

A Three-Dimensional View of Personality

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How should personality be depicted? Sheldon, Cheng, and Hilpert (this issue) locate personality using levels along a single dimension that ranges from smaller systems such as neurons and brain structures to larger systems within which personality reside such as families and nations. Sheldon and colleagues' dimensional model of personality, along with its associated empirical work makes an important contribution to the field. Using their model as a starting point, we describe how it can be enlarged from one to three dimensions, and how doing so enriches the picture of personality that develops. We first briefly restate Sheldon and colleagues one-dimensional model, then describe second and third dimensions that might be added to it, to arrive at the Systems Framework's "positional" model of personality. We also suggest an alternative to their model of inner psychological functioning. Sheldon, Cheng, and Hilpert's target article provides an important example of how explicitly mapping personality's position and inner workings can guide research. Our comments aim to foster further work like it.

The Positional Model

The First Dimension for Positioning Personality

Sheldon et al.'s hierarchical model of personality, the Multilevel Personality in Context (MPIC) model, arranges personality and its neighboring systems in a time-honored fashion. In the 19th century, Comte's encyclopedic organization of the sciences arranged the then-existing disciplines according to a single, molecular-molar dimension (Bourdeau, 2010; Lévy-Bruhl, 1903). Comte's central idea was that the sciences could be ordered according to the size of the systems they studied, from physics' atoms and molecules, to chemistry's molecules and compounds, to biology's organic chemicals, living cells, and heart and brain, and finally to sociology's groups and societies.

More recently, Engel (1977) carved out a section of this molecular-molar continuum, running just from biology to small groups, and called it the "biopsychosocial" model. Engle argued to his medical colleagues that they needed to consider not only their patients' health status but also the patients' psychological concerns around the illness and the role of patients' fami-

lies and broader society in the course of treatment. The "biopsychosocial" approach provided an opportunity for physicians, psychologists, and other social scientists to work together with a shared vision. This same portion of the molecular-molar continuum also found its way into Henriques's (2003) "tree of knowledge" integration of psychology's levels and expressions and into the Systems Framework, where it is joined by two further dimensions (Mayer, 1995, 2005; Mayer & Korogodsky, 2011). In their work, Sheldon, Cheng, and Hilpert follow Comte, Engel, and others in locating personality along this molecular-molar dimension, and contribute a very clear description of their model along it.

The Second Dimension: Inner-Outer

There is, it turns out, a major problem with using the biopsychosocial continuum by itself. The situations in which personality operate do not lie on the biopsychosocial continuum. As Sheldon et al. remind us, the biopsychosocial continuum is rigorously defined. Specifically, each level contains the elements of the level immediately beneath it. For example, personality comprises neurological processes. Each level, however, also shows emergent properties not evident in the level below. For example, an achieving personality likely produces purposeful striving in a way that is not reducible to neural firing. As Sheldon et al. put it,

The process of higher-order emergence continues up the line, such that . . . cognitive processes emerge as an aggregate of neuronal processes, which can reach back down to organize nervous tissue (i.e., recruiting neurons); and so on up to the very top level, at which cultural patterns emerge over time from the interactions of regionally bound personalities, which can reach back down to organize those interactions (i.e., influence by cultural norms). (Sheldon et al., this issue, p. 2)

Sheldon et al. introduce the example of an unnamed person (we call him Michael) who donates to an unspecified social organization (here, the Audubon Society; Sheldon et al., this issue). In Sheldon et al.'s example, Michael's behavior is explained at several levels. His donation is caused in part by brain-level

evolutionary tendencies toward altruism and neurotransmitters that promote positive moods, by psychological-level influences including his beliefs in the benefits of charitable giving and his tendency to view himself as good, and by his membership in a group that encourages such giving.

There is a key limitation in using only the biopsychosocial continuum to explain Michael's behavior, however. The dimension does not include the influences of external situations. Others have addressed this influence in their work. Mischel and Shoda (1995), for example, envisioned personality as continuously interacting with situations. According to their Cognitive-Affect Personality System (CAPS) model, people draw information from situations encounter and prepare to take action in response. In CAPS terminology, people encode information from situations and generate inner expectancies and beliefs as to how their (outer) behavior might influence future events. Based on their inner feelings and understandings, they create plans for organizing action so as to achieve their desired goals in that situation (Mischel & Shoda, 1995, Table 1, p. 253). The limited point we hope to make regarding CAPS is that situations are important to personality functioning.

Yet situations do not lie along the biopsychosocial continuum. A situation neither emerges from personality nor necessarily contains personality: Situations lie *outside* the brain and outside the person. They cannot fit within the biopsychosocial continuum as it has been generally defined. Returning to the example of Michael and his charitable contribution, we agree with Sheldon et al.'s explanation of his behavior but think this explanation can be expanded. In addition to the causes Sheldon et al. outline, consider this scenario: Suppose Michael was invited on a bird-watching tour conducted by the Audubon Society. The tour concluded with Michael and his companions resting at a lakeside picnic area beside pine trees while listening to bird-songs. Suppose further that the Audubon guide then mentioned the importance of preserving the environment, the Society's efforts to do so, and the ways that people could contribute to the Society. The lakeside setting is not contained within Michael—it is outside of him. And yet the situation plainly influences him. To explain this influence, an inner-outer dimension is required to more fully position personality and its situations because situations are *outside* personality and the person.

The inner-outer dimension in the Systems Framework enables specification of both a setting's and a situation's influence on a person, thus admitting causal influences from outside the person. The setting in our example includes lakes, trees, birds, and tour companions. Figure 1 depicts such settings outside the person (lower right), at an adjacent level of analysis to the brain. Situations lie above settings on a setting-situation-social group continuum. The Systems Frame-

work locates situations one level up from settings because situations are psychological configurations of people, objects, and intentions. In the same way that a personality quality such as altruism emerges from the brain, a situational attribute such as natural beauty emerges from a setting. From there, personality and situations blend upward into social groups such as families and organizations.

The Third Dimension: Time

These biopsychosocial and inner-outer dimensions are two of three dimensions of the Systems Framework. The third dimension within which personality is positioned is time. Sheldon and colleagues suggest in their article that time need not be delineated as a separate dimension, because time is closely associated with levels along the biopsychosocial continuum: Lower level systems operate more quickly and higher level systems operate more slowly.

We believe, however, that time is better regarded as a separate dimension. Consider these exceptions to Sheldon et al.'s argument that lower levels are quick and higher levels slow. First, large systems can change quickly in response to events: Countries subject to surprise attack go to war very quickly, huge airliners take flight in seconds, and elections change political outlooks almost immediately. Second, small systems can take a long time to change from one state to another: A virus can lie dormant for years, radioactive decay occurs over thousands of years, and fossilization can take millions of years. Consequently, it seems better to speak of the personality system as embedded in the molecular-to-molar levels (Dimension 1), as inner psychology versus outer settings and situations (Dimension 2), and as developing over time (Dimension 3) independent of the first two dimensions.

Sheldon et al.'s Inner Model

To this point, we have discussed Sheldon and colleague's positional model of personality. What, however, of their model of the inner person? Sheldon and colleagues apply their levels approach to within personality, arranging the systems into four levels from the lowest (a) Needs and universals, to (b) Traits and dispositions, to (c) Goals and motives, and to the highest level of (d) Self and narratives. Yet the authors are tentative about this arrangement, asking, "Do goals and motives actually 'emerge' from traits, and self and identity emerge from goals and motives, in accordance with the concept of emergence depicted earlier while discussing the Figure 1 causal hierarchy?" (Sheldon et al., this issue, p. 4).

It would be elegant and consistent to extend the use of the levels approach beyond positioning personality

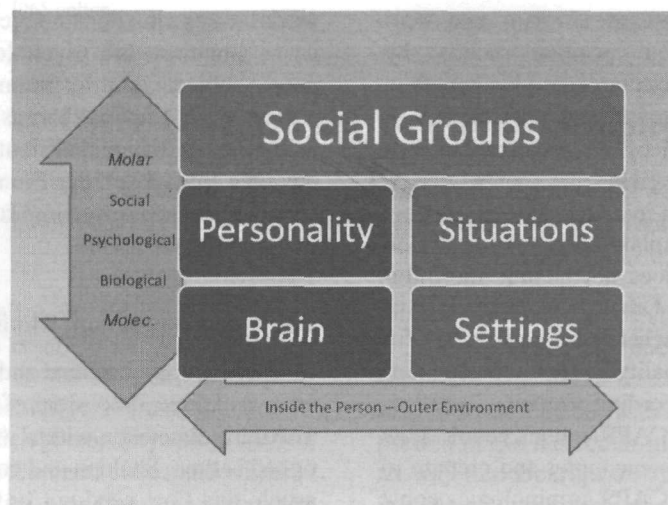


Figure 1. A local view of personality in a three-dimensional context. *Note.* The first dimension, running vertically is that of the molecular-molar continuum. The second dimension (horizontal) is the inner-outer dimension. The third dimension (not shown) is time. Personality emerges from the brain, is located in a given setting, interacts in situations, and is part of larger groups. Personality and its environments progress across time from a person's childhood to maturity. Adapted and modified from "A tale of two visions: Can a new view of personality help integrate psychology?" by J. D. Mayer, 2005, *American Psychologist*, 60, p. 297. Copyright 2005 by the American Psychological Association.

and use it to describe the inside of personality, and yet we share Sheldon and colleagues' reservation that the levels approach may be less than ideal for this purpose.

We believe that discussing personality's inner function requires a different kind of conceptual tool than does positioning the system. Henriques's (2003) provided one insight into why the levels approach might be less applicable to model inner personality than to model personality in relation to levels above and below it. Henriques argued that key discontinuities exist between the levels of the molecular-molar continuum. Discontinuity exists, for example, between explaining things at a neurological level and explaining things at a psychological level. The former calls for the biologically-based language of neurons and myelinated sheaths; the latter calls for the psychological (mental) language of motives, feelings, and cognitions. For Henriques, however, the psychological system has no such obvious discontinuities in it. Systems located within personality (and psychology) interpenetrate one another and can be explained using a shared language.

Elsewhere, one of us has compared possible structural models of inner personality to maps of a specific territory (Mayer, 2005). There are different valid versions of structural models, just as there are different valid maps of a territory (e.g., population-density maps, geophysical maps). Structural models, however, are not all equally valid. To be valid, models must cover personality comprehensively, have clear distinctions among divisions, and be scientifically useful.

One reasonable model to consider divides personality into four broad functional areas called the systems set. These areas are *energy development*, which organizes motives and emotions so as to sustain mental

vigor; *knowledge guidance*, which intelligently learns about and uses information; *action implementation*, which plans outer expressions using preferred social styles and social skills; and *self-management*, which involves awareness and self-control. Generally speaking, such functional distinctions also can be used to organize personality-relevant traits. For example, energy development can be described by the traits of happiness, neuroticism, and the need for achievement motive. Knowledge guidance can be described by the traits of intelligence and self-esteem. These functional divisions seem advantageous relative to a levels approach to inner psychology, because the functional approach dispenses with assumptions of emergence where they may not be useful, and yet serves well to organize traits and other aspects of personality in ways that levels cannot (Mayer, 2005).

Concluding Comments on Sheldon, Cheng, and Hilpert's Conceptual and Empirical Work

Sheldon, Cheng, and Hilpert's work centrally concerns the use of multilevel modeling to test their single-dimensional model. Because we have argued here for the advantages of a three-dimensional approach to depict personality, it may be worth noting that it is possible to model multiple levels across time and situations where time, situations, or some combination of situations-in-time are nested within the person. West, Ryu, Kwok, and Cham (2010) provided a good overview of such models, and Oishi, Choi, Kim-Prieto, Choi, and Diener (2007) provided a second example. Oishi et al. nested positive and negative

