

Strategic Application of Human Development Applying Positive Psychology

The Making of Theory

4.1 A Definition of Theory

Before beginning any discussion on theory, this study must differentiate between the common notion of ‘theory’ and formal definition of theory. In this lesson, the term theory is interpreted as following the formal definition and operationalization of theory. This operationalization of the definition of theory should directly be tied to the necessary components of theory. Generally, academics point to a theory as being made up of four components:

- 1) Definitions of terms or variables
- 2) A domain: where the theory applies
- 3) A set of relationships of variables
- 4) Specific predictions

Theories carefully outline the precise definitions in a specific domain to explain why and how the relationships are logically tied so that the theory gives specific predictions. Therefore, the precision of good theory causes a theory to be very exacting for all the key components of a theory. “A good theory is, by definition, a limited and fairly precise picture.” A theory’s precision and limitations are founded in the definitions of terms, the domain of the theory, the explanation of relationships, and the specific predictions.

Authors usually agree that the goal of ‘good’ theory is a clear explanation of how and why specific relationships lead to specific events. Consequently, these explanations of relationships are critical for ‘good’ theory-building. Other authors’ statements on theory indicate the importance of relationship - building:

Theory is. . . an ordered set of assertions about a generic behavior or structure assumed to hold throughout a significantly broad range of specific instances (Sutherland, 1976).

Researchers can define theory as a statement of relationships between units observed or approximated in the empirical world. *Approximated* units mean constructs, which by their very nature cannot be observed directly. . . . A theory may be viewed as a system of constructs and variables in which the constructs are related to each other by propositions and the variables are related to each other by hypotheses (Bacharach, 1989).

These statements indicate the importance of relationship-building in explaining how and why specific phenomena will occur. Sometimes how and why and specific predictions are condensed into the expression ‘adequate explanation’, which implies that unless an explanation can predict, it is not considered adequate.

A very important aspect of a theory definition is phrased in the common questions that researchers require to exactly specify a theory. Consider this statement: “The primary goal of a theory is to answer the questions of how, when or where and why . . . unlike the goal of description, which is to answer the question of what or who.” Bacharach, 1989.. In short, any definition of theory should answer common questions that researchers face. First, theory defines all variables by answering the common questions of who and what. The domain specifies the conditions where the theory is expected to hold by using the common questions of when and where. The relationship-building stage specifies the reasoning by explaining how and why variables are related. And last, the predictive claims specify the whether “Could a specific event occur?”, “Should a specific event occur?”, and “Would a specific event occur?”

In short, the definition of theory provides guidelines to answer the common questions that occur in natural language. From the pragmatic perspective of operations managers, the predictive claims from theory answer the ***could, should, and would*** questions which are quite critical for managers’ future success. Consequently, the should, could and would questions are very important for theory to be considered useful to managers. In summary, the definition of theory suggested by this study has these four components: definitions, domain, relationships, and predictive claims to answer the natural language questions of who, what, when, where, how, why, should, could and would.

4.2 The Making Of A Theory

In attempting to explain natural phenomena, researchers systematically observe events or conduct experiments on the subject of interest. They then review their findings, looking for any patterns or consistent outcomes that they may have

uncovered. Their final step is to assess their findings in light of prior studies in the field and then propose a comprehensive explanation that links these findings with earlier and current ones. This comprehensive explanation is called a **theory**.

We can consider an example from the history of medicine that illustrates the steps in the **scientific method**. In 1847, Ignaz Semmelweis (1818–1865), a young Austrian medical graduate who had just been appointed an assistant physician in midwifery at a large hospital in Vienna, noticed a puzzling phenomenon. There were two maternity wards in the hospital; patients in the first ward, attended by fully licensed physicians and medical students, had a rate of post-childbirth infection (called “*puerperal fever*” or “*childbed fever*”) three times as high as that of patients in the second ward, who were attended only by nurses and midwives.

Puerperal fever was a common cause of death following childbirth at the time that Semmelweis began his investigation. ***Quantifications, observations, and measurements*** (sometimes called characterizations). Semmelweis began by keeping careful records of deaths from puerperal fever in the two wards under his care. In the 1840s, puerperal fever was commonly attributed to weather conditions, over-crowding in the hospital, or even the position in which the woman lay while giving birth. Semmelweis could find no correlation between climatic conditions or the number of patients in each ward and the number of cases of infection. ***Hypotheses (theoretical or hypothetical explanations of the observations and measurements)***.

Semmelweis tested the hypothesis, then widely taught in medical schools, that the position of the woman in childbirth was the cause of infection. He asked patients in both wards to lie in different positions during delivery. Again, he found no correlation. Then a chance event led to the formulation of a new hypothesis. Semmelweis had a friend named Jacob Kolletschka, a professor of medicine, who died suddenly in March 1847 after performing an autopsy. During the autopsy, the professor had punctured his finger with a scalpel that had been used by one of his students to dissect an infected corpse. The description of the massive infection that killed Kolletschka haunted Semmelweis. In the younger doctor’s own words, It rushed into my mind with irresistible clearness that the disease from which Kolletschka had died was identical with that from which I had seen so many hundreds of lying-in women die.

The [patients] also died from phlebitis, lymphangitis, peritonitis, pleuritis, meningitis and in them also metastases sometime occurred. (Haggard, 2004) Semmelweis knew that the physicians and medical students who attended the

women in the first of his two wards had usually spent the morning performing autopsies in another part of the hospital. Although the doctors washed their hands afterward with ordinary soap and water, Semmelweis suspected that this cleansing was not thorough enough and that the doctors were carrying infected material from the autopsy laboratory on their hands into the first delivery ward. The reason for the lower rate of infection in the second ward was that the nurses and midwives who attended the patients in that ward were not involved with autopsies. Semmelweis then formulated his new hypothesis:

If this theory that the cadaveric material adhering to the hand can produce the same disease as the cadaveric particles adhering to the scalpel be correct, then if the cadaveric material on the hands can be completely destroyed by chemical agencies, and the genitals of the woman in labour or in the lying-in state, be brought into contact with the clean fingers only, and not simultaneously with cadaveric particles, then the disease can be prevented to the extent to which it originated by the presence of cadaveric material on the examining fingers. (Sinclair, 1909) *Predictions based on reasoning, including logical deductions from the hypotheses and theories.*

Next, Semmelweis predicted that the doctors' use of a strong disinfectant to cleanse their hands would lower the rate of infection among women in the first ward. He began with the nineteenth-century equivalent of chlorine bleach: I began about the middle of May, 1847, to employ *chlorina liquida* with which every student was required to wash his hands before making an examination. After a short time a solution of *chlorinated lime* was substituted because it was not so expensive. In the month of May, 1847, the mortality in the first Clinic still amounted to over 12 per cent, with the remaining seven months it was reduced in very remarkable degree. (Sinclair, 1909)

4.3 Science & Theory

In any science, researchers construct a theory in such a way as to lead to **hypotheses**, or predictions based on that theory, that are subject to **verification** and **falsifiability**. That is, it must be stated in such a way that scientific experiments can be designed to test the applicability of the theory to real-world situations. Thus, a genuinely scientific theory must be precise, specific, and at least in some ways quantifiable.

To see the importance of these qualifications, let us suppose a theory that states that all manifestations of personality are a result of the soul's actions. How would we test this theory? First, we would have to define *soul* precisely. Then, we would

have to devise a way to measure the soul and its effect on behavior. These measurements would be difficult at best.

Although attempts were made by a Massachusetts physician named Duncan MacDougall to prove that the human soul has mass and weight (he weighed dying patients lying on a specially constructed bed in his office shortly before and shortly after death), his experiment—reported in the *New York Times* on March 11, 1907—would not have defined the soul to the satisfaction of all scientists, nor would he have proved that the soul affects human behavior even if he had succeeded in showing that it has a measurable weight.

Alternatively, suppose we have a theory that states that a person's response to fear and anger is mediated by the **amygdala** (an almond-shaped region of the brain associated with the emotions of aggression and fear). Here we have a proposition that is quite testable; it can be verified or falsified. This is exactly what Paul Whalen and his colleagues (2001) set out to do. They showed participants photographs of faces expressing either fear or anger. The researchers then employed *functional magnetic resonance imaging* (fMRI), which is a technique that graphically depicts ongoing activity within the brain. In effect, fMRI can show the locations where thought is taking place within the brain while the subject is thinking. Whalen's team found that brain activity is significantly elevated in the amygdala when people viewed faces showing fear and is elevated to a lesser extent when they viewed angry faces.

4.4 Understanding Theory

It is important to understand that the word *theory* is used in formal science in quite a different way from its uses in ordinary speech. People often use *theory* informally to mean a guess or a hunch. In scientific usage, however, a theory is an organized set of principles that explains and makes verifiable predictions about some aspect or segment of reality. Theories are not opposed to facts; rather, facts are the building blocks of theories. The ability to formulate specific and testable theories in personality psychology is vital if this field of study is to be a science in the full sense of the word. Yet personality psychology still lacks a full consensus as to what exactly is being studied. We can agree that the term *personality* describes enduring and reasonably consistent patterns of behavior, **perception**, attitudes, and cognition. But psychologists cannot as yet agree as to how these enduring patterns develop and come to be established in human beings.

As we move from descriptive accounts of personality to specific theories and models, we see progressive divergence among researchers in the field. When a

descriptive account is founded on a theory of origin or structure, it gives way to an array of theoretical models or schools. In this context, *school* refers to a loose grouping of psychologists whose work and interpretation of data reflect a common conceptual foundation or the personal influence of a teacher. Each school attempts to provide a comprehensive and reasonably consistent understanding of patterns of human behavior. Personality psychology, more than any other area within psychology, is now defined and divided by these schools.

Jean-Martin Charcot, Pierre Janet, Sigmund Freud, Alfred Adler, Carl Jung, John Watson, B. F. Skinner, and Carl Rogers all set forth their own schools of personality psychology. As we will see, their models vary widely, and they were all highly individual thinkers. Such people frequently provide the impetus for new advances and ideas. However, no theorist, however gifted or original, should have his or her ideas accepted without testing and experimentation.

The study of and research into human personality must proceed in an open and empirically based fashion in order to reach a point at which psychology will be able to explain and predict human behavior more accurately. A great deal of research is needed before we can even discriminate clearly between the so-called “*normal*” and *the “pathological.”*

As of the early 2000s, there is little agreement about what portion of human personality can be attributed to **genes**, biology, or biochemistry. Indeed, the ancient mind-body problem has not yet been resolved. A significant number of psychologists believe that unconscious processes actively and independently guide all human behavior. While some theorists are firm in the belief that the **unconscious** is merely a by-product of neurological processes, still others believe that personality is derived from supernatural—or at least unobservable and unfalsifiable—entities. The significance of personality psychology as well as the importance of its continued advance and improvement is evident whenever society is threatened by a human predator or a menacing despot. Fearsome people like a serial killer or a tyrannical leader are often analyzed for media consumption by personality experts who freely make predictions of and explanations for the behavior of these sociopaths.

The earliest and best-known example of this type of analysis is the psychiatrist Walter Langer’s (1899–1981) assessment of the mind of Adolf Hitler, undertaken in secrecy in 1943 for the U.S. Office of Strategic Services. Langer’s (1972) study, finally published in the 1970s, was famous for predicting that Hitler would commit

suicide rather than surrender when he was forced to recognize that the war was lost.

As Langer was recruited by a wartime intelligence agency, contemporary personality specialists are called on by law enforcement agencies to develop profiles to aid in the capture of serial murderers and other criminals. An example of psychological profiling that has been used in forensic casebooks is the case of John Duffy, an English serial rapist and killer who terrorized northwest London for four years between 1982 and 1986. A professor of behavioral science at Surrey University was asked in July 1986 to draw up a psychological profile of the offender. When Duffy was arrested shortly afterward, his personality characteristics matched 13 of the 17 points in the professor's profile (Evans, 1996).

4.5 Theory of Researchers

The study of personality has a long history. For example, Plato, Aristotle, Descartes, and Machiavelli, among numerous other philosophers and writers, explored human personality in their works. Many of their books reveal compelling insights into the human psyche. Modern theorists to a large extent echo the theories set forth by these earlier thinkers.

Plato - (427–347 BCE) saw the human soul as the seat of personality. In his well-known dialogue, *The Republic* (c. 390 BCE), he said that the soul consists of three basic forces guiding human behavior: reason, emotion, and appetite. Reason is given the highest value whereas emotion and especially appetite are regarded as the “lower passions.” Plato believed the most powerful of these forces is reason, which keeps the more primitive forces of appetite and emotion at bay.

Aristotle - (384–322 BCE), one of Plato's students and the teacher of Alexander the Great, referred to the seat of personality as the **psyche**. His description of the psyche suggests that he was the first biological psychologist. Aristotle proposed that the psyche is the product of biological processes. He also saw the psyche as including a set of faculties that he placed in a hierarchy of importance. The first faculty that Aristotle distinguished is the nutritive—the human organism's basic drives to meet its bodily needs. This faculty can be found in plants as well as in animals and people. The next and higher faculty is the perceptual, which Aristotle defined as the aspect of mind that interprets sensory data. Animals as well as people have a perceptual faculty. The last and highest faculty is the intellectual, which Aristotle saw as unique to human beings.

Descartes - René Descartes (1596–1650), a French philosopher, viewed human personality as the product of the interaction of divine and primal forces. He saw the essential force behind human personality as the immortal soul—pure, perfect, and intangible. Descartes set out to explain how this spiritual entity interacted with the physical body. His observation of an anatomical dissection led him to think he had resolved this mind-body problem. He noticed a small body in the apparent center of the brain known as the **pineal gland** or **pineal body**, so named by the Greco-Roman physician Claudius Galen (c. 130–c. 200 CE) because its **shape** reminded him of a **pine cone**.

Descartes (1649) came to the conclusion that that this cone-shaped endocrine gland must be the point of contact between the soul and the body. Cartesian dualism, which is the philosophical position that two substances—matter and spirit, or brain and mind—exist independently of each other although they interact—became the most common view in the Christian West after the seventeenth century because it “explained” the existence of human free will and consciousness in an otherwise mechanistic universe. Indeed, before the advent of the computer, it seemed impossible to allow for consciousness without appealing to nonphysical concepts. Cartesian dualism is still the dominant view on the mind-body issue among the general public, although it is not held by cognitive psychologists or neurologists.

Machiavelli - In contrast to Descartes, Niccolò Machiavelli (1469–1527), a Florentine diplomat and political thinker, believed that personality is best understood in a social context. According to Machiavelli’s worldview, people are essentially selfish, greedy, ungrateful, and vengeful. Furthermore, he saw two primary forces as defining human character.

- The first one is an almost untranslatable Italian term—*virtù*—which is best described as a combination of assertiveness, fearlessness, and self-confidence.
- Machiavelli called the second force *fortuna*, which is the Latin word for luck. A person could become a powerful leader with the help of a good dose of virtù and fortuna. Machiavelli (1546/1935) warned that leaders who act out of kindness and a belief in the essential goodness of humanity will always fail.

This belief is sometimes expressed by contemporary people as “nice guys finish last.” Almost every major philosopher from ancient Greece and Rome through the Enlightenment proposed some form of personality theory, and many of their ideas served as the groundwork of theories set forth by modern psychologists. This text

will concentrate on the theories that arose after the development of psychology as a distinct discipline. Because psychology is one of the social sciences, its practitioners seek not only to construct theories of personality or human behavior but also to find ways to test and validate them. As we will see, most of the more recent theorists in personality psychology claim to have discovered empirically verified principles as opposed to untested philosophical conjectures. Some have succeeded; some have not. The authors of this text, however, have little doubt that theories of personality should be held to the same standards used to judge theories in any other science.