Psychology: The science of human behavior – a historical perspective

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ABSTRACT

In this text, we will reflect on psychology as a scientific discipline focused on mind and behavior, which initially diverged from philosophy and medicine and has made a long process of recognition as an autonomous science. Since the 19th century, Wilhelm Wundt and Edward Titchener, William James, and John Dewey, to the famous Thorndike as the leading pioneers. Thorndike discovered a premise so influential in psychology and applicable to so many human behaviors: a stimulus tends to produce a specific response over time if a given organism is rewarded for that response. Introducing Psychology as a science at the service of humanity in the 21st century is one of the goals of this text. It will reflect on the importance of constructivist paradigms and narratives and the perception of psychotherapeutic reality as a multiverse perspective.

RESUME

Neste texto, refletiremos sobre a psicologia como disciplina científica voltada para a mente e o comportamento, que inicialmente divergiu da filosofia e da medicina e passou por um longo processo de reconhecimento como ciência autônoma. Desde o século 19, Wilhelm Wundt e Edward Titchener, William James e John Dewey, até o famoso Thorndike como os principais pioneiros. Thorndike descobriu uma premissa tão influente na psicologia e aplicável a tantos comportamentos humanos: um estímulo tende a produzir uma resposta específica ao longo do tempo se um determinado organismo for recompensado por essa resposta. Apresentar a Psicologia como ciência a serviço da humanidade no século XXI é um dos objetivos deste texto. Refletirá sobre a importância dos paradigmas e narrativas construtivistas e a percepção da realidade psicoterapêutica como uma perspectiva multiversa.

DOI: 10.48017/dj.v8i3.2567
Introduction

Psychology is a scientific discipline focused on mind and behavior, which initially diverged from philosophy and medicine and has undergone a long recognition process as an autonomous science. Since the 19th century, Wilhelm Wundt and Edward Titchener, William James, John Dewey, to the famous Thorndike (Schultz & Schultz, 1981) were considered the foremost pioneers. Thorndike (Schultz & Schultz, 1981) discovered a premise so influential in psychology and applicable to so many human behaviors: a stimulus tends to produce a particular response over time; if a given organism is rewarded for that response Thorndike (Schultz & Schultz, 1981). It was argued that an organism learns to respond in a certain way in a given situation if it is repeatedly rewarded for doing so (satisfaction with obtaining the reward serves as a stimulus for future actions). This premise is nowadays applied in several areas, and in different contexts, from the educational context to the interaction between the teacher and the students; for example, the teacher, when he wants to increase or decrease a specific behavior or to learn in the students, rewards them verbally when that learning or behavior occurs. In the context of organizations, this premise of Thorndike (Schultz & Schultz, 1981) is also applied between employers and their employees through differentiated remuneration due to a particular increase in sales, as well as in the sporting context with the so-called gambling prizes when a team wins.

The famous Watson exemplified Thorndike's law of rewards very well. Recognized as the father of Behaviorism in Psychology, he is the author of the famous phrase, "Give me a dozen of healthy and well-formed children, and I assure you that I will be able to take any of them at random and train them to become a specialist at my choice of doctor, lawyer, artist, dealer and even a beggar or thief, regardless of the talents, tendencies, capacities, vocations and race of their parents "(1924, p.104, in Gonçalves, 1990).

There has always been difficulty in proving that Psychology is a scientific discipline since its object of study is human behavior, which can be "overt behavior" (manifest behavior) or "covert behavior" (latent behavior), something that is hardly observable and measurable, unlike the exact sciences. Interestingly, more and more attention has been given, in the context of research, to the analysis and knowledge of "covert behavior": thoughts, internal information processing, intelligence, logical-mathematical reasoning and emotional development. This attention to the investigation of covert behavior has been fundamental in developing Psychology as a scientific discipline. Thus, the analysis of human behavior can be discovered from the "overt behavior" (manifest behavior), that is, the way the individual responds to the requests of the physical and social environment (Behaviorist current) and, from the "covert behavior" (latent behavior) information processing operations, through which, based on sensory information, the individual elaborates representations and transforms them, using them in the organization of his manifest behaviors. Our manifest behavior is driven by an internal system (the central nervous system). There is a clear
relationship between latent and manifest behaviors insofar as information processing operations are responsible for conducting manifest behavior. For example, latent behavior is often coordinated into manifest behavior by the over-excessive control of anxiety in the face of competitive and anxiogenic situations.

According to Costermans (2001), the basic premises of Psychology are: i) Psychology is the science of behavior; ii) Human behavior comprises two levels: the manifest and the latent behavior; iii) the manifest behavior is a set of motor and glandular activities, iv) the latent behavior is a set of cognitive activities that are not accessible to external observation. So, it is argued that in scientific psychology research, not everything is numbers. Although the use of some statistical methods is often decisive in understanding generalizable human behavior and in understanding causal relationships between psychological phenomena, it is repeated that the science of Psychology is not proven only by statistically significant numbers. It would be a pity if only what was objective could be analyzed in the light of statistical data and thus possibly be considered science. How to explain, then, the unique characteristics of each one? How to explain, for example, a group of people with the same diagnosis of depression since this depression may have a manifest behavior so different from individual to individual within that same group? The common denominator is the disease, but how everyone finds to live that disease is different. The unconditional acceptance of these differences between individuals and human variability implies believing and accepting different perspectives and lifestyles. In this sense, there is variability in the styles of people in Psychology, especially people with severe and moderate psychopathologies, as a continuum/spectrum of various psychopathologies. Thus, it is argued that the manifest behavior of people with some psychological issues can be modified and improved by the internal processes behind this behavior.

Western culture educates human beings to hide any sign of weakness or personal defect. Seeking or asking for help is still seen as a sign of weakness. It does not promote positive methods of psychological growth in humans, and asking for help may be one of them. Reinforcing, praising, and stimulating positive thinking about others still needs to be improved in Western educational culture from preschool to higher education. However, in the context of Portugal in Lisbon, at the Faculty of Psychology and Educational Sciences of the University of Lisbon, some researchers have been working in this area of Positive Psychology (Marujo, Neto, Caetano, & Rivero, 2007) and internationally in the field of psychological well-being (Huppert, Baylis, & Keverne, 2006). These authors argue that children should be educated early to identify with themselves and others, positive feelings. They argue that this can result in greater psychological well-being, both in the present and in their future development as human beings. Learning occurs more quickly from a positive approach, like positive verbal reinforcement, than a negative one.
In an ideal world, there would be no need for clinical psychologists or doctors, but in an ideal world, there should also be no illness, prejudice, or value judgments about people or their problems. In the real world, there are different people, more or less competitive, for example, sports people who do not reach a high-performance status, people with little physical activity, people with obesity, anorexia, bulimia, some are not best, nor are the most aesthetically attractive in the face of the demands of the fashion world. However, they are part of our reality; above all, they are people who contribute to building the world we live in (Soares, Almeida, Oliveira & Roque, 2011). Furthermore, remember the athletes who finish their relatively new careers and think about the orientation of their psychological life without sports as a feeder of self-esteem. It seems crucial to help ex-athletes at a psychological level to diversify their sources of self-esteem in order to balance their various dimensions of life.

In psychology, one of the basic premises is that people have the potential for change and psychotherapy can and should be a way of psychological change (Soares, 2011). There are often positive qualities in humans that may be barely awake and require therapeutic work to flow.

In the first half of the XX century, psychoanalytic models of psychotherapy expanded and guided psychotherapy (Bienenfeld, 2002; Garfield & Bergin, 1994). On the other hand, in England, in the 1960s, Beck and Ellis stood out by adopting a model opposite to that of psychoanalysis. They were based on the client’s analytical skills and led to the development of cognitive-oriented therapies (Semerari, 2003). These and those of a behavioral nature are distinguished from psychoanalytic models since they emphasize the active participation of both the therapist and the client, focus on specific problems and have a limited duration. Research efforts seek to make psychotherapy credible and validated as a clinical practice.

Thus, the principles of the experimental method, objectivity, control of variables, operationalization of the participants’ behaviors and the establishment of causal relationships between a given treatment and its result (degree of change) and access to the content of the therapeutic process (due to the recording of therapeutic sessions) contributed to validate and give credibility to Psychology and psychotherapy as clinical practice. In fact, according to Sousa (2004), in adopting the experimental method as a means of exclusive, totalitarian knowledge, psychology abandoned crucial aspects such as meaning and intentionality, essential specificities to understand the Gestalt of the Psychology process.

From the late 1940s to the mid-1950s, after World War II, Psychology and psychotherapy were integrated into the American and British mental health systems, and international institutions dedicated to mental health emerged at the same time around the world. Take the case of the World Federation of Mental Health, whose inaugural text resulted in the First Mental Health Congress held in London in 1948 (Garcia, 2007; Rose, 1990). Likewise, in 1952, the 6th Edition of the ICD (International Classification of Diseases) incorporated, for the first time, a chapter dedicated to mental disorders and, in that same
year, the first Edition of the DSM (Diagnostic and Statistical Manual of Mental Disorders DSM-I) appeared from the American Psychiatric Association (Garcia, 2007). We are already going into the future discussion of the 6th Edition of the DSM. In this context, Psychology begins to acquire a renewed relevance. It is concerned with integrating population criteria in its research parameters, producing proven results of therapeutic efficacy, and providing tools for preventing mental illness.

A crucial time for Psychology was also in the late 1960s because the internal processes and symbolic representations were taking part in explaining and modifying human behavior. Cognitions, internal processes regulated by learning principles, were identified as predictors of human behavior (Gonçalves, 1990; Gonçalves, 1997). In 1977, Bandura also argued that learning does not seem to result merely from direct rewards; it can also be social learning, as a result of observing the rewards or punishments offered to others, which emphasizes the way we observe and shape ourselves from the behavior of others, learning through social examples and also highlighting the way we understand psychological phenomena when considered as a whole, organized and structured and not when decomposed into parts.

In 1980, Agras and Berkowits proposed an investigation model that sets up the requirements that research in psychotherapy should have (Barlow & Hofmann, 1997; Mustaca, 2004). These criteria emphasize the need to develop factorial studies with experimental and control groups, whose objective would be to seek greater internal validity of the different therapeutic models. At the same time, an attempt was made to increase the external validity of these models, making them feasible in various clinical situations. It was encouraged to be disseminated among professionals from different backgrounds and in different parts of the world. There is a proliferation of explanatory theories of therapeutic change, which has resulted in a growing concern and demand for the research process, namely: evaluation of research, refinement of research methodologies, operationalization of models, development of manuals, construction of standardized measures of results, use of statistical techniques to assess the clinical significance of the effects of psychotherapy, randomization. (Moreira, Gonçalves & Beutler, 2005; Garcia, 2007). In clinical psychotherapy, three significant criteria are defined to assess the applicability of different psychotherapies (Echeburúa & De Corral, 2001; Mustaca, 2004). According to these authors, during the 90s, these three parameters were consolidated as guiding lines in the international scientific community when planning investigations:

a) effectiveness, understood as obtaining the best results and with the most outstanding possible durability when applying a therapy to a specific disorder;

b) effectiveness, which refers to the ability of a therapy to be generalized or, better, to adjust to different real clinical scenarios;
c) efficiency refers to the cost-benefit ratio of therapies, not only at the economic level in the management of health systems but also at the level of human resources and the levels of quality of therapy.

Gonçalves (2007), in the Informative Bulletin of Psychology Nr. 2 from the University of Minho, states that in Portugal, despite the appeals to the "practical-scientist" model as an essential organization for the training of psychologists, these two poles (Science and Practice) were dissociating more and more. He believes "one of the most harmful effects of this dissociation was the proliferation of professional schools, in many cases without any concern for research and training in basic science" (Gonçalves, 2007, p.1). In order to save Psychology from "vulgarity and disbelief," the author defends a radical return to basic science and scientific foundations. This idea reiterates the cyclical nature that History tends to assume, and we are thus confronted again with the need to prove that Psychology is a science and that psychotherapy does work. For this very reason, let us reiterate the opinion of Sousa (2004) and Gonçalves (2007) that it is prominent to establish ever-stronger ties with neurosciences, biology, with genetics; that is, Psychology enters the 21st century intending to consolidate scientific rationality, adapted to the cutting edge areas (Sousa, 2004).

Beutler and Castonguay (2006). Soares (2007), Soares, Botella and Corbella (2010) even suggest the implementation of the PBER (Practice Based on Evidence Results) paradigm as a way to improve the technical and tactical quality of psychological intervention. According to Corbella (2004), the ethical commitment of psychotherapists to optimize their services and improve the mental health of their patients makes it necessary to have scientific evidence on the therapeutic effects of psychological treatments.

Bearing in mind that the objective of the researcher and the therapist is to understand the functioning of the therapeutic process, working in different scopes but complementary (one more theoretical, the other more practical), following a brief characterization of this evolution will be presented, from the positivist paradigm, through the constructivist paradigm and ending in the social constructionism paradigm.

From the empiricist to the constructivist paradigm and social constructionism, the traditional positivist view fused into Psychology and research throughout the 20th century. Until the 70s, Psychology was influenced by empiricist paradigms, which contributed to the formulation of learning models, arguing that the human mind was initially empty as a passive receiver of environmental stimuli (Rebelo, 2002). In Argentina, during the military dictatorship, in the 70s and 80s, psychoanalysis was banned as well as any other form of psychotherapy, because they were identified with left policies, with the idea that people were taught to think and not to submit passively, as the dictatorship so desired (Ceberio, 2003).

At the end of the 1970s, some researchers realized that there was a convergence of opinions corresponding to a new way of looking at human development (Neimeyer, 1997). After the euphoria of the flower power generation, the post-war economic boom and
humanistic models, researchers began to notice the decline of insight-oriented perspectives (psychoanalysis and humanism) and their opponents, oriented towards observable behavior. This discouragement with the empiricist paradigms impelled Psychology to appropriate the hermeneutics that states that, in order to understand the human mind, it is necessary to adequately it into the culture since the subject’s knowledge about himself and the world is phenomenologically interpreted and can be understood throughout a multiple set of meanings, recurring to the language that is available in the cultural matrix in which it is inserted (Rebelo, 2002).

The importance of ecological models was reborn, and this movement was called (which postulates a new way of being and knowing the world) a constructivist movement. Considers that the human capacity to understand reality makes us especially active in the idiosyncratic world construction - a culturally dependent process. For constructivists, all communication is an interpretive construction on the part of the subject who experiences it (Gasersfeld, 1984).

This movement in which Psychology has been inspired encompasses several theoretical models (Botella, 1998; Canavarro, 1998; Guidano, 1998; Gonçalves, 1997; Neimeyer, 1993; Parker, 1999), and they all defend construction as the central movement of understanding personality, taking into account that each individual is able to create his/her representation of the self from his/her engagement with the environment.

People can overcome problematic constructions and build something new. This perspective marks a different way of being and knowing the world. For example, applied in psychotherapy, the goal is to help the client deal with transitions and adequately reorganize their experiences (Arciero & Guidano, 2000). According to these authors, the great dichotomy between constructivism and rationalism lies in that the former defends that rational laws do not organize knowledge systems. Thus, everything we experience is part of a community of historical practices to which we all contribute through our involvement in the world.

Social constructionism derives from constructivism but argues that knowledge and reality are socially constructed based on our relationship with the world. Neimeyer (2000) refers that identity and disturbance are socially constructed and that there are as many problematic constructions as there are cultures. It is a more cultural, linguistic and hermeneutic perspective of constructivism. While constructivism values the construction of an individual self, social constructionism dissolves any concept of individuality and emphasizes its social construction. Both are opposed to the modernist idea that there is a real-world objective that can be known (Hoffman, 1996).

Constructivism presents us with an image of the nervous system as a closed machine in which perceptions take shape as the organism struggles with the environment. On the other hand, social construction theories believe that ideas and memories arise from social exchange
and are mediated by language. It is a more complex view than that taken by positivist science. Reality does not seem objective but rather a product of a social construction guided by temporal and spatial coordinates from which we interpret them. Each socially constructed reality is formed by a cluster of experiences that predispose us to a constant state of construction and reconstruction (Botella & Figueras, 2000).

The social constructionism paradigm emphasizes a dynamic of discourse and points of view in the stories (Neimeyer, 2000). Language is the instrument defended by social constructionism and is, in turn, what most defines the post-modern era of Psychology. People use language to create meanings about their experiences. This meaning is socially constructed, and the speeches are considered reading frames that give meaning to the world around us and structure social relations. Therefore, the world depends on our experiences, and the succession of events takes shape from social interaction (Drewery & Winslade, 1997). Reordering the Experience through language allows self-reflection and mutual harmonization; for example, psychotherapy is the retelling of stories co-constructed between therapist and client. The possibility of building and sharing the meaning of people’s experiences using language stimulates the adaptation and evolution of humans. Even in primitive societies, linguistic coordination of activities allowed human beings to exploit environmental resources better, assess opportunities and dangers and communicate their experiences based on stories or narratives. It made it possible to survive and transmit knowledge over several generations (Arciero & Guidano, 2000).

**Psychology nowadays**

White (1988) argues that the capacity for humor and the use of metaphors are instruments to fight the rigidity with which, at times, we see ourselves, others and the world. Guidano (1998) characterizes Psychology using a curious expression, as mentioned by White. He says that more than the terminology used in Psychology is needed, it does not cover the whole thing, and Psychology itself is going through a pre-scientific stage. It is this thought that guides the scientific community. From the positivist model based on sensory Experience, in which everything objective and capable of being known through the senses was considered knowledge, it has evolved until today to a concept that knowledge results from the construction of Experience internal and external and that the observer is an integral part of what he observes (Ruiz, 1992). This new view on the relationship between observer and observed produces changes in all sciences: physics, chemistry, biology, and social sciences.

According to Ruiz (1992), the new perspective is to see the observer as an integral part of what he observes and all knowledge, consequently, reflects the structures of the organism he is knowing, much more than the reality itself. Knowledge is cognitive, motor, sensory and affective; thus, to know is to live and exist. As Ruiz (1992) argues, the two cannot be differentiated. To know reality is to build it; in that construction, we always put what is ours.
Thus, we live in a post-modern era in which everything seems to be open, and what we believe in today is likely to be deconstructed and reconstructed tomorrow until we reach a "true scientific stage." This process of construction and reconstruction is the scientific stage itself, and this will not be an end in itself but a process full of epistemological continuities and discontinuities. This path serves to go further.

Maturana (1990) even proposes a different and curious name to designate reality, which until now has been called "Universe," characterized by being unique, external, and typically empiricist, in which things go only in one direction. In contrast, he proposes that we designate reality as a "Multiverse," which would be a manifestation of reality in its multiple aspects. It is part of this "Multiverse" of psychotherapy that we seek to discover and understand. The observation of this psychotherapeutic multiverse seems more congruent when the object of study fits into a theoretical paradigm, promoting the connection between theory and psychotherapeutic practice.

The era of change also appears to occur in psychotherapy. The effectiveness of psychotherapies has been explored in connection with neurosciences; that is, the hypothesis arises that, shortly, neuroscientific criteria will be used to predict the effectiveness of the results of psychotherapies, with evidence at the level of the central nervous system (Cordoba, 2003). Several researchers have shown concern in the search for this link between the biological field and psychotherapy (Kandel, 1999), namely between psychoanalysis and biology and, more recently, in Portugal, by Gonçalves (2007), in the field of cognitive neurosciences. There is a growing interest in research in the field of Psychology seeking to identify neurophysiological indicators that prove the link between psychological well-being and internal brain processes (Gonçalves, 2007). There are even some studies that show how there are common characteristics, for example, in the production of narratives in certain patients with certain psychopathological disorders, namely people with agoraphobia and drug users (Soares, Alves, Grego, Henriques & Gonçalves, 2003; Henriques, Gonçalves, Machado, Maia, Teixeira, et al., 2003; Gonçalves, Henriques, Alves, Soares, Monteiro, et al., 2003). The idea is to look for neurophysiological and cognitive references that can explain certain human behaviors and diseases with psychopathology. On the other hand, according to Córdova (2003), the substitution, defended by the American Psychology Association (APA), of the concepts of external validity or effectiveness of psychotherapy in terms of clinical utility is increasingly promoted. Mainly because it is defended, similar to the idea of Ceberio (2003), who advocates that the terms "patient," "treatment," "cure," and "disease" are part of an old paradigm and are only helpful insofar as they allow for more outstanding ease communication between professionals.

In a post-modern society, in which reality or the universe can have several meanings, it seems essential to create bridges of communication between the various scientific areas. It will enhance the maturity of the science of human behavior and mind.
REFERENCES


SOARES, Luísa.


