

THE UNITY AND DIVERSITY OF PSYCHOLOGY

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In this article we review the current state of psychology, focusing on the debate over whether the various approaches in psychology should be integrated or whether the plurality of approaches should be maintained. We emphasize the topicality and pertinence of this review, since it deals not only with epistemological questions, but also with the different methods and techniques used in research and in practice. The review also considers the different programmes used in the training of psychologists, currently the subject of discussion given the urgency of creating a psychology curriculum for the European Higher Education Area. Furthermore, we provide some examples of integration of the various theories, methods and subjects. By way of conclusion, we propose a new form of specialization for psychology students, more in accordance with the needs of society.

Key words: *Integration, Specialization, Plurality of psychologies.*

Presentamos, en este trabajo, una revisión del estado actual de la Psicología, desde la controversia de si debe tenderse a una integración de los diferentes enfoques de la Psicología o de si debe mantenerse la actual pluralidad de psicologías. Se pone énfasis en la actualidad & oportunidad de esta revisión por cuanto la misma no se centra sólo en cuestiones epistemológicas, sino que abarca la diversidad de metodologías & técnicas de investigación & aplicadas; así como los diferentes programas de formación del psicólogo, en discusión, actualmente, dada la urgencia en elaborar un plan de estudios de Psicología, en el marco del Espacio Universitario Europeo. Se plantean algunos ejemplos de integración de las diferentes teorías, métodos & materias. La conclusión a la que llega este artículo consiste en proponer una nueva forma de especialización para los alumnos de Psicología más acorde con las necesidades de la sociedad.

Palabras clave: *Integración, Especialización, Pluralidad de psicologías*

The subject of the unity and diversity of psychology has always been of special interest to psychologists of personality. For example, in the handbook by Brody and Ehrlichman (2000), the final chapter covers two points: the first of these is biological integration; the second is the integration of the different psychological methods. In Funder's book (2001) we find, both in the third chapter devoted to methodology and in the rest of the chapters, an effort to integrate the knowledge from behavioural genetics, evolutionism, psychoanalysis, social psychology, the psychology of learning, of motivation and of cognition, attained through different approaches and methodologies, to conclude, in the final chapter, with an explicit proposal for the integration of cognitive social psychology and psychology of the personality. In Pervin's (1998) manual, we find from the first chapter onwards an integrated conception of the three most important methodologies for psychology:

clinical, correlational and experimental. From the point of view of content this author considers, following Schrest (1976), that psychology of personality can't be sustained, only, on individual differences so it needs the knowledge of emotions, cognitions and social scenarios in order to describe the psychological organization of the person. It is interesting to consider the expression «sharing objectives», used by Pervin for describing what he understands by integration, which (as we can see in the remaining chapters of his book) would consist in considering as elements of personality not only traits, but also cognitions and motivations. However, as we shall see below, in the last decade many psychologists from different specialities and fields have become keenly interested in this controversy.

UNITY BASED ON INTEGRATION

It important to stress that when we refer to the possible need for a single, unified psychology it should not be confused with any of the major theories that have been developed in the past, since these theories were constructed on the basis of a reduction of the object of study, while what we are seeking is to maintain the complexity of the object of study of psychology. For

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example, the psychology of Hull (1943) is a psychology of learning, that of Atkinson (1957) is a psychology of human motivation, that of Kelly (1955) is based on mentalism, and that of Cattell (1950) is based on traits, while the psychology of Izard (1971) is based on the study of emotions. None of these theoretical systems has been developed on the basis of the integration of different bodies of knowledge, since what they have done is to reduce to a single body of knowledge the entire study of the psychology of the person. A unified psychology does not consist in a general psychology – which, in the best of cases, is nothing more than a simple juxtaposition of different theories, methods and applications, without any effort beyond chronology and the maintenance of the great traditional schools: Psychoanalysis, Gestalt, Behaviourism and Cognitivism, and the fields of study they cover: Psychophysiology, Developmental Psychology, Social Psychology, Differential Psychology, Methodology and Intervention. This juxtaposition of approaches and contents corresponds more to the interests and necessities of academic life (number of teaching hours, subjects and teachers) than to the interests of users, for whom it constitutes an overlap of contents. Quite probably, all general psychology texts will deal with the same themes (perception, memory, personality, etc.), the same scientific method (for or against) and that panacea we have found for intervention, and which we call the «cognitive-behavioural» approach.

INTEGRATION FROM THE POINT OF VIEW OF SPECIALIZATION

For us, integration means starting out from the diversity of theories and methods that is the product of specialization, since specialization involves setting highly specific objects of study, and using specific and precise methods. The purpose of the unification of psychology is not to annul specialization itself, but rather to achieve another type of specialization. Right now each one of us can say she/he is a specialist in developmental, social or experimental psychology, or in neurology or comparative psychology (ethology); in the wake of integration we would be able to start being specialists in what truly interests society and our students –in language, intelligence, violence, depression, well-being, and so on. And let us not fall font of the fallacy according to which some of these topics can only be studied within one specialization, as some of the reviewers of currently psychology journals would have us believe.

LIMITATIONS OF PREVIOUS ATTEMPTS AT UNIFICATION

Early efforts to unify psychology were based on opposite and even antagonistic conceptions that facilitated the choice of a single psychology through simple rejection of the alternative conception. For example, natural science or social science, which is the same setting the biological alternative against the social approach in psychology (Lerner, 1998); theoretical science or applied science (Fowler, 1990), experimental science or clinical science (Dashiell, 1939), pre-science or science (McIntyre, 1985), experimental science or correlational science (Bindra & Scheier, 1954; and Cronbach, 1957). All of these efforts were based on the “authority” argument, according to which science has to have more weight, more importance than «non-science». The reaction was a curious one: everything came to be called scientific, and those conceptions that were excessively so were referred to as «pseudo-scientific».

This situation further exacerbated the positions, and the result was a series of separations and divorces, with no submissions to be found. Social psychology, for example could not accept being restricted to the status of a natural science, precisely the opposite of the case of psychobiology. Developmental psychology could not admit a basis exclusively on human behaviour in learning, without taking into account maturation. Differential psychology was sacrificed on the altar of human equality, overlooking the fact that the richness of humanity is in its diversity. And as though this were not enough, it was considered that all psychology represented an anthropology of the human being, and that this could be morally undesirable, a point of view meaning that both behaviourism and neuropsychology were based on a deterministic view of the person, and were thus to be rejected on moral grounds (França-Tarragó, 1996), as were psychoanalysis and systemic models.

THE DEFENCE OF DIVERSITY BASED ON SPECIALIZATION

Not all psychologists are agreed on the need to construct a unified psychology –indeed, there are some who defend the plurality of psychologies. While some, such as Royce (1970) and Anastasi (1990) believe the unification of psychology to be desirable, but assume that it will take many years, others, such as McNally (1992) consider the current diversity and disunion of the discipline to be an indicator of its good health. Kendler (1970) thinks it impossible to reduce psychology to less

than three objects of study, which for him would consist in the study of behaviour, the study of neurophysiological phenomena and, thirdly, the study of personal experience. This same author reduces the objects of study in a different way to two –beyond any further reduction: that is, psychology as a natural science and psychology as a social science (Kendler, 1987). In this regard it is interesting to consider the point made by DeGroot (1989), who argues that prior to any kind of integration it is necessary to identify the mission of psychology and what its methods of study should be.

Obviously, if there had not been such large-scale specialization in psychology, today we would not be talking about the potential advantages or disadvantages of unification. Even so, where criticism is perhaps due is in the manner in which this specialization has occurred. In this regard we would have to concur with Staats (1999) in that in psychology the theoretical constructs are different from theory to theory, but more because they have different names than because they denote different things. Staats suggests the example of self-concept, self-image and self-efficacy, which for him are at the very least poorly defined, and at worst, can be considered to have the same content. A curious case is that of social reinforcement, a term widely accepted even by those who reject reinforcement in learning. Another symptomatic case is that we can talk of language learning processes, without taking into account the psychological principles of learning. Thus, the fact that each theory uses a different and exclusive language makes dialogue between the theoreticians from different paradigm impossible, and renders the paradigms unintelligible for the applied psychologists who, unfortunately, have to subscribe to a single paradigm to be able to work and keep up to date.

MULTIPARADIGMATIC PSYCHOLOGY

It was Caparrós (1979) who introduced in the Spanish-speaking context the concept of multiparadigmatic psychology. Little did anyone imagine, at the time, that psychology would be plural not only in its paradigms, but also in its methods and in its teaching. All those who accepted multiparadigmatic psychology did so within the context of the philosophy of science of Kuhn (1962, 1972), who defined the concept of paradigm. This concept includes both the theory and the methodology and transmission of knowledge of a particular scientific community. Hence, it was a few years before the questions of the plurality of theories, the plurality of methods and the plurality of academic disciplines came

to be considered separately. Rychlak (1988) was the first to consider that the problem of the fragmentation of psychology had three different sources: theoretical, methodological and academic (or accumulation of knowledge and of its transmission). Let us, therefore, make a brief analysis of each of these aspects with regard to its influence on the difficulty of overcoming the division of this edifice we call psychology.

FROM THE THEORETICAL POINT OF VIEW

Let us turn to the concept of different levels of analysis proposed by Staats (1993) for establishing bridges between different levels of analysis of the phenomena studied by psychology. The basic idea is to consider that there is one level of analysis that is more molecular and another that is more molar, but that there must be a significant relationship between the two. Hence, our previous suggestion of applying the principles of learning (molecular level) to the learning of language (molar level) and not to try and construct principles of learning that are only valid for this specific type of learning. Moreover, in our view, the application of molecular knowledge to more molar problems can extend more molecular principles, and vice versa. We can understand as different levels the problems of the clinical ambit and those of research. Thus, it appears that the more molecular knowledge of memory search would have to be useful and would become enriched with the more molar knowledge of amnesia and other problems of forgetting, so that the two should not be studied separately.

An immediate consequence of this conception is that the study of psychological phenomena is obliged to be interdisciplinary, if we understand memory as one discipline and amnesia as another, since, as things stand at the moment, these disciplines are so separate that they are even studied in different academic subjects and faculties. The same is true for the cases of the study of personality and the study of personality disorders, even though works such as those of Millon (1998) (Quiroga & Fuentes, 2003) and Costa and Widiger (1994) require knowledge of both areas in order to be properly assimilated.

We can see other examples of integration based on different levels of analysis in the study of the type A behaviour pattern, in which the molar knowledge obtained in the clinical field of cardiology (Friedman & Rosenman, 1974) gives rise to less molar studies of a correlational nature (Jenkins, 1971), and these to experimental research of a molecular nature; a case in

point would be the study that compared, in tasks measuring resistance to fatigue, high type A people, according to the questionnaires, with people low in type A (Glass & Carver, 1980). In the study of violence we can see the involvement of four different levels of knowledge, which go from a highly molecular level associated with frontal brain functioning (Lapi re, 1995) to a totally molar level related to the disposition of social models of violence for the person, passing through the different experimental definitions of aggression (Cherek, 1997), the design of questionnaires for the correlational assessment of aggressiveness (Buss, 1961) and the study of the role of maturation in the development of aggressive behaviour (McColloch & Gilbert, 1995).

Despite the brevity of our overview, we can confirm that all of these studies involve different paradigms of psychology, different methodologies and different academic subjects.

FROM THE METHODOLOGICAL POINT OF VIEW

Review of the concept of convergent operations

Sternberg (2001) proposes the term «convergent operations» to refer to the use of multiple methodologies for studying a single phenomenon. This «convergent operations» concept does not involve great differences with respect to the concept of «theory between levels» proposed by Staats (1993), since «theory between levels» also means, as set out above, studying the same problem with different methods, adding to the possibility of studying it through different perspectives or theories.

For us, the concept of convergent operations means a methodological effort that goes beyond the use of questionnaires for the selection of people from different experimental groups. Returning to the fundamental idea of Garner, Hake and Ericson (1956) when they originally proposed the concept of convergent operations, we consider that the aim was basically to avoid the potential bias produced by a single methodology, in a single study, due to the inevitable reductionism conferred by any operational concept on the theoretical concept it describes. Thus, while it is true that the objective was to employ different methodologies in a single study, the most important thing is to ensure that the data from one methodology and the other have an explicit relationship, and for this they need to be able to be «translated» from one methodology to the other. The following examples might help to clarify what we mean: let us take, for

example, the relationship between a methodology of basic research and an applied methodology such as the clinical one. In the first case the interpretation of a correlation between two variables is made from a strictly statistical position and a correlation of ($r = .50$) is considered to indicate only a joint variability of the two variables of 25%; but from an applied point of view this information means much more, since «a priori» the probability that the variability of one variable depends on the variability of the other is 50%. Thus, a correlation of ($r = .50$) between these variables is telling us that that probability a priori has risen by 25%. So, we now have a situation whereby the percentage of variability observed is 75%. Wherever one variable is directly observable and the other is inferred, we can establish the relationship between the two by hypothesis and see if it is fulfilled. Adapting the proposal of Rosenthal and Rubin (1982), we can consider, for example, that length of occupation of a hospital bed after a surgery will depend, apart from the seriousness of the operation, on the optimism or pessimism of each patient. Let us consider that we have a psychometric scale for assessing optimism (Chico & Tous, 2002), since it is a subject variable that is not directly observable, and that we can also have access to the records of room occupation in one or more clinics, and let us suppose that the correlation between optimism and days of room occupation is ($r = -.50$), which means that the higher the optimism the shorter the length of stay at the clinic. From this data we will be able to predict that for each 100 optimists ($n = 50$) will leave the room quickly by chance, just as for each 100 pessimists ($n = 50$) will stay in the room longer by chance. The correlation observed and its negative sign in this case indicate that we should add half of the absolute value of the correlation to the 50% of optimists who will leave the room sooner, and subtract half of the absolute value of the correlation from the 50% of pessimists who will leave the room later; thus, for each 100 optimists, 75 will leave the room quickly and 25 will leave it later, or, in other words, for each 100 pessimists, 75 will take longer to leave the room, and just 25 will leave it sooner.

Another application of operational convergence between different methodologies emerges when we employ correlational and experimental methodology in the same research (which is rather uncommon), or when the same topic or problem is studied on the one hand by social psychologists and on the other by differential psychologists. In this latter case the social psychologists will in all probability use the experimental technique, while the differential psychologists will employ the

correlational technique. Whether we are talking about the same study based on the two techniques or about being able to compare and discuss jointly the results of each different study on the same topic, the most important thing is to know the meaning, in terms of Pearson correlation «r», of a difference of means «t» or a variance analysis «F», since (t) squared is equal to (F).

Theoretically, the same result should be obtained by observing a difference between two variables as by looking at the relationship between them, if they have been properly defined, even though the type of explanation is not the same in each case. We need only apply the formula whereby «r» is equal to the square root of (F) divided by (F) plus the sum of the number of people in each group minus two (degrees of freedom), to determine the correlation «r» given a value of «F».

We should stress that we do not consider convergent operations as the simple use of questionnaires and experimental tasks in the same study, as Eysenck (1976) was already doing a quarter of a century ago. What we are proposing is to ensure that the data obtained through different methodologies —which inevitably involve different response systems of the human being, and hence different statistical techniques— can be analyzed in an integrated way. For example, if we are interested in observing the relationships between the production of antibodies, proprioceptive motor activity and verbal responses to questionnaires, what we need to do is relate in an efficient way the different data obtained by each of these different instruments, because the first of them measures in an objective way the functioning of the body's systems, the second is an objective measure of muscular performance, and the third is a measure of the respondent's own opinion.

Naturally, in this type of study we are not guided by a possible linear causality between the physiological, motor and cognitive levels. Rather, we consider that the possible relationships will occur in a multicausal fashion, so that through our study we can conclude, for example, that self-opinion may be a good predictor of individual physiological state, and that motor activity can effectively predict self-perception of one's mood, without there necessarily being any fixed dependent variables, nor any predetermined independent variables.

As Turró (1912) argued, all phenomena occurring in the real world are dependent variables, and we attain knowledge of them through observing their functioning as consequences (DV), but also as antecedents (IV) in our research.

FROM THE ACADEMIC POINT OF VIEW

The academic education our students receive presents a view of psychology that is not only complex, but also totally fragmented and repetitious, since the organization of teaching by areas of knowledge such as social psychology, basic psychology, developmental psychology, and so on, and not by psychological topics of social interest, such as anorexia, depression, memory or amnesia (Sternberg, 2001), leads students to lose the initial interest that led them to study psychology, and to their finding a large amount of overlap in the content of the different subjects that have to study on their degree course.

The fact of giving more importance to the organizational problems of education, according to the interests of teachers rather than the demands of society and students' aspirations, leads to a fragmentation of psychology that represents a problem not only in the present, but also for the long-term future of the discipline.

Currently, we have a teaching system that permits us to organize topics within courses and assign these to the three different stages of the overall degree course. Our own proposal would be based on favouring a multidisciplinary approach in psychology, and would consist in organizing the first stage of the degree with courses corresponding to the thematic categories of psychology (perception, memory, learning), but each one approached from different perspectives. A matter to be decided would be the selection of these thematic categories, which we propose could be made according to the number of different fields of knowledge a course might involve—the greater the number of different fields prepared to participate in a single course, the greater the probability of its being included in the curriculum, and vice versa, the fewer the fields prepared to participate in a course, the less likely that it would be included in an annual university plan. Each of these fields would teach a topic in the same course, which would correspond to a given number of credits for the student out of the total number needed to pass the course. This would mean that education in psychology at different universities were truly equivalent as regards courses, albeit different with regard to the topics covered; thus, students could select on a rational basis where to take their psychology degree, and student mobility would be not only technically easier, but also personally more beneficial. The second stage of the degree would have to be organized around courses corresponding to fields of psychological knowledge, such as social, basic, differential, developmental, biophysiological, methodological and clinical. Each field would offer the topics it considered most representative of it and most researched by its teachers

within each course, and students could select topics according to their preference for specialization, taking more topics of a particular course or, for those with a more generalist aim, distributing their topics across a larger number of different courses.

In the third stage of the degree these fields of knowledge could offer their participation in training, in specific applied fields of psychology, proposed jointly by the university and the corresponding professional association, such as old age, health, organizations, and so on, resulting in courses for truly interdisciplinary research.

CONCLUSIONS

On achieving, through the efforts of us all, a unified psychology, albeit with many facets, in the coming years the next target would be the development of an authentic and credible specialization of psychology.

Efforts to develop an applied psychology underpinned by basic research, and to advance basic research according to applied needs, would mean that specialization no longer implied a cryptic language, strictly for the initiated, but rather the study of a specific facet of this polyhedron that would constitute psychology, since there would be an internal structure common to all its possible facets, current and future. These efforts would consist in:

Going beyond the current training in a single methodology, and indeed, learning to respect other methodologies through knowledge of them. Neither exploratory nor confirmatory factor analysis, nor the different methods of neural imaging, nor qualitative analyses can, by themselves, provide a sufficient and necessary explanation of the phenomenon under study. The appropriate strategy is to provide training in a diversity of methodologies so as to be able to respect them and collaborate with different specialists, while maintaining one's own specialization.

Organizing education in psychology so as to better understand psychological phenomena and avoid falling into closed compartments in which we end up defending their rules more than the utility or meaning of our research. Making explicit the way in which basic research contributes to applied research, and how the knowledge of each one is transferred to the applied sphere. Making constructive criticism, that is, being critical with what we do and how we do it in order to obtain better results, allowing others to make their own criticisms of their work. Not pontificating on what is or is not science, but rather striving to avoid new phenomena being dealt with unscientifically. Avoiding converting students into spectators for our teaching, allowing them instead to

become truly involved in what they study.

Constantly systematizing new knowledge emerging in specialized research so as to highlight the common and the different in what are called, often undeservedly, advances in psychology. Stimulating and rewarding efforts to build theories from empirical research, in order to know what we can respond to with robust knowledge and what is still awaiting answers.

Naturally, this initiative for the unification of psychology cannot be definitive, but must rather prepare us, as we said, for a new stage of specialization which, inevitably, will bring a new diversity of psychology, to raise once more the need for its unification. By this we mean that the purpose is not unity or diversity, but rather the path we make through one and the other, since this path means the progress of knowledge. In the same way as when we ascend a spiral staircase, on each new landing there are the same left and right sides, but one floor higher.

The unity of psychology will be reflected, then, in the fact that however much we divide the discipline, in each part or fragment we shall find the basic principles that make psychological studies necessary and sufficient for studying the phenomena of psychology.

AUTHOR'S NOTE

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