											
6 Cooperation	.27	.24	.13	.29	.63	1.00										
7 Dependability	.48	.21	.25	.59	.23	.44	1.00									
8 Independence	.30	.44	.38	-.23	-.07	-.11	-.07	1.00								
9 Initiative	.68	.72	.58	.21	.11	.23	.35	.42	1.00							
10 Innovation	.38	.45	.43	-.08	.11	.11	-.01	.45	.44	1.00						
11 Rule Following	.23	.14	.06	.43	.22	.45	.50	-.28	.20	-.12	1.00					
12 Leadership Orientation	.47	.45	.51	-.05	-.13	-.10	.05	.47	.53	.41	-.06	1.00				
13 Persistence	.62	.48	.46	.47	.16	.32	.61	.22	.63	.24	.38	.32	1.00			
14 Self Control	.30	.31	.25	.26	.29	.43	.48	.04	.28	.06	.41	.01	.47	1.00		
15 Social Orientation	.40	.39	.29	.04	.29	.28	.17	.16	.43	.29	.11	.49	.28	.08	1.00	
16 Stress Tolerance	.36	.52	.41	.12	.04	.14	.28	.21	.49	.17	.25	.41	.46	.53	.30	1.00

Note. All correlations shown are uncorrected. Correlations greater .07 are $p < .05$; correlations greater than or equal in magnitude to .08 are $p < .01$

Cases from the initial database of 1185 were excluded if they scored 30 (raw score) or higher in Unlikely Virtues or if they did not provide a description of their organizational level or position.