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The Development of *The Personality Audit:* A Psychodynamic Multiple Feedback Assessment Instrument

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2005/39/ENT (Revised version of 2004/71/ENT)

Working Paper Series

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Abstract

The *Personality Audit* (PA) was developed to meet a need for a relatively simple multiple feedback instrument that could clarify the various motivational needs of executives. Using a psychodynamic approach to leadership, the PA allows the test-taker to assess him- or herself in seven personality dimensions important in human behavior and to identify personal "blind spots." The resulting insights can be used to formulate appropriate leadership development goals.

The objective of this article is to describe the design and psychometric properties of the PA. This instrument, in contrast with other tools that can be used to clarify the inner theater of individuals, is designed not only to report information given by the test-taker but also to reflect the perceptions of observers representing both the test-taker's public and private spheres. This article describes in detail the conceptual foundations of the questionnaire, the psychometric methods used to confirm its validity and reliability, and possible directions for future research.

Keywords: 360-degree instrument; human development; life cycle; motivational need systems; psychodynamic approach; personality assessment; executive functioning; inner theater

Personality Assessment for Executives

Above the entrance to the temple of Apollo in Delphi was written "Know Thyself." This famous inscription remains as valid today as it was thousands of years ago; and it certainly applies to business leaders. To be effective executives have to understand the reasons for doing what they do. A psychodynamic and psychosocial approach to the study of personality accomplishes exactly this task, creating a richer appreciation of human behavior by taking into account people's relational world, paying attention to the forces of human development, and considering the dynamics of emotional management.

This task is not simple, however. Personality assessment requires an evaluation of one's own personality characteristics, strengths and weaknesses, and developmental needs, as compared to others. The *Personality Audit* (PA), discussed in this article, is a relatively simple multiple-feedback tool we have designed to provide an assessment of seven personality dimensions important in human functioning. An interpretation of these dimensions provides test-takers with a deeper understanding of the psychodynamic and psychosocial forces that drive their own behavior, and sheds light on their interpersonal relationships.

Rationale

The Personality Audit grew out of the need for a relatively simple instrument that could clarify the various motivational characteristics of executives. Existing personality assessment instruments are relatively difficult to use. Projective tests such as the Thematic Apperception Test (Murray, 1938; Shneidman, Joel, and Little, 1951) and the Rorschach Test (Goldfried, Stricker, and Weiner, 1971) provide valuable insights into the inner world of an individual, but their application is time consuming and their interpretation gives a lot of information that is not completely relevant in the situation we are dealing with.

Some of the same observations apply to well-known comprehensive pencil-and-paper tests of personality, such as the Minnesota Multiphasic Personality Inventory

(Dahlstrom, Welsh, and Dahlstrom, 1972; Hathaway and McKinley, 1943), the California Personality Inventory (Gouch, 1975), the 16 Personality Factor Questionnaire (Cattell, 1957; Cattell, Eber, and Tatsuoka, 1970), Millon's Clinical Multiaxial Inventory (Millon, 1983), and Hogan's Personality Inventory (Hogan and Hogan, 1992). These instruments can be extremely helpful in providing insights into personality functioning; but they are difficult to administer and interpret. In addition, some of them emphasize major personality pathology, giving them limited usefulness in a non-clinical population. Moreover, there are currently no instruments that look into those aspects of the inner theater of individuals that are particularly important for the functioning of executives in organizations.

Given the short-comings of existing personality tests available for a target population of executives, we strove to construct a diagnostic instrument that was simple but conceptually sound, was aimed at a "normal" population, had a psychodynamic focus, used the multiple feedback approach (from both public and private sides of life), and could be used for a meaningful discussion about individual behavior.

Because there is often a gap between self-perception and perception by others, we saw a multiple feedback approach as necessary to the design of the PA. A multiple feedback approach gives managers in organizations a more accurate view of themselves (Church and Bracken, 1997; London and Beatty, 1993; Yammarino and Atwater, 1993, 1997; Carlson, 1998; Bland, Edwards, and Kuhi, 1994). It minimizes the social desirability factor and sets the stage for greater acceptance of other people's views (Mohrman, Resnick-West, and Lawler, 1989).

The PA reports information given by the test-taker as well as the perceptions of at least three "observers," representing both the private and public spheres. Because individuals may be perceived differently in public life (at work) than in private life (at home), we stress the value of having both work-related observers and observers who usually see the test-taker in his/her non-work life. To the best of our knowledge, no other instrument, including existing managerial 360-degree feedback questionnaires (e.g., Kouzes and Posner, 2001) and personality tests, allows for incorporation of observers from both public and private spheres.

Because the PA incorporates feedback from all quarters, it helps test-takers identify "blind spots" in personal functioning. The resulting insights can be used as the basis for the formulation of appropriate development plans. The instrument is helpful to executives involved in leadership programs and coaching and counseling, and even couples involved in marriage counseling. Although there is some concern that a lack of anonymity may be associated with higher ratings (Mabe and West, 1982), we strongly recommend that the observers *not* be anonymous, to help the test-taker recognize differences in observers' perceptions, to encourage meaningful dialogue with them, and to increase the test-taker's accountability for development plans. Finally, *The Personality Audit* was developed as a *multi-dimensional model* of salient personality traits based on findings from research on human development, described in detail below.

Conceptual Background

To understand the progressive appearance, change, and organization of mental processes and functions that occur throughout an individual's life cycle, psychologists refer to a number of developmental schemas. We superimposed several of these frameworks on each other to give us a rich description of personality. For example, one of the earliest known developmental schemas was introduced by Freud (1905). It was further extrapolated by a large number of psychologists, including Reich (1933). While Freud and Reich focused specifically on body functions, subsequent psychologists recognized the importance of interpersonal relations during the course of development (Balint, Ornstein, and Balint, 1972; Greenberg and Mitchell, 1983; Sullivan, 1953; Winnicott, 1975). Other researchers constructed stages of development that were dependent on the content and constancy of mental representations. To form the foundation of the PA, we drew on three major conceptual schemas of human development:

the work of *Erikson* (1963, 1968) on the human life cycle;

the contributions of *Lichtenberg* (1989) and others on motivational need systems;

the work of *Tomkins* (1962, 1963, 1991, 1992) and others on mood state (positive and negative affect).

Erikson's Stages of Human Development

Erikson, affirming the nature/nurture linkage, highlighted in his work (1963, 1968) the interface between the biological aspects of psychosexual development and the cultural and interpersonal needs of each developing individual. Erikson described the human life cycle in a number of epigenetic stages expressed as polarities, specifying developmental milestones and tasks to be achieved at each stage.

Each of Erikson's stages concerns a struggle to become involved with "others," and the significance of the "others'" response. In the resolution of the series of challenges that each developing infant faces, the role of the immediate environment—and the primary caretakers—is of crucial importance. The five earliest stages of development are the most crucial to the adult personality that eventually emerges, and therefore are a central premise of the PA:

1. *The oral-sensory stage: trust vs. mistrust.*
2. *The muscular-anal stage: autonomy vs. shame/doubt.*
3. *The locomotor stage: initiative vs. guilt.*
4. *The latency stage: industry vs. inferiority.*
5. *The adolescence stage: identity vs. role confusion.*

Motivational Need Systems

Erikson's conceptual framework has been further developed by later contributions in infant observation and research. Lichtenberg has proposed a number of motivational need systems that evolve during the child–primary caretaker interface (Sullivan, 1953; Emde, 1981; Kagan, 1989; Lichtenberg, 1989, 1991; Lichtenberg, Lackmann, and Forshage, 1992; Lichtenberg and Schonbar, 1992; White, 1959). Each need system self-organizes or self-stabilizes, influenced by both innate (hard-wired) and learned response patterns. Shifts in motivational-need dominance that occur with age, development, and changing circumstances take tangible form in emotional reactions. With each shift there is a developmental resolution, based on whatever motivational needs are currently primary, and these accumulated resolutions determine the make-

up of one's sense of identity as the self becomes an independent center for initiating, integrating, and organizing experiences.

One motivational need system regulates a person's physiological requirements. Another system encompasses an individual's needs for sensual enjoyment and, later, sexual excitement. Still another develops in response to the need to respond aversively to certain situations through antagonism and withdrawal. There are two additional need systems that are of particular interest for life in organizations:

> *The need for attachment and affiliation.* Humans feel an innate yearning for interpersonal relatedness. When this need for intimate engagement is extrapolated to groups, we call the desire to enjoy intimacy a need for *affiliation*. The strength of this need determines one's position on the continuum of extroversion versus introversion (Jung, 1923).
>
> *The need for exploration and assertion.* Associated with cognition and learning, exploration involves the ability first to play and then to work. Closely tied to this need for exploration is the need for self-assertion—that is, the need to be able to choose what one does. As motivation, these related needs for exploration and assertion produce a sense of effectiveness, competency, and self-efficacy (White, 1959, 1966; Bandura, 1986).

Mood States

When we look at motivational need systems, we often see evidence of another elemental aspect of personality: emotions. Nothing is more central to who we are than the way we regulate emotions. Along with cognition, emotions determine behavior, and characteristic patterns of emotion, thought and behavior shape personality.

The emotional reactions of infancy are primarily biological, tied to the most basic of the need systems. As socialization progresses, developmental processes enable the individual to take on the various emotional "roles"—sadness, joy, and so on.

While all humans are born with a particular temperament, this constitutional quality gives us only a predisposition to certain emotions. Before we are able to express a given emotion, the imagery associated with that particular feeling state has to be

internalized. Such internalization occurs as the child grows and matures and learns from socialization. By the time adulthood is reached, affect regulation has become an intricate part of one's personality, and mood state can be used as a barometer of psychological and physical well-being. The imagery related to mood state can be changed, however, due to life experiences, making for different forms of emotional expression.

The experiencing of emotions enables people to come into greater contact with themselves, to find out what they feel (as opposed to think) about things, what they like and dislike, and what they want and don't want. Some people are able to express emotions appropriately and comfortably, while others struggle to find words for what they feel, and associate emotions (sometimes even those that we think of as positive) with painful thoughts.

Emotions color our experiences with positive and negative connotations, creating preferences. They also serve us in many adaptive and defensive ways. Although there is a wide range of emotions, only a few mood states seem to account for a large number of feelings. In fact, most mood variations can be explained by just two factors, which can be labeled "positive affect" and "negative affect." As a result, a number of scholars have mapped emotions into an affective space determined only by affect evaluation (negative-positive) and affect activation (aroused-unaroused) (Darwin, 1920; Ekman & Davidson, 1994; Lazarus, 1991; Plutchik, 1962; Tomkins, 1995; Watson, Clark, & Tellegen, 1988).

The *Personality Audit* would not be complete without reference to the role of emotions in the make-up of the person. Consequently, expressiveness of mood state is included as one of the dimensions, indicating the intensity of positive and negative arousal. Mirroring the simplicity of the emotion-mapping described above, the scale measures the extent to which the person feels high-spirited or low-spirited.

The Seven Personality Dimensions

The *Personality Audit* was developed as a dimensional model of salient personality traits based on findings from our research on human development discussed above. A

dimensional model recognizes that the behavior of well-functioning and poorly functioning individuals can be represented as points on a continuum. In other words, it portrays an individual's personality by indicating quantitative gradations of intensity as positions on a scale, rather than by resorting to qualitative, discrete representations of personality.

In creating the PA, our first step was to identify those personality characteristics that broadly organize the domain of human functioning and that are most helpful in explaining executive behavior. We also looked at specific examples of various leaders for evidence of their salient personality traits (Kets de Vries, 1993, 1995; Kets de Vries and Florent-Treacy, 1999; Kets de Vries, Shekshnia, Korotov, and Florent-Treacy, 2004).

We then grouped the personality characteristics we had identified into seven dimensions to form the conceptual basis for the PA. When assessed by a test-taker (self) and others, perceptions derived from these seven dimensions can help individuals understand the vicissitudes of personality and behavior.

Finally, we drafted a comprehensive description of each of the dimensions identified and wrote a large pool of assessment "items," using the descriptions as guidelines. Respondents were asked to indicate on a scale of 1 – 7 the degree to which each item applied to them, with opposing anchor statements at each end of the scale. After testing the items for face validity, we decided to shorten the questionnaire for practical reasons, leaving us with six items per dimension.

Low Self-Esteem – High Self-Esteem. The first dimension we consider centers on identity formation—the result of a complex developmental process. Identity is the outcome of each individual's highly subjective struggle to develop a sense of inner sameness and continuity and to articulate the role of the self vis-à-vis the external world (Erikson, 1963, 1968; Westen and Heim, 2003). The label *self-esteem* reflects an evaluative self-judgment based on self-knowledge (Baumeister, 1998). Although researchers argue about whether to treat self-esteem as a relatively stable trait or as a temporary state, there appears to be a strong correlation between trait and state self-esteem, the implication being that most people tend to have a stable self-esteem

baseline (Kernis, 1993; Heatherton and Polivy, 1991; Baumeister, 1998; Leary and MacDonald, 2003). People who score high on positive self-esteem radiate self-assurance and self-confidence (although inflated self-esteem may be an expression of excessive narcissism), while people who score toward low self-esteem come across as insecure. Self-esteem may serve as a foundation for development of one's assertiveness in life, as well as one's mood state.

Examples of Low Self-Esteem – High Self-Esteem items:

I think other people find me…

boring – extremely interesting.

Looking at myself …

I am self-critical – I accept myself fully.

Vigilant – Trustful. This dimension, described by Erikson (1963, 1968) as the first "psychosocial" personality dimension is the fundament on which all the other psychosocial characteristics (Erikson's stages 2 through 5) are built. In seeking the roots of this dimension, Freud (1905) takes us back to the oral phase of development when we form the basis for trusting and affectionate relationships with others. People high on trust tend to be considerate of others and possess a hopeful attitude toward life experiences (although excessive trust results in a potentially dangerous naiveté). Individuals high on trust have also been described as being more inclined to offer others a second chance and to interweave their economic exchange with social exchange (Husted, 1989; Ring, 1998). The social-exchange component in the behavior of individuals high on trust suggests that this dimension is related to one's openness to social interactions in general, as expressed, for instance, by a tendency to be more extroverted. Overly vigilant people, on the other hand, tend to be distrustful, watchful about perceived dangers in the environment, and they seem more distant, more guarded, and more cold-hearted. In economic-exchange situations, people who are overly vigilant have been described as requiring a great deal of specificity in laying out the terms of the exchange (Husted, 1989; Ring, 1998). The tendency to trust or distrust others may correlate with another personality dimension—the degree to which one is prudent versus adventurous. Adventurousness presupposes a certain

degree of trust toward life situations and the actors involved in them; therefore, we might expect that people high on trust would be, generally, more adventurous.

Examples of Vigilant – Trustful items:

When people hurt me…

it is difficult for me to forgive them – it is very easy for me to forgive them.

I reveal myself to others…

very little – completely.

Laissez-faire – Conscientious. This dimension draws on the second of Erikson's (1963, 1968) stages of development—the muscular-anal stage—and on what Freud referred to as the anal phase (Freud, 1905). It addresses the abilities of self-motivation and self-control. People who score high on the conscientious end of the continuum like structure, prefer to take personal responsibility, generally behave in an orderly manner, and are systematic, methodical, and efficient. This dimension is close to the Conscientiousness dimension in the Big Five model of personality. Researchers have shown that conscientious individuals often seek and achieve social approval and acceptance-gaining outcomes (Leary and MacDonald, 2003). What they lack in spontaneity, they make up in thoroughness and attention to detail. On the other hand, people with a laissez-faire personality have a happy-go-lucky attitude. Typically unconcerned about rules, regulations, and details, they tend to be rather flexible; however, they also tend to let things slip. For these reasons, laissez-faire individuals may be valued less as relational partners and group members (Leary and MacDonald, 2003).

Examples of Laissez-faire – Conscientious items:

When I don't do what I promised,…

I don't worry about it – I feel guilty.

I pay…

little attention to details – great attention to details.

Self-Effacing – Assertive. In discussing traits assessed on the Self-Effacing – Assertive dimension, Freud (1905) spoke of the Oedipal phase, while Erikson (1963, 1968) presented the polarity of initiative versus guilt. The Self-Effacing – Assertive dimension encompasses our competitive strivings. Assertiveness is about satisfaction of the need to choose what one does. Although some people have argued that assertiveness is not a generalized personality dimension (Fischer, 1987), it is still primarily viewed as a trait or a set of traits or elements of personality (Twenge, 2001). People high on assertiveness deal with the world with a sense of purpose. People who are closer to the self-effacing end of the continuum tend to be reflective, weighing all options before coming to a decision. They tend to be less ambitious and more socially reticent than their assertive peers. This dimension is related to the self-esteem dimension of personality, because people who are high on self-esteem may be expected to be more assertive, while those low on self-esteem may be expected to be low on assertiveness.

Examples of Self-Effacing – Assertive items:

I defend my point of view…

rarely – almost always.

For me, winning is…

unimportant – extremely important.

Introverted – Extroverted. This dimension is made up of the polarity of introversion versus extroversion, reflecting the way that people relate to the external world (Jung, 1923). People who fall toward the extroversion end of the continuum tend to direct their energy toward the external world, orienting themselves toward people and external situations. People toward the introversion end of the continuum, on the other hand, orient themselves more toward their inner world. The Introverted – Extroverted dimension is often included in well-known personality measures, such as the Big Five model of personality (e.g., Costa and McCrae, 1980; McNulty, 2000), where this dimension is reflected in the Extraversion or Surgency element.

Examples of Introverted – Extroverted items:

I would prefer to spend most of my time…

alone – with other people.

I seek the company of other people…

rarely – quite often.

Low-Spirited – High-Spirited. Mood state colors a person's perception of the world and serves as an internal and external signaling system, indicating to others the emotional state of the person. People who fall toward the high-spirited end of the continuum are characterized by intensity of reaction. They display strong emotions and a high degree of expressiveness. People who tend to be low-spirited, on the other hand, are characterized by flat, shallow, constricted, changeable, or irritable affective expression. The mood state may be based on one's self-esteem.

Examples of Low-Spirited – High-Spirited items:

I am optimistic…

rarely – almost always.

I feel hopeless…

often – rarely.

Prudent – Adventurous. This dimension is closely tied to the exploratory motivational need system, discussed earlier (Lichtenberg, 1991)—a need system that is activated in infancy. People who score high on adventurousness tend to be unconventional, imaginative, creative, inventive, artistic, and eager to experiment with new things. Individuals who score toward the prudent end of the continuum tend to be more conservative, conventional, and conforming. While adventurousness is often based on a sense of inner security, it sometimes reflects the overly rebellious streak of someone out to prove that he/she can make a difference. Having a more prudent orientation can be, in some instances, a sign of greater mental health. This dimension is relatively closely related to the Vigilant – Trustful dimension and to the Introverted – Extroverted dimension. Furthermore, the Prudent – Adventurous dimension may be related to the Openness to Experience or Intellect factor of the Big Five model, which deals with such characteristics as imagination, curiosity, artistic expression, insight, and sophistication. However, it has been argued that in the Big

Five model this dimension is not clearly defined (McNulty, 2000). The Prudent – Adventurous dimension, which covers a part of the Openness to Experience factor in the Big Five model, seems to be a more suitable construct, because it deals with a narrower set of personal characteristics.

Examples of Prudent – Adventurous items:

In my life I need a great deal of…

stability – variety.

I seek new thrills…

rarely – very often.

The Advantages and Disadvantages of Multidimensional Models

Multidimensional models of personality assessment, like the one used in the PA, have an advantage over so-called categorical models in that they present personality fluidly, without discrete boundaries of what is considered normal and abnormal. They allow for a rich representation of individuality rather than forcing people into specific categories; they encourage breadth and comprehensiveness. Because they give no single dimension pride of place, they "lose" less information than models dependent on discrete traits.

Given the nature of human development, the dimensions are, however, rarely independent. They build upon each other, making psychometric assessment more difficult. Furthermore, *any* organizing system implies a restriction in the presentation of the richness of personality. It represents, at best, a window into the very complex inner theater of the individual. Psychologists disagree on how many dimensions are needed to create a large enough window to see accurately (Cattell, 1957; Eysenck, 1960; Hogan, Johnson, and Briggs, 1997).

The most troubling limitation inherent in the dimensional approach is that, while the dimensional scale gives no single dimension pride of place, test-users inevitably

interpret some personality traits as being more positive than others. To minimize this problem, we have made an effort to present the anchor points as neutrally as possible. But even being positioned on what is often perceived as a desirable point on the dimension can have its downside. The dimensional approach suggests that it is possible to have too much of a good thing. It is, therefore, hard to label as "right" or "wrong" any position on the dimensions.

Another reason that we chose a dimensional approach for the PA was our belief that any such instrument must be ecologically valid (Messick, 1994)—that is, its findings must be generalizable and transferable to the environment in which the tested behaviours flourish (in this case, the business environment). The interpretation of the results, and the communication of this interpretation to the person tested, is necessary to the validation process. For this reason, we chose many correlated dimensions rather than fewer orthogonal ones, believing that their ease of understanding by "laypeople" and their relevance for personal development in a leadership context would render them particularly ecologically valid. This is especially important in regard to the PA, because it is intended for use in training and executive coaching contexts. Executives sometimes fail as leaders as a result of their own behaviour with colleagues, subordinates, bosses and other stakeholders (Kets de Vries, 2001). Unfortunately, individuals are likely to be blind to their own weakness, and therefore unable to correct potential derailment factors. Unless the personality traits and preferences that lead to specific behaviour are clearly identified, the behaviour cannot be changed.

Personality assessment tools are gaining wider use in organizations, especially in the context of management and leadership development (for example, Zeus and Skiffington, 2002). However, research on the role of personality traits in leadership and managerial success has seen its ups and downs (for a review see Bass, 1990). The challenges of trait research are explained by methodological and conceptual limitations, such as difficulty in interpreting the relevance of traits to managerial and leadership effectiveness (Yukl, 1998). Addressing the recent rise of interest in the inner theater of organizational executives (Kets de Vries, 2001; Jackman and Strober, 2003; Zaleznik, 1990; Stewart, 2004; Kilburg, 2000; Dotlich, Noel, and Walker, 2004), the *Personality Audit* is a response to the need to have an instrument that captures personality traits that are specifically important for business leaders.

The 360-degree format of the questionnaire allows input from all quarters, including non-work settings. This, in our opinion, should not only help get a fuller picture of an individual in a world where distinctions between work and non-work become more and more blurred, but also allow to avoid some of the possible pitfalls associated with using 360-degree measurements in organizations (Peiperl,1999). We argue that the *Personality Audit* should be used as a developmental tool, rather than a base for selection or promotion. It best serves as an opener for a meaningful discussion with a coach, HR professional, boss, colleagues, subordinates, or family members (Kets de Vries, 2005b).

Validation Study

The questionnaire includes 42 items spread over seven six-item scales. Each item is presented in a bipolar form. Test-takers are asked to indicate on a seven-point Likert-type scale the degree to which the left or the right pole of each statement describes the way they (or the individuals that they are assessing) act in a particular situation. As a guideline, they are advised that the scale has a 4 in the middle and goes from 1 – 3 to the left and 5 – 7 to the right. On each side of the scale, there is a statement that describes self-perceptions. After the questionnaire has been completed by the test-takers and all invited observers, and the results have been compiled, the test-takers receive a printout as shown in Table 1.

INSERT TABLE 1 ABOUT HERE

Sample

The sample used for the validation study was constructed using data from 23 groups of executives from a wide range of nationalities and cultures who attended executive education programs at INSEAD in 2002 – 2004.

The questionnaire was prepared in two versions: Self and Observer. *The Personality Audit* Self version was completed by 617 subjects. In addition, 549 of them also asked an average of three (and a maximum of ten) observers to complete the PA as their

observers, thus allowing us to test the 360-degree feedback component of the instrument. The observers were classified within the following categories: peers (130), subordinates (314), superiors (206), partners (276), family members (81), friends (200), secretaries (25), not specified (682). The sample used for this validity study comprises, therefore, 2531 questionnaires (617 Self audits and 1914 Observer audits).

Sixty-eight percent of Self questionnaires were completed by men. The Observer group was made up of 54% male and 46% female respondents. The mean respondent age was 42 years for the Self version (std = 8 years, age minimum = 21 years, maximum = 68) and 42 years and three months for the Observer version (std = nine years and three months, age minimum = 10 years[1], maximum = 74). The respondents belonged to 57 different nationalities (British, 30%; German, 10%; French, 7%; US, 6%; Swedish, 6%; Finnish, 5.5%; Dutch, 5%; Russian, 5%; Belgian, 3%; Danish, 3%). These relative frequencies are roughly equivalent for both Self and Observer versions.

Results

Internal Consistency Analysis

The means and standard deviations appear in columns 4 and 5 of Table 2. The theoretical maximum score per scale is 42. The average scores are higher than the theoretical mean (21) in general, indicating a ceiling effect due partly to the social desirability factor.

INSERT TABLE 2 AROUND HERE

Internal reliabilities, assessed through standardized Cronbach's alpha (see column 6, Table 2), range from .69 to .79 for the different scales of the PA. The lowest values are close to the .70 value generally considered to indicate a sufficient reliability (Nunnally, 1978; Peterson, 1994). These low values are partially due to the small number of items per scale (6). Research has found that the number of items in the

[1] This very young age and six others instances of age below twenty, are indicated for "family" observers; we can make the hypothesis that some people asked their own children to answer the questionnaire.

calculation of alpha coefficients can appear to create confusion between internal consistency and the length of the scale (Cortina, 1993). The small number of items presents, however, the advantage of a short administration time, an important characteristic for a 360° instrument for busy respondents. The downside is that the values for reliability as estimated through Cronbach's alpha are not as high as one would like them to be, although most of the items present sound psychometric properties.

The internal reliability of 360-degree feedback instruments is, in general, lower for questionnaires filled out by the subjects themselves than for questionnaires filled out by their observers (for discussion see the meta-analysis review by Viswesvaran, Ones and Schmidt, 1996). Several observers rate the same subject in the Self position, and the resulting data are structured as an embedded design (with the raters embedded in the observers). This implies that there exist some dependencies among multiple observers rating a single Self. This situation creates a violation of the assumption of local independency under which the reliability indexes are valid (Lord and Novick, 1968).

To avoid this problem we tested a sample containing only one observer per assessed test-taker by drawing one observer at random for each Self version that had several corresponding Observer versions. Cronbach's alphas were then computed separately for the Self and Observer questionnaires. Through that calculation, we found that reliability ranges from .62 to .78 for the Self scores (column 2, Table 3), and from .68 to .80 for the Observer scores (column 3, Table 3). Thus Observers appear to be more consistent than the self-raters. We see a parallel in research by Van der Heijden (2000). Her analysis of a 360° approach to the measurement of professional expertise showed that supervisors rated employees more consistently across dimensions than the employees rated themselves. She proposes that supervisors may know an employee only superficially, implying that the supervisor's assessment is likely to be based on less information about an individual than is available to the individual him- or herself. Observers' more consistent ratings may also reflect a "halo effect," meaning they tend to judge a person on the basis of known one attribute (Hellriegel, Slocum and Woodman, 1995).

We also assessed self/observer reliability via an inter-rater reliability approach, using the intraclass correlation coefficient (ICC) developed by Shrout and Fleiss, 1979. Because the number of observers was not the same for every subject (varying from 0 to 7), only one Observer, selected at random, for each Self (as described above) was used. The reliability of the inter-rater agreement can be foreseen from two generalizability situations: the use of the rater's single score (comparison between Self and each Observer) and the use of the average of several raters' scores. Because the PA can be used for both situations, the ICC values have been computed for the single situation (Table 3, column 3) and the average situation (Table 3, column 4). These values indicate a reliable agreement between self and observer ratings. The lowest values are observed for Low Self-Esteem – High Self-Esteem and Prudent – Adventurous dimensions.

INSERT TABLE 3 ABOUT HERE

Cronbach's alpha gives information on the reliability of the scale as a whole. It is equally important, however, to look at internal consistency at the item level. The strength of the relationship of each item to its scale can be measured by examining the Corrected Item Test Correlation (CITC). In the PA, the CITC values range, for the whole sample, from .08 to .67, with a median at .49. For 33 items out of the 42, the CITC is higher than .40, a value usually considered to indicate a reliable relationship between the item and the scale to which it belongs; for seven items the values range between .30 and .40. Only two items show a CITC below .20. Based on this analysis, we can conclude that 95% of items are well placed in their respective scales.

Factor analysis

Factor analysis at the item level. In order to test the hypothesis that a seven-dimensional model can explain the relationship among the items, the structure of the questionnaire was studied with exploratory factor analysis (EFA), using the procedures implemented in LISREL 8.5 (Jöreskog and Sörbom, 2000). This procedure extracts the number of fixed factors (seven in this analysis) using a principal factor analysis of the polychoric correlations matrix (since the items are seven-point Likert scales); the factor extraction is then followed by promax rotations. Separate analyses were performed on the Self (n=617) and Observer (549, drawn at

random) samples. Both analyses brought very similar results concerning the fit of a seven-factor model following the root mean square error of approximation (RMSEA) index (Browne and Cudeck, 1993): RMSEA = .054 and RMSEA = .058 respectively for Self and Observer samples. An examination of the highest loadings (e.g., >.40) of the items for each factor shows the grouping on the same factor of the items pertaining to the same scale. These groupings confirm that the theoretical structure appears to reflect accurately the organization of the items for both samples. Few items present a low loading on the factor on which the items pertaining to their scale are grouped and a high loading on another factor. However, four items do not properly fit the theoretical structure. These items have been previously identified as less reliable in the above-mentioned homogeneity analysis. The fact that some items belong to several factors may represent an artifact inflating the relationships between the scales.

Concerning the relationship between the scales, it is important to remember that the promax procedure used in our analysis is a rotation method that allows factors to be correlated. The inspection of the correlation matrix between factors shows significant links among the dimensions measured. These correlations are particularly high among certain groups of dimensions, which indicates the regrouping of certain scales at a higher level. We will develop this further when we discuss factor analysis at the scale level.

Factor analysis at the scale level. A combination of exploratory and confirmatory factor analysis (CFA) using a specification search approach was used for two main reasons. First, the structure of relationships among the seven scales could be only partially determined with the help of theories. Second, testing the fit of only one model to the data is often not very heuristic, and is sometimes unrealistic. The principal argument advanced against this strategy of testing one unique model is the existence of equivalent models (models presenting the same number of parameters and the same value for fit indexes; on this point see, in particular, MacCallum, Wegener, Uchino, and Fabrigar, 1993). Another approach, specification search, which relies on the test of several apparently plausible models, seems more heuristic. In advocating use of a set of plausible models, McCallum (1986) distinguishes between two kinds of relationships between observed and latent variables: the obligatory and the optional. *Obligatory* relationships imply that the model cannot be conceptualized

without containing these elements. These obligatory relationships need to be present in all models that are being tested. *Optional* relationships, on the other hand, can improve the model, even in the absence of a definitive hypothesis about their simultaneous presence in the model. The test of the model relies on a theoretical approach based on the concepts of the Kullback-Leibler (K-L) information theory. (For a recent review and applications to model search see Burnham and Anderson, 1998, and for its application to structural equation modeling see Raftery, 1993). The K-L best model gives the maximum of information considering to the data that is being used while creating the best fit for whatever parameters are used in the model. This approach, used in structural equation modeling, has been implemented in the software package "Analysis of covariance MOmentS (AMOS) model, version 5.0" (Arbuckle and Wothke, 1999; Arbuckle, 2003).

Because it was necessary to avoid the dependencies existing between a test-taker and his/her observers, four independent samples were determined through a random sampling: two Self samples and two Observer samples. To construct the model used for specification search, the number of factors was determined through EFA conducted on the first Self sample. This analysis led to the retention of four factors. From a theoretical viewpoint, a four-factor solution seemed a good option, because three of the scales are similar to elements of the Big Five personality model (e.g., Costa and McCrae, 1980): Introverted – Extroverted (Extraversion of the Big Five model), Laissez-Faire – Conscientious (Conscientiousness of the Big Five model) and Self-Effacing – Assertive (Agreeableness of the Big Five model). A fourth, the Low-Spirited – High-Spirited dimension, is made up of items that can be considered relatively close to the Neuroticism factor of the Big Five personality model. These four scales can be considered as four independent factors. For the specification search procedure, the relationship between each of these four scales and one factor was deemed obligatory. The relationships among these four factors, however, and the three remaining scales (Low Self-Esteem – High Self-Esteem; Vigilent – Trustful; Prudent – Adventurous) have been modeled as optional. AMOS 5.0 was used to operate the specification search on the first Observer sample. Among these models, one was retained for its well-fitting properties and its relatively simple structure (see loadings in Table 4). In a second stage, this model was fitted on the two samples (Self and Observer) that had not been previously used in the model construction. The

results demonstrate an acceptable fit for the Self and Observer samples. The values of the loadings are quite similar to those observed on the construction sample.

INSERT TABLE 4 ABOUT HERE

The loadings values, presented in Table 4, lead to identification of four domains of behaviors assessed through the PA. The first factor groups together the Low-Spirited –High-Spirited scale and the Low Self-Esteem – High Self-Esteem scale. This factor can be interpreted as dealing with the person's mood, either positive or negative, and with an evaluation of the self as compared to the desired self. The second factor underlies the Introverted – Extroverted, Vigilant – Trustful, and Prudent – Adventurous scales. This factor can be interpreted as dealing with behaviors related to extroversion, sociability, and change. The third factor groups together three scales: Self-Effacing – Assertive, Low Self-Esteem – High Self-Esteem, and Vigilant – Trustful (negative loading). This factor deals with dominant social behavior or assertiveness. A negative relationship with the Vigilant – Trustful scale indicates that it is bound to the distrustful pole of the items. The High Self-Esteem linkage probably implies, in the case of high scores, superiority in the social comparison ("I'm better than other people"). The fourth factor loads only the Laissez-Faire – Conscientious scale.

These factors are oblique, but only three correlations have been integrated in the model:

1) The correlation between F1 and F2 (.61) indicates that both these factors are redundant for about a third of their variance. This might be explained by the fact that they assess the positive mood and warm relationships with other people.
2) The correlation between F2 and F3 (.42) might reflect the fact that both factors are socially oriented.
3) The low correlation between F3 and F4 (.23) indicates a weak relationship between these two factors. F3 relates to scales (and therefore items) dealing with the trend to affirm oneself, while F4 is primarily about preferences for structure, order and control.

This analysis brings arguments to validate the theoretical structure of the PA as constituted by four main underlying factors: mood, extroversion and sociability, assertiveness, and conscientiousness.

Discussion

Analysis of the structure of *The Personality Audit* has identified four major factors influencing the behavior of executives in both public and private life. The four factors—mood, extroversion and sociability, assertiveness, and conscientiousness—comprise seven dimensions of an individual personality: Low Self-Esteem – High Self-Esteem, Vigilant – Trustful, Laissez-Faire – Conscientious, Self-Effacing – Assertive, Introverted – Extroverted, Low-Spirited – High-Spirited, and Prudent – Adventurous. Data from this study suggests that these seven personality dimensions possess sufficient internal reliability and consistency.

The fact that there are significant links among the various personality dimensions measured may be viewed as a support of the theoretical underpinnings of the PA: many of the behaviors demonstrated by test-takers are in fact coming from the same biosocial, cognitive, and psychosocial foundations. This is also indirectly supported by the similarity among some of the factors and elements of the Big Five personality model. The difference, however, is that the dimensions measured by this instrument, without doubt capturing only a fraction of the richness of a human personality, reflect the areas that seem to be particularly important for the functioning of executives in organizations. The objective of the PA is to deepen the test-takers' awareness of what makes them tick and of how others perceive what drives them. This instrument not only helps executives start a journey of self-exploration, but also encourages them to undertake a meaningful discussion with the people around them about the way those others perceive them. The PA is also an effective tool for individual or group executive coaching. For a discussion of use of the PA in executive coaching sessions see Kets de Vries (2005a, 2005b, 2005c).

Obviously, there is a need for further analysis of the psychological significance of correlations among the dimensions loading on the same factors using factor analytic

and other multivariate techniques. This task, however, is beyond the scope of the present article and remains an area for future research. Looking deeper into each of the dimensions and the nature of their relationships with other personality manifestations is a fascinating field, and one important for a better understanding of the human mind and executive functioning.

Another exciting area for further research concerns addressing the differences between the Self and Observer scores. We have indicated the difference that is in general typical for 360-degree instruments. However, further research in differences in perception of various personality dimensions may shed light on discrepancies between public and private selves, as well as personality traits that are more or less accessible to an outsider. The implications would include such important issues as selection and development based on the observations of an individual.

Further research in differences along various dimensions measured by the PA is important for increasing our knowledge about the influence of nationality, gender, and age on the scores obtained. In particular, it would be interesting to see how perceptions differ among various national cultures and between genders.

Another important area for future research involves comparing the results of the PA with some established measures of managerial or leadership behavior, such as the *Global Executive Leadership Inventory* (Kets de Vries, Vrignaud, and Florent-Treacy, 2004; Kets de Vries, 2004a, 2004b). Understanding the correlations between *The Personality Audit* and the *Global Executive Leadership Inventory* could increase our understanding of the driving forces behind certain leadership practices.

Executives must heed how others perceive them, because organizational decision-making has to be reality-based if it is to be effective. But as myriad examples of executive derailment have shown, people have a hard time dealing with reality. As T. S. Eliot once said, "Humankind cannot stand very much reality." Reality is not an enemy, however: it is not reality that hurts, but rather our *perception* of reality. In life, too many issues are decided on the basis of hate, love, lust, rage, envy, sorrow, joy, hope, fear, and illusion. Individuals and organizations that make astute use of *The Personality Audit* can keep such emotions from obscuring reality.

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Table 1: *Example of printout received by test takers*

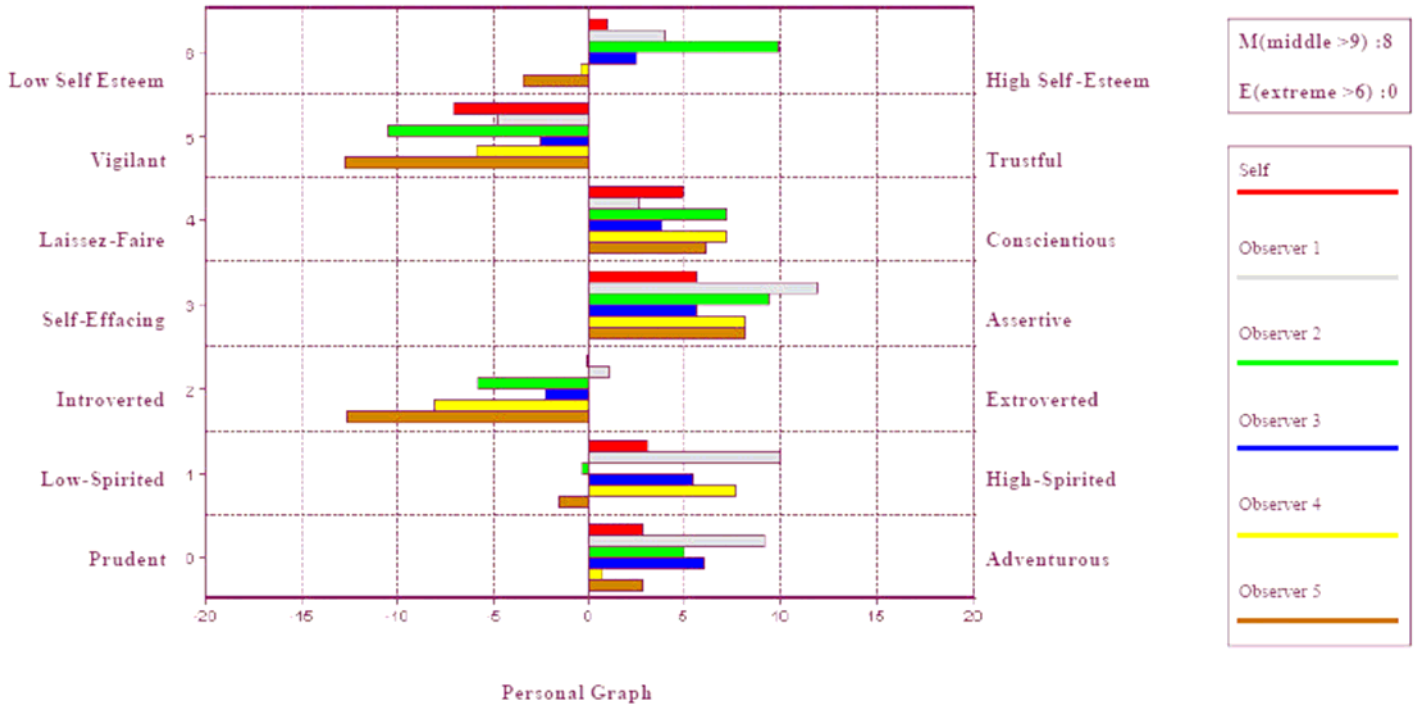

Table 2: *Means, standard deviations, and Cronbach's alpha for the scales of the PA estimated on the whole sample (N = 2531)*

Scale Low-score pole	Scale High-score pole	Abbreviation	Mean	Standard Deviation	Cronbach's Alpha
Low Self-Esteem	High Self-Esteem	LSE_HSE	28.97	4.12	0.70
Vigilentl	Trustful	VIG_TRUS	26.75	5.41	0.70
Laissez-Faire	Conscientious	LF_CONSC	30.66	5.01	0.69
Self-Effacing	Assertive	SE_ASSER	30.54	4.72	0.72
Introverted	Extroverted	INT_EXTR	27.94	5.60	0.78
Low-Spirited	High-Spirited	LS_HS	32.10	5.20	0.77
Prudent	Adventurous	PR_ADV	29.05	5.55	0.79

Table 3: *Reliability indexes based on PA Self and a random sample of "Observers"*

	Cronbach's Alpha			
	Self[†]	Observer[$]	ICC[$] Single	ICC[$] Average
LSE_HSE	0.71	0.71	0.18	0.57
VIG_TRUS	0.62	0.72	0.27	0.69
LF_CONSC	0.67	0.68	0.19	0.59
SE_ASSER	0.72	0.69	0.14	0.50
INT_EXTR	0.75	0.78	0.28	0.70
LS_HS	0.75	0.80	0.33	0.75
PR_ADV	0.78	0.80	0.36	0.77

[†] n=617

[‡] n=549

[$] Internal Consistency Coefficient, case 1 (Shrout and Fleiss, 1979)

Table 4: *Loadings of the seven scales on the four factors for the validation sample*

	Factor 1	Factor 2	Factor 3	Factor 4
LSE_HSE	.36		.41	
VIG_TRUS		.84	-.50	
LF_CONSC				1.00
SE_ASSER			.87	
INT_EXTR		.60		
LS_HS	1.00			
PR_ADV		.68		