# The role of verbal behavior in the analysis of the therapeutic process[1]

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## Abstract

Over the last 50 years, the variables established by B. F. Skinner in his work, *Verbal Behavior* (Skinner, 1957), have been taken into account in both empirical and theoretical research. Although historically the initial impact of Skinner's work was lower than expected, even in the areas most closely related to verbal behavior (e.g., naming, equivalence classes, rule-governed behavior), only recently have efforts focused on the analysis of verbal behavior in the context of the therapeutic process and clinical change. This paper highlights the crucial role of verbal behavior in the clinical setting by maintaining operant terminology and drawing attention specifically to the analysis of the therapist's verbal behavior during sessions. In addition, it analyzes the role of verbal behavior in the form of instructional control and rule-governed behavior in the client-therapist interaction. The article concludes that questions regarding the status, function and variables that influence the verbal behavior generated in therapy sessions cannot yet be answered clearly and remain key objects of study.

Key words: *verbal behavior, clinical setting, client-therapist interaction, rule-governed behavior, instructional control, behavioral therapy*

## Resumen

Desde que Skinner publicara hace ya más de 50 años su famosa obra *Verbal Behavior* (Skinner, 1957), ha sido mucha la investigación empírica y teórica que ha tomado en consideración variables relacionadas con la conducta verbal. Sin embargo, históricamente el impacto inicial del trabajo de Skinner fue menor de lo esperado incluso en áreas próximas a la conducta verbal (por ejemplo, clases de equivalencia, conducta gobernada por reglas), y sólo recientemente algunos autores se han centrado en analizar la conducta verbal en el contexto del proceso terapéutico y el cambio clínico. El presente artículo pretende mostrar los motivos por los que analizar el papel de la conducta verbal (especialmente del terapeuta) desde un enfoque funcional resulta crucial a la hora de estudiar el fenómeno clínico. Además, se analiza el papel del control instruccional y de la conducta gobernada por reglas cuando psicólogo y cliente interactúan en la terapia conductual. A partir de esta revisión y de su propia propuesta de investigación, los autores concluyen que las cuestiones relativas al estatus y la función de la conducta verbal que aparece en terapia, así como las

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variables que influyen sobre ella, todavía no tienen una respuesta clara y continúan siendo interesantes objetos de estudio.

Palabras clave: *conducta verbal, contexto clínico, interacción terapeuta-cliente, conducta gobernada por reglas, control instruccional, terapia de conducta.*

B. F. Skinner extended the principles of classic and operant conditioning from animal research to human behavior, especially verbal behavior (Skinner, 1938, 1957); however, over time and as limitations of this proposal were identified, critics tended to multiply, both from within the behavioral paradigm and outside of it (e.g., Chomsky, 1959; Hayes & Hayes, 1989; Sundberg, 1998). These discrepancies have led some authors to suggest the need to develop a new theory of human behavior, one that extends the operant perspective based on the idea that relational responding is a generalized operant established through a history of reinforcement and multiple-exemplar training (Hayes, Blackledge, & Barnes-Holmes, 2001).

Despite these criticisms, *Verbal Behavior* (Skinner, 1957) has had an undeniable influence on the academic literature that continues to this day (Dymond, O'Hora, Whelan, & O'Donovan, 2006). McPherson, Bonem, Green, & Osborne (1984) published a quantitative analysis of the impact on empirical research based on Skinner's *Verbal Behavior* which demonstrated that after an initially modest impact its influence increased gradually in subsequent years. One surprising result of this analysis was that only 19 of the 836 papers that satisfied their citation criteria involved empirical research. Sundberg (1998) later documented a brief but illustrative description of the initial difficulties and low impact on the analysis of Skinner's *Verbal Behavior* among behavioral communities.

Recognizing the importance of this issue, Oah and Dickinson (1989) published a review of empirical studies influenced by Skinner's *Verbal Behavior*. At the time of this review, they confirmed that the book had generated only a modest amount of empirical research and almost no investigations in clinical medicine. Despite this bleak beginning, Skinner's book has increasingly inspired empirical and clinical research in various areas of interest to behavior analysts (e.g., naming, equivalence classes, rule-governed behavior). Even in the field of clinical psychology, where the understanding of clinical phenomena requires some form of verbal behavior analysis or conceptualization, the study of language has received greater attention.

Several reasons can be enumerated to explain why such an analysis is crucial to the effectiveness of the therapeutic process. First, during outpatient treatment, most of the clients' problems and the progress achieved occur outside the therapeutic session such that the therapist often learns of these events only through the clients themselves, either orally (via interview) or in written form (via self-reports). Second, there are attempts in the literature to analyze typical phenomena of traditional therapy in terms of the taxonomy of Skinner's verbal operants, such as distorted tacts and runaway intraverbals, among others. Glenn (1983), for example, analyzed several types of recurrent maladaptive verbal behavior in the clinical area. One interesting aspect of Glenn's approach is the application of Skinner's verbal behavior categories (i.e., tacts, intraverbals, mands, etc.) to resolve the problems of people who came to the clinic. Some of those clients' problems lie in what *they tell themselves* about their lives, the world, their problems, or associated solutions. Since the difficulty lies in their own dysfunctional verbalizations, these must be addressed in the clinical setting. Third, the therapist often tries to promote changes in the client's behavior through verbal instructions that are outlined *in* the session, though the client must follow them *outside* that

setting. Finally, few non-verbal activities take place during therapy, so studying therapy sessions necessarily entails examining the verbal interactions that occur between therapist and client.

The importance of analyzing client-therapist verbal interactions has been recognized by behavior analysts. Functional Analytic Psychotherapy (FAP) is an approach based on behavioral principles that uses the shaping procedure and application of reinforcement during therapy. According to FAP, clinical change is achieved through the therapist's response to the problems of the client's life as they arise in the clinical setting. Client-therapist interaction is understood as a process of discrimination and reinforcement in which the latter, through her/his behavior, gradually shapes the former's behavior in order to achieve the reduction/elimination of maladaptive behaviors and/or the emergence or increase of the desired behavior within the clinical situation (Kohlenberg & Tsai, 1991).

This paper examines the role of verbal behavior in client-therapist interaction by focusing on the latter's verbal interventions and the usefulness of instructional control and rule-governed behavior in promoting behavioral change outside the clinical setting. The paper reviews how the traditional behaviorist perspective has approached the analysis of verbal behavior and its relevance to the clinical context, while providing elements to show that this knowledge can improve our understanding and performance in clinical practice.

## Verbal behavior and private events in clinical settings

The problem that often motivates a client to begin counseling does not take place in a clinical setting, at least not in the same manner or circumstance that it occurs in the client's everyday environment. When such a problem arises, it usually involves private events that are not easily accessible to the therapist. In these cases, and others that involve improvements or difficulties in the client's life, the only recourse available to the therapist is to obtain information through verbal reports. The fact that therapists must use such reporting to learn about elements of the client's private life that may be relevant to therapy draws attention once again to the value of language, and to one aspect in particular: how people learn to provide accounts of personal events. Setting aside private events, such as thoughts or unarticulated verbal formulations, Skinner and other authors have used radical behaviorism in their attempts to understand the development and functional properties of emotions (Pérez, 2004; Skinner, 1957). In this approach, the role of verbal behavior in learning about feelings is the key. We do not talk about feelings because we experience them; rather, we are capable of experiencing emotions and then learn to name them. Emotion-naming arises from observation of the public reactions that accompany both a proprioceptive sensation and its associated response. Skinner (1953, 1957) described broadly how individuals learn to label their private events; a process that helps identify, and discriminate among, emotions, and respond to the question, "How do you feel?", a response that is then socially reinforced. Obviously, the community supports the development of such discriminative repertoires.

In addition to these issues, recognizing the variables related to *do-say-do* correspondences is equally crucial to psychotherapy, since the client tells the therapist what she/he actually does. Furthermore, clients must effectively perform the activities they said they would during therapy. However, most of the work done in this area has focused on establishing correspondence between verbalizations and actions in children, especially those with developmental problems (Luciano, Barnes-Holmes, & Barnes-Holmes, 2002; Luciano, Herruzo, & Barnes-Holmes, 2001). Previous research emphasized the role of verbal contingencies in establishing *do-say-do* correspondences. These correspondences, in turn, can modify other behaviors to an extent that has led some authors to state that changing what is said about what is done might be easier than directly changing what is done (Catania, 1998). These undoubtedly laudable efforts complicate generalizing these data to an adult population that is not characterized by such developmental problems but is attending therapy. Clearly, verbal descriptions of private events and the establishment of

*do-say-do* correspondences are essential to improve our understanding of verbal interactions during therapy and to refining clinical intervention.

With the advent of methodological behaviorism it was assumed that observable behavior allows a therapist to understand private events –the real object of psychology– and the causes of overt behavior; however, for radical behaviorism, "mental" processes do not form part of the explanation; rather, they must be explained (Holt, 1915; Skinner, 1945). From this perspective, private events (Skinner's "covert behavior") have the same properties as overt behavior and, hence, are subject to the same laws (Skinner, 1957). In this context, doing, saying, thinking, imagining, or remembering, constitute various forms of operant behavior (Pérez, 2004). These types of behavior can be distinguished from others by the degree to which they are accessible to an outside observer; though this difference in accessibility does not justify the sharp dichotomy that has been established between "behavior" and "mental processes", wherein the latter are deemed to cause the former (Freixa, 2003).

The terms that have been used to designate these mental processes provide much information regarding the overt, motor, and public sources of covert behaviors. For example, the English term "calculate" comes from the Latin *calculare* ("to manipulate pebbles in the context of counting them"), thus referring to the motor component at the root of this behavior (note how children who are learning to count behave; Skinner, 1989). Through repetition, this behavior eventually becomes automated and less dependent on manual support; hence, something more private (Freixa, 2003). The case of the Spanish verb *pensar* ("to think") is similar to its etymological origin –Latin *pensare* ("to weigh")– refers to the manual action of comparing and weighing, which, again, is observable (Skinner, 1989). However, regardless of its origin, the word "thinking" implies a process of silencing the language such that speaker and listener are the same person; where what *is said* is not the effect of what *was thought*; though both are *speech*, they have the peculiarity that one is presented aloud and the other remains in silence. Silent reading first emerged in the Middle Ages in response to adverse contingencies that resulted from reading texts that challenged certain religious ideas (Ribes, 1986).

Pérez (2004) explains that "saying is doing with words". Speaking is an operant behavior that relies on socially-shared signs (i.e., language) to engage in effective contact with people and objects. This verbal behavior is learned through a process in which one is first the object of conversation before becoming, in response to the interest of others, one's own topic of conversation. People learn to give accounts of themselves and, in particular, of that which only they can observe. Once one learns how to speak with others about oneself, the next step is to talk *to* oneself, first aloud and finally in silence. It is in this manner that the thought process that has aroused such interest in cognitive therapy emerges, and the reason why cognitive techniques must involve management of rule-governed behavior.

## Rule-governed behavior, instructional control and behavioral change

Discussing rule-governed or verbally-governed behavior is not only theoretically relevant but also important for the therapeutic process in general since the therapist often introduces a set of verbal instructions and rules during her/his sessions in order to generate changes and promote the performance of certain behaviors outside the clinical setting. Despite the salience of verbally-governed behavior (or perhaps because of it), the controversy regarding the conceptualization and functionality of the variables that determine this type of behavior has continued since Skinner first differentiated between rule-shaped and contingency-shaped behaviors (Catania, 1998; Luciano, 2000; Schlinger, 1990; Skinner, 1966; 1969). Various authors have revised the conceptualization in Skinner's theory which posits that a rule is a verbal stimulus that specifies contingencies while functioning as a discriminative stimulus. Some have attempted to create a formal definition of the term "rule" (e.g., Glenn, 1987), whereas others have emphasized a

functional definition (Catania, 1989). Still others have acknowledged the difficulties of considering discriminative rule functions (O'Hora & Barnes-Holmes, 2004); but this debate has room for intermediate positions as well. Schlinger (1990), for instance, defined rules as stimuli that specify contingencies which alter the respondent and operant functions of the stimuli they describe; that is, rules may have functions other than that of serving as discriminative stimuli. This concept implies the formal use of the term that would not only not contradict its functional definition but potentially complement it.

Rule functionality is an unresolved question in behavior analysis. There are at least two main reasons why the consideration of rules functioning as discriminative stimuli is not free of criticism. First, if a rule works as a discriminative stimulus, then it is not necessary to define it as something distinct from other stimuli with the same functionality. Second, we cannot argue that a stimulus that has never been associated with reinforcement can function as a discriminative stimulus when first encountered (O'Hora & Barnes-Holmes, 2004; Ribes, 2000). Among rule functions, we highlight the role of the stimulus when studying rule-following behavior and the role of response when analyzing rule-creating behavior (O'Hora & Barnes-Holmes, 2001). The rules that provide information about contingencies may function as verbal instigators of response by reducing the time and effort that would be required to fully formulate a response (Ribes, 2000, Skinner, 1969). Finally, as mentioned above, the rules may themselves alter the functions of the elements of a described contingency (Schlinger, 1990).

Regardless of the role of rules, Skinner's initial distinction between contingency-shaped behavior and rule-shaped behavior has also received criticism; to such an extent, in fact, that the behavior of following rules is seen as a generalized operant. This criticism is based on the fact that learning also depends on contingencies. In addition, once it has occurred for the first time each behavior that involves following a rule has already come into contact with natural contingencies; thus, distinguishing rules from so-called contingency-shaped behaviors makes little sense (Pérez, 1996). In the face of this problem, some authors have argued that the distinguishing characteristic of verbally-governed behavior is its insensitivity to natural contingencies, but the results of such studies have been inconclusive. Moreover, this insensitivity may be attributed to certain experimental design variables that are not necessarily present in the client's natural environment (see Matthews, Catania, & Shimoff, 1985).

In fact, the types of contingencies that control rule-following behavior have been used to distinguish between pliance, understood as a rule-governed behavior controlled by social consequences, from tracking, which is a rule-governed behavior controlled by natural consequences or those related to how the world works (Hayes, Zettle, & Rosenfarb, 1989). Although these two behaviors can take place concurrently (i.e., the social approval we may receive for following a rule provides us with natural consequences), pliance is likely to prevail over tracking in the therapeutical setting. Having the therapist formulate rules that lead to client behaviors through reinforcement maintenance is important in assuring that these behaviors do not disappear when the psychologist no longer provides social reinforcements. Also, because society tends to reinforce rule-following and punish non-compliance, rule-governed behavior may be maintained as a way to escape the malaise that would be generated by not following the rules (Malott, 1989). In any case, rule-following is usually a highly adaptive behavior because it facilitates and accelerates learning, especially when the associated contingencies are complex or unclear (Skinner, 1969, Vaughan, 1989). This concept certainly explains why people tend to create rules to guide their own behavior; as it seems to be more effective than when someone else presents us with a new rule (Malott, 1989).

Another interesting classification is one that differentiates between descriptive rules and prescriptive rules (i.e., "norms" vs. "instructions"; Chase & Danforth, 1991). According to Pérez (1996), knowing how to act in therapy may be more useful to the client than knowing "the rules of the game."

Nevertheless, providing the norm that allows the client to discriminate contingencies when she or he already has the proper action repertoires may be more advantageous.

**Clinical relevance of clients' verbal behavior and rule-governed behavior**

The variables that affect a client's problem behavior can occur both inside and outside therapy. When life problems arise in therapy, the therapist can observe and modify behaviors and encourage the client to implement changes in her/his natural environment. In the 1990s, clinicians began to deem clients' verbal behavior in therapy clinically relevant because it is a sample of the general problem that provides a tool for change. This paradigm shift in behavioral therapy has led to the development and implementation of two new approaches: Functional Analytic Psychotherapy (FAP) (Kohlenberg & Tsai, 1991) and Acceptance and Commitment Therapy (ACT) (Hayes, 1987; Hayes & Wilson, 1994; Wilson & Luciano, 2002).

This important movement has changed behavioral therapy. Considering verbal behavior as clinically relevant in FAP terms is inherent to the radical behaviorist approach; particularly when one takes into account how this framework conceptualizes cognitions and therapeutic cognitive change. At least part of the problem that leads a client to seek psychological help involves what they think about themselves, their lives, the world, and even their problems. ACT represents another effort in this direction. The language that ACT considers verbal behavior is the context in which psychological problems are identified and the central element of a therapeutical approach that focuses on changing the linguistic context in which the maladjusted behavior occurs as a means of eliminating the client's problem.

In the so-called cognitive restructuring technique, irrational or maladaptive ideas are conceived as erroneous rules; that is, incorrect statements about the contingencies to which the client is exposed (Martin & Pear, 2007; Poppen, 1989). Kanter, Cautilli, Busch, and Baruch (2005) have suggested that depression is caused by a lack of confidence in, or over-reliance on, certain rules. According to Poppen (1989), the verbal community teaches people to extract rules from environmental contingencies that serve to guide one's own behavior and that of others. Even though these derived rules do not always reflect reality they are nevertheless maintained because: (a) rules can coincide with environmental contingencies; (b) behaving consistently according to the rule may have become a reinforcing act; (c) people may express their limitations in order to obtain social reinforcement, avoid unpleasant responsibilities, or both; or, (d) these erroneous rules are often not well described and, thus, inconsistencies are not obvious. From this perspective, cognitive restructuring involves learning new rules that identify specific behaviors associated with the environmental consequences that are responsible for behavioral maintenance in the client's natural environment (Baruch, Kanter, Busch, Richardson, & Barnes-Holmes, 2007; Martin & Pear, 2007). Learning new rules in the therapeutic context is a verbal process through which the therapist challenges the client's misconceptions, thus forcing her/him to defend them. Though this technique is punitive for the person undergoing treatment, it simultaneously molds and strengthens new verbalizations related to new, more adaptive, rules (Froján-Parga, Calero-Elvira, & Montaño-Fidalgo, (2011); Poppen, 1989).

Although more research is needed on instructional control, the results of some studies have shown that the characteristics and variables associated with this control may be relevant to the clinical setting. The role of instructions began to be studied separately as an independent variable in the 1970s (Ayllon & Azrin, 1963; Galizio, 1979). At that time, instructions were considered discriminative stimuli that could increase contingency sensitivity (Baron & Galizio, 1983). In addition, people began to assume that instructions played facilitating or inhibiting roles because they were thought to be either dispositional events (Bijou & Baer, 1966) or to play an informative role in the context of the contingency situation (Martínez & Ribes, 1996). A client's history of interactions that the therapist can control through specific

instruction is also relevant (Martinez & Tamayo, 2005). Thus, the client's reinforcement history of following instructions may be essential to predicting her/his response to new instructions. Furthermore, while reinforcement is important in following instructions, in some cases continuous feedback may interfere more than facilitate (Ribes & Martinez, 1990). Finally, when formulating instructions to guide the client's behavior outside therapy, it is also important to take into account the relationship that seems to exist between instruction accuracy and the degree of learning transfer to new contexts.

**Client-therapist verbal interaction during the therapeutic process**

In addition to the foregoing, analyzing verbal behavior during the therapeutic process is especially important because speaking is the most frequent behavior that occurs in therapy. Nevertheless, with some recent exceptions, the behavioral approach has devoted less attention to the functional analysis of verbal behavior that occurs during sessions. The behaviorist approach has traditionally paid more interest to the clients' use of language as a tool for discussing their problems or to refer to their private events. As noted above, this situation began to change in the late 1980s and early 1990s, a shift that resulted from the work of the many authors who have striven to formulate a functional-analytic interpretation of the general therapeutic relationship (Rosenfarb, 1992) and of the specific verbal behavior that takes place in therapy (Hamilton, 1988). The development of the contextual approach to behavioral therapy in which FAP and ACT were framed has also played a key role in this process. For example, since FAP is based on the notion that the client interacts with the therapist in the same way as she/he does with other people who are valued as relevant, it is expected that any behavioral change achieved during the session would be generalized to other situations outside that setting (Kohlenberg & Tsai, 1991).

Recently, Abreu, Hübner, & Lucchese (2012) have followed the rationale of Functional Analysis Psychotherapy to emphasize the importance of shaping clients' own interpretations of their behavior. Regardless of what the analysis of the verbal interaction between therapist and client implies for clinical work, we assume that the relevance of conversation to research on the therapeutic process is crucial: analyzing the behavior of clinicians can help clarify the procedures they use. In order to work towards this clarification, we are developing a functional analysis of client-therapist interactions to identify the operations that define what a psychologist does while working as a behavioral therapist (e.g., Froján, Montaño, & Calero, 2007; 2010). On the basis of earlier research (e.g., Catania, 1998), we hypothesize that the functional role of the therapist's verbal behavior can be identified by one of the following categories: a) *Discriminative stimulus*: this type of control precedes the client's behavior and consists in introducing a stimulus, or modifying a condition, in the current situation so as to influence the likelihood of a particular behavior; b) *Conditioned stimulus:* this category is another form of antecedent control, in which procedures that involve conditioned stimuli (based on the Pavlovian paradigm) are taken into account; c) *Reinforcement:* this category involves managing contingencies so as to increase or maintain a client's positive behaviors; d) *Punishment:* this category refers to administering consequences that lead the client to decrease or abandon negative behaviors; e) *Establishing operations or motivational functions:* this category is another type of antecedent control (distinct from discriminative control) that alters the effectiveness of both the precedents and consequences of a behavior, and entails situations such as deprivation or satiation, reinforcement restrictions, or states of necessity, as well as adverse situations, warnings, and promises of improvement that, to the extent they are related to real contingencies, increase the effectiveness of the consequences and precedents involved in the emergence or maintenance of a client's behavior; and, f) *Rules:* this category refers to establishing or changing rules that alter the client's behavior.

Froján & Ruiz-Sancho (2013) have recently reported the empirical application of several topographically-defined categories on the basis of the functions described above for therapeutic intervention, demonstrating that the therapist's verbal behavior changes systematically during the

intervention process. Froján & Ruiz-Sancho (2013) based on evidence obtained through an observational method of almost one hundred sessions, assigned four clinically-relevant activities to the therapist: evaluation, explanation, treatment and consolidation of change. For now, it is clear that the task is to gather additional evidence to support this strategy for therapeutic intervention and develop the functional analysis of what occurs moment-to-moment in the therapeutic process.

In summary, questions regarding the status, function and variables that influence the verbal behavior generated in therapy sessions cannot yet be answered clearly and remain key objects of study. Therefore, there are weighty reasons to emphasize the relevance of verbal behavior in therapy, particularly in the modalities of instructional control and rule-governed behavior, and to encourage their scientific study. We believe that this is crucial to understanding clinical phenomena. In turn, an improved understanding of clinical process will facilitate the development of more effective and efficient therapeutic interactions while increasing the quality of care for people with psychological problems.

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