Five Factor Model of Personality, Facets of

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Abstract

In a hierarchical model of personality trait structure, a facet is defined as a narrow constituent trait that is subsumed under a broad factor. Although there are debates about the number and nature of these facets, they should not diminish the usefulness of such traits in predicting and explaining behavior. Compared to the broad factors of personality, not only do facets provide greater predictive validity of outcome criteria, they are also more helpful in identifying the precise mechanisms involved in explaining psychological phenomena. A few examples on how analyzing personality data at the facet level can yield novel and important findings are presented.

Personality psychologists have long espoused a hierarchical view of personality structure in which trait variables are arranged into several levels representing varying breadth of sampled behavior domains. Eysenck (1947) was probably the first theorist to formalize such a structure to personality, as shown in Figure 1. The lowest level of the hierarchy is represented by behavioral responses enacted in specific instances. Regular occurrence of a behavioral response across situations and time combines to form a habitual response, which represents the next level up in the hierarchy. Several habitual response propensities constitute a personality facet or trait at the third level. Finally, the top of the personality hierarchy represents several correlated personality facets that are connected to form the broad factors or dimensions of personality (Goldberg, 1993; Paunonen and Hong, 2015).

On Factors and Facets

The five factor (or the Big Five) model of personality (see John et al., 2008, for a review; and the following articles: Five Factor Model of Personality, Assessment of; Big Five Factor Model, Theory and Structure; Five Factor Model of Personality, Universality of) specifies a set of exactly five broad personality factors at the apex of the hierarchy. These factors are thought to capture most of the essential human variation in characteristic patterns of thinking, feeling, and behaving. The factors are commonly referred to as neuroticism, extraversion, openness to experience, agreeableness, and conscientiousness. Each of these factors is presumed to subsume several lower-level personality facets or traits. Because facets are seen as occupying a conceptual space between broad factors and specific patterns of behavior, they are regarded as the basic building blocks of personality. Cattell (1946) called them *primary traits* as they represent the most basic characterization of a consistent pattern of thought, affect, and behavior. In contrast to the broad factors, the facets are conceived to be narrower in definition and thus to correspond to more circumscribed domains of behavior.

The personality trait hierarchy serves a crucial function as a taxonomy of stable individual differences characteristics. In biology, a taxonomy maps out the broad classification of living
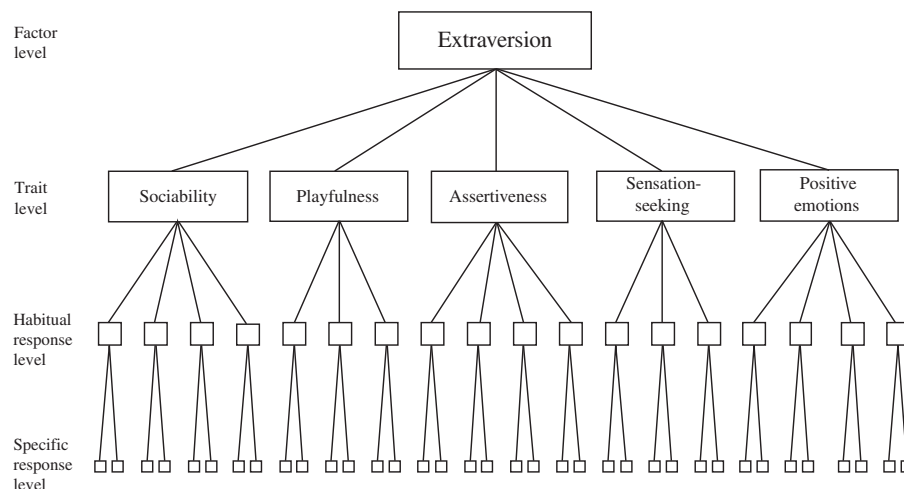

Figure 1 A hierarchical model of personality organization (after Eysenck, 1947). From "Hierarchical organization of personality and prediction of behavior," by S.V. Paunonen, 1998, Journal of Personality and Social Psychology, 74, p. 539. Copyright 1998 by the American Psychological Association. Adapted with permission.

things based on shared characteristics (e.g., mammals), which then branches out with more differentiation that highlights differences between (but similarities within) subclasses (e.g., rodents, primates). In a similar vein, a personality taxonomy organizes traits with different levels of abstraction into a hierarchical fashion that allows for the description of distinct versus overlapping features among them. For instance, lower-level traits like achievement-striving and self-discipline are conceptually distinct, yet they share common features (e.g., propelling an individual to work hard in order to obtain mastery in task-related endeavors). Their commonality means they might both be classified under the higher-level dimension of Conscientiousness. Conversely, a trait like hostility, which shares hardly any commonality with the traits of achievement-striving or self-discipline, would probably not be subsumed under Conscientiousness and, instead, would define a different factor. The hierarchy thus enables researchers to get a sense of how individual traits might be clustered according to their functional similarities and differences.

An alternative view conceptualizes personality facets not as narrow traits that are subsumed under a broad Big Five factor but as varying blends of two Big Five factors (Hofstee et al., 1992). This view capitalizes on a circumplex model (i.e., a circular layout of traits) to organize the placement of personality factors and facets, and is best represented by the Abridged Big Five Circumplex scales from the International Personality Item Pool (AB5C-IPIP; Goldberg, 1999). Two Big Five factors (e.g., extraversion and agreeableness) can be paired to form a circumplex where they make up two orthogonal axes at 90° to each other. Ten such circumplexes with unique pairwise combinations of the five factors can thus be derived. Each of these circumplexes is then partitioned into 12 segments of 30 each and trait-descriptive items that fall within a segment and its polar opposite are thought to define a personality facet. Across the 10 circumplexes, each Big Five factor yields one facet that comprises items defining the factor itself and eight other facets that have secondary loadings with other Big Five factors.

The nature of the personality facet is fundamentally very different between the hierarchical and the circumplex models. In the former, a facet is considered to represent a rather narrow unidimensional psychological construct that is conceptually homogeneous and yet, at the same time, shares some common variance with other conceptually close facets to form a broad factor. Under the latter model, however, a facet is thought to intersperse between two broad factors of personality; hence it is conceptually heterogeneous as it takes in elements from the two different factors. In other words, facets in the hierarchical model represent relatively pure conceptual units of personality whereas facets in the circumplex model constitute derivatives from a process of amalgamation. It would seem that the way facets in the circumplex model are derived actually expands the conceptual space of the Big Five factors, giving detailed information on the intersections among the factors. However, the circumplex model facets do not help in elucidating the specific features within the Big Five factors themselves.

The hierarchical view takes precedence over the circumplex model in this article. Discussions in the following sections adhere to the view that personality facets should represent conceptually homogeneous entities that inform the specific aspects underlying the broad personality factors.

How Many and What Facets Are Important?

The definition of the five broad dimensions of personality as exemplified in the five factor model has reached wide consensus among researchers. The same cannot be said of the facet-level traits. One issue of contention has to do with what might be the optimal number of facets needed to measure the universe of individual differences adequately and comprehensively. Going by the range of the number of facet-level scales proposed by the developers of established personality inventories, it seems that nobody has the final say on this issue. The Revised NEO Personality Inventory (NEO-PI-R; Costa and McCrae, 1992) is probably considered by many to be the gold standard in measuring the five broad personality factors and their constituent facets. The NEO-PI-R specifies six facets to underlie each factor; hence a total of 30 facets make up the domain of personality in that model. But other assessment models exist. The AB5C-IPIP (Goldberg, 1999) measures a total 45 facet-level traits, nine for each of the five factors. A lexical analysis on trait-related words in natural language yielded 18 facets in at least one study (Saucier and Ostendorf, 1999). Several other inventories, though not developed originally to assess the five factor model, have been shown to yield (more or less) the same five broad factors via factor analysis, even with different numbers of facet-level traits. Cattell's Sixteen Personality Factor Questionnaire (16 PF; Cattell et al., 1993), as the name suggests, proposes 16 personality facets whereas Jackson's (1984) Personality Research Form-E has 20 facet-level trait scales. Simply put, there is hardly any consensus when it comes to the optimal number of lower-level personality facets in the five factor model.

A second debatable issue concerns the assignment of personality facets to the Big Five factors. Take the Extraversion factor as an example. The NEO-PI-R facets underlying Extraversion are represented by scales called Warmth, Gregariousness, Assertiveness, Activity, Excitement-Seeking, and Positive Emotions. Conversely, the 16 PF Extraversion facets include Warm–Reserved, Lively–Serious, Bold–Shy, Private–Forthright, and Self-Reliant–Group-Oriented. Although facets similar in content appear across the two inventories (e.g., NEO-PI-R Warmth and 16 PF Warm–Reserved), there are also facets that are unique to one inventory but not to the other. The NEO-PI-R does not have a facet that is conceptually close to the 16 PF Self-Reliant–Group-Oriented scale, for instance.

The glaring lack of agreement among theorists on the nature and number of facets that underlie each of the five broad dimensions of personality stems from differences in theoretical traditions and test construction strategies (e.g., theoretical-rational, empirical, and factor-analytic). This state of affairs for the facet-level traits is reminiscent of the debate two decades ago about the nature and number of the broad dimensions of personality (Block, 1995). Given the current consensus among personality psychologists on the five broad factors, it is expected that the exposition of personality facets should become clearer with future research. How a Big Five factor might be defined and what subcomponents such a factor

should entail are major questions waiting to be addressed. Some preliminary effort has been made to identify the important facets of Conscientiousness through joint factor analysis of Conscientiousness-related facet scales obtained from several established personality inventories (Roberts et al., 2005). The composition of facets underlying the other Big Five factors can be clarified using this strategy. Note that, as we will describe more fully later, not all researchers agree that every personality trait has a place under the umbrella of the Big Five factors (see Paunonen and Jackson, 2000).

Some Properties of Personality Facets

Are people accurate when judging the personality of others (see Person Perception, Accuracy of)? To what extent are personality traits heritable (see Personality Differences and Development: Genetic and Environmental Contributions)? Are personality traits stable or malleable across the life span (see Personality Development: Systems Theories)? These are but a small sample of questions that have intrigued personality psychologists for many years. Very often, researchers have relied on measuring the Big Five factors when addressing these questions. For example, with regard to the question about person perception, much research has been conducted at the level of the five factors. Hence, researchers would normally correlate a target's (i.e., the person being judged) self-ratings and an observer's ratings about the target on the Big Five factors. Similarly, if researchers are interested in the degree of genetic (vs environmental) contribution to personality characteristics, the typical unit of analysis has been at the factor level. However, there is nothing to prevent researchers from examining these same questions at the level of the facets or traits. The complexity of the research design and analysis would no doubt increase as they would have to deal with a larger number of variables (e.g., 30 facet scales, in the case of NEO-PI-R, vs just five factor scales). Still, the richness of information obtained may outweigh the cost of the additional complexity. In the sections below, several related observations associated with the facets of the five factor model are briefly reviewed.

Self-Observer Agreement

Numerous studies have shown that people can rate an acquaintance's personality characteristics with reasonably good accuracy (or agreement). For example, the self-observer agreement coefficients of the Big Five factors, as assessed by measures like the NEO-PI-R and the Big Five Inventory (BFI; see John et al., 2008), average around 0.40–0.50 (Costa and McCrae, 1992; John et al., 2008) among acquaintance ratings. For the facet scales, the self-observer agreement coefficients average around 0.35 for the NEO-PI-R (Costa and McCrae, 1992) and 0.45 for the BFI (Soto and John, 2009). The agreement coefficients for spouses are somewhat higher for both Big Five factors (mean = 0.60) and facets (mean = 0.50) than for acquaintances, as expected (Costa and McCrae, 1992).

The general picture suggests that observers' judgment accuracy drops a notch when rating the targets' personality facets compared to their personality factors. A possible explanation is that, compared to the factor scales, facet scales are

usually less reliable due to a smaller item set. As a result, accuracy coefficients suffer because of less measurement reliability among the facets. Nonetheless, the self-observer agreement coefficients for the Big Five facets are still quite respectable, especially when the dyads are in intimate relationships. It seems that people can accurately rate each other on numerous specific domains of behavior, not just on a few global personality factors.

Heritability

A well-established finding in behavior genetic studies of personality is that approximately half of the variability in individual differences on the Big Five factors can be attributed to genetic factors and the other half mostly to nonshared environmental influences (Bouchard and Loehlin, 2001). If personality facets are considered to be narrow domains of behavior within the broad factors, then it should not be surprising that they show similar estimates of heritability. Indeed, research suggests that the facets have, on average, heritabilities hovering around 0.40 (Briley and Tucker-Drob, 2012; Jang et al., 1998). Jang et al. (1998) demonstrated that with the Big Five factors partialed out, the residual variance in facet scales still showed substantial heritability. This finding led those authors to conclude that personality facet scales are "measures of discrete constructs with a heritable and thus biological basis" (p. 1563).

A few studies have examined the genetic and environmental structure of facets using multivariate methods. The emerging picture is that a simple latent trait model cannot account for all the common variance among facets thought to define a single factor, at least for some of the Big Five factors (Briley and Tucker-Drob, 2012; Jang et al., 2002; Johnson and Krueger, 2004). These findings call into question whether higher-level factors like Agreeableness mediate most of the genetic (and environmental) influences on individual facets. Instead, the observation that a substantial amount of the genetic variability is specific to the facet-level traits suggests that they should not be ignored in favor of broader factor measures in personality research.

Personality Development

Personality stability or change over the life span can be quantified by two independent indices: (1) rank-order stability and (2) mean-level change. Rank-order stability refers to the stability of the relative positions of individuals on a personality characteristic over time whereas mean-level change refers to how a trait level, averaged across a sample of individuals, might change over time.

Personality facets in adults appear to exhibit strong rank-order stabilities over long periods of time. For instance, Terracciano et al. (2006) reported that the median stability of NEO-PI-R facets over an average of 10 years was 0.70 (range = 0.57–0.82), which was slightly lower than that of the NEO-PI-R factors (median = 0.81; range = 0.78–0.85). This finding indicates that people's relative standings on individual traits do not change much over long time intervals during adulthood.

The analysis of mean-level changes in personality facets has produced very interesting insights. In both cross-sectional and

longitudinal studies, there is evidence that facets belonging to the same factor can show divergent developmental trajectories (Soto and John, 2012; Soto et al., 2011). From age 20 to about 60, conscientiousness exhibited an upward age trend (i.e., older adults being more conscientious than younger adults; Soto et al., 2011), and this was supported by longitudinal data as well (Soto and John, 2012). Facet-level analysis indicated that this trajectory for broad conscientiousness was driven specifically by facets of industriousness and self-discipline but not orderliness. Orderliness did not change much as a function of age. It seems that the additional life responsibilities for older adults elicit greater levels of achievement-related traits compared to younger adults, but these life tasks do not modulate the level of orderliness across ages. Extraversion facets also showed divergent trajectories: assertiveness and social confidence increased whereas gregariousness decreased over time (Soto and John, 2012). This is in line with the hypothesis that the dominance component of extraversion increases due to the enlarged occupational and social role responsibilities older adults take on, whereas the gregariousness aspect decreases as older adults become more selective in terms of who they socialize with (Roberts et al., 2006). Together, these preliminary findings highlight the advances in knowledge when developmental trends are tracked at the facet level, and not just at the factor level.

Prediction of Outcome Criteria

An appealing feature of a hierarchical organization of personality variables is the flexibility afforded to use either the broad factors or the narrow facets (or both) in the prediction of outcome criteria. A broad personality factor provides bandwidth in prediction through its ability to predict across a variety of criteria, though the strength of those associations may be modest. Conversely, a narrow personality facet offers fidelity by ensuring strong prediction of a smaller number of specific criterion variables (Cronbach and Gleser, 1957). The vast majority of empirical research in psychology has relied on the Big Five factors as predictors of consequential outcomes, with great success in many cases. The use of narrow personality traits as predictors, unfortunately, has not enjoyed the widespread acceptance that it should. We believe that the potential for facets to increase predictive power and explanatory value of personality constructs is immense, and we outline our reasons in the following sections (Paunonen and Hong, 2015).

Specific Variance in Facets

As the basic building blocks of personality, each facet-level trait represents a consistent pattern of thinking, feeling, and behaving that is psychologically coherent (e.g., gregariousness, modesty, orderliness). Several facets thought to be subsumed under a single global factor are expected to correlate with one another. Still, most of these correlations are not close to perfect, suggesting that each facet retains some unique aspects not found in other related facets (i.e., nonredundancy).

In most personality inventories, a score on a broad factor measure is derived by aggregating separate scores on several facet-level scales. This can be done in two ways. The first is to take the sum or average across the constituent facet scores, each unit-weighted so that they contribute equally to the broad factor measure. By emphasizing the common core that represents the factor, the unique variance associated with each facet is diluted. The second method is to estimate the broader factor from its constituent facets via a common factor analytic model. In such a model, facets are considered to be indicators of an underlying factor construct, and their unique variances are regarded as error and thus discarded. The factor loadings form the weights by which the facets are aggregated to derive the factor's score. Doing so means that any nonrandom variance specific to a particular facet is thrown out in favor of the common factor variance underlying those facets. In other words, individuating information provided by each of the facets has been diluted or omitted when they are aggregated into a single broad factor via these two methods. It could very well be that the lost trait-specific variance that exists at the facet level is highly predictive of some criterion of interest.

It is not hard to imagine a hypothetical scenario where two lower-level facets that underlie a higher-level factor exhibit opposite associations with an external criterion. One facet shows a positive association with the criterion whereas the other shows a negative relation; the net effect is that the factor (aggregated from the facets) would yield no relation with the criterion (see O'Neill and Paunonen, 2013, for examples). The more common situation in empirical data is that a facet might predict a criterion, but its predictive capability is masked when it gets aggregated with other facets (which are not related to the criterion). It would be short-sighted if one were to conclude that no relation exists between the factor and the criterion, when even one specific aspect of that factor (i.e., a facet) shows predictive validity. Therefore, researchers should be cognizant about the possibility of losing criterion-valid but facet-specific variance when only broad personality factors are used for prediction.

Predictive Validity of the Facets

Some have argued that facet-specific variance is not generally useful for criterion prediction and that little statistical utility can be obtained in behavior prediction by using personality predictors other than the five broad factors (Ones and Viswesvaran, 1996). If that is true, then adding narrow facets of personality to the broad personality factors in a prediction context should not increase the predictive accuracy of outcome criteria. This question of whether facet-level personality variables are useful to the prediction of criteria relative to factor-level personality variables can be addressed empirically.

In a series of studies, Paunonen and colleagues have demonstrated that facets provide incremental validity beyond the factors in the prediction of a wide variety of behavior of some social importance, such as alcohol/tobacco consumption, grade-point average, and dating variety (Paunonen, 1998; Paunonen and Ashton, 2001). Take predicting grade-point average as an example in Paunonen and Ashton's (2001) study. The amount of criterion variance in grade-point average accounted for by the five NEO-PI-R factors combined was 11.1%. On the other hand, using five NEO-PI-R facets in the prediction equation, rationally selected by judges as traits likely to be related to grades, accounted for 15.3% of criterion

variance (Paunonen and Ashton, 2013). More important, personality facets afforded such predictive validity superiority over the personality factors across many criteria.

The predictive advantage of the facet-level traits over their factor-level counterparts has been demonstrated in the prediction of a wide array of other outcomes, including job performance (Vinchur et al., 1998), externalizing behavior (Miller et al., 2008), prejudice (Ekehammar and Akrami, 2007), and mortality (Turiano et al., 2012). Collectively, these studies point to the importance of personality facets, because the gain in predictive accuracy over the personality factors can be substantial.

Correspondence in Complexity of Predictor and Criterion

Ones and Viswesvaran (1996) have put forth an argument that optimal prediction occurs if there is a match in terms of the factorial complexity of the predictor and criterion variables. That is, if a criterion is a multidimensional construct (e.g., job performance), then accuracy in prediction would be best achieved by using a multidimensional predictor. Such a predictor might be a linear composite of several unidimensional variables derived through aggregation and then used as a single predictor in a standard correlational analysis. However, Paunonen (1998; Paunonen and Ashton, 2001) noted that there is no mathematical requirement that the predictor and criterion complexities must correspond to each other for successful prediction. Nunnally's (1978) advice with regard to maximizing prediction of the multidimensional criterion is worth reiterating here:

> As some will argue, the criterion usually is factorially complex and consequently can be predicted best by a factorially complex predictor test. Instead of building the factorial complexity into a particular test, it is far better to meet the factorial complexity by combining tests in a battery by multiple regression, in which case tests would be selected to measure the different factors that are thought to be important.
>
> p. 268

There is no inherent advantage in using a factorially complex predictor such as a broad personality dimension to predict a similar factorially complex criterion such as job performance. A more defensible strategy is to include a number of unidimensional facet-level traits in a multiple regression context to predict a criterion variable, be it factorially complex or not (Christiansen and Robie, 2011). Optimal prediction should occur when personality facets are judiciously selected based on theoretical reasoning or prior empirical evidence (O'Neill and Paunonen, 2013).

Contribution to Behavior Understanding

The advantage of facet-level assessment over factor-level assessments applies not just to behavior prediction but also to behavior understanding as well. When an association is found between a personality factor and a criterion, a logical next step is to examine if any of the facets that are supposedly subsumed under this factor might be driving this association. Engaging in such fine-grained analysis has the benefit of identifying specific 'active ingredients' – facets that are responsible for the behavior outcome. For example, Hong and Paunonen (2009) isolated the NEO-PI-R facet scale of Deliberation (a Conscientiousness facet) as a common and robust predictor of several health-risk behaviors. This suggested that a failure in careful deliberation (i.e., not thinking of the consequences of one's actions and acting hastily) can lead one to engage in activities that are potentially health-damaging. By the same token, it would also mean that the engagement in such risky behaviors has nothing to do with other Conscientiousness-related facets such as a sense of mastery (i.e., NEO-PI-R facet scale of Competence) or being methodical and organized (i.e., NEO-PI-R facet scale of Order). This sort of precise information would not only be very useful for theory development but also for guiding good psychological practices (e.g., designing intervention programs).

Facets beyond the Five Factor Model

The focus of this article has been on the facets associated with the five factor model and how they can be exploited for better prediction and explanation of behavior. But it is important to note in this context the existence of facet-level traits that have little variance in common with the Big Five factors, but are nonetheless important individual differences variables that have behavioral consequences. Paunonen and Jackson (2000), for example, identified 10 such traits, including manipulativeness, femininity, and egotism, thought to be not well represented within the Big Five space. Although these facets are omitted from the five factor model, the fact that they represent stable personality characteristics makes them no less important than the Big Five facets. Exclusion of those traits means risking the possibility that the predictability of certain criterion outcomes might be compromised (e.g., Hong and Paunonen, 2009).

Summary

The assertion that one should consider and employ narrow personality facets in predicting and explaining behavior is not a call to abandon the use of broad personality factors altogether. Without a doubt, using personality factors as predictors can yield informative findings especially when the area of inquiry is new. However, when a sizable literature has accrued with respect to factor–criterion associations, it would be timely and appropriate to apply more fine-grained analysis using personality facets. From this perspective, analysis of personality at the facet level supplements, rather than replaces, the data provided by the factors. In fact, it can offer a particularly rich and detailed picture into the psychological mechanisms responsible for crucial outcomes. The factors at the top of the personality hierarchy might be too broad to provide the specificity of information needed. At the other extreme, the specific responses at the bottom of the hierarchy can be overly narrow, and the large number of these responses can make prediction cumbersome and inefficient. Assessment at the level of the unitary personality facet or trait seems about right, yielding sufficient precise information for accurate behavior prediction and understanding.

Conclusion

Much is known about the Big Five factors – their nature, origins, and associations with other constructs. Advances in current knowledge on personality traits now demand exploiting the numerous facets that underlie those five factors. As maintained throughout this article, the advantages of examining personality facets for behavior prediction and explanation are numerous and their inclusion in research agendas should be routinely considered.

See also: Big Five Factor Model, Theory and Structure; Five Factor Model of Personality, Assessment of; Five Factor Model of Personality, Universality of; Person Perception, Accuracy of; Personality Development: Systems Theories; Personality Differences and Development: Genetic and Environmental Contributions.

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