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Constructivism: A Conceptual Framework for Social Work Treatment

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Constructivism as a conceptual framework for social work practice is relatively new. While various practice perspectives and treatment approaches in social work have historically reflected constructivist concepts and principles, only relatively recently have these been recognized as such. Constructivist ideas, however, have a long history in human thought, having found expression in such diverse fields as art, mathematics, literary criticism, philosophy, the social and behavioral sciences, and related helping professions. Any exhaustive examination of constructivism for its relevance to human behavior alone would lead to the complex deliberations of philosophers on metaphysics, epistemology, and ontology, as well as to the studies of psychologists on the nature of perception, cognition, and learning, and more recently, an exploration of the burgeoning field of neuroscience would need to be included. While an investigation on this scale is obviously beyond the scope of this chapter, aspects of these fields of inquiry will be visited in formulating a constructivist conceptual framework for social work practice.

In classifying the various theory development approaches taken by social work, Turner (2011) identified a variety of new theoretical approaches that represent innovative ways of conceptualizing social work treatment. Constructivism, as will be shown in this chapter, is indeed a relatively new system of thought for social work that has remained on the "fringes" of the profession (McWilliams, 2015, p. 1) and is specifically identified here as a philosophical-behavioral-methodological thought system. Philosophically, constructivism is concerned with the nature of reality and being (metaphysics and ontology) and the nature and acquisition

of human knowledge (epistemology). According to Baerveldt (2013),

constructivism maintains that cognition is fundamentally adaptive and that knowledge needs to be "viable" rather than "true." Constructivists emphasize that knowledge emerges when cognitive agents actively try to make sense of their experience by constructing ideas, concepts, or schemas that organizes this experience in a coherent way. (p. 157)

The behavioral aspect pertains to certain understandings of human perception and cognition, personal and interpersonal dynamics, and the nature and execution of change. From the philosophical and behavioral components, methodological implications emerge for social work practice. It will also be shown that constructivism as a postmodern relativist theory can be deployed as a meta-theory for attaining a deeper understanding of the nature of modern or realist theories.

It should be clarified at the outset that constructivism is not a practice theory but a conceptual framework that can inform given practice theories, in the sense that ecological-systems theory informs the Life Model of practice, as one example. While general practice guidelines can be inferred from constructivist concepts and principles, some of which will be identified later in this chapter, specific and detailed practice guidelines reflecting constructivism as a conceptual framework can be found in a number of practice theories (e.g., narrative and solution-focused theories) described elsewhere in this volume.

Historical Foundations

Historical Context

One can trace the ideas of constructivism as early as Kant (1781), Piaget (1929), Kelly (1955), Maturana (1975), Watzlawick (1976), and Von Glasersfeld (1984). The intent to infuse these ideas into the helping professions, including social work, has continued to this day, with more recent theorizing by Baerveldt (2013), Carpenter (1996), Lindquist (2013), Mahoney (1991), McWilliams (2015), and Strong (2014). Constructivism as a thought system is best understood when placed in a context of major historical ideas about reality (ontology) and how

human knowledge develops (epistemology). Three historical periods can be identified in the evolution of major human belief systems—pre-modern, modern, and post-modern—each characterized by certain approaches to understanding ourselves as humans, the world, and indeed the universe. These understandings become reflected in the nature of the theories that we devise for helping people with psychosocial problems. Following is an overview of human belief systems based on Sexton (1997), adapted from Mahoney (1991).

During the pre-modern period (the sixth century BC through the Middle Ages), idealism, religion, and faith mixed with rationalism were the primary mechanisms people employed for understanding the major questions raised about human life. During the modern era (from the Renaissance to the end of the 19th century), the predominant approaches for understanding the world were empiricism (sense experience is the only true source of knowledge), logical positivism (observation is the prime means of accessing truth), and scientific methodology (a highly rational approach to objective truths, primarily through testing hypotheses of deductive theories).

Whereas the pre-modern and modern periods stressed the discovery of objective knowledge and fixed truths, the postmodern constructivist era stresses the creation of knowledge and relativity of truth. The proposition that knowledge is constructed, not discovered, is a major contribution of constructivism to social work practice theory, the implications of which will be discussed in a subsequent section of this chapter.

During this postmodern/constructivist era (the current era), there has been less emphasis on the validity of knowledge (characteristic of an emphasis in scientific research in the modern era), but rather an emphasis on the viability of knowledge and increasing concern with how we know what we think we know (Sexton, 1997, pp. 4–6).

Early Beginnings of Constructivism

While constructivism has gained visibility in the social and behavioral sciences only recently in historical terms, the deepest roots of constructivism as a general theory are in the soil of

antiquity (i.e., the pre-modern era). The Greek Sophist Protagoras of Abdera (c. 490–c. 420 BC) maintained that "humans are the measure of all things—of things that are, that they are, of things that are not, that they are not": For Protagoras there was no "objective" world and no perception any truer than another, although some were more useful and should be followed (Ide, 1995, p. 752). Emanuel Kant (1724–1804), in his *Critique of Pure Reason* (1781/1938), argued that the human mind has an inherent structure that it imposes on both thought and experience and that *a priori* knowledge (knowledge independent of, or prior to, experience) is possible and in fact occurs. Kant maintained that the mind is not a passive slate upon which experience is written but a result of the proactive molding of experience. The Kantian epistemological tradition concerning the nature and acquisition of knowledge, frequently cited as a major foundation block of constructivism, maintained that human knowledge is ultimately a function of the interaction of the world of experience (empirical) and the basic nature (*a priori* state) of the human mind.

Another major constructivist, Hans Vaihinger (1852–1933) emphasized the importance of cognitive processes in determining behavior. Vaihinger formulated the philosophy of "as if," which postulates that we hold concepts and beliefs as if they were true because of their utility (Mahoney, 1991, pp. 97–99). Vaihinger's "as if" concept is related, though not identical, to the postmodern-constructivist concept of "viability": an idea or action is viable if it works relative to a stated purpose, and it need not represent some assumed fixed quality or truth, as a state of validity is presumed to establish.

The epistemological position of philosophers such as Protagoras and Kant is in direct opposition to that of the Lockean empiricists. John Locke (1632–1704) maintained that knowledge is imparted to the human mind from an external objective world by way of the senses and that, contrary to what Kant had maintained, *a priori* knowledge is not possible (Wolterstorff, 1995, pp. 437–440).

More Recent Contributions

In more recent times, the developmental psychologist Jean Piaget (1886–1980), from his studies in child development, formulated a theory of developmental epistemology. Piaget concluded that the newborn comes equipped with mental regulatory mechanisms (evolutionary in origin), which, in interaction with the child's environment, result in the development of intelligence (1929, 1950, 1970). The cognitive psychologist George Kelly has contributed significantly to constructivism with his theory of personal constructs, which he predicates are the means by which an individual construes, perceives, interprets, understands, predicts, and controls his or her world (Kelly, 1955). For Kelly, mental constructs are imposed on the world, not imposed by the world on the mind. Another psychologist, Paul Watzlawick (1976, 1984, 1990), must also be cited as a major contributor to modern constructivist theory, especially to constructivist epistemology, in his examination of our assumed "realness" of an "objective" world and of the possibility of constructing more desirable individual "worlds." Two other theoreticians, Ernst von Glasersfeld (1984) and Heinz von Foerster (1984), must be credited for significant contributions to constructivism. Each has accomplished important formulations of the aspect of constructivist epistemology that is concerned with the nature of reality as observer-dependent.

Two Chilean neurobiologists, Humberto Maturana and Francisco Varela, have exerted perhaps the most basic influence on present-day constructivist thought in the biological and behavioral sciences, and this influence has most recently found its way into the behavioral helping professions. From their experimentation with animals have come some rather astounding conclusions about the basic organization of living systems and the nature of the influence of perception on behavior (Maturana, 1980; Maturana & Varela, 1987). According to Maturana and Varela, living systems are "autopoietic" or self-organizing. The behaviors of organisms are not directly influenced by their mediums (environments) but are determined by their structure—that is, their neurophysiological makeup (Maturana & Varela, 1987, pp. 95–97). The neurobiological contributions of Maturana and Varela to constructivist theory are seen to hold important implications for social work practice theory and will be drawn on throughout

the formulation here of a constructivist framework for social work practice. It is important to recognize that "despite their steadily growing influence, constructivist psychologies have not evolved into a single, coherent, theoretically consistent orientation. Given numerous theoretical differences, there is not even agreement among constructivist psychologists that arriving at a singularly recognizable orientation is desirable" (Raskin, 2002, p. 1). Therefore, a variety of evidence and ideas will be presented throughout this chapter that represent various contributions to constructivism.

Path into Social Work

Constructivism has been making its way quietly along the path into social work theory for some time, but only recently has it been recognized as such. All theoretical frameworks that stress the importance of the individual's internal processes, especially perception and cognition, for understanding human behavior have kinship with constructivism. Some of these will be discussed in a later section of this chapter comparing constructivism with other theories that actually have constructivist elements that have traditionally gone unrecognized.

Examples of contributions to the application of constructivism to social work are Butt and Parton (2005), Cooper (2001), Fisher (1991), Granvold (2001), Laird (1993), Longhofer and Floersch (2012), and Strong (2014). Other specific case applications are in Dean and Fenby (1989), Hartman (1991), Dean and Fleck-Henderson (1992), Greene and Lee (2002), and Tijerina (2009).

Variants of Constructivism

While the general theory of constructivism is clearly rooted in philosophical relativism, two major varieties of the theory can be identified. Longhofer and Floersch (2012), Mahoney (1991), and Raskin (2002), make a clear distinction between the two:

Radical constructivism is on the idealist end of the spectrum and has been differentially endorsed and expressed by Heinz von Foerster, Ernst von Glaserfeld, Humberto Maturana, Francisco Varela, and Paul Watzlawick. This perspective is most elegantly expressed in theory and research on the concept of autopoiesis (self-organizing systems). In its most extreme expressions, radical constructivism comes close to the classical position of ontological idealism, arguing that there is no (even hypothetical) reality beyond our personal experience. Essentially, reality or our perception of ourselves cannot be independent from social constructions of it, according to radical constructivism. The self can be seen as a mere concept resulting from human interaction (Longhofer & Floersch, 2012).

Critical constructivists, on the other hand, do not deny the existence and influence of an unknowable but inescapable real world. They are, instead, critical or hypothetical realists, admitting that the universe is populated with entities we call "objects" but denying that we can ever "directly" know them. Representatives of modern critical constructivism include Guidance, Hayek, Kelly, Mahoney, Piaget, and Weimer. For critical constructivists, the individual is not a self-sufficient, sole producer of his or her own experience. Rather, the individual is conceived as a "co-creator" or "co-constructor" of personal realities, with the prefix co emphasizing an interactive interdependence with their social and physical environments. (Mahoney, 1991, p. 111)

The radical variety of constructivism is so termed because of its assumptions about the nature of reality. It questions certain basic beliefs whose validity most people take for granted. For example, it questions our "common sense" notion that reality is obviously what all competent observers know is "real" or "true" about the world in which we live. It maintains that, instead of there being only one reality, as might seem to be the case, there are as many "realities" as there are perceivers of reality (Goodman, 1972, pp. 31–32; Watzlawick, 1990, pp. 131–151). Common sense would have us believe with Gertrude Stein, for instance, that "a rose is a rose is a rose" because all competent observers agree that a certain kind of flower is a rose and not an elephant. Radical constructivists (Baerveldt, 2013; Raskin, 2002) would maintain, however, that greater accuracy is achieved by saying there are as many "rose realities" as there are individuals who experience the things we call roses. Each individual will experience "la rose" in some different way and derive a somewhat different meaning from the experience than all other individuals, but each will still call it a rose. By the same token, a

therapist in her office with a mother, father, and three children is not in the presence of a family but as many families as there are family observers (the family members plus the therapist). For the radical constructivist, the roses and families that we ordinarily refer to are products of our nervous system. Radical constructivism moves sharply away from the Newtonian-Cartesian certainty of a single reality and a knowable objective world.

In contrast to radical constructivism, critical constructivism, which is frequently referred to in the literature as "social constructivism," does not deny the existence of an objective external world to which we all react. It does maintain, however, that we cannot "know" this world directly, but only indirectly through the filtering mechanisms of perception, cognition, affect, belief systems, and language. Despite disagreements about particulars, the different constructivist approaches nevertheless all challenge mental health professionals "to refocus their attentions on the critical importance of the human meaning making process" (Raskin, 2002, p. 18).

Presuppositions of Constructivism

Philosophical Relativism

The philosophical component of constructivism reflects the basic conceptions of a school of thought in Western philosophy known as *epistemological relativism*. This position expresses the idea that our frameworks of thinking, ways of seeing things, values, and interests are all affected by our life experiences and sociocultural situations and therefore can influence and make a difference in how we see or approach situations (Lawson, 2003). The relativist position denies certainties, absolutes, and permanence. Although writing a few decades ago, the philosopher Nelson Goodman (1972), a proponent of philosophical relativism, highlights this position well; this justifies its inclusion when discussing this topic here.

There are very many different equally true descriptions of the world and their truth is the only standard of their faithfulness. And when we say of them that they all involve conventionalizations, we are saying that no one of these different descriptions

is exclusively true, since the others are also true. None of them tells us the way the world is but each of them tells us a way the world is (Goodman, 1972, pp. 30–31)

In opposition to the position of relativism is that of *philosophical realism*, which maintains essentially opposite notions about the "realness" and "objective" existence of the world:

Reality is a singular, stable order of events and objects external to and independent of mind and mental processes . . . the senses and other technical methods of observation are said to reveal, albeit imperfectly, regularities and principles of reality. (Mahoney, 1991, p. 36)

While realists hold the position that an ontologically existing world is not observer-dependent for its reality, relativists contend that such a world, while seeming to exist, is actually observer-dependent relative to the nature of the perceptual and cognitive apparatus of human beings, which reveals, not a world, but, as Goodman says, versions of a world (Goodman, 1984, pp. 29–34). It is the relativist position that is the philosophical bedrock of constructivism.

Constructivist Epistemology

An age-old problem for philosophers pertains to what is knowable by humans and the means by which knowledge is acquired. In constructivist epistemology, knowledge is not composed of impressions of an objective world or "reality" existing independently of knowers, but instead is the creation of individual knowers, resulting in as many "worlds" or "realities" as there are world/reality observers. If this is so, how, then, do individuals seem to experience a common, objective world? Constructivists maintain that what we refer to as common human experiences are based on a consensual world of language, thought, and experience. Boiled down to its essence, *reality* is *what we agree on*. The "we" can refer to a unit as small as a dyad or as large as a society. For example, during the pre-modern era of history, a common understanding was that the earth was flat and the sun circled around it. That was our "reality," upon which our beliefs and actions were based. World explorers carefully plotted their routes across the seas so as not to sail off the edge of the earth. We thought

(agreed) this was the "truth" of earth geography. At this present point in history, however, based on the scientific knowledge of geographers and astronomers, we say this understanding was not true. The earth is spherical, and orbits the sun; "we" (most people) now believe this to be true. However, to further illustrate the constructivist concept that truth is agreement, there are a few individuals who still believe what most people of the pre-modern era believed about the shape of the earth and the danger of going over the "edge:" This small number of individuals constitutes another "we," and they tell each other that "we believe the earth is flat": this is their "truth" and their "reality." (Interested readers can check "flat earth beliefs" on the Internet.)

A practice-related example of the constructivist conception of "true" and "real" is provided by Cottone (2007):

What becomes real, for instance, about drugs to teenagers in a drug culture may be quite different than what is "real" to a parental system linked to a drug prohibitionist culture: therefore, whether drugs can be labeled as "good" or "bad" is defined in the communities of understanding within which a teenager or a parent is imbedded. And of course, a counselor, being imbedded in the sociolegal system, is limited when defining acceptable behavior related to use of illegal substances. So, in effect, social constructivism appears to form a triangle with objectivism and subjectivism, in a position outside the objectivism-subjectivism continuum and representing a different view about how things are known to be "true," i.e., truth derives from consensualizing [agreement]. (Cottone, 2007, Social Constructivism Movement section, para. 4)

To appreciate the constructivist view of the nature of human knowledge and its acquisition requires a willingness to set aside some very basic prevalent beliefs about the phenomenon we have called "knowledge." As McWilliams (2015, p. 7) observes, "The constructivist perspective suggests that we invent or develop knowledge, as interpretations of experience, and that such understanding emerges in historical contexts and depends on human activity." Constructivism encourages the social worker, therefore, to regard knowledge as progressive and modifiable rather than static. This implies that the knowledge or understanding that people, including social workers, have is limited by the experiences that they have encountered. Knowledge based on this experience would develop due to a constantly changing external world and can be seen as ever evolving. It requires suspending notions of certainty, realness, objectivity, and externality, and the belief that these are indeed the anchors of human experience:

the phenomenon of knowing cannot be taken as though there were "facts" or objects out there that we grasp and store in our head. The experience of anything out there is validated in a special way by the human structure, which makes possible "the thing" that arises in the description . . . every act of knowing brings forth a world. (Maturana & Varela, 1987, pp. 25–26)

The major contributions to epistemological theory have traditionally come from philosophy and psychology. Constructivist epistemology, however, has acquired foundational contributions from the experimental work and theoretical formulations of these two biologists, Maturana and Varela. Much of what they have contributed runs counter to traditional realist views. The following, pertaining to the nature of the functional relationship between the brain and the environment, is an example:

The nervous system does not "pick up information" from the environment, as we often hear. On the contrary, it brings forth a world by specifying what patterns of the environment are perturbations (stimuli) and what changes trigger them in the organism. The popular metaphor of calling the brain an "information-processing device" is not only ambiguous but also patently wrong. (Maturana & Varela, 1987, p. 169)

The central importance of constructivist epistemology for practice is that people behave and lead their lives based on what they believe to be true and real, and this is where the practitioner must initially "meet" his or her clients if effective help is to be given. Appreciating that knowledge is ambiguous assists social workers with encounters situated in cultural and personal differences, in that a social worker would recognize that a client's knowledge is equally affected by the specific cultural influences and experiences they have encountered. A case example is provided in a subsequent section of this chapter.

Conceptual Framework

Structure Determinism

The conceptual framework for constructivism as formulated here draws primarily on the neurobiological conceptions of Maturana, Varela, and associates. In gathering evidence in support of their concept of organisms as closed systems, they conducted several biological experiments. One of these, cited by Bell (1985), is representative of the nature and general outcome of the experiments:

[Maturana] demonstrated that no correlation could be established between colors (as defined by spectral energies and the relations of activity of retinal ganglion cells of either pigeons or human beings) (Maturana, Uribe, & Frenk, 1968). Instead, he found that the nervous system demonstrated its own internal correlations: the relations of activity of retinal ganglion cells correlated with color-naming behavior of the organism (but did not correlate with the actual colors as defined by spectral energies). The implication of this finding is that the nervous system functions as a closed, internally consistent system and does not contain representations or coded transforms of the environment. (p. 6)

Efran, Lukens, and Lukens (1990) elaborate on this radically different conception of the relationship between the neurophysiological makeup of the individual and the environment:

People are brought up to believe they perceive the outside world. The visual system, for example, appears to provide direct and immediate access to our surroundings. The eyes are said to be our windows of the world. However, although the eyelids open, the neurons of the retina do not. Energy waves bump up against the retinal surface . . . but outside light cannot get in. . . . Obviously, experiences we attribute to light—as well as all our other experiences—are created entirely within our own system. . . . This is evident in dreams, in response to sharp blows (when we "see" stars), when neurons are directly touched with electrical probes, and when chemical substances are ingested. At a fireworks display, there may be a lot going on outside, but nevertheless the sparkling colors we see are internal creations. That we are fooled into believing that we "see" the world outside dramatizes how well coupled we are with our environment. (pp. 67–68)

Based on this conception, what one actually "sees" in a visual experience is not an "outside" world but the nervous system itself, a counterintuitive conception indeed.

An important consequence of the structure-determined state of organisms is immunity to the reception of "information": contrary to prevalent views in communications and systems theories, Maturana and Varela hold that structure determined systems are informationally closed. What Maturana and Varela call "instructive interaction," which is the direct influence of one person on another, is held to be impossible. Mahoney (1991) explains:

The ongoing structural changes (and exchanges) that living systems undergo are the result of "perturbations": which can arise from interactions with their medium (environment) or, recursively, with themselves. These perturbations "trigger" structural changes in the organism but do not automatically convey information about the nature or properties of the perturbing entity. They are not, in other words, "instructive" in the traditional sense of that term. Perturbations do not "cause" changes in the organism by putting something into it (like "information"), they simply trigger changes of state that arc structure-determined by the organism. From this perspective, "information" is not something transferred or processed. Instead, "information" is literally, translated from its Latin origin: *in formare,* "that which is formed from within." (p. 392)

Another important aspect of structure determinism pertains, again, to neurobiological considerations and distinguishes *feedback* (information processing) from the constructivist concept of *feed-forward* (information creating). Mahoney (1991) provides an example of feed-forward:

On the assumption that visual experience is highly correlated with neurochemical activity in the visual cortex, only about 20% of that activity can be attributed to impulses from the retina . . . impulses from the retina can influence—but do not specify—activity in the visual cortex. On the average, as much as 80% of what we "see" may be a tacit construction "fed forward" from the superior colliculus, the hypothalamus, the reticular formation, and the visual cortex itself. (p. 101)

In other words, the elements that finally result in a visual experience point to an "inside-in" process (feed-forward) rather than an "outside-in" process as in feedback. Structure determinism, and autopoiesis, to be discussed in the following

section, form the cornerstones of constructivist theory as formulated by Maturana and Varela.

Autopoiesis

Because they are structure-determined and organizationally closed, living systems are said to be *autopoietic* or self-organizing entities. Autopoietic entities are autonomous in the sense that they survive, prosper, or perish under the "self-law" of their own makeup (Mahoney, 1991, p. 393). In contrast to a state of autopoiesis is that of *allopoiesis*, which is the essential principle of systems theory. A number of parts interrelate among themselves to produce a specified outcome. An example is an automobile. It is composed of a number of interrelated parts that work in unison to propel it down the road, but it has no capacity to produce and maintain itself as an autopoietic system does:

Autopoietic entities, because of the way they are structurally organized, are engaged in the process of producing more of themselves. This process is manifest at every level of organization, from the cell to the colony. Cells grow and split, forming additional like-structured cells. Parents have offspring, perpetuating the family line. . . . Living, from the ingestion of food to the excretion of waste, consists of cycles of self-production. For a living system there is a unity between product and process: in other words, the major line of work for a living system is creating more of itself. (Efran et al., 1990, p. 47)

Structural Coupling

It is the constructivist principle of *structural coupling* that explains how autopoietic individuals interact with entities other than themselves and their own nervous systems. The principle of structural coupling also allows constructivist theory to avoid the epistemological pitfall of solipsism or a state of complete self-reference. Structural coupling corresponds roughly to the more traditional concept of "interpersonal interaction" that takes place in a "relationship" between individuals but with the important difference that the interaction is seen to be between closed, not open systems:

. . . Maturana and Varela assert that the interactions of living systems with their medium [environment] are "structure determined"; meaning that changes

in either are "triggered" (as contrasted with "produced") by their interaction. Thus, learning does not consist of being "instructed" by external agents or environments. Maturana and Varela have also asserted that learning cannot consist of the "pickup" of pre-packaged information from outside the living system, nor can it be understood as the acquisition of internalized "representations" of its medium. The changes exhibited by an organism in the course of its "structural coupling" with its medium reflect the organization and structure of the organism. They do not offer information about the medium itself. (Mahoney, 1991, p. 391)

Episodes of interactions between individuals and their environments are instigated through mutual "perturbations" or triggering stimuli. These perturbations form the basis for changes in each (person and environment) but do not determine the changes, which are instead brought about by the nature of their respective structures. One person does not "cause" another person to do anything; this would be instructive interaction, or direct influence, which, according to Maturana and Varela, is not possible because of the closed nature of each person as a system.

Based on its epistemology, which blurs subject–object distinctions and questions notions of objectivity and reality, constructivism shift us to a "many worlds" frame of reference and away from normative views of truth and falsehood, right and wrong, functional and dysfunctional. Significant practice implications arise from the "many worlds" constructivist way of thinking about human behavior and experience.

Implications for Assessment, Diagnosis, and Treatment

Implications for Assessment

The case assessment process involves the knottiest of all problems in understanding human behavior—that of causality. Positivist causal explanations have assumed that a great deal of both individual and aggregate behavior is the direct result of identifiable "external" influences. Constructivist causal assumptions, however, are based on a view of the nature of the human nervous system and its relationship to the environment. This view maintains

that the nervous system can only be perturbed or "bumped up against" but not "entered" by external stimuli, indicating a closed system. What, then, are some constructivist implications for assessment if the individual is viewed as a structure-determined closed system?

In constructivist theory, the individual is the only unit of attention seen to have ontological existence. Aggregate units such as family, group, and community are reifications existing only in language and thought and are devoid of ontological existence. While the term "system" is used in constructivist-based practice theories, it is only a convenient term referring to two or more individuals in relation to each other or to an individual made up of various bio-psychological components. The constructivist practitioner may think in terms of working with systems but keeps in mind that there are as many "systems" involved in a case as there are system observers (i.e., clients and others). A major implication of this for assessment is that the practitioner must bring to each client case a "many worlds" mindset, and from within this mindset must dedicate himself or herself to learning as much as possible about each individual client's ongoing views, understandings, and intentions toward self and others concerning problems being discussed. It is the client's sensing that the practitioner's main concern is to learn about him or her as a unique individual that conveys to the client a sense of high respect from the practitioner. This sense of being valued and respected helps free the client to develop alternative views or "stories" of problems and to reconstrue or reframe his or her problematic life situation. In this sense, constructivist theory supports the time-honored assessment principle in social work of starting (and staying) where the client is.

On the clinical level, essentially what is assessed in a constructivist-based approach is the client's frame of reference (constructions) pertaining to the problems being discussed, and the nature of reciprocal perturbations between the client and relevant aspects of his or her medium (environment). This is a process representing close collaboration between practitioner and client in which the client is made to feel that it is the practitioner who is learning and the client who is teaching.

According to Strong (2014), the reflexivity of these negotiations must be clear to clinicians so that the active role of the client is fully understood and respected. The implications for social work practitioners is that they cannot influence events or decisions made within therapy from an objective stance, but rather must embrace the duality involved in being an active agent in the change process and working collaboratively within practice situations (Cooper, 2001).

Implications for Diagnosis

"Diagnosis," in the sense that it has been used in the so-called medical model by the behavioral helping professions, is not supported by constructivist theory. "What's wrong" is not seen as an entity in the same sense that the physician views a fractured leg or as inflamed appendix as entities having ontological existence. The principle of structure determinism negates the validity of externally imposed predetermined categories and labels. In the approach represented by *The Diagnostic and Statistical Manual of Mental Disorders* (DSM), for example, the diagnostic task in a case falls to the practitioner and his or her skill in use of the classification system applied to a particular client's "symptoms." The client's role becomes that of passive recipient of the practitioner's expertise. A constructivist-based approach to developing ideas about the nature of problems stresses the need for practitioner–client collaboration and mutuality, with the expert role of the practitioner being redefined from its usual meaning. The practitioner's expertise is in assuming a learning stance with the client by approaching each case assuming he or she knows nothing about the client. A case example in the next section illustrates this stance.

Treatment Implications

While radical and critical constructivism were previously discussed as the two major varieties of constructivism, considerations for treatment as discussed here will refer predominantly to the assumptions of critical constructivism, generally referred to in the social work literature as *social constructivism* (see, for example, Cottone, 2007). Social constructivism assumes

the existence of an objective reality, but one that is knowable only through perception, language, and mentation. In the social constructivism view, the "reality" of structural and psychosocial social problems is fully acknowledged.

In more traditional practice approaches, especially psychodynamic ones, uncovering the "real problem" in a case has been seen as an essential job for the practitioner. The "real problem" concept implies that there is an objective pathological/dysfunctional condition of the client and/or his or her situation that can be discovered through the clinical skills of the practitioner, as when the physician finds malignant cells and diagnoses cancer—the "real" problem underlying the patient's pain and other symptoms. In constructivist-based assessment and treatment, however, no "real" problem is assumed to exist in the sense that there is an underlying problem with objective consequence[s] not yet glimpsed by the client but that the practitioner will help him or her discover. This should not be misconstrued to mean that in the constructivist view no problem exists. Through the lens of critical constructivism (social constructivism), clients are seen as co-constructing their personal realities through interdependence with their social and physical environment. Contrary to a widespread practice among practitioners in the behavioral helping professions, the practitioner using a constructivist-based treatment methodology (e.g., narrative therapy) would not attempt to get the client to "own his problem" but to cognitively divest himself or herself of it instead.

For some cases dealt with in a narrative approach to treatment, separating the problem from the person is seen to be essential. A technique called "externalizing the problem" is frequently used, often with dramatic positive results (see, for example, White, 1989; O'Hanlon, 1994, p. 24). It is believed that externalizing the problem (essentially a process of giving it a name as apart from the client) helps free the client to view the problem as an adversary outside instead of inside him-/herself, thus freeing him or her to develop alternative problem versions and solutions. This is thought to be especially helpful in cases where the client has seemed to incorporate the problem with his or her identity, such as, for example, in anorexia.

Client Self-Determination

The observance of client self-determination has been held as a major intervention mandate in social work from the beginnings of the profession. Constructivism views self-determination, not only as a treatment mandate to be followed, but also as a natural state of the person based on the individual's structure-determined, autopoietic nature. If the responses of individuals are structure-determined, they are by definition self-determining. The practitioner has no option of respecting or not respecting this as a practice principle. A practitioner could believe that he or she is executing a "controlling" technique of some kind (e.g., giving a client paradoxical instructions); however, the client's response would not be determined by the paradoxical instructions, but only selected by them—that is, they would "trigger" some response but would not determine what response, which would be brought about by the individual's neurophysiological structure and psychological makeup. However, acknowledging the client's self-determining nature does not mean accepting everything the client might want to do.

While accepting that there are multiple versions of reality, we may choose not to accept versions that are congruent with the perpetuation of racism, domestic violence, school dropouts, runaway teenagers, and other destructive behaviors. We may still try to change uglier versions of reality. (Colapinto, 1985, p. 30)

Practitioner Demands

Because of the counterintuitive flavor of constructivist theory, a certain tolerance for ambiguity is required of practitioners—this making it possible to embrace the "many worlds" perspective of constructivism to accommodate the subjective (constructive) variability among their various clients while staying attuned to a presumed normative world to which they and their clients must respond. Some may feel uncomfortable with such a paradoxical-sounding professional mindset, while others will have no difficulty.

Case Example

Perhaps one of the most difficult aspects of constructivism to comprehend pertains to its epistemology, which deemphasizes traditional normative perceptions and understandings of an "objective" world and stresses instead the importance of the individual's subjective idiosyncratic world as the primary basis for behavior. For those who may think constructivism is too philosophical to be practical, a case example may help clarify. The following vignette, described by Harlene Anderson as cited by Sykes Wylie (1992), illustrates a practice implication of the constructivist epistemological stance.

A family came to therapy after the children had been removed from their home and the mother had gone to a shelter because the father had so severely beaten them. The mother came in looking disheveled, wearing house slippers and missing several teeth. The father—a huge man, barefoot, weighing probably 300 pounds and wearing denim, bib-front overalls with no shirt on underneath—began shouting as soon as he was in the room that he was poor, white trash, he'd never be anything, but he would not be told what to do by anybody. He would handle his family the way he saw fit, and the only reason he was there was because "the fuckers downtown" had made him come. He also announced, rather mysteriously, that he "hated niggers."

At that point, says Anderson, "everyone behind the mirror instinctively moved their chairs back," except Harriet Roberts, a consultant to the clinic, and a black woman. She got up, walked into the therapy session, calmly introduced herself and with apparently complete sincerity said she wanted to learn more about what he was saying and why he disliked blacks.

> Roberts continued the therapy. Seeing both husband and wife separately and together (the wife had gone back to live with him, as she always had in the past), bringing in the man's mother, and the staff from the shelter where the woman had stayed, and consulting with the child protective agency. Gradually, as he became more human in therapy, his behavior outside improved: after the first session, he stopped beating his wife, and when his children were eventually returned, he did not beat them again, either. (Sykes Wylie, 1992, p. 28)

A practice principle applied here, derived from constructivist epistemology, was in evidence from the therapist's assumption of the role of learner with the client—a client who at the moment was potentially dangerous to her and had proven himself dangerous to his family:

> According to Anderson, the therapists [*referring to other therapists subsequently involved*] entered therapy with an attitude that they did not know, objectively, better than the man or his wife or the children or any of the other people involved in the case, what constituted universal truths about good and bad families, emotional pathology and health. They did not feel that their professional expertise allowed them to "write the story" for the family. Instead, they believed that in conversation, all these participants together could come up with a better, more humane story that locked nobody out of the process of creating it.
>
> What seems to have happened is that a man who has felt ignored, ostracized and generally loathed for most of his life, meets a therapist who is unafraid of his hostility, uninsulted by his bigotry and unoffended by his repulsive persona. . . . He says that for the first time in his life he feels he has been listened to and understood. (Sykes Wylie, 1992, pp. 28–29)

By walking calmly into the client's presence saying she wanted to understand more about why he disliked blacks, the consultant demonstrated her respect and unconditional positive regard for him in the face of his anger and implied threats, making it possible for him to reconstrue his constructive world. Through her actions, the consultant recognized the client's structure-determined nature as reflected in his insistence that he would "handle his family as he wanted" and that he had the right to hate black people. In her acknowledging the very being of this man as the only person he could be at the moment, he then became free to reconstrue his meanings closer to those of his medium (environment).

This case analysis reflects narrative intervention concepts (e.g., helping the family rewrite their story to a less destructive one). For more extensive discussion on narrative intervention as a constructivist-based approach, see Chapter 19. A case example of treating depression using the narrative approach can be found in Neimeyer (2009, pp. 97–100).

Convergence with Neuroscience

From its birth in antiquity as a philosophical framework, constructivism has evolved in importance from the utility of its various applications. From the structure determinism and autopoiesis formulations of Maturana and Valera, constructivism can now be related to the burgeoning field of neuroscience. While various definitions of "neuroscience" can be found in the literature, depending on the particular focus of concern, it can be defined appropriately here (for relating it to constructivism) as the field of study pertaining to the structure and function of the brain and nervous system as related to various aspects of subjective experience and behavior. While an extensive examination of relevant aspects of neuroscience for the further understanding and development of constructivism is beyond the scope of this chapter, the topic is being flagged here for its potential significance. Toomey and Ecker (2007) have written about the convergence of constructivism and neuroscience:

Psychological constructivism's central insistence on the active role of the individual in shaping experiential reality receives extensive corroboration from findings on how the brain functions . . . the neuroscientific community appears to be converging to a consensus regarding the capabilities of individual neurons and neural networks to actively shape and define what is experienced as reality. The emerging paradigm, which has been referred to as neural constructivism (Quartz & Sejnowski, 1997), aligns well with psychological constructivism. (p. 205)

This view points to the influence that specific realist ("objective") entities (i.e., neurons and neuronal networks) exert on our experience of "reality." While constructivists have maintained all along that the human experience of reality is subjective, Toomey et al. now cite the specific brain structures responsible for that experience. These authors further state: "Not only are neural networks constructivist in their organizing and model of reality, but the way the brain forms and organizes [*constructs*] those neuronal networks is itself a significantly experience dependent constructivist process" (p. 209).

An interesting development between neuroscience and constructivism involves neural networks and the learning properties of constructive development. Much of the neuroscience research highlights networks with fixed architectures that are often described as in place and unchangeable from birth. However, in line with constructivist theories, a growing body of literature is now focusing on constructive neural networks (Quartz, 1999). Constructive neural networks stress the capacity of the neural architecture to be altered and modified based on learning (Quartz & Sejnowski, 1997; Quinlan, 1998). Consequently, constructive thinking within neuroscience highlights the importance of a rich learning environment for infants and young children in order to help encourage neural growth and development. Exposure to a variety of experiences within our environment can lead to structural changes within our neural system, which supports the idea of constructive learning and growth instead of a preset mental capacity that is predetermined at a young age.

Although it may seem burdensome for a neural system to learn through activity-dependent change, from a constructivist perspective, this is a positive method of learning and growth. It anticipates an immature system's learning solutions to novel and increasingly complex problems that are encountered in one's environment. Therefore, the learning capabilities that will be required for human development and success in the future are constructed through experiential exposure. Instead of beginning this process with a fixed neural architecture and then selectively only using some processes, starting with a limited but evolving architecture allows a network to pass "through a phase of limited representational power during early exposure to some problem and then build successively more powerful representational structures" (Quartz, 1999, p. 52). This implies "that cortical development involves the progressive elaboration of neural circuits in which experience-dependent neural growth mechanisms act alongside intrinsic developmental processes to construct the representations underlying mature skills" (Quartz, 1999, p. 48).

The idea of constructive learning is not intended to be a return to *tabula rasa* learning, but rather represents a unique and dynamic interaction between changing environmental conditions and neural mechanisms. Constructive learning acknowledges that

there are general constraints imposed by neural architecture, but this does not mean that representations for specific cognitive problem domains are preexisting. Rather, constructive learning builds these classes of representations under the influence of the environment, acting in tandem with the natural constraints within neurobiological architecture. This view allows for the possibility of "powerful learning abilities while minimizing the need for domain-specific pre-specification and so avoiding the heavy burden that nativism places on genetic mechanisms" (Quartz & Sejnowski, 1997, p. 539).

Developments in both constructivism and neuroscience would seem to warrant further investigation of the ways in which they converge, potentially providing constructivism with a foot in science to help balance its more philosophical aspects. One avenue of investigation that would seem to be productive relating to practice concerns is the nature of the client's subjective experience (psychological constructions) related to specific brain structures thought to be the ground of subjective experiences. Following is an example of a therapist's attending to these considerations:

When these authors first began reflecting on the possibility of viewing psychotherapy through the lenses of neuroscience, there was a fear that increasing consideration of brain function would lead to coldness and estrangement in the psychotherapy process. It has been surprising that the opposite has been the case. For example, empathy with a client being overwhelmed by flashbacks of previous trauma has seemed stronger when these authors reflected on the implications of research indicating that visual cortex used to encode current information is also required for recall of memories of previously established visual images; while being used during visual memory of a traumatic event, visual cortex is unlikely to be available for processing of current experience. How frightening it must be not to be able to see the therapist even though the client can hear the therapist's voice "in the distance" during a flashback. Clients have seemed remarkably reassured when their inability to see the therapist is explained in terms of possible brain mechanisms for such an experience; the apparently "crazy" experience of not being able to see someone sitting in front of them now makes sense. (Folensbee 2007, p. 2)

The constructivist element here is the practitioner's acknowledging the "realness" of the client's intense subjective experience (his constructed world harboring a flashback) while staying in touch with another "reality," which was his knowledge and utilization of brain science—an example of a therapist's observing the constructivist "many worlds" conception and the relative nature of "truth" and "realness."

In addition to increasing the efficacy of psychotherapy by utilizing knowledge of brain science, Folensbee also sees an additional important dimension:

Assessment, conceptualization, intervention, and communication in therapy all seem likely to improve when the underlying nature of brain functioning as currently understood is kept in mind during the implementation of psychotherapy. Consideration of psychotherapy in terms of the framework of brain function offers the potential for integrating and coordinating various traditional treatment modalities within a structure that can facilitate communication between proponents of various schools of treatment, and can support collaborative rather than competitive interventions. (p. 186)

While social workers in their formal training typically receive minimal exposure to the topics of neuroscience, rapid advances in behavioral neuroscience with implications for various psychosocial problems dealt with by social workers may bring about increased attention to this area in schools of social work, particularly on master and doctoral levels. Examples for further reading in neuroscience related to psychotherapy can be found in Badenoch (2008), Pliszka (2003), Cozolino (2002), and Gabbard (1992).

Constructivism and Emotions

The constructivist view of emotions has arisen as a growing field of interest, along with that of neuroscience. From a constructivist perspective, "emotions are emergent conditions reflecting multiple modalities of affective reactions to psychologically important situations" (Clore & Ortony, 2013, p. 336). Emotions can therefore be considered a variable set of reactions for coping with the diverse situations that one encounters (Lindquist, 2013). The exact emotions that a person exhibits in a situation are subjectively chosen by the individual, based on their previous

life history and their interpretation of the current situation. Therefore, stereotypical beliefs about how a person should respond emotionally in a specific situation are not necessarily predictive of individual behavior from a constructivist perspective.

The constructivist view of emotions and emotional themes highlights the idea that the themes we encounter most within our life experiences become prototypes, schemas, or stereotypes. We then use our preferred emotional schemas to organize, understand, and communicate our own personal stories and life experiences (Clore & Ortony, 2013). Humans have a tendency to use these emotional schemas to infuse meaning and reorganize events into emotional vignettes. During the retelling of stories, we often infuse such emotion and passion into these stories that listeners and readers may feel some of that emotion, too. This ability to detect emotions that others are experiencing or describing can be considered adaptive, as it enables the detection of dangerous situations, and also allows for companionship and bonding during pleasant emotions.

Although having these emotional schemas appears useful and adaptive in everyday life, there are also costs associated with having these clear schemas. As researchers and social workers, we may readily become engrossed in analyzing the responses of participants, searching for the "emotional modules" that correspond to specific emotions, and we may confuse these emotional stereotypes with reality (Clore & Ortony, 2013, p. 343). Instead, emotions can provide a key gauge of important life events for purposes of understanding and planning for action. It is not necessary that we understand exactly where in the brain these emotions originate, even if they are constructed by life experiences.

This overview of emotion from a constructivist viewpoint confirms that we develop our schemas or stereotypes about emotion based on experience. These emotional schemas are not fully present from birth and cannot develop without life experiences and exposure to various emotional states in others. The nativist opinion of emotional modules' being present from birth and predetermining what emotional schemas one will possess is therefore

discounted. Rather, individuals construct and change their emotional stereotypes and schemas throughout their lives, and, although the basic cognitive structures are necessary in order to recognize and process emotion, people construct emotions based on their experiences in the social world. Therefore, constructionism holds that emotions are "events that are created in the mind of a perceiver to fit a certain situation" (Lindquist, 2013, p. 356).

According to Lindquist (2013), constructivism offers a better understanding of how discrete perceptions and experiences of emotion are due to a variety of psychological ingredients being combined based on past situations and life events. When a person experiences an emotion, this could be considered a perception of the body, in that it involves categorizing internal and external sensations and perceiving these as specific emotions (Bar, 2009). Since the construction of emotions depends heavily on context, emotions are sometimes referred to as "situated conceptualizations" (Lindquist, 2013), in that emotions may be used specifically for interacting with different situations.

While neuroscience and the construction of emotion appear to coincide through the correspondence of brain regions to emotional states, the observation that a particular anatomical area of the brain shows increased activity during an emotional experience does not mean that this particular anatomical area should be considered the circuit for that particular emotion category. "Neural activity should instead be thought of as a snapshot in time of a particular combination or 'recipe' of networks that correspond to basic psychological ingredients" (Lindquist, 2013, p. 364). It is clear from this overview that emotions evolved for a purpose, even if the emotions are not packaged in a modular way but instead represent more basic processes that flexibly combine in humans to produce our reactions to events in the world around us.

In respect to social work treatment, it would seem beneficial for social workers to understand emotions from a constructivist perspective. For a practitioner trying to understand how an individual is feeling before and during treatment, this perspective sheds light on how meaning is subjective for each individual and is developed

on a personal level. It implies that social work practitioners must attend to the level of meaning for a person, and that this meaning will be unique for every client.

Empirical Base

Attitude Toward the Empirical Stance

The constructivist view of positivistic science as a component of constructivist theory and the use of empirical evidence as data in its approach to research have evolved over time. Some constructivists hold the belief that empirical evidence does not play a significant role in evaluation due to the fact that there is no such thing as a pre-given known reality; rather, they hold that reality is fundamentally subjective, and therefore knowledge must be viable and malleable rather than empirically true (Baerveldt, 2013). Therefore, many constructivists do not acknowledge whether their position can be empirically supported, as this is redundant from their perspective. This clearly puts constructivism at odds with empiricism, maintaining that it cannot be evaluated by something it dismisses as an invalid instrument. While some constructivists would still agree with this statement, a competing stance has lately gained prominence. Morris (2006) provides a clear statement of and basis for this competing stance in the constructivist approach to research:

The Oxford Dictionary defines research as "careful search or inquiry after or for or into; endeavor to discover new or collate old facts, etc., by scientific study of a subject, course of critical investigation." This definition rests on facts and science. It does not state that only variables measured quantitatively are facts, or that science is positivism. Constructivists argue that subjective constructions are facts and that the constructivist approach is science. A subjective description of living with HIV-AIDS is something that is known to have occurred or be true; it is precise, its existence cannot be ignored, and it is real. All these are criteria for deciding whether something is a fact according to the same Oxford Dictionary. The constructivist approach develops knowledge that is systematic, deduced from self-evident truths, and follows consistent principles. Constructivist research thus builds a legitimate body of knowledge using a methodology that is scientific. (p. 196)

In this view of constructivism's relationship to the science paradigm (of which empiricism is the hallmark), which is very different from its earlier stance, we see the manifestation of a basic tenet of constructivism applied to the theory itself—that is, change and variation are inevitable for progress.

Connections to Other Theories

A cursory examination reveals numerous theories that are compatible with constructivism. The phenomenological/humanistic-based theories such as client-centered and existential approaches place heavy emphasis on the client's perceptions, feelings, and attitudes. Other notable examples are the psychodynamic approaches that emphasize the importance of perception, meaning-making, and idiosyncratic subjective experience (e.g., the psychosocial model and psychoanalytically oriented approaches). There are, of course, clear connections with approaches based in cognitive theory, with its emphasis on the "knowing" processes and mentation.

Agreements are also to be found between the feminist perspective and constructivism. Both maintain that reality is socially constructed, and that each person has his or her own reality, of equal worth with all others. Both emphasize the oppressive influence that certain sociocultural norms can exert on individuals, families, groups, and organizations, and the contribution of these "toxic norms" to the development of psychosocial problems on all levels. Theoretical perspectives that emphasize the individual's subjective experience and autonomous functioning will find compatibility with constructivism. Theories that may be trapped in an echo chamber hearing only their own voices saying they have found the truth will find less kinship with the constructivist perspective.

Another observation is being made here concerning constructivism's relationship to major value positions and goals of the profession. While constructivism draws attention primarily to the autopoietic nature of the individual (structure-determined, organizationally closed), it should be emphasized that there is no implication of blaming the victim or negating social work's concerns with problems of social

justice, discrimination, oppression, domestic violence, or other psychosocial or structural problems of concern to the profession. It does, however, require a constructed ever-changing view of reality from client case to client case. Granvold (2001) has written about the compatibility of constructivist approaches with the profession's more traditional ones:

Constructivist treatment is highly compatible with a generalist-eclectic social work practice perspective. Constructivism emphasizes the client's strengths and possibilities (Saleebey, 2012). A collaborative relationship is sought with the client in which the therapist assumes a non-authoritarian, albeit knowledgeable, stance. Although the primary focus of constructivist assessment and intervention is on the meaning-making process (internal dispositions), in the social work tradition, environmental conditions and social factors are considered in the promotion of the client's immediate goals and ultimate personal development. The profession's distinctive focus on person-in-situation and the interdependence between people and their environments remains intact with constructivism in the social work theory arena.

Constructivism as Meta-Theory

Constructivism can be seen to connect with other theories on various levels. One of these, which has received little attention in the literature to date, utilizes constructivism as a meta-theory for understanding the deeper nature of theories that have traditionally been classified primarily in the realist/objectivist tradition. Hansen (2007) has argued that a seemingly paradoxical situation, which he calls "epistemic contradiction," is present in many theories used by the counseling professions. As an example, referring to Freud's famous case of Little Hans, who was diagnosed with a displaced Oedipal complex, Hansen writes:

When evaluated from an epistemological perspective, the archeological metaphor is simultaneously constructivist and objectivist. It is constructivist in the sense that psychic artifacts determine individual perception, as Hans's image of horses was internally constructed by ancient, psychically buried conflicts. The counselor (i.e., archeologist), using a psychoanalytic shovel, can dig through the psyche, thereby bringing to light the ancient relics in their pristine form. In this latter sense, the archeological metaphor is objectivist, because the counselor is deemed able to discover the essential nature of the buried conflict, as Freud discovered Hans's Oedipal conflict. Clearly, then, constructivist and objectivist epistemic assumptions are each present in the archeological metaphor. (Hansen, 2007, p. 113)

Hansen maintains that this oscillation between subjectivity and objectivity in counseling theories reflects an essential part of human experience that is not simply subjective or objective, but both. He further contends that cognitive, humanistic, and even behaviorist theories all have elements of constructivism, although presumably built on foundations of objectivist assumptions. Examining other theories, then, for this epistemic subjective-objective oscillation reveals that not only postmodern theories have constructivist elements in their very architecture (Hansen, 2007, p. 112). As stated at the beginning of this chapter, constructivist elements have been around in theories used by social work for some time, but have not been specifically recognized as such.

Training for Constructivist-Based Practice

Constructivist ideas are beginning to find their way into the Human Behaviour in the Social Environment (HBSE) curriculum, practice theory courses, field instruction, and research courses in most schools of social work. To help ensure a thorough grounding in the principles of constructivism as formulated in this chapter, social work students should have course work pertaining to all three aspects of constructivism as a thought system—philosophical, behavioral, and methodological. For the philosophical aspect, social work students should have an introductory exposure to the basics of epistemology in order to compare realist and constructivist epistemologies. Study of the behavioral aspect of constructivism should expose social work students to topics in psychology such as sensation, perception, and cognition presented on a level directly related to basic constructivist concepts such as structure determinism, autopoiesis, and structural coupling. Due to further development of the convergence of constructivism with neuroscience as presented in this chapter, topics in basic behavioral

aspects of brain science would be in order. For the methodology aspect, the basic concepts and postulates of constructivism would be translated into assessment/treatment principles, techniques, and strategies, with opportunities provided for social work students to learn practice applications in their field experiences. One practice model that is specifically based upon constructivism, and a model that could receive more attention within social work, is George Kelly's personal construct theory.

As noted earlier, Kelly's personal construct theory (PCT) proposed that people organize experiences that they have as constructs by interpreting experience and developing different dimensions of meaning (Raskin, 2002). These constructs are utilized by individuals to predict how the world and people in society might behave (Winter, 2012). The model suggests that a person's constructs are continually tested in everyday life, based on how well they predict life circumstances, and that an individual might be challenged to revise a construct when it is no longer useful or are accurate (Winter, 2013). Kelly coined the term "hostility" to refer to individuals who continue to hang on to faulty constructions even if there is disconfirming evidence for those constructions. In other words, "hostile people" fail to alter their constructions to better fit the world and prefer to force their experiences in the world to fit their constructions (Raskin, 2002).

PCT allows social workers to better understand how clients come to view their sense of self, and which aspects of this sense of self are malleable and flexible, and which are fixed and more resistant to change. In PCT, the self is viewed as constructed and generated by the way a person successively construes her or his self (Efran, McNamee, Warren, & Raskin, 2014). However, there are also basic constructs that are developed early in life that become deeply embedded constructions of self (Raskin, 2002). These become more impermeable to self-reflection and alteration. It is important for social workers to understand that these enduring senses of self and aspects of individual identity are the most difficult to modify, and individual clients may rebel against threats of change to these constructs (Winter, 2013). Although social and relational factors may play

a role in the constructive process, individuals are still viewed as the primary source of their own constructions. This is also important for social workers to understand, as oftentimes social workers may assume that environmental causes contributed solely to a person's sense of self, when in reality, the client played an active role in that construction.

Kelly also developed the idea of "fixed role therapy," in which a client acts out the role of someone psychologically different from himself or herself in everyday life (Raskin, 2002). This is considered an avenue to encourage the client to experiment with new modes of behaving and new constructs for a set period of time. A client is not explicitly instructed to incorporate these new constructs into his or her sense of self. However, many clients feel as though new possibilities are available as they have the opportunity to incorporate new perspectives into their current constructions (Efran et al., 2014). This theory clearly incorporates constructivist ideas, as experimenting with new vantage points is viewed as central to change within clients. This is especially helpful for clients who have been stuck in ineffective problem-solving modes, because it encourages the revision of these personal constructs.

In essence, PCT allows social workers to build new perspectives with clients from a constructivist point of view. This provides clients with the power to construct new models or roles for themselves that enable self-efficacy and empowerment. The social worker encourages the client to incorporate these new identities into her or his sense of self to bring about clinically significant change. PCT has a strong support base and has been actively developed through the *Journal of Constructivist Psychology* (Strong, 2014) suggesting that it can be an important perspective for understanding client experiences and behavior and an effective method of creating change for clients.

Some of the study topics mentioned heretofore are highly technical and specific to disciplines other than social work, and might require broad areas of study. This, however, should not deter social work educators. The virtual explosion of findings from the life sciences taking place makes it essential for social work educators to move in the direction of incorporating

highly technical/scientific material in course-work if social work is to remain a highly credible discipline among related professions such as psychology and psychiatry. For an excellent source of information on some of the ways constructivist ideas have been incorporated into social work curricula, see Laird (1993), *Revisioning Social Work Education: A Social Constructionist Approach*. Although this is a 1993 publication, the material remains sound in terms of its presentation of the theory of constructivism and strategies for training students to incorporate constructivist concept and principles in their practice. Articles by Dean (1994) and Greene and Lee (2002) also provide sound guidelines for the application of constructivist concepts to practice.

Limitations and Problems

As is always the case with any new theory (and old ones, too), controversies and various concerns have arisen about constructivism and its implications for human behavior and change. On the conceptual side, it can be difficult to know if there are substantive differences with non-constructivist concepts that are seemingly essentially similar. For example, Bell (1985) has questioned the validity of Maturana's view of interpersonal causation:

When Maturana says that causality is impossible, he means, for example, that the professor's lecture did not determine the response of his students (that would be instructive interaction). The professor's lecture selected the students' responses, but their structure determined their responses. . . . Maturana is claiming that our everyday use of the word "cause" always implies or threatens to imply a determining in the sense of instructive interaction—whereas "causation" is always only a selecting. Thus, he says causality is impossible. (p. 8)

Other concerns about conceptual and practical aspects of constructivism have been expressed by Mahoney (1991):

Beyond the heuristic abstractions of "structure determination," "organizational closure," and "structural coupling," what is it that determines an organism's adaptations to/of its environment? What are the parameters of "congruence" between the structures of a living system and its medium? Why are some systems capable of much wider ranges of

self-restructuring than others, and what are the explicit implications for parent, education, and psychological services?

Another way of expressing this reservation is to say that . . . current autopoietic theory pays too little attention to the world in which the living system lives, not to mention the mentation involved and the processes by which that system learns, changes, or develops. . . . As many cognitive therapists have learned over the last two decades, psychotherapy clients can be urged to "restructure" their perceptions and beliefs about self and world, but the self-perpetuating aspects of that self and the everyday constraints imposed by that world are not always conducive to that undertaking. (p. 396)

It should be noted, in relation to Mahoney's concern about the lack of an adequate concept in constructivist theory to account for the individual's adaptation to the environment, that Mahoney, as a psychologist, is not taking into account, nor would he be expected to, the role of constructivism as only one member in the family of theories employed by social workers. Systems and ecological theories have long been effectively incorporated by social workers in their practice for understanding how the individual adapts to the environment (see chapters in this volume on the Life Model [Chapter 18] and Systems Theory [Chapter 14]). Mahoney's observation, however, about the need for further development of the abstract concepts in constructivism toward the operational level remains valid.

Conclusions

The selective use of an ever-expanding body of knowledge and theory in social work becomes increasingly important in order to meet the challenges of the increasing complexity of social work practice demands. Constructivism as a conceptual framework for social work practice has recently added to the profession's available technology. The future for constructivism in the profession will most likely unfold according to the extent to which it is found to be compatible with social work values, useful to practitioners, and effective with clients. Payne (1991) wrote what is still true today:

New ideas within social work theory arise in various ways and go through a process of naturalization

by which they become adjusted to the conventional framework of social work. Some theories have not fully naturalized, because they do not deal well with some of the important features of social work within the period in which they become important. Theories which do naturalize affect the common features of social work. (p. 7)

Cole (1992) has distinguished between "core" knowledge in a discipline and "frontier" knowledge. The core knowledge, including a relatively small number of theories, is the "given" or the "starting point" for that discipline. The frontier component is composed of the knowledge that is in the early stages of being developed and about which substantial consensus is still lacking (p. 15). Constructivism as a framework for social work treatment fits into the frontier category at this point. Further use by practitioners and testing of constructivist-based practice approaches by researchers will be necessary for constructivism to arrive at a point where it may slip over into the core of social work knowledge, and it is making progress in that direction.

It has been shown in this chapter how some of the basic postulates of constructivism are not only compatible with major social work practice principles but also provide them with additional support. Constructivist-based practice clearly addresses current major concerns of the profession, such as the need to empower clients; the rights of racial, cultural, ethnic, gender, and age groups to be self-determining; and the need to enhance the degree of dignity and respect accorded to all people. We have also shown that the tenets of constructivism are compatible with recent developments in neuroscience and the neuroscience of human emotion.

The formulation of constructivism set forth in this chapter as a conceptual framework for social work treatment has drawn substantially from the conceptions of Maturana and Varela. These conceptions are rooted in neurobiology, in contrast to the social and behavioral sciences that social work has traditionally drawn on for foundational theory. In closing this chapter, a statement of what might be viewed as the essence of the neurobiological constructivism of Maturana and Varela provided in their own words would seem appropriate:

Every human being, as an autopoietic system, stands alone. Yet let us not lament that we must exist in a subject-dependent reality. Life is more interesting like this, because the only transcendence of our individual loneliness that we can experience arises through the consensual reality that we create with others, that is, through love. (1978, p. 63)

From this constructivist duality of the individual standing alone in a subject-dependent reality, a central mandate arises for the practitioner, which is to carefully and persistently respect the individuality of clients as self-determining beings and, by following this mandate, to increase the likelihood of clients' being able to deal more effectively with the requirements of a normative world while broadening their vision to catch sight of more satisfying ways to conduct their lives (see the Case Example in this chapter).

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