



Manual for the 16PF[®] Interpretive Report

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Introduction

The 16PF5 Interpretive Report is a computer-generated interpretation of a respondent's test scores, which are derived from the 16PF Fifth Edition Questionnaire. The Interpretive Report displays the overall pattern of a respondent's personality traits, provides interpretations of predominant personality factors, and presents information about related interpersonal, vocational, and behavioral criteria. The scope of the Interpretive Report is quite broad, covering domains helpful in both personal and vocational counseling. In addition to the Interpretive Report, the Profile Report, a scores-only report, is available from the Fifth Edition of the 16PF Questionnaire. Although this supplement focuses on the Interpretive Report, much of the information also is applicable to the Profile Report.

Like the test from which it is generated, the Interpretive Report is intended to be used only by qualified professionals, who understand the limits of psychological testing and interpretation and who possess a fundamental understanding of psychometrics. They should also be familiar with the APA's Standards for Educational and Psychological Testing. The Interpretive Report contents are not intended to be shared directly with the client.

Format of the Interpretive Report

The interpretive strategy discussed in Chapter 3 of the 16PF Fifth Edition Administrator's Manual (Russell & Karol, 2002) provides the framework for the format of the Interpretive Report. In brief, the recommended strategy involves the following sequence of steps: (1) review the Response Style Indices for unusual response tendencies; (2) evaluate the Global Factors to obtain a broad picture of the examinee; and (3) evaluate the Primary Factors to understand the details of the personality picture. As professionals become accustomed to using the report, they may wish to tailor the strategy to fit a specific assessment application.

The Interpretive Report begins with an Introduction section, which provides guidelines and reminders for the use of the report; specifically who should see and interpret the report, what the report measures, and the length of time for which the results are valid. There is also a section describing the interpretation of mid-range scores. The following page of the report describes the individual's response styles, which look at Impression Management, Acquiescence and Infrequency. The selected norm group (ie combined sex) is printed as well. Male and female norm groups may be available in the near future; until then, users seeking single sex norms may wish to use the BIR. For explanations of the normative options, refer to Chapter 2 of the *16PF Fifth Edition Administrator's Manual* (Russell & Karol, 2002).

Following this is a Profile section, which graphs the respondent's five Global and 16 Primary Factor sten scores. This enables the professional to obtain at a glance an overview of the respondent's personality pattern.

The remainder of the Interpretive Report is divided into three main sections. The next section of the report describes the Global Factors in detail, presenting personality trait information consisting of profile graphs and interpretive statements for each Global Factor and its associated primaries. In the Vocational activities section, the respondent's personality characteristics are used to predict similarity to six vocational

orientations based on the Holland Occupational Types (Holland, 1985a). Scores for the six types, or themes, are profiled, and the respondent's most compatible themes are discussed in detail. The final page of the report is the Item summary section, which includes statistics concerning the number and percentage of a, b, c, and missing responses, as well as raw scores for the 16 Primary Factors, and a note of which norms were used.

Content of the Interpretive Report

Title Page

The cover page presents the report's title, the respondent's name, ID number or both, and the date of test processing. There is a clear statement of the report's confidential nature.

Introduction

This section provides guidance on the use of the report, with a reminder that it should only be used for decision-making by a fully trained 16PF user. In addition, it reminds the user of what the report does and does not represent; namely, the report is said to represent the respondent's own description of their personality and behavior, which has been used to generate hypotheses to be validated with the respondent, and which may vary over time. In addition, there are guidelines for interpreting mid-range scores, one of the more challenging aspects when providing feedback, as it is in this middle range (between the sten scores of 4 and 7) that an individual's personality characteristics will interact most with situation and context.

Response Style Indices

The Interpretive Report shows a respondent's scores on three Response Style Indices: Impression Management (IM), Infrequency (INF), and Acquiescence (ACQ). These indices measure particular test-taking attitudes that may influence how a respondent responds to 16PF personality items. Values beyond the average range indicate that test scores may reflect a particular response bias rather than "pure" personality traits. A high score on any of the three indices as well as a low score on IM should prompt the professional to consider response bias. Statements indicating this consideration appear on page 3 of the report if a score reaches the 95th percentile (and also the 5th percentile for low IM), with cut-offs being based on the updated norm sample (n=10,261). Depending on the individual and the test setting, the professional may wish to use different cut-offs, and instructions for calculating these are in Appendix C of the 16PF Fifth Edition Administrator's Manual (Russell & Karol, 2002) and also in the 16PF Fifth Edition Technical Manual (Conn & Reike, 1998). Please note, if using the Interpretive Report based on a 16PF Questionnaire in a language other than US English, then percentiles, stens and other figures will be based on a norm group appropriate for that language.

A test having more than 12 incomplete items overall, or more than three incomplete items on Reasoning (Factor B) or more than two incomplete items from any one of the remaining 15 factors, cannot be computer-processed. The affected factor(s) and the omitted items can be found on the Item summary section of the IR. For internet-based administrations, all items must have a response before the respondent is allowed to view the next set of items.

The Response Style Indices are intended to serve only as warning flags that suggest the possibility of response bias. Whether to accept the test results or to retest is a decision best made by the professional on the bases of the examinee's testing history and interview information. Therefore during test processing personality scores are neither adjusted nor "corrected" when one or more of the Response Style Indices are elevated.

Descriptions of the three Response Style Indices follow. Additional information concerning these indices can be found in Chapter 3 of the *16PF Fifth Edition Administrator's Manual* (Russell & Karol, 2002) and in the *16PF Fifth Edition Technical Manual* (Conn & Rieke, 1998).

Impression Management (IM)

The only bipolar scale of the three Response Style Indices, IM taps into social desirability. A high score indicates that the test-taker has endorsed traits or behaviors deemed desirable in society, or has denied undesirable characteristics. The tendency to portray oneself in an unrealistically positive light is sometimes seen in job placement settings. However, the possibility always exists that a respondent's high score may reflect sincere responses. For example, socially desirable answers may be accurate for certain people, such as members of the clergy. A high IM score also may reflect an idealized self-image rather than deliberate "faking" In this case, the profile appears more socially desirable than the person's actual behavior, but the "distortion" was probably introduced unconsciously, given the examinee's idealized self-image.

A low IM score suggests that the examinee has presented him- or herself in an unfavorable light by endorsing items that reflect or even exaggerate undesirable qualities. The examinee may be extremely self-critical or may be underlining a need for counseling or attention.

Infrequency (INF)

In part because it was empirically derived, the INF scale is comprised entirely of "b" responses, the question mark (?) option; that is, the scale consists of items for which the overwhelming majority of the norm sample selected the "a" or "c" response choice. Each of the scale's 32 items was endorsed less than 6.5% of the time by a general population sample of 4,346 adults. Please note, if using the Interpretive Report based on a 16PF Questionnaire in a language other than US English, then percentiles, stens and other figures will be based on a norm group appropriate for that language.

A high score on the INF scale indicates that the examinee endorsed responses seldom chosen by others and therefore suggests random responding. Alternatively, a high INF score may indicate an inability or unwillingness to make a commitment to specific response choices. In rare cases, a high INF score may reflect the accurate responses of a unique individual.

The Interpretive Report's Item summary section shows the examinee's response choice to each 16PF item, including the number and percentage of "b" responses. If necessary, the professional can use this information in conjunction with the table below to address specific items in considering possible response bias.

Table 1.1

Infrequency Items/Scoring Key
(all items are scored to “b” response: “b” = 1, 0 otherwise)

Item numbers:

6, 16, 18, 23, 24, 26, 34, 35, 36, 41, 51, 62, 75, 76, 80, 90, 92, 94, 99, 100, 101, 105, 111, 116, 125, 140, 148, 152, 155, 156, 161, 165

Instructions: Infrequency is scored by tallying the number of “b” responses in the set of 32 items listed here. Simply score 1 point for each “b” response, and 0 points otherwise.

From “Response Style Indices” in Conn & Rieke, 1998

Acquiescence (ACQ)

The purpose of the ACQ scale is to detect the tendency of a respondent to endorse an item as descriptive of him or herself, regardless of the item's content. Therefore, when an acquiescent response pattern occurs, it affects the entire test. A high score on the scale reflects an extremely high number of “true” responses, which are the “a” choices to the Fifth Edition personality items.

An acquiescent response style may indicate a high need for acceptance. Another possible explanation for a high ACQ score is test sabotage; that is, the respondent may have deliberately chosen mostly or all “a” responses.

The Interpretive Report's Item summary section shows the examinee's response choice to each 16PF item, including the number and percentage of “a” responses, thus enabling the professional to address specific items in considering a possible acquiescent pattern. The following table lists the items belonging to the ACQ scale. Please note, if using the Interpretive Report based on a 16PF Questionnaire in a language other than US English, then percentiles, stens and other figures will be based on a norm group appropriate for that language.

Table 1.2

Acquiescence Items/Scoring Key
(all items are scored to “a” response: “a” = 1, 0 otherwise)

Item numbers:

1, 2, 6, 9, 10, 11, 12, 13, 14, 15, 22, 23, 25, 27, 28, 29, 33, 34, 35, 36, 39, 40, 41, 43, 44, 47, 48, 49, 50, 52, 54, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 68, 69, 71, 72, 76, 77, 79, 83, 85, 87, 89, 90, 91, 93, 94, 96, 97, 99, 100, 103, 105, 106, 107, 108, 110, 111, 112, 113, 114, 116, 118, 124, 125, 126, 128, 130, 132, 133, 134, 135, 137, 138, 140, 141, 142, 145, 146, 148, 150, 151, 152, 155, 157, 158, 159, 162, 164, 165, 166, 167, 168, 169

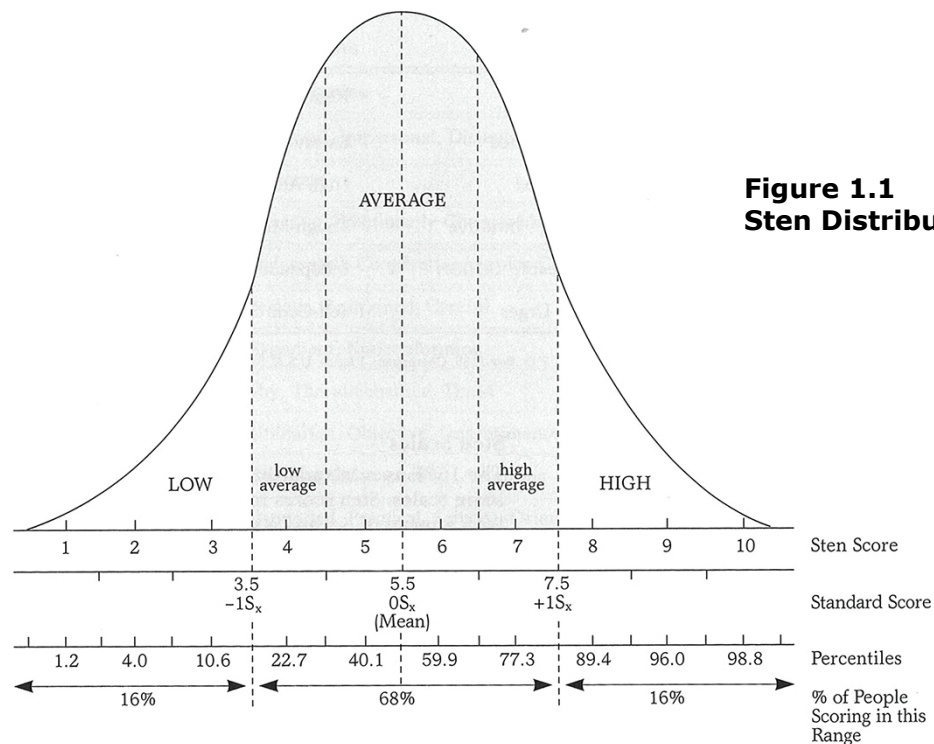
Instructions: Recall that the acquiescent style gauges the tendency of an individual to endorse an item as “true” of him/herself, regardless of the item's actual content. Therefore, Acquiescence is scored by tallying the number of true responses in the subset of 103 true-false questions contained within the 16PF questionnaire. For each item listed below, an “a” response (true response) receives 1 point; otherwise, no points are assigned. NOTE: Only the questions in Table 1.2 are used to tally the Acquiescence score; do not use the total number of “a” responses for the whole test.

From “Response Style Indices in Conn & Rieke, 1998

Profiles of Global and Primary Factor Scores

In the Interpretive Report's profile sections, scores on the five Global Factors and the 16 Primary Factors are profiled separately and are reported as stens ranging from 1 to 10, with a mean of 5.5 and a standard deviation of 2.0. Figure 1 shows a bell-curve diagram that indicates the nature of the sten distribution. Because the 16PF scales are bipolar in nature, scores at each end of the scale are psychologically meaningful; that is, low scores are not necessarily "bad" and high scores are not necessarily "good". Within the profiles, the left and right poles of each factor are designated by key behavioral descriptors. For example, the left pole descriptor for the Extraversion Global Factor is "Introverted", and the right pole descriptor is "Extraverted". Below is a brief description of the Primary Factors; for a more detailed definition, see Chapter 3 of the *16PF5 Administrator's Manual*.

The candidate's sten scores for the Primary Factors are displayed as a graph. The factor names are listed on the left, beginning with Warmth (A) at the top and ending with Tension (Q4) at the bottom. The sten score for each Primary Factor appears to the right of that factor name. Further to the right, the sten scores are plotted on a graph, which has the descriptors for the two poles of each factor at each end. A bar shows the candidate's score, the middle of the bar being on the actual score and extending one sten to the left and right to represent the Standard Error of measurement (see below for a further description).



When interpreting a score, the professional is advised to refer to a sten score of 5 or 6 as “average”, or as balanced between the two behavioral descriptors at the extremes of a factor's pole. A score of 1, 2, or 3 (left meaning) is explained as corresponding to the factor's left pole descriptor. A score of 8, 9, or 10 (right meaning) is explained as corresponding to the factor's right pole descriptor. Borderline scores of 4 and 7 are described as “low-average” and “high-average”, respectively. This terminology reflects the measurement imprecision (i.e., Standard Error of measurement, or SEM) that is inherent in any test. For example, since the SEM, for most factors, is approximately plus or minus one sten, a person scoring 4 (low-average) could just as likely score a 3 (low) and be characterized by low-end traits on a retest.

Detailed Descriptions of the Global Factor Results

Starting with page 6, the Interpretive Report presents information in graphical and textual form on the personality traits measured by the 16PF Fifth Edition. This information is organized around the examinee's scores on the Global Factors, which are presented in the following order: Extraversion, Independence, Tough-Mindedness, Self-Control and Anxiety. General interpretive statements are provided based on the Primary Factor scores that make up the overall Global Factor score. Below is a brief description of the Global and Primary Factors; for more detailed definitions, see Chapter 3 of the *16PF Administrator's Manual*.

16PF Global Factors

| Global Factor |
|------------------|
| Extraversion |
| Independence |
| Tough-Mindedness |
| Self-Control |
| Anxiety |

Extraversion

Social orientation; the extent to which individuals are drawn to others and want to be noticed by them, and the energy invested in initiating and maintaining social relationships. High scorers are likely to seek out others and find satisfaction in social contact; low scorers are likely to value time on their own.

Independence

The role a person assumes when interacting with others. High scorers tend to seek influence, while low scorers are more likely to accommodate others' wishes and views. This is regardless of the extent to which individuals will seek to interact with others.

Tough-Mindedness

The way an individual processes information. High scorers prefer to solve problems at an objective, cognitive level; low scorers tend to be receptive to subjective or personal considerations and to be open to new ideas.

Self-Control

Response to environmental controls on behavior, and internal self-discipline. High scorers are likely to be organized, self-disciplined and to follow conventional rules; low scorers may challenge convention and prefer to behave spontaneously.

Anxiety

Emotional adjustment; the type and intensity of emotions experienced and the individual's response to them. Low scorers tend to approach life in a stable and calm manner, while high scorers are likely to appear worried, demonstrating emotional changeability and reacting with tension to stressful situations.

16PF Primary Factors

Primary Factor

- A. Warmth
 - B. Reasoning
 - C. Emotional Stability
 - E. Dominance
 - F. Liveliness
 - G. Rule-Consciousness
 - H. Social Boldness
 - I. Sensitivity
 - L. Vigilance
 - M. Abstractedness
 - N. Privateness
 - O. Apprehension
 - Q1. Openness to Change
 - Q2. Self-Reliance
 - Q3. Perfectionism
 - Q4. Tension
-

Warmth (A)

The extent to which an individual will be attentive, responsive and interested in others, willing to consider them in their decision-making. High scorers will want to forge close relationships with others; low scorers will attempt to maintain an emotional distance.

Reasoning (B)

A short ability scale, included because of the influence of reasoning ability on behavior. It is short and untimed and therefore should not be used to replace a full-length assessment of ability. Scores should be interpreted carefully.

Emotional Stability (C)

The calmness with which individuals respond to the demands that life makes upon them, and the extent to which they experience changes in mood. Note that this factor measures both situational (state) and stable (trait) themes. High scorers will tend to remain calm and resilient across situations; low scorers may appear more emotionally changeable and reactive.

Dominance (E)

The extent to which an individual wishes to exert control over situations and over the views and actions of other people. The scale measures the degree of control that individuals either submit to or exert upon others. High scorers like to be in a position of influence and will hold and express their views strongly; low scorers will be happy to go along with others' wishes and defer to others' views.

Liveliness (F)

Refers to the spontaneity and impulsiveness with which people speak or act. High scorers are likely to speak or act without considering the consequences, appearing energetic and exuberant; low scorers will think things through first, and will appear subdued and cautious.

Rule-Consciousness (G)

The extent to which an individual is prepared to accept externally imposed rules and societal standards of right and wrong. High scores indicate someone who uses rules and conventions to guide their behavior; low scores indicate someone who is less likely to conform and/or who may have their own code of behavior.

Social Boldness (H)

The degree of confidence and ease an individual feels in social situations. High scorers are likely to be drawn to others, and to seek attention, stimulation and adventure. Low scorers may be modest and diffident, avoiding attention.

Sensitivity (I)

The extent to which an individual will incorporate their personal feelings into decision-making. High scorers tend to use their values and feelings to understand situations and make decisions; low scorers tend to separate their feelings from hard facts and prefer an objective and unemotional approach to decision-making.

Vigilance (L)

The degree to which an individual will trust others without questioning their motives. While high scorers may look for ulterior motives and hidden agendas, low scorers are likely to take others at face value.

Abstractedness (M)

The type of information to which individuals pay attention. High scorers tend to focus on associations and ideas; low scorers will tend to keep their attention focused on practical and concrete concerns.

Privateness (N)

The extent to which individuals will be open and self-disclosing. While high scorers tend to be discreet and selective about what they reveal to whom, low scorers will not be too concerned about divulging personal information, and may be undiscerning in whom they confide.

Apprehension (O)

The tendency for people to worry about past actions and blame themselves when things go wrong. This measures stable (trait) and situational (state) elements, and is likely to be affected by the individual's current situation. High scorers tend to experience more self-doubt than most, and be alert to others' criticisms; low scorers will view themselves in a positive light and tend not to criticize themselves.

Openness to Change (Q1)

Refers to an individual's preference for challenging tried and tested ways of doing things, for generating new ideas and for thinking in original ways. High scorers will be willing to challenge the status quo and experiment; low scorers will prefer to stick to established methods.

Self-Reliance (Q2)

This refers to the preference individuals have for dealing with others vs. being alone. While high scorers will value their autonomy, enjoying working alone and making independent decisions, low scorers will prefer to work with others and want to make collective decisions.

Perfectionism (Q3)

The emphasis individuals place on personal organization and planning as opposed to leaving things to chance. High scorers tend to follow clear personal standards, stick to timescales and value structure, order and tidiness; low scorers will better tolerate disorder and ambiguity, and take a flexible approach to how they organize their work.

Tension (Q4)

The degree of physical tension experienced. High scorers are likely to be tense, driven and impatient; low scorers are likely to be calm and relaxed and to find it easy to remain patient.

Vocational Activities Section

Measures of personality and of vocational interests are used to guide, or even predict, an individual's occupational choices. Vocational interests predicted in this section of the Interpretive Report are defined according to Dr. John Holland's typology (Holland, 1973, 1985a). Holland posits six general occupational "types", or themes, which describe not only people who prefer particular occupations but also actual work environments. The themes are Realistic, Investigative, Artistic, Social, Enterprising, and Conventional. Central to Holland's theory is the assumption of certain personality traits that serve to describe the general characteristics of people who gravitate toward a theme. The themes also are evidenced in the activities, competencies, interests, and skills of individuals.

To examine the ties between personality and vocational interest, the 16PF Fifth Edition and the Self-Directed Search (SDS), Form R (Holland, 1985b) were administered to 194 individuals, the majority of whom were university students. The sample was composed of 79 males and 115 females whose mean age was 24.8 years and whose mean education level was 13.5 years.

The SDS is a 228-item inventory that measures Holland's six general occupational themes. Each theme is evaluated by responses on four scales: Activities, Competencies, Occupations, and Self-Estimates. For the Activities scale, examinees indicate whether they would LIKE or DISLIKE a listed activity; for Competencies, examinees indicate (yes/no) whether they can do a stated activity competently; for Occupations, examinees indicate (yes/no) whether they are interested in a given occupation; for Self-Estimates, examinees rate specific abilities on a seven-point scale (1=low, 7=high). Scale points are summed for each theme. The three themes with the highest totals are presented and ordered in terms of the strength of alignment with the person's interests, which can help in guiding his or her occupational search.

For the criterion study, total scores on each of the SDS themes were correlated with the 16PF Global and Primary Factors. The results are shown in Table 1.5. Next, each Holland Theme was regressed on the 16PF Primary Factors to obtain separate prediction equations for the themes. These results are presented in Table 1.6. Full details of the study are in Chapter 10 of the *16PF Fifth Edition Technical Manual* (Conn & Reike, 1998).

Table 1.3

Correlations with Holland Themes (n=194, 115 females, 79 males)

| 16PF Primary Factor | R | I | A | S | C | E |
|----------------------------|----------|----------|----------|----------|----------|----------|
| A Warmth | -.19* | -.31* | .17 | .55* | .37* | .02 |
| B Reasoning | .08 | .32* | .05 | -.06 | -.04 | .04 |
| C Emotional Stability | .16 | -.08 | -.05 | .09 | .24* | .16 |
| E Dominance | .13 | .00 | .06 | .21* | .43* | .01 |
| F Liveliness | -.01 | -.16 | .17 | .27* | .32* | -.05 |
| G Rule-Consciousness | -.01 | -.03 | -.21* | .01 | .02 | .23* |
| H Social Boldness | .09 | -.06 | .30* | .45* | .45* | -.03 |
| I Sensitivity | -.45* | -.27* | .29* | .07 | -.27* | -.21 |
| L Vigilance | .04 | .00 | .03 | -.08 | .03 | -.13 |
| M Abstractedness | .04 | .15 | .39* | .05 | -.02 | -.38* |
| N Privateness | .10 | .09 | -.10 | -.30* | -.10 | .09 |
| O Apprehension | -.28* | -.07 | -.07 | -.05 | -.30* | -.06 |
| Q1 Openness to Change | .10 | .14 | .41* | .21* | .13 | -.23* |
| Q2 Self-Reliance | -.01 | .15 | -.01 | -.28* | -.21* | .00 |
| Q3 Perfectionism | -.03 | -.13 | -.18 | .05 | .15 | .32* |
| Q4 Tension | -.09 | -.11 | .00 | -.16 | -.02 | -.09 |
| Global Factor | | | | | | |
| Extraversion | -.08 | -.22* | .19* | .51* | .39* | -.04 |
| Anxiety | -.20* | -.04 | .00 | -.14 | -.21* | -.15 |
| Tough-Mindedness | .22* | .09 | -.52* | -.29* | .00 | .34* |
| Independence | .15 | .03 | .27* | .33* | .46* | -.10 |
| Self-Control | -.03 | -.09 | -.34* | -.05 | .01 | .38* |

Note: R = Realistic; I = Investigative; A=Artistic; S=Social; E=Enterprising; C=Conventional
From "Holland Occupational Typology and the 16PF in Conn & Rieke, 1998

*p<.01

Table 1.4

Holland Theme regression results (n=194, 115 females, 79 males)

| Theme | F- Ratio | Multiple Correlation | Browne's Cross-Validation | Significant Predictors |
|---------------|-----------------|-----------------------------|----------------------------------|-------------------------------|
| Realistic | 18.22* | .57 | .54 | I-, A-, O-, Q1+, Q4- |
| Investigative | 12.75* | .57 | .52 | A-, I-, B+, Q4-, M+, N-s, Q1+ |
| Artistic | 21.44* | .56 | .53 | 1+, M+, H+, Q1+ |
| Social | 21.45* | .60 | .57 | A+, H+, G+s, C-s, Q1+ |
| Enterprising | 20.73* | .60 | .57 | A+, E+, H+, I-, N+s, |
| Conventional | 16.63* | .46 | .43 | M-, Q3 +, I- |

Note: s = may be operating as a suppressor variable
From "Holland Occupational Typology and the 16PF" in Conn & Rieke, 1998

*p<.01

The Interpretive Report displays a profile of a respondent's predicted sten score for each of Holland's six general occupational themes. Any theme for which the examinee scored a sten of eight or above is discussed in the text of the report. If the examinee did not score highly on any themes, his or her two highest scores are discussed. When interpreting scores, the professional should not focus exclusively on the top score; all high scores are notable. In some instances, especially because the scores are predicted rather than measured directly, the top theme may not be significantly higher than the second highest. Moreover, real-life occupations are rarely "pure" and cannot be classified under a single theme. More commonly, occupations encompass aspects of a few themes. For example, a math teacher might be Investigative (mathematics) and Social (teaching), or an advertising executive might be Artistic (design aspects) and Enterprising (business aspects).

In a related vein, research has replicated specific relationships among the themes (Holland & Gottfredson, 1992; Karol, 1994). Highly related themes are located close to one another on a hexagon-shaped model; unrelated themes are located at opposite points on the model. If an individual's highest scores occur for two themes adjacent to one another on the model, he or she has compatible interests. If a person's highest scores occur for two themes opposite each other on the model, he or she has incompatible interests, or ill-defined interests.

The Interpretive Report indicates the compatibility of a respondent's highest themes, based on the hexagonal model. A respondent has a good chance of finding an occupation that encompasses aspects of compatible themes. A respondent's chance of finding an occupation that involves incompatible themes is smaller. The *Dictionary of Holland Occupational Codes* (Gottfredson & Holland, 1989) is a useful resource for exploring career options by theme.

Each theme is described in the text below. These descriptions and those printed within the Interpretive Report are based on (1) typical SDS item endorsement; (2) the 16PF personality characteristics that typify each theme; and (3) occupations for which high scorers indicated definite preferences on the SDS. Professionals should note that vocational interest can be influenced by a wide range of variables unrelated to personality (e.g., an individual's abilities, educational opportunities, monetary resources, expectations for standard of living, etc.). Such variables should be considered in conjunction with 16PF results; the 16PF should never serve as the sole evaluative measure.

Realistic Theme

The Realistic Theme centers on manipulation of tools and knowledge of mechanical principles. People scoring high on this theme show an interest in activities such as repairing mechanical apparatuses, working on cars, mechanical drawing, and outdoor activities such as farming, hunting, and fishing. In a related vein, they often show experience and skill in mechanical drawing, operating machinery, and repairing automobiles, furniture, or electrical devices. They rate themselves as high in mechanical ability and manual skills.

Holland claims that Realistic people may lack social skills, and this is evinced by the personality data. The data indicate many aspects of Tough-Mindedness, including reticence, reserve, and an objective and unsentimental outlook. However, Realistic people may be open to new ideas, which is not an aspect of Tough-Minded people, who

tend to be conservative. Realistic people also are characterized by aspects of low anxiety; they tend to be self-assured and laid-back, and they are typically relaxed and tolerant.

Realistic people indicate an interest in mechanical or outdoor professions such as mechanic, electrician, firefighter, carpenter, fish and wildlife specialist, and surveyor.

Similarities between personality characteristics and the Realistic Theme are predicted by the following 16PF factors: low Warmth (A-), low Sensitivity (I-), low Apprehension (O-), Openness to Change (Q1+), and low Tension (Q4-).

Investigative Theme

The Investigative Theme is characterized by analytical skill and curiosity. High scorers show an interest in the manipulation of ideas or scientific principles. They enjoy reading scientific books or articles, working in a laboratory (especially on a science project or theory), applying math to problems, and taking courses in science or math. They are well versed in scientific and math principles, and are experienced in the use of associated tools such as calculators, microscopes, and computers. They rate themselves as high in scientific and mathematical ability.

Investigative people's personality characteristics are quite diverse. As would be expected, they show above-average reasoning ability. They tend to be reserved and reticent rather than sociable, and are also objective and unsentimental. Regression analyses indicate that the Investigative type is predicted by a willingness to entertain new perspectives and opinions, along with an inward focus on ideas and abstract possibilities. This latter combination may be related to some aspect of scientific creativity. When in potentially frustrating situations, Investigative people tend to be patient.

Investigative people indicate an interest in the scientific professions (e.g., biologist, chemist, zoologist, geologist, physicist, etc.) and also in editing and writing scientific books and journals.

Similarities between personality characteristics and the Investigative Theme are predicted by the following 16PF factors: low Warmth (A-), Reasoning (B+), low Sensitivity (I-), Abstractedness (M+), low Privatness (N-), Openness to Change (Q1+), and low Tension (Q4-).

Artistic Theme

The Artistic Theme is concerned with self-expression, particularly in generating artistic ideas or products. Interests of high scorers typically cover vast areas of art and entertainment, including drawing and painting, acting, musical performance, composing, writing, photography, and design. Not unexpectedly, artistic people have experience in musical performance, acting, artwork, writing, designing, and other creative pursuits. They rate themselves as highly skilled in artistic and musical ability.

Artistic people are characterized by tender-mindedness; they usually are sensitive and sentimental, and they show strong aesthetic tastes. They also can be abstracted, fanciful, and idea-oriented. They are open to change and to new experiences.

Additionally, Artistic people tend to be bold and uninhibited. Correlations and mean profiles indicate that Artistic people may be low in Self-Control; they may go against the grain and question tradition as part of their creative process.

Artistic people prefer occupations in the arts and entertainment industries. They indicate interest in the evident options of being an artist, sculptor, or painter, and they also express interest in occupations involving cartooning, creative writing (poet, playwright, novelist, freelance writer, journalist), music (musician, musical arranger, singer, composer, symphony conductor), and acting.

Similarities between personality characteristics and the Artistic Theme are predicted by the following 16PF factors: Social Boldness (H+), Sensitivity (I+), Abstractedness (M+), and Openness to Change (Q1+).

Social Theme

The Social Theme pertains to the desire to help and care for others. High scorers show an interest in working for charitable organizations, taking care of children, studying juvenile delinquency, teaching, and studying psychology and human relations. They find it easy to talk with all kinds of people, to lead group discussions, to explain things to people, and, in general, to teach others. They participate in charity drives, are good at helping people who are upset or troubled, and indicate that others seek them out to tell their troubles. They rate themselves highly in the ability to teach and in the skill of understanding others.

Not surprisingly, Social people are extraverted. Correlations show them to be exuberant, forthright, and group-oriented. They tend to be warm, personable, and sociable, but also bold and venturesome in social contacts. They remain open to new ideas and experiences, perhaps facilitating their interplay with diverse individuals.

High Social scorers prefer working in helping professions such as teaching and school administration; counseling-related positions such as marriage counselor, speech therapist, social worker, and vocational counselor; human-relations jobs such as director of a welfare agency or youth camp director; and positions relating to work in general fields such as psychology and sociology.

Similarities between personality characteristics and the Social Theme are predicted by the following 16PF factors: Warmth (A+), low Emotional Stability (C-), Rule-Consciousness (G+), Social Boldness (H+), and Openness to Change (Q1+).

Enterprising Theme

The Enterprising Theme involves persuasion of others, leadership, and generally a high need for achieving objectives. High scorers indicate an interest in influencing others, leading a group, or taking charge of a political campaign. They are drawn to business-related activities such as sales and attending sales conferences, running their own business, and learning business success strategies. Additionally, they show interest in taking courses in business, administration, or leadership. Enterprising people report that they have won awards for sales or leadership. They have experience in managing a small business or service, or a sales campaign; they may have a reputation for being able to deal with difficult people. They have organized others' work, and admit to being ambitious, assertive, and persuasive. They rate themselves as having above-average sales and leadership abilities as well as good managerial and public-speaking skills.

Enterprising people are sociable and friendly, yet they have a tendency to exert their will over others. They tend to be bold in social settings and may enjoy being the focus of a group's attention. They have an unsentimental and objective outlook. Correlations show them to be exuberant and self-assured.

Enterprising people prefer business occupations such as speculator, buyer, advertising executive, salesperson, business executive, restaurant manager, realtor, travel guide, radio/TV announcer, and emcee.

Similarities between personality characteristics and the Enterprising Theme are predicted by the following 16PF factors: Warmth (A+), Dominance (E+), Social Boldness (H+), low Sensitivity (I-), and Privateness (N+).

Conventional Theme

The Conventional Theme entails a preference for organizing and maintaining information. High scorers indicate an interest in filling out income tax forms, typing, bookkeeping and business computations, operating business machines and computers, setting up and keeping detailed records, doing inventory, and taking courses in business, bookkeeping, or commercial math. Such people are competent typists and data processors; they can operate business machines, have experience doing tasks such as taking shorthand and filing, can do large amounts of paperwork in little time, and can keep detailed and accurate records. They rate themselves as having above-average clerical ability and office skills.

Personality characteristics of Conventional people include having an objective, unsentimental outlook and being practical and solution-oriented. These people show a high need for order, and they are self-disciplined, if not perfectionistic.

Conventional people prefer clerical and record-keeping professions such as bookkeeper, tax expert, certified public accountant, credit investigator, financial analyst, payroll clerk, bank examiner, bank teller, court stenographer, and inventory controller.

Similarities between personality characteristics and the Conventional Theme are predicted by the following 16PF factors: low Sensitivity (I-), low Abstractedness (M-), and Perfectionism (Q3+).

Item Summary Section

The Item summary section appears on the final page of the Interpretive Report. This section contains an item-by-item listing of the individual's response choices, as well as summary statistics regarding these response choices. In addition, the examinee's raw score on each factor is presented.

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