

PART I

GENERAL ISSUES

COPYRIGHTED MATERIAL

Chapter 1

THEORETICAL AND EVIDENCE-BASED APPROACHES TO CASE FORMULATION

TRACY D. EELLS

University of Louisville, USA

KENNETH G. LOMBART

University of Massachusetts Lowell, USA

Our task in this chapter is to introduce the concept of case formulation. We begin by discussing the definition, functions and goals of case formulation, including why formulation is important. We continue by reviewing theoretical and evidentiary sources of information to guide the development of a formulation. Next, we summarize several structured case formulation models that have been developed to increase reliability and validity. Finally, we propose a general framework the therapist can use to structure a formulation and conclude with some practical tips.

WHAT IS A CASE FORMULATION?

Our working definition of case formulation comes from a cross-theoretical perspective: “A psychotherapy case formulation is a hypothesis about the causes, precipitants, and maintaining influences of a person’s psychological, interpersonal and behavioral problems” (Eells, 2007, p. 4). A formulation involves inferences about predisposing vulnerabilities, a pathogenic learning history, biological or genetic factors, sociocultural influences, currently operating contingencies of reinforcement, conditioned stimulus–response relationships, or schemas, working models, and beliefs about the self, others, the future or the world. The aim of the formulation is to explain the individual’s problems and symptoms. The specifics of the formulation will vary depending on the theoretical orientation of the case formulator. As a hypothesis, a formulation is always subject to empirical test and to revision as new information becomes available.

4 FORENSIC CASE FORMULATION

A case formulation serves multiple functions (Eells, 2007). First, it provides a structure to organize information about a person and his or her problems. Clients produce enormous amounts of information in therapy, including verbal, behavioral, prosodic, gestural, affective, and interactional. Formulation facilitates the management of this information cascade. Second, formulation provides a blueprint guiding treatment. Its primary purpose is to help the therapist develop and implement a treatment plan that will lead to a successful outcome. The formulation therefore enables the therapist to anticipate future events, for example, therapy-interfering events, and to prepare for them. Third, a formulation serves as a gauge for measuring change. Indices to assess change may come from goals included in the formulation, from relief of problems identified in the formulation, or from the revision of an inferred explanatory mechanism that did not seem adequate when tested. Fourth, a formulation helps the therapist understand the patient and thereby exhibit greater empathy for the patient's intrapsychic, interpersonal, cultural, and behavioral world.

Kuyken, Padesky and Dudley (2009) offer another definition of case formulation, emphasizing its collaborative and resilience-building aspects. They define formulation as a "process whereby therapist and client work collaboratively first to describe and then to explain the issues a client presents in therapy. Its primary function is to guide therapy in order to relieve client distress and build client resilience" (p. 3). Using the metaphor of a crucible and focusing on cognitive-behavioral therapy (CBT), these authors emphasize that formulation integrates and synthesizes a client's problems with CBT theory and research. Essential ingredients of a productive conceptualization are empirical collaboration between therapist and client, the development of the formulation over time from the descriptive level to an explanatory level, and the elicitation of both client strengths and problems. These authors also describe functions of a CBT case formulation. These include (1) synthesizing client experiences, relevant CBT theory and research; (2) normalizing and validating clients' presenting issues; (3) promoting client engagement; (4) making complex and numerous problems more manageable for the client and therapist; (5) guiding the selection, focus, and sequence of interventions; (6) identifying strengths and suggesting ways to build resilience; (7) suggesting cost-efficient interventions; (8) anticipating and addressing problems in therapy; (9) helping the therapist understand nonresponse to therapy; and (10) facilitating high-quality supervision.

Persons (2008) embeds her approach to formulation within a framework of clinical hypothesis testing. She emphasizes that the formulation is fundamentally a hypothesis that is constantly refined in the course of treatment. She views a complete formulation as one that ties the following elements together into a coherent whole: (1) the patient's symptoms, disorders, and problems, (2) hypotheses about the mechanisms causing the disorders and problems, (3) precipitants of those disorders and problems, and (4) a statement of the origins of the mechanisms. Following similar lines, Tarrrier and Calam (2002) define formulation as "the elicitation of appropriate information and the application and integration of a body of theoretical psychological knowledge to a specific clinical problem in order to understand the origins, development and maintenance of that problem. Its purpose is both to provide an accurate overview and explanation of the patient's problems that is open to verification through hypothesis testing, and to arrive collaboratively with the

patient at a useful understanding of their problem that is meaningful to them” (pp. 311–12). The case formulation is then used to inform treatment or intervention by identifying key targets for change.

WHY FORMULATE?

Multiple mental health care disciplines view case formulation as an essential clinical skill. A core competency for psychiatrists trained in the United States is the ability “to develop and document an integrative case formulation that includes neurobiological, phenomenological, psychological and sociocultural issues involved in diagnosis and management” (American Board of Psychiatry and Neurology, 2009, p. 1). Similarly, the American Psychological Association promotes evidence-based practice, which includes the application of “empirically supported principles of psychological assessment, case formulation, therapeutic relationship, and intervention” (APA Presidential Task Force on Evidence-Based Practice, 2006, p. 284). The British Psychological Society views formulation as a core skill (Division of Clinical Psychology, 2001, p. 2). Multiple authors support the importance of case formulation as a “lynchpin concept” (Bergner, 1998), the “first principle” underlying therapy (J. S. Beck, 1995) and the “heart of evidence-based practice” (Bieling and Kuyken, 2003).

Formulation is a core skill for several reasons. First, and most importantly, formulation is where theory and empirical knowledge about psychotherapy, psychopathology, personality, development, culture, and neurobiology merge to inform the understanding and treatment of an individual, group, couple, or family. Formulation provides a structure to apply nomothetic knowledge to an idiographic context.

Second, current nosologies are almost exclusively descriptive and symptom-focused. Thus, they provide no account of why a client has symptoms, what the origins of those symptoms are, and what triggers and maintains them. Major depressive disorder, one of the most commonly diagnosed disorders, is a case in point. According to the *Diagnostic and Statistical Manual of Mental Disorders*, 4th Edition (American Psychiatric Association, 1994, DSM-IV) to be diagnosed with this condition, one must meet five of nine criteria for two weeks, including depressed mood or loss of interest or pleasure. In addition, one must exhibit distress or impairment in one’s social or occupational functioning and meet other rule out criteria. The criteria say nothing about biochemical, psychological, behavioral, situational, or environmental factors that may be producing the depression. Formulation fills this explanatory gap between diagnosis and treatment.

A third reason that formulation is essential is that diagnosis alone does not provide a sufficient guide to treatment selection. The same diagnosis might be treated with different types of empirically defensible treatments and interventions, creating the dilemma of which one to choose. Further, few psychotherapy outcome studies include diagnosis by treatment interactions and thus do not address the sensitivity and specificity of treatment for a specific diagnosis (Sturmey, 2008). A single treatment that is found effective for one diagnosis may also be effective for other diagnoses.

Fourth, a case formulation approach tailors treatment to address individual circumstances. Empirically supported treatments (EST) do not provide guidance in

6 FORENSIC CASE FORMULATION

a number of situations (Persons, 2008). These include when the client has multiple disorders and problems, when multiple providers are treating the individual, when a situation arises that is not addressed by an EST, when no EST is available, when the client does not adhere to an EST, when establishing a collaborative therapeutic relationship proves problematic, and in cases of treatment failure. With regard to the latter point, as many as 40–60% of individuals do not respond to a first-line empirically supported treatment (Westen, Novotny and Thompson-Brenner, 2004).

THE GOALS OF FORMULATION

If a formulation is to serve the above functions, it should meet at least five goals. First, a formulation should be accurate and fit the individual for whom it is constructed. The benefits of an accurate formulation have been demonstrated in a number of studies (Crits-Christoph, Cooper and Luborsky, 1988; Crits-Christoph *et al.*, 2010; Silberschatz, 2005b). One way to assess accuracy of an individual formulation is to evaluate the patient's response to a formulation-consistent intervention and to compare those responses to how the patient responds to formulation-inconsistent interventions. If the patient responds as the formulation predicts, one has evidence of its accuracy. Another way to assess accuracy is to share the formulation with the patient and get the patient's opinion. Opinions vary as to whether and to what degree a formulation should be shared with a patient. CBT therapists tend to prefer sharing the formulation and see this as an important component of developing a collaborative relationship with the patient (Kuyken *et al.*, 2009). More psychodynamically oriented therapists have expressed caution in sharing the formulation. Luborsky and Barrett (2007) advise sharing it in its component parts rather than as a whole. Curtis and Silberschatz (2007) advise deciding whether to share or not on the basis of what the formulation predicts the patient's response will be. Ryle's (1990), cognitive-dynamic model, on the other hand, includes sharing the formulation, composed as a letter from the therapist to the patient, as part of treatment.

A second goal of formulation is that it have treatment utility (Hayes, Nelson and Jarrett, 1987). The formulation should contribute to the treatment beyond what would have been achieved in the absence of a formulation. One measure of utility is the contribution of the formulation to treatment outcome. There is little research in this area, and research that has been done has produced equivocal results (Bieling and Kuyken, 2003; Kuyken, 2006). Another index of treatment utility is the extent to which the formulation benefits the process or efficiency of the delivery of the therapy. Further, a formulation may have benefits for the therapist that filter indirectly to the patient and therapeutic process, for example by increasing the therapist's confidence or improving his/her communication with the client. For example, Chadwick, Williams and Mackenzie (2003) found that while formulation-guided therapy did not predict alliance ratings among a group of psychotic patients, it was associated with improved therapist ratings of the therapeutic relationship.

A third goal of formulation is that it should be parsimonious yet sufficiently comprehensive. Some problems and clients require relatively simple and circumscribed formulations whereas others need multifaceted and complex formulations,

THEORETICAL AND EVIDENCE-BASED APPROACHES TO CASE FORMULATION 7

especially when the client behaves in contradictory ways, meets criteria for multiple disorders, or has major problems in multiple spheres of functioning. The formulation should provide a structure to optimally and efficiently represent enough information about the patient to benefit treatment, but not more.

A fourth goal of formulation is to strike the right balance between description and explanation. Research has shown that it is difficult to achieve good reliability when formulations are based on psychological constructs that are too distant from the experience and behavior of the patient (Seitz, 1966). On the other hand, if a formulation is to be genuinely explanatory, it must do more than summarize biographical information about a client. Notwithstanding this distinction, it is noteworthy that description and explanation can blur as one proposes an underlying mechanism. As Kazdin (2008, p. 12), wrote, "Depending on the detail, level of analysis, and sequence of moving from one to the other, description can become explanation" (p. 12).

A final goal of formulation is that it should be evidence-based. The APA Task Force on Evidence-Based Practice in Psychology stated that evidence-based formulations apply the best research, knowledge, experience, and expertise to the task: What constitutes appropriate evidence in a case formulation? Various types of evidence may best be viewed in relative terms along a continuum. At the most clearly evidence-based end, one could imagine compelling outcomes from empirically supported treatments, well-demonstrated mechanisms underlying forms of psychopathology, powerfully predictive epidemiological data, or well-documented and replicated findings about basic psychological processes, for example, the age at which reliable autobiographical memories can be formed. At the other end of the continuum one might place a therapist's hunches or intuitions. These might offer valuable insights that could be tested, but in themselves probably would not be described as evidence-based by most observers. Between these two end-points might be included data such as psychological test findings, rating scale results, a patient's narrative of a relationship episode, a dream account, a thought record, a patient's account of automatic thinking or an assertion by the client or therapist that a thought is a core belief. No consensus currently exists on what constitutes appropriate evidence for a case formulation. Therefore, our advice is that therapists create a plausible continuum and use their best judgment in evaluating evidence they gather as they formulate cases.

If the above five goals of case formulation are met, the therapist is well on the way toward developing a productive tool to facilitate treatment. In the following section, we discuss two major sources of hypotheses about clients: theory and evidence.

THEORY AS A GUIDE TO FORMULATION

Earlier we stated that the most important reason to formulate a case is because it provides an opportunity to apply theory and evidence to a specific case. In this section, we provide an overview of some primary sources of theory, illustrating the application of these sources to case formulation. We begin with four major theories underlying broad models of psychotherapy: psychodynamic, cognitive, behavioral, and humanistic.

8 FORENSIC CASE FORMULATION

Psychodynamic Theory

Psychodynamic theory originates in the work of Freud and provides a rich source of inference for case formulation. Beginning with his early formulation that “hysterics suffer from reminiscences” (Breuer and Freud, 1955), Freud has contributed a multitude of ideas that have shaped our understanding of normal and abnormal psychology. Most prominently, these include the notion of psychic determinism and unconscious motivation. The former entails the assumption that all human thought has a specific cause, nothing is random or accidental. The latter is the idea that majority of mental activity is outside of awareness and is goal-directed or purposeful. Other ideas contributed by Freud are that of overdeterminism, the symbolic meaning of symptoms, symptom production as a compromise formation, ego defense mechanisms as stabilizers of the psyche, and the tripartite theory of the mind, that is, its division into id, ego, and superego. Messer and Wolitzky (2007) succinctly grouped contemporary psychodynamic theory, at least as practiced in North America, into three broad categories: the traditional Freudian drive/structural theory, object relations theory, and self-psychology. We will briefly describe each with a focus on what is formulated and why.

The drive/structural theory proposes that human behavior is driven by intrapsychic conflict originating in sexual and aggressive drives that seek pleasure and avoid pain (the “pleasure principle”) but become thwarted when they confront obstacles such as fear, anxiety or guilt. The structural component of the drive model involves the tripartite division of the mind into the id, which is the repository of drives, the superego, which contains both our conscience and who we ideally would become (the “ego ideal”), and the ego, which mediates between the impulses of the id and the strictures of the superego. The ego utilizes defense mechanisms in an attempt to avoid anxiety and maintain psychic equilibrium. When these attempts fail, neurotic symptoms develop. These mental structures and specific defenses arise as the individual navigates through four psychosexual stages – oral, anal, phallic, and genital – each of which is associated with specific conflicts that if not resolved persist into adulthood. The key feature of a case formulation based on the Freudian drive/structural theory is an “emphasis on unconscious fantasy, the conflicts expressed in such fantasy, and the influence of such conflicts and fantasies on the patient’s behavior”, and further, the assumption that these conflicts originate in childhood (Messer and Wolitzky, 2007). Treatment focuses on helping patients appreciate the nature and pervasiveness of their unconsciously driven motives and the ways that they avoid awareness of them.

The object relations perspective on psychodynamics focuses on mental representations of self and other and models of affect-laden transactions between the two. The approach tends to dichotomize self and other into “good” and “bad” components that are often viewed as compartmentalized and not integrated. Defense mechanisms such as projective identification, splitting, and role reversal are used frequently by practitioners of this perspective. Relationships constitute basic drives rather than instinct. Case formulations based on this perspective focus on this inability to integrate, the disavowal of rage toward attachment figures that are also loved and needed. The individual may project an image of self as “good” while projecting the “bad” onto others.

THEORETICAL AND EVIDENCE-BASED APPROACHES TO CASE FORMULATION 9

The self-psychology (Kohut, 1971, 1977) perspective emphasizes the development and maintenance of a cohesive and coherent sense of self. Kohut viewed the self as the center of intention and experience, as the core of our being (Galatzer-Levy, 2003, p. 479). Cohesion refers to a sense of the self as maintaining continuity across time and place. Temporal coherence is the experience of oneself as a person with sameness and history across time. Spatial coherence refers to the sense that various aspects of oneself are alive and share a common intention. Kohut's primary tool for understanding others was through empathic connection and comprehension. He viewed empathy as the ability to understand another's psychological experience, as a kind of vicarious introspection. Using this approach, he identified a number of disturbances in the development of self in his patients. For example, they seemed to experience "empty" depressions, in which life appeared colorless, alienating, pointless, and lacking in vitality. Others experienced traumatic states in which experiences could not be integrated into a coherent sense of self. Kohut also treated people subject to seemingly unexpected, situationally discrepant states of rage. Kohut explained these experiences in terms of caretakers' failure to provide sufficient empathic responsiveness to enable one to develop a cohesive sense of self.

One of Kohut's most distinctive concepts is that of the "selfobject". He posited that the presence of others in one's life is an essential prerequisite for mental well-being. A selfobject is an unconscious mental representation of a connection between self and other, as if the other is an extension of oneself. He identified two basic types of selfobject: idealized and mirroring. An idealized selfobject is revealed in the experience of feeling alive, vital and powerful through one's connection to another whom one admires. As Messer and Wolitzky write, one with an idealized selfobject seems to be saying, "I admire you, therefore my sense of self and self-worth are enhanced by my vicarious participation in your strength and power." A mirroring selfobject vitalizes the self through the sense of being affirmed by others to whom one feels connected. Messer and Wolitzky characterize the mirroring selfobject as, "You admire me, and therefore I feel affirmed as a person of worth." Formulations from the self-psychology perspective emphasize explanations of disturbances in a cohesive sense of self due to failures of empathic responsiveness from caretakers. The nature of the patient's transference to the therapist – as idealizing or mirroring – is an important component to understanding the patient.

Practitioners of psychodynamic therapy can draw from any or all of these basic perspectives in drawing up a case formulation; however, according to Messer and Wolitzky (2007), who in turn draw from Rapaport and Gill (1959), a comprehensive contemporary psychodynamic case formulation should contain five components. First, it should address the patient's major dynamic conflicts, for example, between wishes and the feared consequences of those wishes. Second, it should address those aspects of the patient's personality involved in the conflicts, for example, the id, ego, superego, or inferred selfobjects. Third, the formulation should address the antecedent and developmental events leading to the conflicts. For example, what were the crucial experiences in childhood that gave rise to the patient's current concepts of self and others? Or, what were the episodes of failed empathic responsiveness on the part of caretakers that led to a disturbance in self cohesion? Fourth it should address the adaptive and maladaptive compromise formations that comprise the patient's defensive and coping strategies. Which compromises

10 FORENSIC CASE FORMULATION

are relatively successful accommodations to the conflicts and which ones do not and lead to symptoms? Finally, the formulation should state the degree of conscious awareness of the conflicts.

Cognitive Theories

Theories underlying contemporary cognitive therapies can be traced to the “cognitive revolution”, which took place in the mid-twentieth century as a response to what was increasingly perceived as the inadequacies of behavioristic, stimulus-response models of learning that discounted the role of mentation and human agency (Mahoney, 1991). Borrowing terminology and concepts from information theory, computer science, and general systems theory, the interests of cognitive scientists turned toward “understanding and influencing the fundamental processes by which individual humans attend to, learn, remember, forget, transfer, adapt, relearn and otherwise engage with the challenges of life in development” (Mahoney, 1991, p. 75). As Bruner (1990) put it retrospectively, “that revolution was intended to bring ‘mind’ back into the human sciences after a long cold winter of objectivism” (p. 1). It was further intended “to establish meaning as the central concept of psychology – not stimuli and responses, not overtly observable behavior, not biological drives and their transformation, but meaning” (p. 2). Influential writings at the time included works by Bruner (e.g., Bruner, Goodnow, and Austin, 1956), Chomsky (1959), Festinger (1957), Kelly (1955), Postman (1951), and Simon and Newell (1958).

As the cognitive revolution filtered into the social sciences and psychiatry, multiple theories of cognitive therapy took shape. More than 15 years ago, Kuehlwein and Rosen (1993) identified ten different models of cognitive therapy alone. As Nezu, Nezu and Cos (2007) pointed out, there is no single cognitive therapy, but rather a collection of therapies that share a common history and perspective. They hold in common not only their heritage within the cognitive revolution, but also the assumption that our appraisals of events are much more crucial to our mental well-being than are the events themselves. In this section we will review some of these theories and discuss their implications for formulation. In doing so, we recognize that most of these models also blend elements of behavior theory, which will be discussed later in the chapter. With regard to cognitive theories, we will emphasize Beck’s model since it is the most influential and has been subject to the most empirical scrutiny.

Beck’s (1963) cognitive theory originated from observations of persistent thought patterns in depressed patients he interviewed. These individuals expressed views of themselves as inferior in areas of their lives that mattered to them. They viewed the world as depriving and saw the future as bleak. These observations led Beck to develop his now well-known “cognitive triad”, which is a framework he proposed to describe the automatic and systematically biased thinking of depressed patients. It was later expanded to describe a wide range of problems and psychological conditions. Automatic thoughts are brief, episodic, and often emotionally laden forms of thinking that occur unbidden and are often at the threshold of awareness. For example, one might think, “Writing this chapter is too hard. I’ll

never get it done," which could be followed by a feeling of deflation or demoralization. Negative automatic thoughts are often erroneous, illogical, and unrealistic. Beck identified specific characteristic forms of thought distortion. Examples are arbitrary inferences, selective abstraction, overgeneralizations, catastrophizing, and personalization in which one erroneously explains events in terms of one's own perceived shortcomings rather than considering other explanations (A.T. Beck, 1963; J.S. Beck, 1995).

In addition to the cognitive triad and the notion of cognitive distortions, a third major characteristic of Beck's cognitive theory is the idea of schemas. These refer to tacit, organized cognitive structures that influence perception and appraisal. The schemas give rise to beliefs about the self, world and future. At the most fundamental level are "core beliefs" (J.S. Beck, 1995), which are the most fundamental layer of beliefs and are assumed to develop in childhood and to be global, rigid and overgeneralized. In their negative form they tend to focus on beliefs of helplessness or unlovability. Between core beliefs and situationally specific automatic thoughts lie "intermediate beliefs", which are rules, attitudes and assumptions that are more subject to revision and change than core beliefs but less so than automatic thoughts.

The ideas reviewed above are relevant to cognitive case formulation in that formulation within a cognitive model entails identifying the client's automatic thoughts, intermediate beliefs and core beliefs (J.S. Beck, 1995). Second, the assumption that characteristic patterns of thinking are specific to diagnostic categories suggests that implicit nomothetic explanatory mechanisms underlie diagnoses and can serve as templates for formulations (Persons, 2008). If the template fits the client, an empirically supported treatment may be suitable for the individual in question.

Other cognitive theories of therapy have also developed since the cognitive revolution. These include those of Ellis (1994; 2000), Young (1990); Young *et al.* (2003), and Hayes and Strosahl (2004). A distinctive style of formulation can be identified from each of these approaches.

Behavioral Theories

Behaviorism offers a rich theoretical source of ideas for case formulation. It represents a departure from the structuralism of the cognitive approach (Sturmey, 2008). The previous approaches all posit the existence of presumed cognitive structures that influence behavior, cognition and affect. Rather than viewing behavior as primary data, cognitive approaches see it as a derivative of unseen mental structures. One problem with structurally based explanations is that they may be based on circular reasoning. As Sturmey (2008) writes, "Cognitive psychologists use behavior to infer the presence of the unobservable structures . . . then use the unobservable structure to explain the observable behavior" (p. 9).

Behaviorists have made three distinct contributions to the field of case formulation (Eells, 2007). First, consistent with their emphasis on observable behavior, they place primary emphasis on understanding and modifying symptoms. Using functional analysis, they examine the antecedents and consequences of symptoms

12 FORENSIC CASE FORMULATION

in order to change them. They also look at what events elicit and reinforce symptomatic behavior. From this standpoint, behaviorism is an inherently practical approach to helping people.

Second, behaviorists emphasize the influence of the environment on behavior. A behavior analysis always examines what characteristics of an individual's immediate surroundings may be affecting behavior. The presence of alcohol in the home of a person with alcohol dependence, for example, is likely to increase the chance of continued abuse. Removing the alcohol can play a major role in helping the person. This environmental emphasis is also less stigmatizing since it rejects the assumption that the source of problems is something inherent within the individual.

A third contribution of behaviorism to case formulation is its emphasis on empirical assessment to test a formulation. Evidence of the accuracy of a behavioral assessment is readily determinable since behavioral tests can be run. For example, Wilder (2009) hypothesized that delusional behavior exhibited by a young male with schizophrenia could function either as attention-seeking behavior, as an attempt to escape work, or as self-stimulating activity. In developing his formulation, he devised separate behavioral tasks to determine which of these hypotheses is supported.

Behavioral approaches can be broadly categorized as based on operant or respondent learning. In the following two sections, we will describe each, showing their application to formulation.

Operant Conditioning

Operant conditioning models focus on the antecedents and consequences of behavior. For example, habit reversal is a technique based on operant learning that is intended to reverse problematic behavior such as trichotillomania and tics by identifying the antecedent and consequent reinforcers of these behaviors then changing them to eliminate the behavior. Case formulation from the operant conditioning perspective involves conducting a functional analysis of behavior. Skinner (1953, p. 35) defined functional analysis as follows:

The external variables of which behavior is a function provide for what may be called a causal or functional analysis. We undertake to predict and control the behavior of the individual organism. This is our "dependent variable" – the effect for which we are to find the cause. Our "independent variables" – the causes of behavior – are the external conditions of which behavior is a function. Relations between the two – the "cause-and-effect relationships" in behavior – are the laws of a science. (p. 35)

Since Skinner, the term has been expanded to describe a wide range of interventions. Functional analysis is at the core of most behavioral case formulation approaches and some cognitive-behavioral approaches (Haynes and Williams, 2003; Nezu, Nezu and Cos *et al.*, 2007; Persons, 2008). Functional analysis should take into account several aspects of operant conditioning. These include establishing operations (such as satiation or deprivation states), adaptive and maladaptive

shaping, adaptive and maladaptive extinction, modeling, chaining, avoidance and escape activity that may preempt positively reinforced activity, consequences of debilitating naturalistic schedules of reinforcement, punishers, and variability of behavioral repertoires (Ferster, 1973; Sturmey, 2008).

As Sturmey (2008) notes, the operant conditioning framework provides a structure for case formulation since operant learning is involved in the acquisition and maintenance of many forms of maladaptive behavior. For example, a depressed individual may withdraw interpersonally, missing out on reinforcers that would counter depressive affect. In addition, others may avoid the depressed person, thus maintaining maladaptive avoidance and isolation. A case formulation based on operant conditioning should assess these possibilities and identify the contingencies that may be maintaining the problematic behavior. It could also include hypotheses about why current contingencies do not support adaptive behavior and why contingencies that once supported independence are no longer present. Clinicians could also consider schedules of reinforcement operable in the client's life. A variable ratio schedule should result in higher rates of responding than a fixed ratio schedule. Consequently, a clinician observing high rates of behavior might infer the presence of variable ratio schedules. Conversely, low rates of desired behavior may indicate reinforcement schedules for these behaviors that are weak or perhaps punishing. The clinician can evaluate not only the rate and frequency of reinforcement but also how immediately the consequences occur and whether they comprise primary or secondary reinforcement. The clinician can also assess whether behaviors are or are not under stimulus control. For example, a chronically anxious client may lack stimulus control of relaxation (Sturmey, 2008). Interventions can be planned accordingly, for example, teaching the client to take deep breaths, think pleasant thoughts, or engage in imagery while present in anxiety arousing environments. As a final example, behavioral chaining can be analyzed and treatment plans developed to help the client learn alternative behavior (Koerner, 2007).

Respondent Conditioning

In contrast to operant behavior, which is controlled by its consequences, respondent behavior is elicited by its antecedents. The classic example is that of Pavlov's dogs who were trained to salivate at the sound of a bell. This was accomplished by pairing the presentation of meat, which elicited salivation, with the presentation of the bell. When the pairings occurred enough times, the bell alone could elicit salivation. The meat is considered to be an unconditioned stimulus (US) and salivation an unconditioned response (UR). The bell came to serve as a conditioned stimulus (CS) that could elicit what is now considered a conditioned response (CR), that is, the salivation. Respondent behavior is said to be rooted in responses that are naturally occurring as a result of our evolutionary past. Examples of unconditioned responses are fear at the site of a genuine threat to life, hunger when food is present, startling in response to a loud sound, and recoiling from a bitter smell. These responses share the characteristic of being unlearned. They can all, however, be brought under the control of other stimuli through pairings, such as the bell with the meat in the case of Pavlov's dogs. For example, repeated exposure to gunfire (UCS) in war settings setting off a startle response can create an exaggerated startle

14 FORENSIC CASE FORMULATION

response in a veteran such that the sound of a car door closing (CS) elicits a startle response (CR), as well as fear associated with the war experience. Respondent conditioning has been associated with many psychological disorders, including post-traumatic stress disorder, phobias, and obsessive-compulsive disorder.

There are several principles of classical conditioning that one can use to understand how psychological disorders develop, are maintained and may be treated (Persons, 2008; Sturmey, 2008). These, in turn, can be incorporated into a case formulation. One principle is that the greater number of pairings of a CS and a UCS, the more likely the CS is to elicit a CR. For example, the more often one experiences a spontaneous panic attack (a UCS that elicits a UCR of fear) while at a restaurant (CS), the more likely visiting a restaurant may elicit a panic attack (which is now a CR).

Another principle is that when a CS occurs repeatedly in the absence of a UCS the CS exerts less and less control over the CR. This is the principle underlying the behavioral technique of flooding, which has been used to treat phobias and other anxiety disorders. Flooding involves repeated exposure to a CS (e.g., plastic spiders, heights, public speaking) until it is no longer able to elicit a CR (fear).

A third principle is that counterconditioning, or elimination of a CR, occurs when one pairs a CS to a UCS that elicits a new response that is incompatible with the old one. This is the principle that underlies Wolpe's systematic desensitization technique for treating phobias and anxiety. Wolpe held that one cannot simultaneously experience relaxation and fear. In systematic desensitization, one first teaches the patient relaxation exercises. Then, when the patient is relaxed, he or she is exposed to increasing levels of anxiety arousing experiences until those experiences no longer elicit anxiety.

Case formulation from the standpoint of respondent conditioning has several components. First, the therapist must identify events that serve as the UCS, CS, US and CR. Second, the therapist should be alert to how these can be affected by other factors. Third, the clinician should consider the relationship between stimulus and response pairings. For example Bouton (2002) summarized evidence that extinction of a CS-CR pairing does not eliminate a link to the UCS, but rather establishes alternate, benign associations to the CS. If true, extinction is rarely permanent, an important consideration in treatment planning. Fourth, the therapist should inquire closely into the patient's actual experience when symptomatic behavior occurs. Presumed exposure to a CR, for example, may not be what it appears to be. To illustrate, Behar and Borkovec (2006) propose that generalized anxiety disorder (GAD) persists despite the patient's repeated exposure to anxiety arousing events due to compensatory mechanisms aimed at psychologically avoiding the CR. For example, GAD patients tend to worry or ruminate rather than immerse themselves experientially in the threatening situation. Were they to do so repeatedly, the consequent exposure would theoretically lead to extinction.

Humanistic Theory

Humanistic theory emerged in the 1950s as an alternative to the determinism of the psychodynamic and behavioral approaches current at the time. In contrast to the

view that humans are the inevitable product of their reinforcement history and environment or of their unconscious minds, the humanistic framework sees humans as self-actualizing and goal-directed. The task of therapy is to provide a nondirective, empathic and supportive environment in which the client can recapture his self-actualization tendency. From this standpoint, formulation or “psychological diagnosis” was de-emphasized and viewed as potentially detrimental to the therapeutic process (Rogers, 1951). As Rogers (1951) wrote,

the very process of psychological diagnosis places the locus of evaluation so definitely in the expert that it may increase any dependent tendencies in the client, and cause him to feel that the responsibility for understanding and improving his situation lies in the hands of another. (p. 223)

In addition, to the extent that the client comes to see the therapist as the only person who can really understand him, there is “a degree of loss of personhood” (p. 224). A second objection to formulation from the humanistic point of view is based on social and philosophical grounds: “When the locus of evaluation is seen as residing in the expert, it would appear that the long-range social implications are in the direction of the social control of the many by the few” (p. 224).

Notwithstanding these objections, a distinct theory of personality emerged from the humanistic standpoint that can be formulated. Rogers posited that human nature is driven by one master motive: the self-actualizing tendency, which is an inherent drive to survive, grow and improve. Further, we all live in a subjective world through which we assess what is consistent or inconsistent with self-actualization. The self emerges from experience, and develops positively when met with unconditional positive regard from others. When it is not, incongruence develops as an individual no longer grows in a manner consistent with the self-actualizing tendency. The self as experienced is incongruent with the real or genuine self. The task of therapy, therefore, is to facilitate greater congruence. When collaboratively developed, formulation can potentially facilitate such a process.

Other theories identified within the humanistic tradition have been developed by Maslow (1987), Kelly (1955), Perls, Hefferline and Goodman (1965) and more recently, by Greenberg (2002) and Bohart and Tallman (1999), among others. It is noteworthy that contemporary proponents of the humanistic school are more accepting of formulation as a useful tool in therapy, although the emphasis tends to be on formulating moment-by-moment experiences rather than developing a global case formulation (Greenberg and Goldman, 2007). As noted elsewhere (Eells, 2007), the primary contributions of humanistic psychology to formulation include its emphasis on the client as a person instead of a disorder, the focus on the here-and-now aspect of the human encounter rather than an intellectualized “formulation”, and its view of the client and therapist as equal collaborators. An additional contribution of the humanistic approach is its emphasis on humans as capable of self-determination and free choice.

Eclectic Approaches

Before leaving this section on theoretical contributions to case formulation, we note that a number of case formulation approaches and theories about the development of psychological disorders blend two or more of the approaches we have described. One example based on animal research is Mowrer's (1960) theory of the development and maintenance of fear. He posits that respondent conditioning establishes fear and operant conditioning maintains it through negative reinforcement of avoidance responses. This theory is the basis of modern exposure-based treatments of phobias and other anxiety disorders. Wachtel (1977) gives other examples of how common disorders can be viewed compatibly within both the behavioral and psychodynamic perspectives. The combination of cognitive and behavioral approaches is also characteristic of several structured case formulation approaches.

EVIDENCE AS A GUIDE FOR FORMULATION

As noted above, the APA Task Force on Evidence-Based Practice recommends that systematic case formulations be based on empirically supported principles. In this section we describe five sources of evidence that can guide case formulation. One draws from the patient, one from the psychometric tradition, and three from the base of empirical knowledge within psychology.

The Patient as a Guide

When discussing definitions of case formulation we emphasized their hypothetical nature. That is, a formulation should be considered a hypothesis to be revised as indicated and warranted. It must be tested against the patient's response to interventions based on it. Evidence from the patient can include (1) direct feedback when the formulation is presented by the therapist, (2) narratives the patient tells that either confirm or disconfirm the hypothesis, (3) dreams or fantasies the patient reveals in therapy, (4) changes in the patient's symptoms based on interventions consistent with the formulation, and (5) autobiographical information the patient discloses. Although the patient is a crucial source of information to refine and revise the formulation, the therapist should attempt to understand the material in the context of the scientific evidence base in psychology.

Psychometric Applications

Psychometric data can provide useful information for case formulation. Studies have shown that structured interviews, personality inventories, and brief self-rated and clinician-rated measures provide incremental validity regarding diagnosis, assessment of psychopathology and personality, and prediction of behavior, although the contribution to case formulation validity itself is unexplored

(Garb, 2003). The use of symptom rating scales is recommended by a number of case formulation experts (Kuyken, Padesky and Dudley, 2009; Persons, 2008). These provide a time efficient, reliable and valid way of assessing the range of problems, current level of general distress, red flag issues (e.g., dangerousness), and social and adaptive functioning (A.T. Beck *et al.*, 1988; A.T. Beck *et al.*, 1961; Derogatis, 1983; Halstead, Leach and Rust, 2008; Lambert and Finch, 1999). Further, comprehensive personality tests such as the Minnesota Multiphasic Personality Inventory or the Personality Assessment Inventory can provide useful information for case formulation that allows the therapist to compare the patient's responses against a standardization sample. Interview-based measures can also be helpful, for example the Structured Clinical Interview for DSM Disorders (SCID) (First *et al.*, 1995; Spitzer *et al.*, 1992).

Psychotherapy Process and Outcome Research

Psychotherapy models investigated in efficacy studies contain implicit mechanisms of change and, thus, implicit case formulations. Since these implicit formulations are linked to outcome data, they can be useful starting points for individual formulations. Persons (2008) recommends that these implicit case formulations within empirically supported treatments serve as default nomothetic formulations that are then tailored for individual patients. One should be cautioned, however, that little is known about these presumed mechanisms. Kazdin (2007) has observed that although cognitive-behavior therapy is effective for depression, evidence suggests that symptom change occurs before a change in cognition, which runs counter to the model's assumption that a change in cognition will lead to a change in symptoms. Improving our understanding of the processes involved in helping individuals with specific problems and diagnoses will be important for case formulation. As Kazdin (2008, p. 152) wrote,

Evidence-based mechanisms of change could prove to be even more interesting or important than EBTs [evidence-based treatments]. We might be able to use multiple interventions to activate similar mechanisms once we know the mechanisms of change and learn how to optimize their use.

Psychopathology Research

Research on psychopathological processes is also relevant for case formulation. The more we understand the predictors of psychopathology and the mechanisms that underlie, precipitate and maintain these conditions, the better we can plan treatment for them. One example is the role of rumination in depression (Nolen-Hoeksema, Wisco and Lyubomirsky, 2008). Rumination as a thinking process is characterized by a perseverative, passive, and nonproductive fixation on symptoms of distress and the possible causes and consequences of the distress, but without any active attempt at problem solving. Nolen-Hoeksema and colleagues have demonstrated that rumination exacerbates depression, enhances negative

18 FORENSIC CASE FORMULATION

thinking, impairs problem solving, erodes social support and interrupts instrumental behavior. Rumination predicts the onset of depression, may contribute to its course, and may also contribute to disorders such as anxiety, post-traumatic stress disorder, binge-eating, binge-drinking, self-harm, and maladaptive grief reactions. These researchers have also investigated methods to combat rumination, such as distraction and increasing awareness of its nonproductive and negative function. This research can inform case formulation and treatment planning. It helps the therapist recognize the seductive but deceptive nature of rumination as a phenomenon that gives the appearance of solving problems when in reality it is a problem in itself. Other examples include research on anxiety (Mineka and Zinbarg, 2006), on adverse effect of repressive coping on subjective well-being (DeNeve and Cooper, 1998), and on the function of psychotic symptoms (Freeman, Bentall and Garety, 2008).

Epidemiology

Epidemiology is the study of “how disease is distributed in populations and of the factors that influence or determine its distribution” (Gordis, 1990, p. 3). It includes study of the causes of disease, including mental disorders, and associated risk factors, the extent of disease in a population, and the natural history and prognosis of disease. Unlike psychotherapy, which primarily focuses on the individual, epidemiology focuses on entire populations.

Epidemiology can be helpful in case formulation in a number of ways. First, epidemiological information can sensitize the clinician to how psychological conditions are predicted by factors such as low socioeconomic status, general disease status, and neighborhood safety. This knowledge can help the clinician gain insights into the individual’s condition, assess prognosis, and plan interventions. Second, epidemiological information helps the clinician understand what is normative in a community. Deviations from this norm inform case formulation. Third, epidemiology can help the therapist form prognoses. Knowledge of the natural course of disorders such as depression (Kessler and Wang, 2009; Wells *et al.*, 1992) or alcoholism (Vaillant, 1995), for example, helps a therapist predict risk and shape treatment. Fourth, epidemiological information can help the clinician predict comorbidity. Knowing that alcohol abuse commonly co-occurs with social anxiety (Randall *et al.*, 2008), for example, should lead the therapist to thoroughly assess substance abuse in the socially anxious individual. Fifth, base rate information can help predict sources of problems. A patient with borderline personality disorder may claim to be a victim of ritualistic abuse, but even our imperfect knowledge of the prevalence of such activity can help the therapist put such claims into a probabilistic context (Frankfurter, 2006). In addition, knowledge of differences among psychological disorders related to age of onset, gender, ethnicity, and region facilitates the development of explanatory mechanisms. Tarrrier and Calam (2002) noted that causal inferences in case formulation are more credible when based on epidemiological data relevant to base rates associated with the development of a disorder rather than the patient’s retrospective recall of life events. The latter form of inference risks tautology and is subject to error in retrospective recall. Sixth,

epidemiological data can help the clinician assess risk factors a patient faces. For example, knowledge of the relative risk factors for suicide attempts and suicide gestures can inform a case formulation and treatment plan (Nock and Kessler, 2006). Seventh, epidemiology data can help with treatment planning and motivation. Explaining risk of heart disease and diets, for example, can be part of treatment for obesity. Epidemiologically derived knowledge of the benefits of exercise, combined with a clinicians' skill in developing behavioral plans, can combine to treat obesity.

The seven sources of evidence just reviewed provide a broad knowledge base that can be paired with theoretical models. Together, they form the basis for a comprehensive formulation. Additionally, several structured case formulation models have been developed. These case formulation models can be used in developing formulations for individual clients. In the following section, we describe several of these structured case formulation models.

STRUCTURED SYSTEMATIC CASE FORMULATION MODELS

Several decades ago, psychotherapy researchers and clinicians began developing systematic, structured methods of psychotherapy case formulation. They emerged as part of the need to develop systematic manuals to study psychotherapy research outcomes, as well as to facilitate clinical work. As more of these methods were developed, a major concern was that they be both reliable and valid. Reliability refers to the extent to which independent clinicians can develop similar formulations based on the same case material. Validity refers to the extent that the resulting formulations predicted events in therapy.

Initial efforts to measure reliability were not encouraging (Seitz, 1966) as it appeared that therapists tended to focus on different aspects of case material, to make inferences that went too far beyond the available supporting data, and presented the formulation in formats that were difficult to compare. The newer structured case formulation methods produced much more reliable formulations owing to a number of features they shared. First, they structured the formulation by identifying preset categories of information necessary for the formulation. These include categories such as a problem list, core beliefs, schemas of self and other, relationship schemas, defense or coping styles, strengths/assets, and precipitants. Second, they involved relatively low-level inferences, often by linking inferences directly to case material such as therapy transcripts. There was no effort to infer "deep" psychological structures; rather, all inferences could be traced to biographical information or other statements or narratives provided by the client. Third, the process for case formulation was well-defined and structured. Finally, the therapists producing the formulations underwent training in the method. In the following section, we review some of these structured case formulation methods.

Core Conflictual Relationship Theme

Based on the psychodynamic concept of therapeutic transference (Freud, 1958a, 1958b; Luborsky *et al.*, 1991), the Core Conflictual Relationship Theme (CCRT) was

20 FORENSIC CASE FORMULATION

developed by Luborsky (1977), and is the earliest and most researched relationship-based structured formulation model. The CCRT assumes that early interpersonal experiences predict later interpersonal relationship patterns. When early interpersonal experiences are traumatic, they serve as maladaptive interpersonal templates that harm the individual in later life. The CCRT is identified primarily by focusing on the person's relationship narratives in therapy. From these narratives, the clinician identifies the client's most common interpersonal wishes, the expected responses of others to those wishes, and, in turn, the responses of the self to the expected responses from others. The most frequent of these wishes and responses comprise the CCRT.

A relatively simple and basic case formulation method, the CCRT is reliable and has convergent validity with similar, interpersonally focused methods (Luborsky and Barrett, 2007). It has been linked to therapy outcome and to symptom onset in therapy sessions; further, CCRTs tend to remain consistent longitudinally, across different relationships and throughout a course of therapy. They have also been associated with specific diagnoses and defense styles (Luborsky and Barrett, 2007).

Role Relationship Models Configuration

The Role Relationship Model's Configuration (RRMC) method expands upon the CCRT by, among other changes, positing a set of CCRTs formed into a configuration of wishes, fears, and compromises to those wishes and fears, and by adding inferences about the individual's concepts of self and others (Horowitz, 2005, 1991b). The theoretical basis of the RRMC is person schemas theory (Horowitz, 1991a), which seeks to integrate elements of psychodynamic and cognitive theory. Person schemas theory assumes that an individual's maladaptive interpersonal behavior patterns, including emotions, perceptions, memory, and actions in interpersonal situations, are organized by mental representations of the self, others, and the self with others. Like the CCRT, the RRMC has demonstrated good reliability and convergent validity.

Control Mastery Theory and the Plan Formulation Method of Case Formulation

With roots in both psychodynamic and cognitive theory, Weiss' control mastery theory (1993; Weiss and Sampson, 1986) begins with the assumption that humans have evolved to need stable attachments to others, a reliable conception of reality, and safety (Silberschatz, 2005a). From this starting point, Weiss asserts that psychopathology stems from "pathogenic beliefs" originating in traumatic childhood experiences. These beliefs are unconscious, powerful, emotion-laden, threatening, and emotionally distressing. They organize perception in close relationships throughout a person's life and function to preserve stable relationships, but can also damage one's personal development. Burdened by these pathogenic beliefs, individuals develop an adaptive and usually unconscious "plan" to disconfirm

their own pathogenic belief. The plan organizes behavior, including the choice to enter therapy. The goal of therapy is to facilitate the patient's plan; therefore, it unfolds as a series of tests the patient engages in to determine whether the pathogenic beliefs can be safely abandoned.

The Plan Formulation Method (Curtis and Silberschatz, 2005) is the case formulation model developed for therapy based on control mastery theory. Since planning treatment is highly individualistic, the development of an idiographic case formulation is essential. The formulation has the following components and steps: (1) identify traumas the patient has experienced; (2) infer the resulting pathogenic beliefs; (3) identify the "potential behaviors, affects, attitudes or capacities" (Curtis and Silberschatz, 2005, p. 89) the patient would like to adopt, in other words, the patient's goals; (4) predict the "tests" the patient will employ in therapy to disconfirm pathogenic beliefs; and (5) identify the insights or knowledge to be acquired during therapy that will help the patient achieve his or her goal. The Plan Formulation Method has been demonstrated to have excellent reliability and predicts both process and outcome events in therapy (Silberschatz, 2005b).

Beck's Cognitive Case Formulation Method

Beck (1995) developed a basic formulation approach for cognitive therapy. The formulation links automatic thoughts to deeper-level beliefs and the experiences that led to their development. The therapist first identifies automatic thoughts and their associated emotions and behavior and then links these thoughts to compensatory strategies, intermediate beliefs such as assumptions and rules, and core beliefs. The core beliefs are traced to experiences that contributed to their development and maintenance. When the formulation is complete, the therapist has mapped out past experiences that led to core beliefs, the resulting intermediate beliefs, and the compensatory strategies that developed in response to automatic thoughts that are associated with specific situations, emotions, meanings, and behavior.

Persons' Cognitive-Behavioral Formulation

Persons and colleagues developed a cognitive case formulation approach emphasizing hypothesis testing (Persons, 1989, 2008; Persons and Tompkins, 2007). After assessment information is gathered, the therapist generates a comprehensive list of the client's problems from which a multi-axial DSM diagnosis is assigned and an anchoring diagnosis is selected. The anchoring diagnosis is used to develop a nomothetic formulation which serves as a template of the psychological mechanisms hypothesized to be at work. The nomothetic formulation is derived from formulations that are implicit in empirically supported treatments or derives from cognitive and emotional theory. The nomothetic template is then individualized to account for client-specific details, including items on the problem list. The clinician hypothesizes mechanisms about how those problems are maintained, infers the origin of the mechanisms, and the precipitants that trigger the mechanisms

22 FORENSIC CASE FORMULATION

causing the problems. This information is then used to develop a comprehensive treatment plan.

Collaborative Cognitive Case Conceptualization

Kuyken, Padesky and Dudley (2009) developed a distinct approach to cognitive case conceptualization, emphasizing collaborative empiricism and building on the client's strengths. Collaborative empiricism involves "integrating the client's experience with appropriate theory and research in an unfolding process of generating and testing hypotheses" (p. 27). Emphasizing client's strengths incorporates resilience into a treatment plan, thus enhancing chances of a lasting recovery. These authors describe three levels of conceptualization: Descriptive, cross-sectional, and explanatory. The descriptive level involves eliciting and characterizing the client's presenting issues in cognitive and behavioral terms and in the context of relevant cognitive-behavioral theory (CBT) and research. The goal is to connect the client's experiences with the descriptive language of CBT theory. The cross-sectional level of conceptualization focuses on understanding the triggers and maintenance factors of a client's problems. The primary task is to use cognitive and behavioral mechanisms to explain the situations in which the triggers arise and the factors operating to maintain the problems. The explanatory level of conceptualization seeks to understand predisposing and protective factors. Developmental history is used to understand and contextualize the current problems.

Haynes' Functional Analytic Clinical Case Models

Haynes' Functional Analytic Clinical Case Models (FACCMs) approach is an elaborated functional analysis of behavior problems (Haynes, Leisen and Blaine, 1997; Haynes and Williams, 2003). The method produces an individualized behavioral treatment plan based on the clinician's judgments about specific problems that have been identified. It considers the impact of situational factors, events that trigger and maintain problems, and the behavioral skills with which a client enters treatment. More specifically, the FACCM approach involves the clinician's analysis of the relative importance, interrelationships and effects of behavior problems and goals. It includes inferences about causal mechanisms and their clinical utility, and an assessment of how causal mechanisms operate and are related to problem behaviors. The clinician also assesses moderating variables and estimates their impact. A diagram is then produced that depicts the problems, the inferred causes, mediating variables, and the interrelationships among them. The diagram includes numerical estimates of the impact of the problems, estimates of how modifiable the causal variables are, and estimates of the likelihood that interventions under consideration will have an impact. The FACCM guides the therapist in determining which problems and causal variables to target in treatment and which interventions may have the greatest effect.

A Problem-Solving Perspective for CBT Case Formulation

Nezu's problem-solving model of case formulation (Nezu and Nezu, 1993; Nezu and Nezu, 1989; Nezu *et al.*, 2007; Nezu, Nezu and Lombardo, 2004) is also based on functional analysis and is similar in other respects to Hayne's FACCM approach. It is distinctive in its major emphasis on goal analysis and goal setting. In goal setting the clinician first identifies ultimate outcome goals (Nezu *et al.*, 2007). These are the primary goals the therapy aims to achieve and reflect the reason for the therapy in the first place. Ultimate outcome goals may include relieving depression, improving a marital relationship or eliminating a phobia. They may be contrasted with instrumental outcomes, which are goals that serve as instruments for the attainment of the ultimate outcomes. For example, increasing self esteem may help relief depression. Instrumental outcomes may also serve as instruments for the attainment of other instrumental outcomes that eventually lead to an ultimate outcome. For example, improving coping skills can lead to increased self efficacy that, in turn, leads to reduced depression. The problem-solving approach to case formulation involves a systematic analysis that leads to the identification of ultimate outcomes, the instrumental outcomes that help the client achieve the ultimate outcome, and the relationships among them.

Emotion-Focused Therapy Case Formulation

Emotion-focused therapy (EFT), developed by Leslie Greenberg (2002), has roots in the humanistic experiential tradition, and also in modern emotion theory and affective neuroscience (Greenberg and Goldman, 2007). Unlike the other case formulation methods described, it focuses on the moment-to-moment experiences unfolding in therapy and the attendant emotion, with a goal of strengthening the self. It does not involve developing a global case formulation of a client. "In EFT, formulations are never performed a priori (i.e., based on early assessment) as we do not attempt to establish what is dysfunctional or presume to know what will be most salient or important for the client" (Greenberg and Goldman, 2007, p. 380). The major means of formulation is "process diagnosis", whereby the focus is on how people are currently experiencing their problem and whether they are doing so in an adaptive manner aimed at resolution, or not. Formulations are developed and redeveloped continually in a collaborative fashion with clients. The case formulation aspect of the therapy involves "identifying the client's core pain and using that as a guide to the development of a focus on underlying determinants generating the presenting concerns" (Greenberg and Goldman, 2007, p. 384). Presenting problems are viewed as reflections of "underlying emotion-schematic processing difficulties" (p. 384). Put another way, the approach attends primarily to diagnosing clients' manner of cognitive-affective processing rather than diagnosing clients per se. The therapist aims to identify markers of current emotional concerns and tasks to help resolve these concerns. Markers are client statements or behaviors that signify problems in need of attention as possible determinants of the presenting problem. These markers guide intervention, rather than an explicit case

24 FORENSIC CASE FORMULATION

formulation. Emotion-focused therapy, based on this approach to formulation, has been demonstrated to be efficacious for those with major depression (Goldman, Greenberg and Angus, 2006; Greenberg and Watson, 1998).

A GENERAL FRAMEWORK FOR FORMULATION

Thus far we have defined formulation and made a case for its importance. We reviewed a range of theories and a variety of empirical sources that inform formulation. We then reviewed several structured case formulation models that can also be used as a basis for developing a case formulation. With all this theory, these sources of empirical evidence, and these formulation models available, how should one choose among them? The clinician committed to a single theoretical orientation could answer this question straightforwardly simply by disregarding the approaches that do not fit his or her orientation. We do not recommend this approach since we believe that each theory, source of information and formulation model has something to offer. For this reason, we recommend initial consideration of several models, recognizing that there is overlap among a number of them. Several of the structured models and theories, for example, share the concept of a cognitive schema that predicts behavioral tendencies. In addition, different theories tend to focus on different aspects of functioning. Behavioral models focus on symptom production and maintenance whereas psychodynamic models tend to emphasize personality organization, internal conflict, and the quality of interpersonal relationships. Cognitive models emphasize relatively accessible thought processes and how they shape behavior. These features need not be incompatible.

In order to facilitate the choice among theories, models, and empirical sources, we recommend beginning with a general case formulation framework. Several are available in the literature (Eells, Kendjelic and Lucas, 1998; Meier, 2003; Mellsoy and Banzato, 2006; Porzelsius, 2002; Sperry *et al.*, 1992). In addition, some methods designed for specific theoretical approaches are adaptable to a general model (e.g., Persons, 2008). All these methods view case formulation as lying between data gathering and formally providing treatment. Further, psychological problems are viewed within a diathesis-stress framework in which a mechanism is proposed that reflects a vulnerability on the part of the individual toward the development of problems and precipitants are proposed that trigger symptoms or episodes of distress.

We propose the general model depicted in Figure 1.1, which due to space limitations we can only describe in a cursory fashion. As shown, the case formulation process is embedded in a general therapy model. Formulation itself occurs after information gathering and prior to providing treatment, although in actual practice one moves more fluidly among these stages. The model begins with gathering information because case formulation requires inputs. Information gathering can include a standard intake interview in which the clinician learns the presenting complaint, the history of the complaint, past history of mental health problems, medical history, the current living situation, developmental and social history, and related information (Morrison, 1993). In addition to gathering these biographical

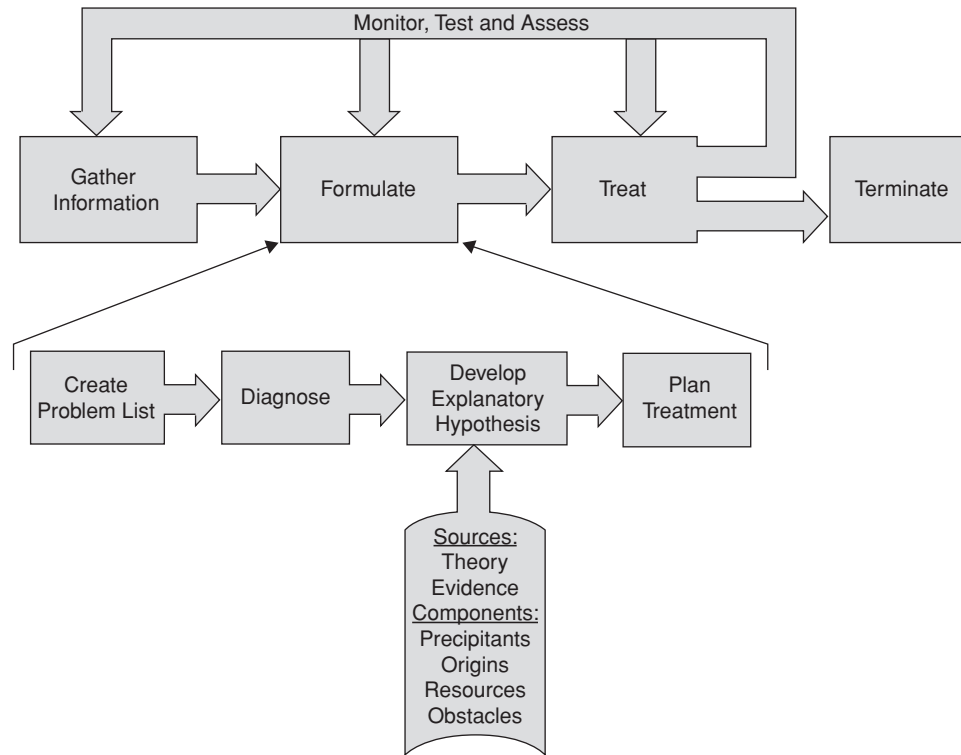


Figure 1.1 General case formulation mode.

details the clinician will likely want to know the client's appraisals of the events described (Eells and Lombart, 2004). Other sources of information may be psychological testing results, symptom measures, medical records, and records from previous episodes of psychological treatment as well as information from family members. All this information serves as input to help develop the formulation.

The general case formulation model itself has four major components. First is the identification of a set of problems to work on. These may or may not be the initial problems the client presents. Eliciting and collaboratively agreeing on the problems to focus on is a critical task since it is the problems themselves that are formulated. These goals should be specific, measurable, achievable, realistic, and timely. The second step is diagnosis. Despite controversies regarding the value of psychological diagnosis, we conclude that it is essential for at least three practical reasons. First, many treatment protocols are designed for individuals meeting specific diagnostic criteria. Knowledge of diagnosis, therefore, helps the clinician select treatment and, since treatment models contain implicit formulations and are linked to diagnoses, diagnosis can provide an initial lead on developing an explanatory hypothesis. Second, diagnosis facilitates communication among mental health professionals. If the client is obtaining concurrent services from others, such

26 FORENSIC CASE FORMULATION

as psychopharmacological treatment from a psychiatrist, providing that individual with diagnostic information can facilitate communication and consequently treatment. Third, diagnosis is often a practical necessity in order to bill and collect for one's services.

The third step in the general formulation model, developing the explanatory hypothesis, is the most crucial. It is the step in which the theoretical and evidentiary sources described earlier in this chapter come to bear on a specific individual. Multiple explanatory hypotheses can often be proposed for a specific set of problems. There may not be a single correct explanation. Rather, the power of the explanatory hypothesis is evidenced primarily in its practical application. Nevertheless, we suggest that a high-quality explanatory hypothesis be adequately comprehensive in explaining the items on the problem list, be sufficiently elaborated and complex in linking together multiple facets of the individual's functioning, be coherent in the sense of being internally consistent, be precise in the use of language, and be the product of systematic approach to formulation. Although the explanatory hypothesis could have multiple and varying components depending on the specific model one is following, we suggest that four are of primary importance. First, consider precipitants. These are events, stressors, experiences, or appraisals that trigger the onset of symptoms or the hypothesized mechanism that leads to symptoms. Second, provide an account of the origins of the proposed mechanism. This can include a hypothesized learning history that led to the individual's vulnerability to the problems. Alternatively it can include traumas or empathic failures that hurt the person, genetic or other biological vulnerabilities, or contributing cultural factors. Third, consider the individual's personal resources or strengths. These can be used to marshal hope, motivation, and leverage to recover.

Examples of resources include unimpaired areas of functioning, premorbid functioning, intelligence, inferred level of psychosocial development, social support, capacity for pleasure, and sense of humor or irony. The final component we suggest for all formulations is a listing of obstacles that may impair a successful treatment outcome. These can be quite varied. Examples may include primitive or image distorting defense mechanisms, dichotomous thinking patterns, low capacity for the tolerance of ambiguity, poor social skills, financial problems, poor housing or living in a crime-ridden neighborhood, or lack of social support.

The final step in the general case formulation model is that of treatment planning. It is also a critical step since it provides the link from the explanatory hypothesis to treatment implementation. Without a well thought out treatment plan, formulation is little more than an intellectual exercise. Regardless of its specific details, the treatment plan should flow directly and logically from the prior formulations steps and it should be sufficiently well elaborated and sequenced. One approach, as discussed earlier, is to begin with ultimate aims or goals for the treatment, then list process or instrumental goals that, if accomplished, should lead to the desired ultimate outcome.

Once the formulation is developed, it should be testing in treatment and revised as necessary. Note the feedback loops in Figure 1.1. These depict the process of regular monitoring of outcome, or testing and revising the formulation, and of constantly assessing progress or the lack thereof. The final step, as shown, is termination.

PRACTICAL TIPS FOR CASE FORMULATION

We conclude this chapter with some practical tips to consider in formulation. First, write down the case formulation be written down and reference it prior to each session, at least the early sessions. In our experience, writing down the formulation facilitates a well thought out and comprehensive product. Often sketching a diagram rather than preparing a narrative helps to depict relationships among components of the formulation. Referencing the formulation prior to the session brings it back in memory and facilitates therapist consistency from session to session. Second, formulate a case using more than one theoretical approach or structured model. Viewing a client from multiple angles facilitates a flexible therapeutic approach and helps the therapist see the strengths and weakness of each formulation. Third, devise specific tests of your formulation. The best test of a formulation is how well it contributes to treatment outcome. Consider interventions that test the validity of a formulation and predict what response should be expected if the formulation is valid or if it is not. Fourth, be aware of biases in reasoning. Researchers have documented multiple judgment errors that individuals are prone toward (Ruscio, 2007). Clinicians are not immune to these errors and should be aware of them. Fifth, keep in mind that case formulation is a tool to help guide your treatment planning. It needs to work for you not the other way around. That is to say, one need not rigidly adhere to a formulation regardless of what transpires in therapy. Rather, consider the formulation as a map guiding empathic and effective interventions. It is a map that will change as the terrain of therapy changes. Finally, we recommend sharing the formulation with the client and getting feedback. Ideally, the formulation should be developed, tested, and revised collaboratively.

REFERENCES

- American Board of Psychiatry and Neurology (2009) *Psychiatry and Neurology Core Competencies – Version 4.1*. Retrieved February 20, 2010, from http://www.abpn.com/downloads/core_comp_outlines/core_psych_neuro_v4.1.pdf
- American Psychiatric Association (1994) *Diagnostic and Statistical Manual of Mental Disorders* (4th edn). Washington, DC: American Psychiatric Press.
- APA Presidential Task Force on Evidence-Based Practice (2006) Evidence-based practice in psychology. *American Psychologist*, *61*(4), 271–85.
- Beck, A.T. (1963) Thinking and depression: I. Idiosyncratic content and cognitive distortions. *Archives of General Psychiatry*, *9*(4), 324–33.
- Beck, A.T., Ward, C., Mendelson, M. *et al.* (1961) An inventory for measuring depression. *Archives of General Psychiatry*, *4*, 561–71.
- Beck, A.T., Epstein, N., Brown, G. and Steer, R.A. (1988) An inventory for measuring clinical anxiety: Psychometric properties. *Journal of Consulting and Clinical Psychology*, *56*(6), 893–7.
- Beck, J.S. (1995) *Cognitive Therapy: Basics and Beyond*. New York: Guilford Press.
- Behar, E. and Borkovec, T.D. (2006) The nature and treatment of generalized anxiety disorder. In B.O. Rothbaum (ed.), *Pathological Anxiety: Emotional Processing in Etiology and Treatment* (pp. 181–96). New York: Guilford Press.
- Bergner, R.M. (1998) Characteristics of optimal clinical case formulations: The linchpin concept. *American Journal of Psychotherapy*, *52*, 287–300.

28 FORENSIC CASE FORMULATION

- Bieling, P.J. and Kuyken, W. (2003) Is cognitive case formulation science or science fiction? *Clinical Psychology: Science and Practice*, **10**, 52–69.
- Bohart, A.C. and Tallman, K. (1999) *How Clients Make Therapy Work: The Process of Active Self-healing*. Washington, DC, US: American Psychological Association.
- Bouton, M.E. (2002) Context, ambiguity, and unlearning: Sources of relapse after behavioral extinction. *Biological Psychiatry*, **52**(10), 976–86.
- Breuer, J. and Freud, S. (1955) On the psychical mechanism of hysterical phenomena: Preliminary communication. In J. Strachey (ed.), *The Standard Edition of the Complete Psychological Works of Sigmund Freud* (Vol. 2, pp. 1–17). London: Hogarth Press. (Original work published in 1893.)
- Bruner, J.S. (1990) *Acts of Meaning*. Cambridge, MA, US: Harvard University Press.
- Bruner, J.S., Goodnow, J.J. and Austin, G.A. (1956) *A Study of Thinking*. Oxford: John Wiley & Sons, Ltd.
- Chadwick, P., Williams, C. and Mackenzie, J. (2003) Impact of case formulation in cognitive behaviour therapy for psychosis. *Behaviour, Research and Therapy*, **41**(6), 671–80.
- Chomsky, N. (1959) A review of B.F. Skinner's *Verbal Behavior*. *Language*, **35**(1), 26–58.
- Crits-Christoph, P., Cooper, A. and Luborsky, L. (1988) The accuracy of therapists' interpretations and the outcome of dynamic psychotherapy. *Journal of Consulting and Clinical Psychology*, **56**(4), 490–5.
- Crits-Christoph, P., Gibbons, M.B.C., Temes, C.M. et al. (2010) Interpersonal accuracy of interventions and the outcome of cognitive and interpersonal therapies for depression. *Journal of Consulting and Clinical Psychology*, **78**, 420–8.
- Curtis, J.T. and Silberschatz, G. (2005) The assessment of pathogenic beliefs. In G. Silberschatz (ed.), *Transformative Relationships: The Control-Mastery Theory of Psychotherapy* (pp. 69–92). New York, NY, US: Routledge.
- Curtis, J.T. and Silberschatz, G. (2007) Plan formulation method. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 198–220). New York: Guilford Press.
- DeNeve, K.M. and Cooper, H. (1998) The happy personality: A meta-analysis of 137 personality traits and subjective well-being. *Psychological Bulletin*, **124**(2), 197–229.
- Derogatis, L.R. (1983) *SCL-90-R Administration, Scoring, and Procedures Manual II* (2nd edn). Towson, MD: Clinical Psychometric Research.
- Division of Clinical Psychology (2001) *The Core Purpose and Philosophy of the Profession*. Leicester, England: The British Psychological Society.
- Eells, T.D. (2007) Psychotherapy case formulation: History and current status. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 3–32). New York: Guilford Press.
- Eells, T.D., Kendjelic, E.M. and Lucas, C.P. (1998) What's in a case formulation? Development and use of a content coding manual. *Journal of Psychotherapy Practice and Research*, **7**(2), 144–53.
- Eells, T.D. and Lombart, K.G. (2004) Case formulation: Determining the focus in brief dynamic psychotherapy. In D. P. Charman (ed.), *Core Processes in Brief Psychodynamic Psychotherapy* (pp. 119–44). Mahwah, New Jersey: Lawrence Erlbaum Associates.
- Ellis, A. (1994) *Reason and Emotion in Psychotherapy* (revised and updated). Secaucus, NJ: Birch Lane.
- Ellis, A. (2000) Rational emotive behavior therapy (REBT). In *Encyclopedia of Psychology*, Vol. 7 (pp. 7–9): Washington, DC, US: American Psychological Association; New York, NY, US: Oxford University Press.
- Ferster, C.B. (1973) A functional analysis of depression. *American Psychologist*, **28**, 857–70.
- Festinger, L. (1957) *A Theory of Cognitive Dissonance*. Stanford: Stanford University Press.
- First, M.B., Spitzer, R.L., Gibbon, M. and Williams, J.B.W. (1995) The Structured Clinical Interview for DSM-III-R Personality Disorders (SCID-II): I. Description. *Journal of Personality Disorders*, **9**(2), 83–91.
- Frankfurter, D. (2006) *Evil Incarnate: Rumors of Demonic Conspiracy and Satanic Abuse in History*. Princeton, NJ, US: Princeton University Press.
- Freeman, D., Bentall, R. and Garety, P. (eds) (2008) *Persecutory Delusions: Assessment, Theory and Treatment*. Oxford: Oxford University Press.

- Freud, S. (1958a) The dynamics of the transference (J. Strachey, trans.). In J. Strachey (ed.), *The Standard Edition of the Complete Psychological Works of Sigmund Freud* (Vol. 12, pp. 99–108). London: Hogarth Press. (Original work published 1912.)
- Freud, S. (1958b) Recommendations to physicians practising psycho-analysis (J. Strachey, trans.). In J. Strachey (ed.), *The Standard Edition of the Complete Psychological Works of Sigmund Freud* (Vol. 12, pp. 111–20). London: Hogarth Press. (Original work published 1912.)
- Galatzer-Levy, R.M. (2003) Self psychology. In A. Tasman, J. Kay and J.A. Lieberman (eds), *Psychiatry* (2nd edn, Vol. 1, pp. 478–82). Sussex: John Wiley & Sons, Ltd.
- Garb, H.N. (2003) Incremental validity and the assessment of psychopathology in adults. *Psychological Assessment*, **15**(4), 508–20.
- Goldman, R.N., Greenberg, L.S. and Angus, L. (2006) The effects of adding emotion-focused interventions to the client-centered relationship conditions in the treatment of depression. *Psychotherapy Research*, **16**(5), 536–46.
- Gordis, L. (1990) *Epidemiology*. Philadelphia, PA: W.B. Saunders Company.
- Greenberg, L.S. (2002) *Emotion-Focused Therapy: Coaching Clients to Work through their Feelings*. Washington, DC, US: American Psychological Association.
- Greenberg, L.S. and Goldman, R. (2007) Case formulation in emotion-focused therapy. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 379–411). Guilford Press: New York.
- Greenberg, L.S. and Watson, J. (1998) Experiential therapy of depression: Differential effects of client-centered relationship conditions and process experiential interventions. *Psychotherapy Research*, **8**(2), 210–24.
- Halstead, J.E., Leach, C. and Rust, J. (2008) The development of a brief distress measure for the evaluation of psychotherapy and counseling (sPaCE). *Psychotherapy Research*, **17**(6), 656–72.
- Hayes, S.C., Nelson, R.O. and Jarrett, R.B. (1987) The treatment utility of assessment: A functional approach to evaluating assessment quality. *American Psychologist*, **42**, 963–74.
- Hayes, S.C. and Strosahl, K.D. (eds) (2004) *A Practical Guide to Acceptance and Commitment Therapy*. New York: Springer.
- Haynes, S.N., Leisen, M.B. and Blaine, D.D. (1997) Design of individualized behavioral treatment programs using functional analytic clinical case models. *Psychological Assessment*, **9**(4), 334–8.
- Haynes, S.N. and Williams, A.E. (2003) Case formulation and design of behavioral treatment programs: Matching treatment mechanisms to causal variables for behavior problems. *European Journal of Psychological Assessment*, **19**(3), 164–74.
- Horowitz, M.J. (1991a) Person schemas. In M.J. Horowitz (ed.), *Person Schemas and Maladaptive Interpersonal Patterns* (pp. 13–31): Chicago, IL, US: University of Chicago Press.
- Horowitz, M.J. (ed.) (1991b) *Person Schemas and Maladaptive Interpersonal Patterns*. Chicago, IL: University of Chicago Press.
- Horowitz, M.J. (2005) *Understanding Psychotherapy Change: A Practical Guide to Configurational Analysis*. Washington, DC, US: American Psychological Association.
- Kazdin, A.E. (2007) Mediators and mechanisms of change in psychotherapy research. In *Annual Review of Clinical Psychology*, **3**, 1–27.
- Kazdin, A.E. (2008) Evidence-based treatment and practice: New opportunities to bridge clinical research and practice, enhance the knowledge base, and improve patient care. *American Psychologist*, **63**(3), 146–59.
- Kelly, G.A. (1955) *The Psychology of Personal Constructs. Vol. 1. A Theory of Personality. Vol. 2. Clinical Diagnosis and Psychotherapy*. Oxford: Norton.
- Kessler, R.C. and Wang, P.S. (2009) Epidemiology of depression. In *Handbook of Depression* (2nd edn, pp. 5–22). New York, NY, US: Guilford Press.
- Koerner, K. (2007) Case formulation in dialectical behavior therapy for borderline personality disorder. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn). New York: Guilford Press.
- Kohut, H. (1971) *Analysis of the Self*. New York: International Universities Press.
- Kohut, H. (1977) *Restoration of the Self*. New York: International Universities Press.

30 FORENSIC CASE FORMULATION

- Kuehlwein, K.T. and Rosen, H. (1993) *Cognitive Therapies in Action: Evolving Innovative Practice*. San Francisco, CA, US: Jossey-Bass.
- Kuyken, W. (2006) Evidence-based case formulation: Is the emperor clothed? In N. Tarrier (ed.), *Case Formulation in Cognitive Behaviour Therapy? The Treatment of Challenging and Complex Cases* (pp. 12–35). New York, NY: Routledge/Taylor & Francis Group.
- Kuyken, W., Padesky, C.A. and Dudley, R. (2009) *Collaborative Case Conceptualization: Working Effectively with Clients in Cognitive-Behavioral Therapy*. New York, NY: Guilford Press.
- Lambert, M.J. and Finch, A.E. (1999) The Outcome Questionnaire. In M.E. Maruish (ed.) *The Use of Psychological Testing for Treatment Planning and Outcomes Assessment* (2nd edn) (pp. 831–69). Mahwah, NJ: Lawrence Erlbaum Associates.
- Linehan, M.M. (1993) *Cognitive-Behavioral Treatment of Borderline Personality Disorder*. New York: Guilford.
- Luborsky, L. (1977) Measuring a pervasive psychic structure in psychotherapy: The core conflictual relationship theme. In N. Freedman and S. Grand (eds), *Communicative Structures and Psychic Structures* (pp. 367–95). New York: Plenum Press.
- Luborsky, L. and Barrett, M.S. (2007) The core conflictual relationship theme: A basic case formulation method. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 105–35). New York: Guilford Press.
- Luborsky, L., Crits-Christoph, P., Friedman, S.H. et al. (1991) Freud's transference template compared with the Core Conflictual Relationship Theme (CCRT). In M.J. Horowitz (ed.), *Person Schemas and Maladaptive Interpersonal Patterns* (pp. 167–95). Chicago: University of Chicago Press.
- Mahoney, M.J. (1991) *Human Change Processes: The Scientific Foundations of Psychotherapy*. New York, NY, US: Basic Books.
- Maslow, A.H. (1987) *Motivation and Personality* (3rd edn). New York, NY: Harper & Row.
- Meier, S.T. (2003) *Bridging Case Conceptualization, Assessment, and Intervention*. Thousand Oaks, CA: Sage.
- Mellsop, G.W. and Banzato, C.E.M. (2006) A concise conceptualization of formulation. *Academic Psychiatry*, **30**, 424–5.
- Messer, S.B. and Wolitzky, D.L. (2007) The traditional psychoanalytic approach to case formulation. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 67–104). New York, NY: Guilford Press.
- Mineka, S. and Zinbarg, R. (2006) A contemporary learning theory perspective on the etiology of anxiety disorders: It's not what you thought it was. *American Psychologist*, **61**(1), 10–26.
- Morrison, J. (1993) *The First Interview*. New York: Guilford Press.
- Mowrer, O.H. (1960) *Learning Theory and Behaviour*. Hoboken, NJ, US: John Wiley & Sons Inc.
- Newell, A., Shaw, J.C. and Simon, H.A. (1958) Elements of a theory of human problem solving. *Psychological Review*, **65**(3), 151–66.
- Nezu, A.M. and Nezu, C.M. (eds) (1989) *Clinical Decision Making in Behavior Therapy: A Problem-Solving Perspective*. Champaign, IL: Research Press.
- Nezu, A.M. and Nezu, C.M. (1993) Identifying and selecting target problems for clinical interventions: A problem-solving model. *Psychological Assessment*, **5**(3), 254–63.
- Nezu, A.M., Nezu, C.M. and Cos, T.A. (2007) Case formulation for the behavioral and cognitive therapies. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 349–78). New York: Guilford.
- Nezu, A.M., Nezu, C.M. and Lombardo, E.R. (2004) *Cognitive-Behavioral Case Formulation and Treatment Design: A Problem-Solving Approach*. New York: Springer Publishing Co.
- Nock, M.K. and Kessler, R.C. (2006) Prevalence of and risk factors for suicide attempts versus suicide gestures: Analysis of the National Comorbidity Survey. *Journal of Abnormal Psychology*, **115**(3), 616–23.
- Nolen-Hoeksema, S., Wisco, B.E. and Lyubomirsky, S. (2008) Rethinking rumination. Perspectives on *Psychological Science*, **3**(5), 400–24.
- Perls, F., Hefferline, R.F. and Goodman, P. (1965) *Gestalt Therapy*. Oxford, England: Dell.

- Persons, J.B. (1989) *Cognitive Therapy in Practice: A Case Formulation Approach*. New York: W.W. Norton.
- Persons, J.B. (2008) *The Case Formulation Approach to Cognitive-Behavior Therapy*. New York, NY: Guilford.
- Persons, J.B. and Tompkins, M.A. (2007) Cognitive-behavioral case formulation. In T.D. Eells (ed.), *Handbook of Psychotherapy Case Formulation* (2nd edn, pp. 290–316). New York: Guilford.
- Porzelius, L.K. (2002) Overview. In M. Hersen and L.K. Porzelius (eds), *Diagnosis, Conceptualization, and Treatment Planning for Adults: A Step-by-Step Guide* (pp. 3–12). Mahwah, NJ, US: Lawrence Erlbaum.
- Postman, L. (1951) Toward a general theory of cognition. In J. Roherer and M. Sherif (eds), *Social Psychology at the Crossroads: The University of Oklahoma Lectures in Social Psychology* (pp. 242–72). Oxford: Harper.
- Randall, C.L., Book, S.W., Carrigan, M.H. and Thomas, S.E. (2008) Treatment of co-occurring alcoholism and social anxiety disorder. In S.H. Stewart and P. Conrod (eds), *Anxiety and Substance Use Disorders: The Vicious Cycle of Comorbidity* (pp. 139–55). New York, NY, US: Springer Science + Business Media.
- Rapaport, D. and Gill, M.M. (1959) The points of view and assumptions of metapsychology. *International Journal of Psychoanalysis*, **40**, 153–61.
- Rogers, C.R. (1951) *Client-Centered Therapy, Its Current Practice, Implications, and Theory*. Boston: Houghton Mifflin.
- Ruscio, J. (2007) The clinician as subject: Practitioners are prone to the same judgment errors as everyone else. In S.O. Lilienfeld and W.T. O'Donohue (eds), *The Great Ideas of Clinical Science: Seventeen Principles that Every Mental Health Professional Should Understand* (pp. 29–47). New York: Routledge/Taylor & Francis.
- Ryle, A. (1990) *Cognitive Analytic Therapy: Active Participation in Change*. Chichester: John Wiley & Sons, Ltd.
- Seitz, P.F. (1966) The consensus problem in psychoanalytic research. In L. Gottschalk and L. Auerbach (eds), *Methods of Research and Psychotherapy* (pp. 209–225). New York: Appleton, Century, Crofts.
- Silberschatz, G. (2005a) The control-master theory. In G. Silberschatz (ed.), *Transformative Relationships: The Control-Mastery Theory of Psychotherapy* (pp. 3–24). New York, NY, US: Routledge.
- Silberschatz, G. (2005b) An overview of research on control-mastery theory. In G. Silberschatz (ed.), *Transformative Relationships: The Control-Mastery Theory of Psychotherapy* (pp. 189–218). New York, NY, US: Routledge.
- Simon, H.A. and Newell, A. (1958) Heuristic problem solving: The next advance in operations research. *Operations Research*, **6**, 1–10.
- Skinner, B.F. (1953) *Science and Human Behavior*. New York, NY: The Free Press.
- Sperry, L., Gudeman, J.E., Blackwell, B. and Faulkner, L.R. (1992) *Psychiatric Case Formulations*. Washington, DC: American Psychiatric Press.
- Spitzer, R.L., Williams, J.B., Gibbon, M. and First, M.B. (1992) The Structured Clinical Interview for DSM-III-R (SCID): I. History, rationale, and description. *Archives of General Psychiatry*, **49**(8), 624–9.
- Sturmey, P. (2008) *Behavioral Case Formulation and Intervention: A Functional Analytic Approach*. Chichester: Wiley-Blackwell.
- Tarrier, N. and Calam, R. (2002) New developments in cognitive-behavioural case formulation. Epidemiological, systemic and social context: An integrative approach. *Behavioural and Cognitive Psychotherapy*, **30**(3), 311–28.
- Vaillant, G.E. (1995) *The Natural History of Alcoholism Revisited*. Cambridge, MA, US: Harvard University Press.
- Wachtel, P.L. (1977) *Psychoanalysis and Behavior Therapy*. New York: Basic Books.
- Weiss, J. (1993) *How Psychotherapy Works: Process and Technique*. New York: Guilford.
- Weiss, J. and Sampson, H. (1986) *The Psychoanalytic Process: Theory, Clinical Observation, and Empirical Research*. New York: Guilford.

32 FORENSIC CASE FORMULATION

- Wells, K.B., Burnam, M.A., Rogers, W. *et al.* (1992) The course of depression in adult outpatients: Results from the Medical Outcomes Study. *Archives of General Psychiatry*, **49**(10), 788–94.
- Westen, D., Novotny, C.M. and Thompson-Brenner, H. (2004) The empirical status of empirically supported psychotherapies: Assumptions, findings, and reporting in controlled clinical trials. *Psychological Bulletin*, **130**(4), 631–63.
- Wilder, D.A. (2009) A behavior analytic formulation of a case of psychosis. In P. Sturmey (ed.), *Clinical Case Formulation: Varieties of Approaches* (pp. 107–18). Chichester, UK: Wiley-Blackwell.
- Young, J.E. (1990) *Cognitive Therapy for Personality Disorders: A Schema-Focused Approach*. Sarasota, Florida: Professional Resource Exchange, Inc.
- Young, J.E., Klosko, J.S. and Weishaar, M.E. (2003) *Schema Therapy: A Practitioner's Guide*. New York, NY, US: Guilford.