Towards a Theory of Personality

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Introduction

Theories in Personality Psychology

There are many signs showing that personality psychology with its eclecticism and historically oriented fragmentation is still a pre-theoretical discipline. Personality psychology seems to be a bizarre field, although not the only one, where almost everything being a little bit more complex than a plain descriptive narrative can be labeled a theory. A sloppy story containing a certain amount of critical words like “Ego”, “defense”, or “sublimation” can pretend to be a theory. A description of a simple flowchart connecting loosely defined concepts can be also called a theory. This all has lead to a situation in which the label ‘personality theory’ has no reasonable meaning outside introductory psychology textbooks.

It is more than a half the century when Hans Jürgen Eysenck published his classical Dimensions of Personality (1947) that according to his own estimation was his “most original work” (Eysenck, 1997, p. 97). Indeed, the idea that people are not classified into sharply divided groups but they all can be described by their position on the same set of basic dimensions revolutionized the whole field and became one of the cornerstones of the current personality theory. In a preface to a new edition celebrating the 50th anniversary of the first publication, Eysenck describes candidly his feelings about the area he entered more than fifty years ago and which he was going to change more than perhaps anybody else in the 20th century:

“In retrospect I still recall the shock of being transported from the innocence of an experimental psychologists with a background in physics and mathematics to the wild shores of madness and neurosis, personality and intelligence” (Eysenck, 1998, p. xvi).

Although the whole area has dramatically changed during the past fifty years, particularly by efforts of Eysenck himself, there are still many relics that make it different from more advanced areas of psychology.
First, the whole personality field is still dominated by a very strong speculative and immensely eclectic text-book tradition which deserves to be reserved only for the courses of the history of psychology. As it was said by Costa and McCrae (1998): “More than any other branch of psychology, personality is steeped in tradition. The grand theories of Freud, Murray, and Lewin are taught today as they were 40 years ago (Hall & Lindzey, 1957)—as if they stated timeless truths about human nature immune to empirical test” (Costa & McCrae, 1998, p. 113). Thus, it is time to “to adopt a more critical view of personality theory texts, which failed, in our view, to keep pace with progress in field” (McCrae & Costa, 1996, p. 52).

Another feature holding back the advancement of personality psychology is a militant tendency toward particularities and oddities avoiding general rules or regularities. As it was noticed by David Funder, the search for global individual regularities is regarded as “old-fashioned, rather quaint ideas not relevant for modern research in personality” (Funder, 1991 p. 31). In this regard, the influence of Walter Mischel has been surprisingly persistent and his pessimistic view about a possibility to find general regularities in human behavior is still captivating: “The discriminativeness and idiosyncratic organization of behavior are facts of nature, not limitations unique to trait theories” (Mischel, 1973, p. 265). After reading this message it is not surprising that it has been even argued that idiosyncrasy of human behavior is a great and unique attraction of the field which should be preserved for its own sake. One manifestation of this tendency is to regard narrow traits superior of broad traits in the prediction of various real-life outcomes. There is a clearly observed tendency in the construction of personality scales that each original trait is gradually bifurcated into smaller and smaller constructs (Goldberg, 1971, p. 335). However, “narrowing our focus toward specific behaviors on specific occasions seems to me the wrong direction for personality psychology. There is nothing inherently wrong in studying narrow traits, so long as adequate measurement reliability is achieved. Furthermore, making explicit the situational context for traits is a worthwhile goal. But narrow, limited domain approach will not lead us to comprehensive, integrative models of personality” (Johnson, 1999, p. 450). The same idea was expressed by David Funder: “When we use dispositional terms that are framed narrowly, we discard any possibility of generating statements about individual differences that have real explanatory power” (Funder, 1991 p. 31).

One reason of the stagnation was and still is an inability to agree at least on some basic principles. There are too many fruitless debates about most obvious and elementary facts. Not much has been changed since Eysenck entered the field of personality psychology to transform it: “When I started at Mill Hill, I new nothing of psychiatry, little of personality. I read a few textbooks, but was not impressed—it all seemed to be obscure words, and shadowy theories, nebulous concepts and vague conclusions; little was agreed as far as results were concerned, and methodology was not so much uncertain as absent” (Eysenck, 1998, p. xiv). For example, the whole person-situation debate is a good example of being not the best way of advancement. Eysenck may be blamed for not being diplomatic enough in this question but his characteristically plain description is not very far from truth: “During the middle years we had the astonishing advent of Mischel, who advocated the doctrine of situationism – i.e., that behaviour was determined by situations, not by personality traits or types. This is nonsensical statement, because the measurement of personality traits occurs precisely in situations similar or identical for everybody, so that the situation cannot be blamed for differential reactions!” (Eysenck, 1997, p. 206). In psychophysiology,
for example, nobody has complained about unreliability of a single EEG recording: the correlation between two recordings of visual evoked potential observed at two separate trials is almost always close to zero remaining very far from breaking the infamous 0.3 barrier. There is hardly any excuse why it took so long to realize in personality psychology that an aggregate of many parallel observations is more reliable than a single observation (Epstein, 1997, p. 15). In psychophysics, for comparison, there are some basic theoretical schemes (e.g., Thurstone’s theory of discrimination) against which all other theoretical schemes can be compared. In fact, psychophysical analysis is almost always based on Thurstone’s basic idea which, as it was nicely formulated by Robert Duncan Luce, is an “essence of simplicity”: each time a signal is presented, it is transduced in the nervous system into an internal process, representation of the external signal. All decisions about the signal are assumed to be based entirely upon this representation because there is no other way how the signal can be explicated to the subject. The idea of representation is perhaps the most important concept evoked in explaining the mind (Edelman, 1999, p. 1). As it was characterized by Luce, “this conception of internal representation of signals is so simple and so intuitively compelling that no one ever really manages to escape from it. No matter how one thinks about psychophysical phenomena, one seems to come back to it” (Luce, 1977). There is nothing comparable in the personality psychology that could constrain the conceptual pandemonium. Perhaps only the concept of traits is to some extent comparable with the concept of internal representation but I am a little bit skeptical about how long it will take to the whole research community to realize that the existence of traits is not so much an empirical phenomena rather an inescapable logical necessity.

**Towards a New Generation of Personality Theories**

Several important changes have taken place in personality psychology during the past few decades. Even skeptics can notice signs indicating that the time of benevolent eclecticism toward the existing “grand theories” (cf. Maddi, 1989) is almost over and that empirically grounded theories are gradually replacing armchair speculations. After decades of disarray during which the number of personality concepts and measurement instruments expanded without any restrictions, the personality psychology seems finally to approach an understanding that a common standard is needed against which different models and taxonomies can be tested. As it was phrased by John and Srivastava (1999): “Many personality researches had hoped that they might devise the structure that would transform the Babel into community speaking common language” (John & Srivastava, 1999, p. 102). However, such a common framework emerged gradually from different approaches with increasing understanding that the Five Factor Model serves as an integrative function providing a standard vocabulary understood, if not shared, by the whole research community. The critical moment was when the lexical tradition finally merged with the questionnaire based tradition. McCrae and Costa demonstrated that their NEO questionnaire converged with adjective based measures of the Big Five personality dimensions and that these five factors could also be recovered from various other personality questionnaires (McCrae & Costa, 1999; John & Srivastava, 1999). The creation of this common standard provided a required constituent that was needed for the construction of non-trivial theories that could replace speculative armchair concepts. Besides this common standard, personality studies have become much more sophisticated during the last few decades. Sizes of samples have increased, composite studies with data from multiple sources (not only self-reports) are more frequently
used, and statistical methods became more sophisticated because of “statistical egalitarianism”; those methods that were available only to a scientific elite only a decade ago are now standard parts of almost every low-priced statistical package.

There are, of course, many requirements that a satisfactory personality theory should meet. However, the most characteristic to the emerging generation of personality theories is that they are principally data-driven, embedded into a rich conceptual system which contains grand hypothesis and allows to make predictions that could connect apparently distant phenomena.

Indeed, “if we are committed to the view that personality is scientifically knowable, then we must insist that answers to the great questions be grounded in empirical data” (McCrae & Costa, 1996, p. 77). The progress in the natural sciences has often depended on the development of a standard and reliable method which allows to observe physical phenomena in well-controlled conditions. For example, Charles Thomson Wilson (1869-1959) proposed a simple method for making the path of electrically charged particles visible by the condensation water vapor. The cloud chamber invented by him gave the first picture of the path of subatomic elementary particles and became an essential tool in the discipline of nuclear physics. Analogously, a well-designed personality questionnaire with known and tested psychometrical properties can become a “cloud chamber” which could make the path of the responding subject visible. On the basis of these characteristic trajectories it would be possible to infer about underlying personality attributes of the responding subject. In this regard, the Revised NEO Personality Inventory (Costa & McCrae, 1992) that has been translated and adapted into more than 30 languages has become the most powerful source of rich, reliable, and interpretable data (Costa & McCrae, 1997). Yet, as everyone knows questionnaires are somewhat fallible sources of information since respondents may try to leave a good impression of themselves instead of accurate self-description or they may lie or answer randomly. However, research has shown that in normal samples there is no evidence that social desirability or other biases could moderate answers to the NEO-PI-R scales (McCrae, 1993).

The next requirement is the existence of a rich conceptual system in which empirically collected data can be meaningfully explicated. As McCrae and Costa wrote: “The Five Factor Model [perhaps the best prototype of the new generation theories] is not the creation of mindless empiricism, but is instead the product of conceptualizations of personality with rich, if often implicit, theoretical and metatheoretical implications” (McCrae & Costa, 1996, p. 77). The Five-Factor Theory, for example, postulates the distinction between basic tendencies (personality traits) and characteristic adaptations. Traits can be described as abstract and lasting dispositions to think, feel, and behave in a certain way. They are general dispositions to be happy, nervous, conventional, or agreeable. In turn, characteristic adaptations are acquired skills, habits, attitudes, and relationships that result from the interaction between individual and environment. The distinction between basic tendencies and characteristic adaptations is not totally new. There are many previous attempts to discriminate between more “temporary-shallow” and “permanent-deep” properties: expressive-stylistic vs. motivational traits (Allport, 1937); temperamental-like vs. belief-like (Pervin, 1994); trait vs. state; surface traits vs. source traits (Cattell & Kline, 1977). The basic tendencies are not directly observable and their existence can be only inferred on the basis of thoughts, feelings, and behaviors.
One of the most radical postulates of the Five Factor Theory boldly states that personality traits are endogenous basic tendencies. “This postulate is based chiefly on results from studies of behavior genetics, which consistently point to a large role played by genetic factors and little or no role for common environmental factors (Riemann, Angleitner, & Strelau, 1997). Future research may well force some modifications of this postulate; culture (McCrae, Yik, Trapnell, Bond, & Paulhus, 1998) or birth order (Sulloway, 1996) may be shown to affect trait levels. But as stated, postulate (…) parsimoniously summarizes most of the what is now known and offers a clear alternative to most older theories of personality, which emphasize the importance of culture and early life experience in forming personality. Today, even clinicians have begun to recognize that the standard environmental theories of personality are inadequate (Bowman, 1997)” (McCrae & Costa, 1999, p. 144). This hypothesis is very radical and is already being disputed. But the value of dogmas like this is that they make even the experts look at the available data in new ways. Another important function is to help to avoid useless work by suggesting what direction of empirical studies one should follow. As it was said by Francis Crick, dogmas “are speculative and so may turn out to be wrong. Nevertheless, they help to organize more positive and explicit hypotheses. If well formulated, they act as guide through a tangled jumble of theories. Without such a guide, any theory seems possible” (Crick, 1990, p. 109). One characteristic feature of dogmas is that they can be formulated in terms of fundamental prohibition. For example, one of the most basic dogmas of physics postulates that “no material particle can travel faster than the speed of light”. Analogously, the central dogma of the molecular biology claims that “once information has passed into protein it cannot get out again”. The central dogma of the Five Factor Theory postulates that there is no “transfer” from culture and life experience to basic personality traits.

(4) Making predictions. A good theory should make nontrivial predictions that cannot be anticipated by lay person intuition or common-sense logic. As it was nicely formulated by David Funder: “Connections between apparently distal phenomena are the most revealing of the deep structure of nature” (Funder, 1991, p. 36). For example, personality measures are systematically related to important life events. In spite of a widespread popular belief that nervousness and emotional stability may be a risk factor to be involved in traffic accidents, systematic analysis of available data has so far failed to find significant relation between neuroticism and accident proneness (Elander, West, & French, 1993). Quite contrary, personality attributes that can be summarized under the title of conscientiousness were shown to predict the likelihood to get involved in traffic accidents (Arthur & Graziano, 1996). Without a general theoretical framework, it is very easy to misclassify concepts that are developed in the response to a more specific intellectual challenge. For example, Duval and Wicklund proposed a concept which stated that an individual can direct attention towards the self or away from the self, but cannot direct to the both at the same time (Duval & Wicklund, 1972). This very influential book motivated a considerable amount of research which, however, soon went far beyond the original theory. Fenigstein, Scheier, and Buss proposed that individuals differ considerably in their ability for and general disposition to self-awareness (Fenigstein, Scheier, & Buss, 1975). In order to measure this general disposition they devised the Self-Consciousness Scale (SCS) which consisted of three factor which were identified and labeled as: Private Self-Consciousness (PrivSC), Public Self-Consciousness (PubSC), and Social Anxiety (SAnx). PrivSC was described as a tendency to reflect on and attend to one's inner thoughts, feelings, and motives. PubSC was characterized as general awareness of
oneself as a social and public object. The third factor, SA\textit{nx}, was supposed to reflect an individual's discomfort in the presence of others. However, the interpretation of the SCS subscales in terms of the Five-Factor Model revealed fundamental discrepancies between the actual pattern of associations and the original interpretation of the SCS subscales. A relatively high negative correlation between the SA\textit{nx} and the Extraversion scales suggested that the SA\textit{nx} subscale was more or less another measure of Extraversion, which obviously was not the initial intention of the test authors (Realo & Allik, 1998). Also, the PubSC had a significant loading on the Neuroticism factor suggesting that its primary content is described by experiencing negative affects such as fear, sadness, embarrassment, anger, guilt, and disgust. In that regard, it is very difficult to maintain the view that PubSC is primarily the general awareness of oneself as a social and public object. The lack of correlation between the PrivSC and measures of intro-extraversion was another unexpected result suggesting that the whole Self-Consciousness Scale needs a reinterpretation. Without the joint administration of the two scales (i.e., the NEO-PI and the SCS) it was difficult to predict that questions like \textit{It takes me time to overcome my shyness in new situations} and \textit{I don’t feel anxious when I speak in front of a group} from Social Anxiety (SA\textit{nx}) subscale are not the best indicators of neuroticism but extraversion. Perhaps the most counterintuitive achievement of the Five Factor Theory was showing how constructs ostensibly different as absorption, intuition, and Murray’s need for change all reflect aspects of the single, broader construct of Openness to Experience (Costa & McCrae, 1995).

\textbf{Nine Basic Facts about Personality}

Any scientific discipline is a mixture of good and bad ideas. Besides relevant results there are loads of data that is not necessarily wrong in itself but nevertheless makes it difficult to find the right theoretical direction. In this uncertain situation it is often easier to suggest what direction one should avoid rather than to point out the right direction. In order to navigate through an unfamiliar territory, it is useful to have a cognitive map which could aid to find a route. One of the best strategies is to try to formulate some general arguments what are known about the nature of the studied system (Crick, 1990, pp. 109-110). In the following sections, I am going to present a list of 9 basic arguments about personality psychology which could serve as a starting point for the next generation of personality theories.

1. The Limited Number of Basic Traits

There is a little doubt that the concept of trait, understood as pervasive tendencies to show consistent patterns of thoughts, feelings, and actions in various situations, is the most important concept ever evoked in explaining the human personality. The number of the basic personality dimensions or traits seems to be limited. There is a considerable redundancy among personality characteristics. Five dimensions are usually enough to describe comprehensively all basic tendencies or personality traits. Costa and McCrae have formulated the following “theorem” of personality measurements: “Almost every personality trait is substantially related to one or more of the five factors, and that remaining traits … form a miscellaneous category rather than covarying to define a sixth or subsequent factor” (Costa & McCrae, 1995, p. 218). These five factors—Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness—appear to be the only fundamental ways in which people can describe themselves or other people. “It is a remarkable fact that
almost every aspect of individual differences in personality is related to one (or sometimes more) of these five factors (…) All additional factors orthogonal to the Big Five are narrow, consisting primarily of small clusters of quasi-synonyms and quasi-antonyms” (Goldberg, 1996, p. 183). This “theorem” is very similar to famous Spearman’s formulation of the “indifference of indicators” (cf. Jensen, 1998): it has proven to be impossible to create different mental tests with high internal reliability (comprising highly homogeneous items) that do not show significant correlations with one another. In other words, there is a “positive manifold” between different mental tests. Although the internal structure of personality is more complex, it is difficult, if not impossible, to create a new personality scale with high reliability that will not be substantially related to one or more of the five factors.

Why five? There is no answer to this question so far. It is, of course, possible to believe that “taken together, these five facets encompass most of the territory in a person’s perception of another” (Fiske, 1995). According to this interpretation, variation in personality traits is a result of evolutionary process by which organisms have adapted to their environment. Another possibility is that differences among personality traits are accidental co-products of human evolution without any adaptive significance (Tooby & Cosmides, 1990). In both cases, however, the neurobiological constituents underlying these personality variations must be discovered.

2. Hierarchy of Traits

Personality traits have hierarchical organization. Gregariousness is a tendency to like having many people around and a need for other people company. This tendency, however, is narrower than the tendency for extraversion which beside gregariousness includes tendencies to be assertive, active, look for excitement, have warm feelings against other people and experience positive emotions. This is how extraversion is defined in the NEO-PI-R (Costa & McCrae, 1992). If we look how extraversion is defined in other theoretical systems the , we can see lists of different constituents. For example, according to Watson and Clark, extraversion can be split into six subcomponents: venturesomeness, affiliation, positive affectivity, energy, ascendance, and ambition (Watson & Clark, 1997). Yet, one may easily show that most of these subcomponents are the same NEO-PI-R facets simply with different labels.. There is no doubt that venturesomeness corresponds to Excitement-Seeking and positive affectivity corresponds to Positive Emotions facet, for instance. However, ambition is clearly omitted from the NEO-PI-R extraversion domain and can be instead conceptualized as a component of Conscientiousness. Despite these discrepancies, central to these two and any other theories of personality is a hierarchy of traits. All traits are organized into a hierarchical system where at the bottom of the system are specific traits and on the top of the system more general factors (Eysenck, 1998).

3. Heritability

Most personality traits that have been studied show moderate or high genetic influence. Plomin and Caspi have concluded that “No personality trait assessed by self-report questionnaire has reliably shown low or no heritability” (Plomin & Caspi, 1999). Numerous family, adoption, and twin studies conducted by many different investigators have demonstrated the substantial heritability of all dimensions. All the Big Five personality traits have yielded heritabilities in the range of 40 to 60% (Loehlin, 1992; Jang, Livesley, & Vernon, 1996; Riemann, Angleitner, & Strelau, 1997). It is interesting that temperament-like traits (Extraversion and Neuroticism) are
not more heritable than more socially based character-type traits (Openness or Agreeableness). Table 1 shows the results of two recent studies in which the heritability of the Big Five personality traits was estimated. People inherit not only very global dispositions but also more specific traits (e.g., openness to ideas, gregariousness). When variance of method is reduced by combining self-reports and observer ratings from two knowledgeable others, the heritability estimates for the five factors may range from .66 to .79 (Riemann et al., 1997).

**Table 1.** Heritability of the Big Five Personality Dimensions According to Two Recent Behavioral Genetic Studies (Jang et al., 1996; Riemann et al., 1997).

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Neuroticism</td>
<td>41%</td>
<td>52%</td>
</tr>
<tr>
<td>Extraversion</td>
<td>53%</td>
<td>56%</td>
</tr>
<tr>
<td>Openness</td>
<td>61%</td>
<td>53%</td>
</tr>
<tr>
<td>Agreeableness</td>
<td>41%</td>
<td>42%</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>44%</td>
<td>53%</td>
</tr>
</tbody>
</table>

4. Lack of Environmental Influence

In opposite to the majority of earlier personality theories, the new generation of personality theories postulates little or no role for common environmental factors (Loehlin & Nichols, 1976; Eysenck, 1990; Riemann et al., 1997). The shared environment (e.g., attending the same school or having the same parent) contributes practically nothing to phenotypic difference between individuals. These observations inclined McCrae and Costa to formulate the “central dogma” of the modern personality theory according to which culture and life experience have no effect on personality. Personality traits are more or less immune to environmental influence (McCrae & Costa, 1996).

There are many speculations about the influence of political system on personality. For example, some authors have expressed beliefs that every member of the former Soviet empire has been damaged by totalitarian environment and that the damage manifests itself in serious distortions of personality development and structure (Gulens, 1995). In this respect it is very instructive to compare people living in the Eastern and Western Germany because until 1989 about 18% of them were residents of the German Democratic Republic. If communist ideology affected the development personality it could be possible to detect differences between “East” and “West German” personality? A recent study by Angleitner and Ostendorf demonstrated very convincingly that the personality structure is quite universal and is unaffected by cultural and political differences (Angleitner & Ostendorf, 2000). Thus, the treatments under socialist condition for about 40 years have left, contrary to expectations, no detectable consequences on the personality.

As was mentioned above, future research may force some modification of the postulate that environment has no influence on personality. Recently, Sulloway proposed an intriguing hypothesis according to which birth order is a proximate cause of sibling differences in personality (Sulloway, 1998). Namely, children in human families must compete for parental resources. Firstborn children, on one hand, whose position is already established, tend to be responsible, competitive, and conventional.
On the other hand, laterborns demonstrate often inclination to rebel and in order to find their niches in the family. They also need to demonstrate higher level of playfulness and cooperation in the competition for their position in the family. Although Sulloway presented many spectacular examples from history, it is not so easy to find supportive evidence from the actual personality measurement. Recent studies show no or only very subtle effects of the birth order on personality (Jefferson, Herbst, & McCrae, 1998). Our own data support this observation. Figure 1 shows data collected from 707 high-school graduates who completed the Estonian version of the NEO-PI-R inventory (Kallasmaa, Allik, Realo, & McCrae, 2000). Besides their gender and age, the respondents indicated whether they were firstborn or laterborn. Even a casual inspection of this figure reveals that differences between firstborns and laterborns are very small. A more rigorous statistical evaluation confirms this preliminary impression: there are no significant differences between firstborns’ and laterborns’ personality.

**Figure 1.** Means of the NEO-PI-R domain scales for firstborns and laterborns. N – Neuroticism, E – Extraversion, O – Openness, A – Agreeableness, C – Conscientiousness. \( N = 707 \).

Thus, personality is relatively immune to the influence of environment, including political and life experience. Of course, the environment and life experience can affect personality but only through their effect on the brain or selection processes at the population level. Also, individuals actively influence their environment by seeking for conditions that suit best for their personality.

5. Universality

By personality structure, psychologists mean a pattern of covariation among the traits that represent the basic dimensions of personality (McCrae & Costa, 1997). For example, the NEO-PI-R assesses 30 specific facets, 6 for each basic factors. The factor structure of these 30 facet scales has been demonstrated to be very stable among different samples, men and women, young people and older adults. For example, in Table 2 a typical factor structure for the Estonian NEO-PI-R scale is
presented. This factor structure was obtained by rotating the original varimax factor matrix towards the American normative structure using Procrustes rotation method (Costa & McCrae, 1992) with an aim to maximize the congruence between these two structures. This structure characterizes the interindividual differences within a given population, Estonian-speaking individuals in this particular case. Although this is a promising sign that the personality structure found for the Estonian sample was highly congruent to the structure based on the American sample, it does not mean that differences among cultures covary with differences in average personality. There are different levels of analysis from which the interindividual is only one of several (McCrae, 2000b).

Table 2. Cronbach Alphas and Factor Loadings for Estonian NEO-PI-R Scales after Procrustes Rotation Targeted to the American Normative Structure.

<table>
<thead>
<tr>
<th>NEO-PI-R scales</th>
<th>Alpha</th>
<th>N</th>
<th>E</th>
<th>O</th>
<th>A</th>
<th>C</th>
<th>Facet congruence</th>
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</thead>
<tbody>
<tr>
<td>Neuroticism (N)</td>
<td>.92</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>N1: Anxiety</td>
<td>.78</td>
<td>83</td>
<td>-05</td>
<td>-01</td>
<td>-03</td>
<td>-04</td>
<td>99</td>
</tr>
<tr>
<td>N2: Angry Hostility</td>
<td>.78</td>
<td>66</td>
<td>11</td>
<td>-13</td>
<td>-46</td>
<td>-15</td>
<td>97</td>
</tr>
<tr>
<td>N3: Depression</td>
<td>.80</td>
<td>81</td>
<td>-17</td>
<td>01</td>
<td>-21</td>
<td></td>
<td>99</td>
</tr>
<tr>
<td>N4: Self-Consciousness</td>
<td>.73</td>
<td>74</td>
<td>-19</td>
<td>-18</td>
<td>07</td>
<td>-16</td>
<td>99</td>
</tr>
<tr>
<td>N5: Impulsiveness</td>
<td>.69</td>
<td>43</td>
<td>22</td>
<td>09</td>
<td>-17</td>
<td>-55</td>
<td>93</td>
</tr>
<tr>
<td>N6: Vulnerability</td>
<td>.82</td>
<td>66</td>
<td>-10</td>
<td>-13</td>
<td>02</td>
<td>-47</td>
<td>99</td>
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<tr>
<td>Extraversion (E)</td>
<td>.93</td>
<td></td>
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<tr>
<td>E1: Warmth</td>
<td>.70</td>
<td>-16</td>
<td>70</td>
<td>26</td>
<td>21</td>
<td>18</td>
<td>97</td>
</tr>
<tr>
<td>E2: Gregariousness</td>
<td>.85</td>
<td>-06</td>
<td>70</td>
<td>16</td>
<td>-18</td>
<td>03</td>
<td>91</td>
</tr>
<tr>
<td>E3: Assertiveness</td>
<td>.83</td>
<td>-18</td>
<td>56</td>
<td>19</td>
<td>-41</td>
<td>34</td>
<td>97</td>
</tr>
<tr>
<td>E4: Activity</td>
<td>.82</td>
<td>-12</td>
<td>65</td>
<td>07</td>
<td>-26</td>
<td>35</td>
<td>96</td>
</tr>
<tr>
<td>E5: Excitement-Seeking</td>
<td>.73</td>
<td>-09</td>
<td>61</td>
<td>34</td>
<td>-31</td>
<td>01</td>
<td>94</td>
</tr>
<tr>
<td>E6: Positive Emotions</td>
<td>.81</td>
<td>-21</td>
<td>74</td>
<td>19</td>
<td>-02</td>
<td>-03</td>
<td>95</td>
</tr>
<tr>
<td>Openness (O)</td>
<td>.92</td>
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<td></td>
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<tr>
<td>O1: Fantasy</td>
<td>.85</td>
<td>26</td>
<td>21</td>
<td>69</td>
<td>-03</td>
<td>-21</td>
<td>97</td>
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<tr>
<td>O2: Aesthetics</td>
<td>.84</td>
<td>10</td>
<td>12</td>
<td>77</td>
<td>15</td>
<td>08</td>
<td>99</td>
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<td>O3: Feelings</td>
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<td>-05</td>
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<td>00</td>
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<td>07</td>
<td>-01</td>
<td>-03</td>
<td>71</td>
<td>97</td>
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<tr>
<td>C2: Order</td>
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<td>00</td>
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<td>-01</td>
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<td>-10</td>
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<td>72</td>
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<tr>
<td>C4: Achievement Striving</td>
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<td>78</td>
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The first large-scale attempt to compare personality structure across languages and cultures were made by the Eysenck Personality Questionnaire which was used in 25 countries. Results of this study demonstrated that the basic structure of personality is transcultural: the same dimensions of personality appear equally strongly all over the world, regardless of language, culture and race (Eysenck, 1997 p. 201). However, until recently no attempts were made to apply intercultural factor analysis on personality structure. In such analysis, each culture is represented by aggregate personality traits characterizing the whole culture. Robert R. McCrae was the first one to explore the possibilities of applying the intercultural analysis on personality structure using the data of the NEO-PI-R from 26 different cultures. His analysis demonstrated that the personality structure determined on the mean values from 26 cultures was virtually identical to the structure that was obtained at the individual level using subjects from North-America, Estonia or any other sample (McCrae, 2000a). Thus, the same five-factor structure describes adequately well both the way how cultures differ in mean levels of personality traits and how individuals differ from one another within a culture.

It seems that the universality of the personality structure extends even beyond that. Borkenau and Ostendorf asked their subjects to complete the same adjective scale (that had been established as markers of the Big Five factors) during the 90 consecutive days. When the factor structure of longitudinal covariations was compared with the factor structure of individual differences, a substantial agreement was found (Borkenau & Ostendorf, 1998). This result indicated that the same factor structure may emerge from different levels of analysis characterizing both intraindividual fluctuations in temperament as well as cultural differences in personality. The same system that describes individual differences across persons is also valid for the description of variability within a person over time: functional units that vary across individuals may also fluctuate within a person, resulting in similar pattern of correlations among the surface variables (Cattell, 1955; Borkenau & Ostendorf, 1998).

The existing data demonstrate that the five-factor structure of personality transcends language, culture, and even levels of analysis. In this sense the five-factor structure is a human universal. It is important to remind readers that the universality of the personality structure does not exclude differences. As we formulated it in our recent article:

“The cross-cultural and cross-language universality of the NEO-PI-R structure does not mean that there are no differences in personality traits between cultures. On the contrary, there are likely to be cultural differences in the mean levels of traits, whose interpretation is complicated by cultural differences in self-presentation styles and standard of judgement; and there are certain to be cultural
differences in the manifestation of personality traits. The best hope of understanding of these differences is through the thoughtful use of instruments like the NEO-PI-R that assess universal personality dimensions and thus provide common metrics on which cultures can be compared” (Kallasmaa et al., 2000, p. 276)

6. Self-Other Agreement (Accuracy)

Most current approaches to personality are based on the assumption that measured personality attributes reflect actual differences in personality (Funder & Colvin, 1997). From this perspective, personality traits are relatively stable and coherent structures residing within a person. This structure is not directly visible, but it can be revealed, more or less accurately, by the individual him/herself or by other knowledgeable people. Empirical research during the past few decades has demonstrated that there is a considerable self-other agreement in the description of the basic personality traits. For example, experts (e.g., clinical psychologists) and lay judges do not differ systematically in their personality descriptions (Fiske, 1949). There is also a good interjudge agreement both between acquaintances and acquaintances and the subjects they judge. Table 3 shows a typical data of self-other agreement based on an Estonian sample of 195 individuals who in addition to themselves were estimated by two acquaintances. As in many other similar studies, the best agreement was reached in the estimation of Extraversion ($r = .71$) and the lowest in the estimation of Agreeableness ($r = .51$).

Table 3. Agreement (Correlation) among Self ($N=195$) and the Average of Two Judges for the Five Personality Domains.

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>E</th>
<th>O</th>
<th>A</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Self</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>N</strong></td>
<td>.58</td>
<td>-.07</td>
<td>.32</td>
<td>-.03</td>
<td>-.30</td>
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<tr>
<td><strong>E</strong></td>
<td>-.14</td>
<td>.71</td>
<td>.03</td>
<td>.06</td>
<td>.09</td>
</tr>
<tr>
<td><strong>O</strong></td>
<td>.24</td>
<td>.23</td>
<td>.65</td>
<td>.03</td>
<td>-.21</td>
</tr>
<tr>
<td><strong>A</strong></td>
<td>-.12</td>
<td>.03</td>
<td>-.02</td>
<td>.51</td>
<td>.12</td>
</tr>
<tr>
<td><strong>C</strong></td>
<td>-.38</td>
<td>.08</td>
<td>-.42</td>
<td>-.05</td>
<td>.64</td>
</tr>
</tbody>
</table>

*Note:* N – Neuroticism; E – Extraversion; O – Openness; A – Agreeableness; C – Conscientiousness.

Two judges that agree with each other on the descriptions of the third person may not be accurate in their descriptions, but two judgements that are different cannot be both accurate either (Funder & Colvin, 1997, p. 639). Summarizing accumulating evidence, Funder and Colvin (1997) concluded that everything that should improve interjudge agreement, in fact, does improve it. For example, common sense tells us that knowing a person for a longer time should improve the accuracy of judgment and indeed, this is so.. Although the duration of acquaintance and an opportunity to see person in various situations tend to improve agreement (Funder & Colvin, 1997), it is possible to make meaningful judgements about stranger’s personality already in a
short 5-minute period of acquaintance (Funder & Colvin, 1988). These and other
evidence provide support to the idea that judges not only agree with each other, but
they agree having a good reason for it.

7. Stability and Continuity

For a considerably long period, psychology was mainly interested in the question
how personality changes in the result of maturation and life experience? A remarkable
series of longitudinal studies has shown that this question is misleading because
personality happens to be very stable. Researchers have now agreed that the basic
structure of personality is relatively stable through the individual’s life—“Once an
extravert, always an extravert” as it was said by Eysenck in 1997 (Eysenck, 1997 p.
201). William James was quite right suggesting that personality is fully developed by
age 30 and will remain stable being set like plaster from this time on (James, 1890).
Across instruments, sexes, age, and test-retest intervals, there is a consistent evidence
of substantial stability of all basic personality traits, with median correlation ranging
from .50 to .80 for intervals as long as 30 years. When these correlations are corrected
for unreliability of measuring instruments, they can be close to .90 or above (Costa &
McCrae, 1988).

The stable personality differences are apparent already at very early years of life.
Behavioral styles at age 3, for instance, can predict self-report of personality traits at
age 18 (Caspi & Roberts, 1999). As it was figuratively phrased by Avshalom Caspi:
“The child is father of the man” (Caspi, 2000). The continuity of personality from
childhood to adulthood does not mean that there are no changes in personality during
the development. On the contrary, there are many substantial changes in personality
and especially in the ways person characteristically expresses his or her basic
tendencies in the response to the changing context. But as in the case of cultural
differences, the best hope to understand these changes is through relatively stable
personality dimensions which could provide common metrics on which changes can
be compared.

8. Intrinsic Path of Development

Although the structure of personality is relatively stable across the life-span, there
is still room for its maturation. When college students are compared with older adults,
it becomes evident that older adults score higher on Agreeableness and
Conscientiousness but lower on Neuroticism, Extraversion, and Openness than
college students. These changes cannot be attributed to cohort differences as similar
trends can be observed in various longitudinal studies. Furthermore, cross-cultural
studies have revealed the same patterns of development in very different cultures,
including several non-Western societies. Comparing younger and older adults from
the USA, Germany, Italy, Portugal, Croatia, and South Korea, McCrae and his
colleagues found that in all these countries older men and women were higher in A
and C and lower in E and O. Only N showed evidence of possible cultural influence:
declines with age were not significant in Italian, Portuguese, and Croatian samples
(McCrae et al., 1999). Figure 2 shows personality changes in the Estonian sample
(N=598). Like in other countries, A and C mean values tended to increase with age
whereas E and O decreased with age. Analogously to the Italian, Portuguese, and
Croatian samples, decline in Neuroticism was relatively modest (Costa et al., 2000).
These data are consistent with hypothesis that there are universal processes of adult
personality development that transcend the cultural and political environment. These processes seem to follow intrinsic paths of maturation.

**Figure 2.** Mean levels of Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness in various Estonian age groups

![Graph showing mean levels of personality traits across different age groups.](image)

**9. Independence from Intelligence**

Many psychologists have believed that pure personality factors have substantial intellectual ability component and that the general ability factor influences some of these genuine personality manifestations. Indeed, intuitively it is logical to expect that open-mindedness and the broadness of interests are related to intelligence. However, empirical studies have typically found only modest correlations between measures of intelligence and personality. On the basis of these observation, it is justified to propose that personality (in the narrow sense) and psychometrically measured intelligence seem to be uncorrelated and essentially independent constructs (Eysenck, 1994; Allik & Realo, 1997).

In Table 4, correlations between the Big Five personality dimensions and psychometrically measured intelligence are shown. The total number of subjects is 2129 and they came from five samples who were applying for the admission to the Faculty of Sciences at the University of Tartu. Both results of correlational and joint factor analysis show that personality dimensions measured by the NEO-PI-R stay clearly apart from psychometrically measured intelligence. The only significant correlation that was reproduced in all five samples was between IQ and Conscientiousness. Contrary to expectations, the correlation was negative. Those individuals who were effective, well-organized, dutiful, willing to work hard to achieve their goals, self-disciplined and deliberate had a tendency to get lower scores on IQ test. As this is a rather counterintuitive result, we currently work on finding some reasonable explanation to this phenomenon.
Table 4. Correlation between Psychometrically Measured Intelligence and the NEO-PI-R Domains for Estonian High-School Graduates Tested in Five Consecutive Years.

<table>
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<td>.04</td>
<td>.06</td>
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<tr>
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<tr>
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<td>.21*</td>
<td>.15*</td>
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<td>-.16*</td>
<td>-.25*</td>
<td>-.19*</td>
<td>-.14*</td>
</tr>
</tbody>
</table>

Subjects: 381 241 569 600 338

Note: N – Neuroticism; E – Extraversion; O – Openness; A – Agreeableness; C – Conscientiousness. Total N=2129.

Conclusions

Recent developments in personality psychology have been rather impressive. As argued above, the emergence of a new generation of personality theories provides an alternative to the classical armchair theories. In this paper, I have tried to draft some basic facts that could point at the direction personality psychology could move, and what is more important, what direction to avoid. Equipped with this general knowledge many questions asked by the classical personality theories are not only pointless but also misleading. How does personality change as a result of life experience? How does totalitarian environment distorts personality development and structure? How does culture shape personality or how does parental behavior influence personality characteristics? All these questions are misleading in the light of knowledge accumulated during last few decades. Existing research evidence on heritability, universality, and longitudinal stability of personality traits suggests a very different set of meaningful questions: How do stable and enduring personality dispositions shape the life course? How do different personality types adapt to different political organizations? Or how do specific personality traits support culture in which people live? Most of the classical personality theories emphasizing the shaping power of environment, cannot account for the fact that personality traits are heritable, relatively stable across the life course and that the small modifications to which they are subjected is determined by the intrinsic path of maturation irrespective of historical period or culture in which they took place. Thus, it is not very productive to ask how does environment shape human personality. Scientifically, at the current stage of knowledge, it is more meaningful to ask how individuals with different dispositions actively search for an environment which corresponds best with these basic tendencies.

All these facts and probably several others seem to be fairly well established and therefore, could serve as useful guiding principles for further explorations, provided that nobody will start to believe too strongly in these principles. The power of these
general principles is help to formulate more specific and explicit theories. They are fundamentally different from overconfidential generalizations that Sigmund Freud and other psychodynamically oriented psychologists made on the basis of tiny clinical observations of highly questionable reliability and validity. These general principles attend two functions simultaneously: they make theories empirically grounded and provide theoretical context in which the studied variables could be explained. They direct the attention of the investigators to important questions and provide a standard against which progress in the field can be measured (McCrae & Costa, 1996, p. 55). Finally, it is worth to remind that “the new generation of personality theorists must come from the rank of personality researchers, those who are willing and able to look up at least occasionally from the midlevel at which they most comfortably function to a higher level that will put their work in a broader perspective” (McCrae & Costa, 1996, pp. 77-78).
References


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