REGULAR ARTICLE

Searching for an Integrative Theoretical Framework for Psychology: Evolutionary Psychology is Needed, But Not Sufficient

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Abstract

The main purpose of this paper is to contribute to the reflection on a potential integrative framework for the psychological sciences based on the target paper in this special issue "Psychology: A Giant with Feet of Clay" by Zagaria, Andò & Zennaro. The paper is organized in three parts. In the first part we will discuss whether introductory textbooks provide a solid and reasonable basis for an analysis of the quality of conceptualization of key concepts in the psychology as well as whether the epistemological analysis could provide arguments for a conclusion that the psychology is a "soft(er)" science. In the second part, we will formulate our reasons why we share with Zagaria, Andò & Zennaro the conclusion that the evolutionary psychology might play a significant role in our quest for the integrative framework, but also why we are not convinced that evolutionary psychology can be integrative enough. In the third part, we are going to formulate an alternative starting point for exploration of for an integrative framework for psychological sciences and their practical applications supporting individuals and communities in their quest for a meaningful and productive existence and navigation of their future lives.

Keywords Theoretical Psychology · Philosophy of Science · Sociocultural Psychology · Integrative Theoretical Psychological Framework

Introduction

In the paper *Psychology: A Giant with Feet of Clay* (Zagaria et al. in press, this issue) authors have argued that psychology is in a pre-paradigmatic stage and that the evolutionary psychology could provide an integrative theoretical framework. Based

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on an analysis of 11 introductory textbooks Zagaria, Andò & Zennaro have concluded that key theoretical concepts of psychology as a scientific discipline (psychology, mind, behavior, attention, cognition etc.) are inadequately defined and that there is no wide-ranging consensus among researchers regarding their definition. Moreover, relying on previous epistemological assessment of "hard(er)" sciences (e.g., physics, biology, and chemistry) that has been based on a wide set of criteria (e.g., theories-to-laws rate, consultation rate, early impact rate, number of authors, number of references etc.) authors have claimed that the psychology belongs to "soft(er)" sciences. Compared to the "hard(er)" sciences psychology is characterized with the lower consensus in terms of knowledge, lower capacity to accumulate knowledge throughout history and higher dependency on non-cognitive factors (e.g., academic prestige) then on data and theories. Consequently, authors have concluded that the psychology has always been and still is in a pre-paradigmatic stage and that it needs a unifying/integrative theoretical framework in order to overcome above mentioned constraints of "soft" science. Finally, Zagaria, Andò & Zennaro have proposed evolutionary psychology as a potential unifying framework because it enables psychologists to identify both proximate and ultimate explanations and to integrate both "normal" and "abnormal" functioning of human beings. Furthermore, according to them, evolutionary psychology would epistemologically connect psychology with "hard(er)" sciences such as biology.

Before elaborating on our position toward three main issues discussed in the paper, we would like to emphasize the high relevance of this kind of paper. Nowadays, psychology as a scientific discipline seems too fragmented into different smaller communities of researchers sharing common conceptual and methodological tools for studying a set of rather specific phenomena. It also implicates that general theoretical reflections about fundamentals of psychology are losing its relevancy for a majority of researchers focusing on narrow theoretical and methodological issues relevant for their communities of researchers and on communication within their research communities. On the positive side, the fragmentation enables creation of more profound knowledge and understanding of specific phenomena, but on the negative side, it makes difficult to integrate diverse set of knowledge created by different communities of researchers. As in the development of human beings, the differentiation is valuable, but it needs to be accompanied by integration as well. Following this trajectory, psychology might become a mere umbrella term with no substantive meaning. Therefore, although we do not share their key conclusions and proposed way out, we have appreciated the paper because it draws our attention to foundational issues of the psychology and their call for a search for an integrative framework.

Our contribution to the reflection on a potential integrative framework for psychological sciences (plural is of utmost importance here) is going to be three-fold. In the first part we will discuss whether introductory textbooks provide a solid and reasonable basis for an analysis of the quality of conceptualization of key concepts in psychology as well as whether the epistemological analysis could provide arguments for the conclusion that psychology is a "soft(er)" science. In the second part, we will formulate our reasons why we share with Zagaria, Andò & Zennaro the conclusion that evolutionary psychology might play a significant role in our quest for the integrative framework, but also why we are not convinced that evolutionary psychology can be integrative enough. In the third part, we are going to formulate an alternative starting point for exploration for an integrative framework for psychological sciences and their

practical applications supporting individuals and communities in their quest for a meaningful and productive existence and navigation of their future lives.

Introductory Textbooks and Bibliometric Analysis Do Not Provide a Solid Basis for an Epistemological Assessment

Zagaria, Andò & Zennaro have selected a sample of 11 introductory textbooks to analyze the quality of definitions of key concepts and to evaluate whether they are defined in a good way and whether there is a reasonable consensus about these definitions among researchers in psychological sciences. They have opted for a given methodological approach by following a long tradition in the philosophy of science. Although they have documented well that analysis of introductory textbooks has been used widely for an assessment of the state of the art in a diverse set of scientific disciplines, we are going to argue why we think that introductory textbooks could not provide an adequate avenue for an epistemological assessment of a given discipline.

Since mid of the 80s there are many discursive studies of academic textbooks as a specific genre of text (Parodi 2010; Bhatia 2002/2013; Flowerdew 2002/2013; Love 1991, 1993, 2002/2013; Hyland 1999; Swales 1995; Myers 1992). These studies have been based on Bakhtin's conception of speech genres and demonstrated that the textbooks employ a specific kind of genre. These studies have had demonstrated that "authors of textbooks try to arrange currently accepted knowledge into a coherent whole, whereas authors of journal articles try to make the strongest possible claim for which they can get an agreement" (Myers 1992, p. 8). More specifically, introductory textbooks typically present current knowledge in a discipline in an epistemologically neutral way and they tend to avoid complex and deep theoretical and methodological issues that might differentiate researchers in a given discipline. This way of writing introductory textbooks is appropriate taking into consideration that it needs to enable students and beginners in a certain field to build a general understanding of key phenomena, key concepts and methodologies for knowledge validation and creation. It also implies that a definition of key concepts needs to be presented at a very general level in order to encompass the multiplicity of relevant views. Therefore, any epistemological assessment of a given scientific discipline that is based on introductory textbooks needs to take into consideration the dialogical "nature" of textbooks, that is who writes textbooks, why, for whom, and what is a canonical genre that is employed in the introductory textbooks. Otherwise, the analysis might be biased since it would not take into consideration how given representation of a scientific discipline is shaped by the specific genre of writing. In this case, the analysis could mislead researchers to claim certain epistemological status of the psychology based on findings that are in fact a result of the typical genre used in the writing of introductory textbooks.

We do agree with authors that it is very important to reflect the conceptual and methodological foundations of any scientific discipline and that quality of definition of key concepts is a core component of an epistemological assessment. However, we do think that such an analysis should be based on research papers and not on introductory textbooks. We are fully aware that any similar analysis of research papers would be more complex and complicated than analysis of introductory textbooks. For example, how to make a good selection of a representative sample of research papers, how to

identify the way how core concepts are defined (especially when it is done in a less explicit way), how to integrate findings from different papers etc. It might seem like a meaningful, but practically impossible approach. Though, it might become possible by relying on the Natural Language Processing (NLP) approach that is developed for an analysis of big corpuses of naturally produces texts based on machine deep learning and neural networks (Eisenstein 2019; Jurafsky and Martin 2008). Applying NLP approach would make it possible to analyze a big corpus of research papers and to analyze similarities and differences in the definition of key concepts.

On the top of the analysis of introductory textbooks, Zagaria, Andò & Zennaro have also used findings from a comparative bibliometric analysis of psychology and sciences considered typically as "hard(er)" sciences to argue that the psychology is closer to so called "soft(er)" scientific disciplines. The main arguments for such conclusion are related to (a) the lack of consensus in core theories and concepts, (b) lower capacity for integration of old and new knowledge, and (c) greater influence of noncognitive factors (academic status, political and ideological perspectives etc.) than experimental findings in resolving theoretical and empirical disputes. Authors have concluded that these epistemological difficulties impose constraints on the possibility of transformation of the psychology into a "hard(er)" science.

Although we respect highly authors' effort to collate and integrate key findings from the bibliometric analysis, we do believe that interpretation of these findings cannot be done adequately without taking into consideration differences between sciences in terms of their object of inquiry (that is, the "nature" of phenomena). In short, we assume that the psychology deals with three kinds of phenomena that differ mainly in terms of role of the socio-cultural-historical context (SCHC) in their constitution (Baucal et al. 2020): (a) psychological phenomena that are independent of SCHC (e.g. orienting reflex, basic sensory processes, core attention etc.), (b) phenomena that are moderated by the SCHC, that is phenomena that are qualitatively the same in different SCHCs but might differ in quantitative terms (e.g., math competence), and (c) psychological phenomena are qualitatively different across SCHC because the context constitute the very "nature" of the psychological phenomena, so they might exist only in specific SCHC (e.g. specific attitudes and stereotypes, specific gender roles etc.).

Taking this assumption into consideration, it is possible that different psychologist engaging in, for example, memory studies might study quite different phenomena (basic neural mechanisms and specific cultural strategies mediated by particular cultural narratives that are used by members of a community in remembering important historical event). Although these researchers might identify themselves with the same field of inquiry within the psychology, they will define the memory in quite different ways because they study substantively different phenomena. A conceptual comparison of their definitions would reflect in a great extent differences in the main object of inquiry and not inability of these researchers to reach a reasonable consensus on a given definition.

Therefore, we argue that psychological science is focusing on studies of a wide range of phenomena. For some of them (SCHC independent, universal phenomena) psychology is already very similar to other "hard(er)" sciences while for some others (SCHC constituted phenomena), the psychology is alike humanistic sciences. However, we do not argue that there is no need for a consensus in definition of memory that

would integrate diverse set of memory phenomena, but we do argue that such definition would need to be rather general in order to encompass substantively different phenomena and that it is very likely that such definition might look as a superficial in an mainstream epistemological comparative assessment. Finally, we do not argue that the psychology should not aspire to an integrative theoretical framework, but we do argue that such integrative theoretical framework needs to be aligned with the complexity and diversity of psychological phenomena.

Recognition that the psychological sciences deal with a diverse set of phenomena (from highly determined neuropsychological phenomena to dynamic and situated personal experiences with a high level of person agency) has also implications for selection of an appropriate methodology for creation of new knowledge. Zagaria, Andò & Zennaro has claimed that the experimental method is necessary for the psychology to become a "hard(er)" science because it enables researchers to resolve disputes in a rational way (i.e. to exclude influence of non-cognitive factors such as academic prestige) and to accumulate knowledge over time. We do agree that the experimental method has a higher capacity to enable researchers to test their various theories and hypothesis over some other methodologies (for example, deep interview on personal experience). However, we also claim that research methodology needs to be accommodated to the phenomenon that is the main object of inquiry. Following the differentiation of three kinds of psychological phenomena we have call upon above, it seems that the experimental method might be an appropriate tool for SCHC independent phenomena, but not appropriate for SCHC constituted phenomena. In the case of the SCHC constituted phenomena, a core component of such phenomenon is meaning and sense making that is (inter)personal and dynamic, and situated into a specific sociocultural context, so the experimental method would not enable researchers to get access to the core of phenomenon (e.g. Grossen and Muller Mirza 2020; Guevara et al. 2020; de Carvalho and Skipper 2019; Slot et al. 2019; Baucal et al. 2018; Selleri and Carugati 2018). Moreover, human beings who are invited to take part in some experiment designed by other human being or institution is not only object of an experimental treatment, but also an active participant in the experiment that might have her/his own understanding why are those researchers inviting her/him to participate, what are their intentions, what are their expectations, what does it mean for the participant etc. If a researcher has good reasons to claim that these understandings on the side of participant cannot change phenomenon that is the main object of study then the experiment would provide valid findings, but if researcher has reasons to assume that these understandings might change the phenomenon then the experimental design might not be appropriate tool for creating new knowledge (e.g., Muller Mirza et al. 2003). Therefore, we argue that use of other kind of methodologies by psychologists cannot be used as an argument that the psychology has limited capacity to accumulate knowledge, that is to integrate new with old knowledge. When the psychology deals with universal and SCHC independent phenomena it accumulates knowledge in the same way as physic, biology, and chemistry, but when it deals with SCHC constituted phenomena then the accumulation of knowledge is somewhat different because the phenomenon by itself is of a different kind. We do believe that it is epistemologically better to align methodology to the phenomenon that is studied than to use experimental method even when it is not accommodated to the "nature" of phenomenon.

Why the Evolutionary Psychology Cannot Provide an Integrative Theoretical Framework for Psychology?

Based on the epistemological assessment of the psychology Zagaria, Andò & Zennaro have claimed that the psychology needs an integrative theoretical framework in order to overcome its fragmentation and become more like "hard(er)" sciences. Although we have some concerns related to their epistemological assessment of the state of art in the psychology, we cannot agree more with Zagaria, Andò & Zennaro that the psychology should aspire toward formulating a widely shared theoretical framework.

As we already said above, current compartmentalization in the psychology makes it easier for researchers to collaborate productively within smaller communities and to create a better understanding of a specific psychological phenomenon. This could be a necessary preparation for future work on the theoretical integration in the psychology because it is difficult to imagine a reasonable integration of ideas and concepts that are underdeveloped. However, we are aware that compartmentalization could be just a step toward bigger fragmentation resulting into theories that are progressively narrower. Thus, a discussion about potential shared theoretical framework is necessary in order to make a better balance with a strong tendency toward differentiation and integration within the psychology.

Zagaria, Andò & Zennaro have proposed the evolutionary psychology as a viable candidate for the integrative theoretical framework. Although authors have recognized main criticisms related to the evolutionary psychology, they have argued that criticisms are related to some specific theoretical disputes and that the key assumption of the evolutionary psychology is widely accepted even among most of critics ("our mind and behavior are significantly shaped by our phylogenetic history", p. XXX). Additionally, they have claimed that the evolutionary psychology can make a link between psychology and biology and that in this way the psychology can be related in a stronger way with "hard(er)" sciences. Furthermore, their argument is that basic assumption of the evolutionary psychology can subsume basic assumptions of many other psychological theories because "every psychological school posits *universal* and *inborn* tendencies in every individual" (p. XXX). Finally, Zagaria, Andò & Zennaro have also claimed that the evolutionary psychology provides a good explanation for relevancy of the environment (especially social environment) that makes a selective pressure resulting in the social nature of human beings.

We agree with Zagaria, Andò & Zennaro that potential integrative theoretical framework for psychology need to include evolutionary dimension of psychological phenomena. It is hard to deny that every individual human being in their psychological life is related in some way, directly or indirectly, with evolution of the human species. Results of millions of years of evolution that shape our animal ancestors till emerging of human species and continuous evolution as everlasting process is undeniably relevant for building a comprehensive theoretical framework for the psychology. Thus, we agree with authors that evolutionary psychology is an important piece of the integrative theoretical puzzle of the psychology. However, we are not convinced that it is comprehensive enough to be feasible candidate for the integrative framework. In our view, Zagaria, Andò & Zennaro have also recognized this limitation although in an implicit way. When they wrote that "our mind and behavior are significantly shaped by our phylogenetic history" they said "significantly" and not "uniquely". It might seem as

a subtle difference, but in our understanding, it signalizes that they are also aware that the psychology cannot be reduced to universal and inborn tendencies resulting from the human evolution. Each of us as a human being is embedded into evolutionary shaped foundations, but our psychology and experience cannot be reduced to the foundations. We are in the same time beings embedded in "our time" and we are also related (directly and indirectly) to social and cultural histories we share with others. Finally, we are also unique and autopoietic human beings who are exploring and navigating own life independently and jointly with others. In our view, the evolutionary psychology does not provide conceptual tools that can enable the psychology to study these important psychological phenomena. Based on the above differentiation three kinds of psychological phenomena, the evolutionary psychology is very relevant for the SCHC-independent, somewhat relevant for the SCHC moderated phenomena, but irrelevant for the SCHC constituted psychological phenomena (Baucal et al. 2020). Therefore, we argue that the evolutionary psychology is necessary component of an integrative theoretical framework, but it is not sufficient to be only one component of the framework.

Toward Alternative Exploration for an Integrative Framework for Psychological Sciences

A quest for a viable integrative theoretical framework needs to start with identification of key criteria that needs to be met by a proposed framework. In our view there are several key requests that should guide our exploration.

First, a theoretical framework that might be a viable integrative framework need to be applicable to conceptualize similarities between human beings and their closest animal relatives (i.e. the great apes) as well as characteristics that are specific to human beings (for example, cultural phenomena, development and use of technologies etc.).

Second, a good candidate for an integrative theoretical framework for psychology need to be capable to encompass diverse psychological phenomena that are studied over the history of psychology and that are object of psychological studies nowadays. We have called upon a typology differentiating three types of psychological phenomena (Baucal et al. 2020), but any other typology that is not too general or too narrow might be used in reflection whether given theoretical framework is capable to integrate in itself all types of psychological phenomena.

Third, a feasible candidate for an integrative framework needs to be capable to recognize contribution of different current approaches in the psychology and to enable a meaningful integration of key findings and knowledge that have been created over time. It is worth noting that an appropriate theoretical framework should help psychologist to identify complementarities of current approaches in a building a bigger puzzle of the psychological knowledge and not to be primarily a tool for positioning psychological approaches and subdisciplines in a hierarchy of value or for a competition. It does not mean that its application should not result in a conclusion that two approaches provides a similar knowledge about the same phenomena in spite of rhetorical and terminological differences. Moreover, it also might serve as a basis for identification of strengths and weaknesses of current approaches, and even to result in a conclusion that some approaches do not provide significant contribution to the "big picture". However,

a reasonable integrative theoretical framework should not be used at the first place for the power games, but for a meaningful integration of diverse "communities of psychologists".

Fourth, complementary to the previous one, a prospective integrative theoretical framework needs to be flexible enough to be modified according to new psychological approaches. It should not be fixed and capable only (speaking in terms of Piaget's theory) to assimilate other approaches, but also to be accommodated when it is necessary in order to enable meaningful integration of new approaches or new knowledge that will be result of future studies.

Fifth, an integrative framework should also provide a framework for integration of different methodological approaches that have been developed within different psychological approaches in their quest to craft optimal tools for studying their object of inquiry. In our view, it should not prioritize some methodologies at a general level, that is without taking into consideration the "nature" of the object of inquiry. To the contrary, it should provide a solid basis for a reflection what kind of methodologies might produce relevant new knowledge and how it can contribute to the current knowledge in the psychology.

In our view, a theoretical framework outlined by Vygotsky enriched with Bakhtin's assumption and concepts might be a better starting point for a reflection on an integrative framework because it meets in a more compelling way five criteria formulated above (Vygotsky 1934/2012; Bakhtin 1986; Wertsch 1993).

This theoretical outline assumes that psychology is a science dealing with lower mental functions (universal, biological founded, changeable through evolutionary processes, and similar for human beings and closest animals) as well as with higher mental functions (specific functions for human beings, mediated by cultural symbolical and material artefacts, and situated in a sociocultural context). Furthermore, it provides a conceptual link between lower and higher mental functions by the mediation hypothesis (i.e. higher mental functions are developed based on sociocultural mediation of lower mental functions). In this way this theoretical framework integrates both phenomena similar between humans and their closest animal relatives as well as specific human phenomena. Furthermore, it also provides a basic explanation how these two sides of human beings are interrelated.

Since the higher mental functions are mediated by collective and personal meanings they can be reflected and self-regulated and they establish the dialogical relation between person and her/his sociocultural contexts. Consequently, the sociocultural conceptual framework can encompass different objects of inquiry that are specific for different subdisciplines in the psychology - from those focusing on basic mind architecture and universal processes (e.g. perception mechanisms) to those studying active and productive participation of a person in purposeful and meaningful individual and collective activities (e.g. active engagement in a human right movement or volunteering in supporting elderly persons during their self-isolation because of a pandemic threats).

By recognizing contribution of different psychological subdisciplines, the theoretical framework pinpoint complementarity of different approaches and knowledge they have produced. For example, cognitive sciences contributes to our understanding of basic cognitive architecture of human beings that might be universal and common for all human beings while cultural psychology enables us to understand how a person orchestrates different personal resources (cognitive, emotional, moral, aesthetic etc.)

and other sociocultural resources on their disposal in pursuing individual or collaborative goals. In this way, the theoretical framework enables psychologists to integrate findings and knowledge from different subdisciplines that are typically dissociated or engaged in a conflicting and competitive relations.

Being defined broadly the sociocultural conceptual framework is flexible enough to be able to commodify with different approaches and theories that will be encompassed into the framework. It would not serve as a rigid framework that assimilate some approaches and reject those that cannot be assimilated, but it has capacity to be specified and modified to be capable to include different approaches.

Finally, it also can provide a justification for different methodological approaches that are used by different subdisciplines and theories in psychology. For examples, within this framework it is meaningful to use an experimental method in studying general and universal characteristics of lower mental functions and to use qualitative methodology in studying specific personal experience.

In conclusion, we propose that sociocultural theoretical framework might be a more promising starting point for our joint quest for a common theoretical framework that will enable a meaningful and productive integration of diverse psychologies we have been created in the past and for new approaches that we are going to create in future.

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