



Standards for the preparation and writing of Psychology review articles¹

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ABSTRACT. The synthesis of bibliographical resources addressing a topic is an interesting subject for research. It is included as part of literature reviews. The aim of this theoretical study is to establish a series of standards for planning, preparing and writing Psychology review articles. With this aim, the study suggests a set of guidelines for the structuring and justification of content for these types of articles: organisation of the article, background understanding of the topic, literature review, style and understanding of argumentative structure, theoretical and practical relevance of conclusions, the critical and interdisciplinary perspectives of the article, recommendations for future research and what the article can bring to the future advancement of the discipline. The work concludes on the relevance of the study undertaken and accepts the importance of undertaking the necessary reviews from the interdisciplinary perspective of building psychological understanding.

KEYWORDS. Review studies. Guidelines for the drafting of articles. Integrative research reviews. Quality of research. Critical Psychology. Theoretical study.

RESUMEN. La síntesis de recursos bibliográficos acerca de un tema es una interesante actividad de investigación. Se incluye dentro de las revisiones de bibliografía. El objetivo

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del presente estudio teórico es establecer la estructura de una serie de normas para planificar, elaborar y redactar un artículo de revisión en Psicología. Para ello se propone un conjunto de reglas para estructurar y justificar el contenido de este tipo de artículos: organización del artículo, comprensión histórica del tema, revisión bibliográfica, estilo y comprensión de la argumentación, relevancia teórico-práctica de la explicación de las conclusiones, perspectiva crítico-interdisciplinar del trabajo, recomendaciones para la investigación futura y proponer aportaciones para el avance de la Psicología. Se concluye la relevancia de estos trabajos de investigación y se acepta la importancia de llevar a cabo tales revisiones dentro de una perspectiva interdisciplinar de la construcción del conocimiento psicológico.

PALABRAS CLAVE. Estudios de revisión. Normas para redacción de artículos. Revisión integradora de investigación. Calidad de investigación. Psicología crítica. Estudio teórico.

Amongst the various methods of scientific communication, journal articles are the most valued, due to the systematic and demanding selection process they go through. Scientific articles can be investigative, theoretical, retractive, commentary, critical or revisionary. There is room for all of the above within scientific review publications. Nevertheless, editors are reluctant to publish review articles, apart from those published in review-only publications. This reluctance is largely due to the fact that a review is not as straightforward as other types of articles. For this reason, review articles are only considered from recognised and respected authors, and this in spite of the fact that generally speaking they are more referenced than other types of investigative studies (Buela-Casal *et al.*, 2009). Nevertheless, review articles are very important contributions to the field of science, given that they represent an excellent summary of the current state of research on a topic and thus often assume the start point of researchers. This is the case with PhDs studies during the theoretical review stage of what will become the doctoral thesis (Buela-Casal, 2005). Therefore, reviews determine the structure of the problem or question that the article addresses, and illustrates the necessity for systematic procedures and adherence to guidelines, ensuring both quality and creativity.

A review article is an important contribution to the field of knowledge, given that it brings with it an overall, up to the minute view of the results pertaining to those studies carried out. Review articles are not only of use to those researchers within the field, but also for other relevant professionals wishing to keep themselves informed of the state of the research field in a concrete and reliable manner. With this in mind, such articles should be written in an easy to read, interesting style. Therefore, those examples used must be taken from research that will be of interest to the reader. However, the examples used must be relevant to the type of publication in which the review will be published. A review article for a specialised, technical publication, read by experts in the field is not the same as one written for a more general scientific publication such as *Psychological Bulletin*. The latter type of publication is used by other professionals such as journalists as well as specialists in the field.

Within the domain of Psychology, review articles are not only published within specialist review publications, but in the majority of publications. Nevertheless, in many of these cases, the reviews published are a summing up of recent research along with an abstract. They do, however, benefit from an original overview which adds a new dimension beyond that provided by the abstract.

In 1995, the publication *Psychological Bulletin*, under the initiative of its Editor Robert Sternberg, published a collection of guideline articles with the aim of guiding those potential authors wishing to be published by the journal (Sternberg, 1995). For this reason, guidelines have been published governing how to critique a published article (Hyman, 1995), how to read and write methodological articles (Maxwell and Cole, 1995), how to write a meta-analysis (Rosenthal, 1995), or how to write a review article (Bem, 1995). The American Psychological Association (APA Publication and Communications Board Working Group in Journal Article Reporting Standards, 2008) also recognises the need for correct criteria governing the publication of reviewary research work. Similarly, the *International Journal of Clinical and Health Psychology* has recently published various articles on the subject of guidelines for the planning, writing and review of investigative works. Articles have been developed focusing solely on the review of original health sciences articles (Bobenrieth, 2002), reviewing experimental and quasi-experimental studies (Ramos-Álvarez, Moreno-Fernández, Valdés-Conroy, and Catena (2008), instrumental studies (Carretero-Díos and Pérez, 2007), meta-analysis (Botella and Gambara, 2006); clinical reports (Buela-Casal and Sierra, 2002; Virués-Ortega and Moreno-Rodríguez, 2008) and on how to select and implement research designs (Montero and León, 2007).

A literature review on a topic is not always a research report. Equally, it is not a simple historical and descriptive statement of a topic. Literature reviews are reflective, comprehensive works containing an interdisciplinary critical-historical analysis of a topic. Psychological knowledge requires a rich context (Bruner, 1983/1985) of production and application of knowledge. Reviews are an opportunity to clearly and comprehensively satisfy curiosity surrounding a topic. When planning a review topic, the topic should pique the interest of both the researcher and reader. Conclusions drawn by reviews should provoke an emotional-cognitive response of innovation along with manageable, resolvable and comprehensible complexity. If readers consider something to be both new and comprehensible, it is very probable that they will then find it both emotionally and epistemologically justifiable, as well as interesting and exciting (Brun, Kuenzle, and Dogoglu, 2008; Silvia, 2006).

Review works can be integrative, summarising, and interpretative. Integrative works are a combination of studies, mostly quantitative in nature, using such techniques as meta-analysis. Summarising works bring together various texts on one topic. Interpretative works are focused primarily on qualitative work in order to arrive at a scientific-humanist interpretation of the theoretical data and results. The present work aims to bring together the three perspectives discussed above, namely integrative, summarising and interpretative, in order to build a better foundation for the theoretical-philosophical interpretation of review works (Cooper, 2009; Cooper, Hedges, and Valentine, 2009; Higgins and Green, 2008). The majority of modern psychological investigation is satisfied

with the accumulation to date of facts and abstract data. However, we the authors believe more in-depth reflection is needed on them. The purpose of science is not simply to copy down more facts based on de-contextualised numbers. Science should aim to assist human beings in their progression through life, with all of its difficulties whether material or spiritual. The aim of this article is to develop a set of guidelines for the design, writing and realisation of critical analysis on theoretical reviews, whether they are integrative or interpretative. The following steps should therefore be followed (in writing indices are included (*e.g.* A-1, A-2, etc.) of the criteria to bear in mind when critically evaluating a review article, and which are included in the Appendix 1: A-Structure of the article, B-Historical background of the topic, C-Literature review, D-Style and understanding of argumentation, E-Theoretical-practical relevance of conclusions, F-Critical-interdisciplinary perspective of the review, G-Recommendations for future research, and H-Reflections on improvement of the Psychology curriculum.

Structure of the article (A)

Investigative articles have well-established and standardised structures for all quality publications. In contrast, review works can be more imprecise in their structure. Structural content is often left largely to the author or authors. As stated by Sternberg (1991), there is no single correct means of structuring a review article. However, here the authors propose an organisational structure similar to that used for investigative articles. It is believed that this will assist preparation, writing, reading and critical analysis. A review article is not literature, but must still follow a methodology. It is obligatory to specify units of analysis, search terms, databases consulted, procedures, etc. In other words, a schematic such as the following should be used:

- Title. Should clearly state contents, be relatively brief, and include key words to facilitate easy searching and location within databases (A-1).
- Introduction. The introduction should highlight the topic's current situation, and why it is important for other researchers and/or professionals (A-2).
- Objectives. What the study is intended to provide to the field. A review work should fulfil greater requirements than simple article publication. Aims of the study should be explicitly stated, and clearly related to the title of the work, findings and conclusions (A-3).
- Method.
 - Materials. Quantity and type of materials used should be specified: investigative articles, review articles, books, book chapters, minutes of meetings, etc.; in other words, which analytical tools have been used in order to produce the review (A-4).
 - Type of study. Should state whether the study is interpretative, summarising or integrative (A-5).
 - Procedures. Here the author should state the means used to compile information or knowledge such as, for example, databases consulted, terms, dates and periods of research, criteria of article inclusion, publication languages, coherence of content, etc. (A-6).

- Information analysis. Here the author should specify the organisation of material and how it was analysed, for example, chronologically, by design, by material type, etc. In the case of a meta-analysis, the methodology and technical standards followed for the specific type of study should be stated (A-7).
- Results. Should be written in keeping with the objectives and organisation of material analysed. Figures and tables should synthesize information and be sufficiently clear and relevant (A-8).
- Discussion and conclusions. Depending on the type of content and organisational structure of the article, conclusions can be drawn in one or two paragraphs. Conclusions should not be a simple repetition of results. They should clearly state the theoretical and practical implications for the future. There should also be a relationship between results, discussion and conclusions, as a result of the discussion (A-9).
- Bibliographical references. All referenced works should be referred to using the standards specified by the publication. This is a highly important formal requirement, and for some publications is necessary in order that the work may be reviewed (A-10).

Historical background of the topic (B)

Any subject which merits a review has an historical background. The history of psychology and science is, largely, the biography of the major authors. These authors built both the concept and the object of Psychology throughout history (Ardila, 2007). Therefore, any review work must be sufficiently grounded within socio-historic context. For this reason, it is useful to carry out a critical analysis of the background of a topic or author (Pérez Álvarez, 1992). Generally speaking, textbooks covering the history of Psychology are unfair in their treatment of historical background. Kuhn (1962/2006) was correct when he stated that «textbooks begin to truncate the scientist's historical sense of their own discipline» (p. 249). There are too many instances in which the real history of psychological understanding occurs outside of historical textbooks (B-1).

Much of the knowledge or information, terms which are often synonymous, used by Psychology does not come from psychologists, but rather from researchers in other fields (Simonton, 2002). For this reason it is useful to adopt an integrated historical focus during the process of building the field of psychological knowledge. Reviews are comprised of a statement of the texts (*e.g.* articles, texts, grey literature, etc.) in order to place the knowledge gained within both socio-economic and cultural-historical context. The personality and social background of the author will affect the type of science they undertake and the theories that they create (Feist, 2006) (B-2).

Historical comprehension of a topic should link the historical focus of the research with the current state of understanding of the topic. Historical-cultural perspective on a particular set of knowledge is only useful if it facilitates the thinking or historical reasoning of the researchers. Historical texts on the topic of Psychology, when fully contextualised, assist in understanding the past and present state of a topic (van Drie and van Boxtel, 2008). The ideal is to look for middle ground between history and current investigation of the topic at hand (B-3).

In any investigative process there is a gradual process of conceptual change. This is also the case in Psychology. A conceptual history or *begriffsgeschichte* (Koselleck, 1965-1977/1993) exists, which should be borne in mind in order to best understand what has gone before, and to avoid getting lost in pointless terminological quibbles. Scientific conceptual innovation is a dynamic process within the historical-cognitive side of scientific practice. When all is said and done, all is needed in order to improve problem solving is conceptual change (Nersessian, 2008) (B-4).

Literature review (C)

In order to correctly execute a literature review, the author should bear in mind that they are comparing points of view from different authors, and then grouping them by theoretical perspectives and conclusions. According to the American Psychological Association (2001/2002), one of the objectives of review works is to identify «relations, contradictions, gaps and inconsistencies in literature» (p. 5) surrounding a topic. It is very relevant to bear in mind the theoretical-practical disagreements within Psychology. This lack of agreement has caused a crisis with few satisfactory solutions suggested (Sternberg, 2005). Within this climate of discord, it is important to select information, which is adequate, available, and accessible in a coherent and comprehensive manner (C-1). Therefore, the most important thing is to select research sources. It is key to reach a good understanding of the content of the most important authors and publications. The objective is firstly to find, identify, select and obtain relevant information (Saracevic, 2007a, 2007b) (C-2).

Writers should consult the most relevant databases, and therefore should not limit themselves to journals of Psychology. More than one hundred thousand scientific journals are published worldwide, amongst which are some related to Psychology that are not held within Psychology databases (Ruiz-Pérez, Delgado, and Jiménez-Contreras, 2006). In addition, it is important not to confuse bibliographical databases with those that classify a lesser number of journals based on how often they are referenced (Garfield, 2003). International databases should not be confused with international publications (Buela-Casal, Zych, Sierra, and Bermúdez, 2007; Zych and Buela-Casal, 2007). Writers should always remember that an interdisciplinary focus means going beyond normal Psychology publications (C-3), something that seems to be forgotten within the curriculum of future psychologists.

Once the relevant interdisciplinary information has been established, read and understood, the next step is to draw relevant, evidence-based conclusions. These conclusions should be drawn from the selected, read information. These conclusions should address inferences that can be reasonably drawn in order to bring together the best of knowledge with a clear practical implication (Mullen and Ramírez, 2006; APA Presidential Task Force on Evidence-Based Practice, 2006) (C-4). A correct bibliographical selection, well contextualised within its historical background and well understood will show that the researcher concerned has placed themselves well within the complexity and quantity of available information. Therefore, a good review should reflect upon the topic of study from an interdisciplinary viewpoint (C-5).

The process of finding and selecting information for use in a review is known as

conduct of information (Fisher and Julien, 2009). Researchers are not abstract entities. They seek out and utilise bibliographical information within a sociocultural context and with personal values and beliefs that should be borne in mind. Faced with the traditional ordering of knowledge, within a thesaurus for example, the engineering knowledge perspective has assisted in the preparation of ontologies. An ontology is a group of well-defined concepts, basically ordered and interrelated. The aim is to reflect vocabulary from within a field of knowledge, bearing in mind information technology. Ontologies use an easily understood syntax for users, so facilitating the selection and filtering of information as well as conservation or storage. Of particular interest are the links available with web semantics (C-6).

The information available should have impact but should also be credible. Plausible sources of information produce ethically admissible knowledge, which is in turn disseminated through credible procedures. The credibility of Web semantics should also be borne in mind. Additionally, reasonably justified confidence in the information available aids in convincing readers (Rieh and Danielson, 2008). It should always be clear for readers what information has been read, understood and included by the author (C-7). Grey literature should also be taken into account, which is any kind of document considered scientifically relevant, that has not been published through traditional publication methods.

Style and understanding of argumentation (D)

Scientific practices depend on social processes governing argumentation (Rehg, 2009). A descriptive-explanatory argument is narrative activities presenting a coherent series of viable premises in order to reasonably justify a conclusion or set of conclusions. Critical discursive lines of argument are the process used in order to resolve a clear disagreement between different points of view (van Eemeren, Grootendorst and Henkemans, 2003/2006). A good line of argument within a review article should focus on the topic (D-1) proposed using a clear, precise and easily understood style. Therefore, writing and content of reviews should interest, inform and persuade the reader. Expositive clarity eliminates unnecessary redundancies and unfounded speculations (Sternberg, 1988/1996) (D-2). It avoids emotive language, which aims to influence readers' emotions. Arguments centre on empirically relevant knowledge which is practically useful as well as epistemologically justifiable, reasonable and suggestive (D-3). Fluidity of expression should, according to the American Psychological Association (2001/2002), centre on «clear and rational communication» (p. 29). Whilst bearing in mind that stylistic norms can influence content, they are nevertheless important in order to maintain a common scientific system within the domain of Psychology (Delgado Sánchez-Mateos, 2007; León, 2005).

Narration of works should only include relevant information. It should not seek unfounded nor unjustifiable speculations. A reasonable and empirically justifiable interdisciplinary perspective should be used for the production, interpretation and diffusion of psychological knowledge (D-4). Fallacies should be avoided, meaning violations of the rules of argumentation. Examples are: restriction of freedom of action of those who defend an opposite point of view, shifting the burden of proof to critics,

attributing an unjustifiable point of view to another party, decontextualising and distorting an opposing point of view, inadequate use of ambiguity, intentional and incorrect use of a lack of clarity, modifying conclusions without taking into account opposing perspectives, etc. (van Eemeren *et al.*, 2003/2006). Bearing in mind that all of the above facilitates the strategic manoeuvrability or resolution of conflict during the process of building, interpreting and disseminating knowledge. Strategic manoeuvrability (van Eemeren and Houtlosser, 2006) is taken to mean researchers calm, balanced and ethically justifiable efforts to, on the one hand, build a structure of reasoning, and, on the other, reconcile different points of view whilst maintaining dialectical standards of reason (D-5).

Theoretical-practical relevance of conclusions (E)

Seeking an explanation is a process of justification, aimed at reducing uncertainty. Therefore, it satisfies a psychological requirement. A review work draws empirically justifiable conclusions that are coherent and suggest relevant and new solutions to human problems (E-1). Many psychological datasets are unintelligible out with the work from which they originate. As stated by Meehl (1990) «There is nothing mysterious about the fact that in Psychology and Sociology, everything is linked to everything else» (p. 204). This inconvenience should not lead to epistemic fatalism. A review should bring something new and integrative to the reader (E-2).

The aim of any review work is to integrate evidence-based information in order to transform socio-material reality and facilitate promotion of quality of life for individuals and groups (Oliver *et al.*, 2005). What is important here is to translate investigative work into practice. Debates on the subject of whether emphasis should be placed on synthesis of internal or external research are yet to be resolved. We should fight to find a balance between internal and external validity. The practical principal concludes that the priority must be the resolution of people's real problems (E-3). In synthesis of investigation, it is important to bear in mind that research should have a sociocultural unity. Therefore, socio-culturally incompatible bibliographies should not be included. It is only in this way that ethically and socially sensitive conclusions can be reached (E-4).

Critical-interdisciplinary perspective of the review (F)

Review, retraction or revision works are, according to the American Psychological Association (2001/2002), «critical evaluations of already published material» (p. 5). Critical thought is one of the favourite activities within the training of psychologists (Benjamin, 2008; Dunn, Halonen, and Smith, 2008). Construction of knowledge without constructive criticism is pointless. Faced with the lack of accord between historical and actual perspective within psychological theory, a critical reflection upon reviews is necessary (Sternberg, 1996, 2006; Sternberg, Roediger, and Halpern, 2007). Psychology, like other disciplines, suffers from an epistemological-philosophical malaise which makes constructive criticism all the more necessary (F-1). Psychology lacks a philosophy of science, placing the emphasis on constructively critical review (F-2). The general objective is to minimise as much as possible slants on selection of information (Bensley, 2008; Macpherson and Stanovich, 2007). For this reason the authors believe that it is interesting

to see if a real interdisciplinary perspective is adopted when drawing conclusions on a topic (F-3). Such a perspective serves to cement the integration of psychological knowledge. Many reviews limit themselves to a more or less linear and chronological series of investigations which single-dimensionally lead to one conclusion. Therefore, reviews should intrinsically motivate those readers who wish to be constructively reflexive in their selection, reading and extraction of conclusions (F-4). All of this should be oriented towards a contextual, integrated and totalling vision of the human being. Very often, psychological investigation is centred around isolated and decontextualised variables, causing a loss of perspective on the interdependence of superior psychological processes.

Recommendations for future research (G)

Progression of any theory requires a process of creative imagination. Scientific hypotheses do not derive from observed facts, but are rather invented in order to explain observed facts. For this reason, review works should create creative hypotheses (McGuire, 1997) for psychological investigation (G-1).

In order to make suggestions for future research, researchers should free themselves from the influence of the epistemic provider group (Kruglanski, Pierro, Mannetti, and De Grada, 2006; Mathiesen, 2007). Scientific habits and norms mean that researchers are constrained from reaching possibly innovative and interdisciplinary conclusions. The concept of scientific habits and norms (*habitus*) refers to a system of organisational regulations that generate real investigative practices. Disciplinary *habitus* (Bourdieu, 2002/2003) or epistemic cultures (Knorr-Cetina, 1999) both condition what, how and why research should be carried out within the domain of Psychology. All of the above exist within an interdisciplinary perspective in order to integrate description, understanding, explanation and prevention of psychological processes (G-2).

Whilst stating suggested argumentation for future research, it is important to discuss rebuttals to potential questions of limitation, whether theoretical or practical, as well as conclusions. Simply being interdisciplinary for the sake of it is an irrelevant perspective. To be interdisciplinary implies a minimum knowledge of history, philosophy of science, cultural anthropology, sociology, history, genetics, neuroscience, etc. This wide perspective implies a necessary integration of information, perspectives, concepts, theories, dates, techniques, instruments, perspectives, concepts and theories. To be truly interdisciplinary is very difficult. Therefore, it is important to read works from opposing points of views and disparate, diverse contents. Being prepared to respond to critics is to have the capacity to operate with a certain level of scepticism towards the search for empirically founded knowledge. As Bruner (1983/1985) pointed out, a piece of psychological research that neglects other sciences «will be inevitably bland, particular and even trivial» (p. 454) (G-3). The American Psychological Association recommends a diverse interdisciplinary perspective when developing a distinguished curriculum for training future psychologists, (Dunn, McCarthy, Baker, Halonen, and Hill, 2007).

The authors believe it is relevant to make reference to possible alternative explanations in order to encourage new and original research. These explanations must be simple, coherent and easily understood in practice. Coherence means that paradigms are correctly

integrated, which in turn leads to conclusions that are true and ethically reasonable and justifiable. This in turn will lead to moving above and beyond the constraints of scientific paradigms, meaning integration with the innovative. However, authors should be careful not to lose themselves within irrelevant speculations (Ardila, 2002, 2006, 2007; Slife, Reber, and Richardson, 2005; Thagard, 2007; Thagard and Litt, 2008; Yanchar, Slife, and Warne, 2008) (G-4).

The final aim of any review work must be to encourage epistemic curiosity and a true intrinsic drive to seek information that will realistically resolve the psychological issues of the human race. Epistemic curiosity is an intrinsic desire to seek and understand new knowledge in order to resolve practical issues (G-5). Occasionally, there are complaints of lack of resources and general discontent generated for personal and institutional reasons. However, as Ramon y Cajal (2005, p. 103) pointed out, «more than a lack of means, there is a lack of will. Enthusiasm and perseverance work miracles».

Reflections on improvement of the Psychology curriculum (H)

The authors believe it is relevant for men and women of science to be trained in ethical research techniques. The aim is to fight for scientific integrity during the knowledge-building process. Therefore, the authors believe it necessary to build an epistemic culture based on individual and group responsibility (Kligyte, Marcy, Sevier, Godfrey, and Mumford, 2008; Wester, Willse, and Davis, 2008). Responsible epistemic behaviour can be carried out through reviews which are critical, balanced and honest. The aim of any review is to extract coherent meaning from the bibliography, to state a series of arguments that are oriented towards a conclusion, and to create epistemic curiosity in the reader. Seriousness, honesty and sensitivity of review works should serve as examples for the training of Psychology students (H-1).

Therefore, topics for teaching and research should be chosen that are not only scientifically and socially relevant, but that are included within Psychology curricula. When reviews are carried out on relevant topics and yet these topics do not feature in curricula, it is a sure sign that these curricula are poorly designed (H-2). One of the aims of reviews is to encourage motivation and curiosity in readers – the aim being to encourage them to read texts that are relevant to the topic of investigation. It is the authors belief that students and teachers of Psychology would benefit from reading more, and playing less with abstract numbers. The authors are convinced that, by reading and understanding relevant texts, pupils will achieve two things. One, they will realise their true motivation, increase their autonomous learning, improve their efficiency, group work etc and two, will have access to relevant information, be exposed to diverse points of view, and develop alternative and integrative points of view, etc. This reading is an interactive process between the text and understanding held by the reader. This includes selecting and understanding fundamental concepts, as well as critiquing and interpreting the content of these texts (Verhoeven and Perfetti, 2008). The complexity which now forms part of Psychology research means that good, easily comprehensible review works are more important than ever. A good understanding of a Psychology text requires sufficient training in History, scientific interdisciplinary discourse and an understanding of sociocultural context (H-3).

Care should be taken not to introduce young researchers to two questions that are linked to the philosophical-post-modern perspective. Firstly, those intellectual impostors that result in an irrelevant spout of verbal diarrhoea. As pointed out by Sokal and Bricmont (1997/1999), post-modern discourse is not only a sad waste of time within social sciences, but also generates cultural confusion that encourages obscurantism. Secondly, the confusion generated by any references to the chaos theories, Psychology of complexity and non-linear dynamic systems (*e.g.* Guastello, Koopmans, and Pincus, 2008). Review works must contribute towards research conduct that is responsible, useful, and practical and in the common interest (McGee, Almquist, Keller, and Jacobsen, 2008). This is a responsibility which manifests itself in undertaking work in such a way as to encourage thirst for knowledge amongst students (H-4).

Improvements to the psychological curriculum will require reflective and critical thought. What is needed is that future Psychologists be able to think and be capable of choice regarding empirically founded, useful and relevant knowledge. Good literature reviews, on any individual topic, that are socially relevant will firstly aid social dissemination of psychological knowledge and secondly aid its use as a resource to mould critical minds (Dunn *et al.*, 2008) (H-5).

Conclusions and implications

The aim of this study is to establish a series of standards for planning, preparing and writing Psychology review articles. What this requires is that the structure and content of review works be bibliographically proper, precise in their lines or argument and understanding, and that they be based on a reasonable and justifiable scientific philosophy. Review conclusions must be both ethical and critical as well as practical and socially relevant. Looking forwards, it must be acknowledged that reviews alone will not produce a definitive solution to the multiple controversies currently seen within the field of Psychology. Reasonably justifiable conclusions will guide practical action within the field of Psychology. They may not be the ideal, but they are what are available. Good reviews help us to orientate ourselves within the complex, blurry and uncertain reality of the history of psychological processes. What the above lead us to conclude is that within the science of Psychology, there are no absolute truths. The knowledge available is fallible, provisional and problematic. Therefore, we must agree with Platón (1986, p. 202a) when he stated that «the correct opinion is...something like a middle ground between knowledge and ignorance».

Reviews have clear implications for teachers and students of Psychology. There are also implications for those who dedicate themselves to daily practice of psychological knowledge. An ethical and responsible integration of a field of investigation should lead to an improvement for authors and readers in abilities to describe, understand and explain psychological processes within a sociocultural context. Specific skills (*e.g.* contextual analysis of tests) should be borne in mind along with transverse skills (analytical capacity, synthesis and organisation of published information, means and motivation for critique, collaborative work and public discussion of information, emphasising interdisciplinary work). All of the above is designed to favour autonomous learning and increasing the synthesis of the search for knowledge based on the development of learning oriented towards problem solving.

References

- American Psychological Association (2002). *Manual de estilo de publicaciones de la American Psychological Association* (2^a ed.). México: Manual Moderno. (Orig 2001).
- APA Presidential Task Force on Evidence-Based Practice (2006). Evidence-based practice in psychology. *American Psychologist*, 61, 271-285.
- APA Publication and Communications Board Working Group in Journal Article Reporting Standards (2008). Reporting standards for research in Psychology. Why do we need them? What might they be? *American Psychologist*, 63, 839-851.
- Ardila, R. (2002). *La Psicología en el futuro*. Madrid: Pirámide.
- Ardila, R. (2006). The experimental synthesis of behaviour. *International Journal of Psychology*, 41, 462-467.
- Ardila, R. (2007). The nature of Psychology: The great dilemmas. *American Psychologist*, 64, 904-912.
- Bem, D.J. (1995). Writing a review article for Psychological Bulletin. *Psychological Bulletin*, 118, 172-177.
- Benjamin, L.T. (Eds.) (2008). *Favorite activities for the teaching of psychology*. Washington: APA Press.
- Bensley, A. (2008). Can you learn to think more like a psychologist? *Teach & Learn*, 21, 128-129.
- Bobenrieth, M. (2002). Normas para la revisión de artículos originales en ciencias de la salud. *International Journal of Clinical and Health Psychology*, 2, 509-523.
- Botella, J. and Gambara, H. (2006). Doing and reporting a meta-analysis. *International Journal of Clinical and Health Psychology*, 6, 425-440.
- Bourdieu, P. (2003). *El oficio del científico*. Barcelona: Anagrama. (Trabajo original publicado en 2002).
- Brun, G., Kuenzle, D., and Dogouglu, U. (Eds.) (2008). *Epistemology and emotions*. London: Ashgate.
- Bruner, J. (1985). *En busca de la mente*. México: Fondo de Cultura Económica. (Trabajo original publicado en 1983).
- Buela-Casal, G. (Ed.) (2005). *Manual práctico para hacer un doctorado*. Madrid: EOS Universitaria.
- Buela-Casal, G. and Sierra, J.C. (2002). Normas para la redacción de casos clínicos. *International Journal of Clinical and Health Psychology*, 2, 525-532.
- Buela-Casal, G., Zych, I., Medina, A., Viedma del Jesús, M.I., Lozano, S., and Torres, G. (2009). Analysis of the influence of the two types of the journal articles, theoretical and empirical on the impact factor of a journal. *Scioentometrics*, 80, 267-284.
- Buela-Casal, G., Zych, I., Sierra, J.C., and Bermúdez, M.P. (2007). The Internationality Index of the Spanish Psychology journals. *International Journal of Clinical and Health Psychology*, 7, 899-910.
- Carretero-Dios, H. and Pérez, C. (2007). Standards for the development and review of instrumental studies: Considerations about test selection in psychological research. *International Journal of Clinical and Health Psychology*, 7, 863-882.
- Cooper, H.M. (2009). *Research synthesis and meta-analysis: A step by step approach* (4th ed.). Thousand Oaks: Sage.
- Cooper, H., Hedges, L.V. y Valentine, J.C. (Eds.) (2009). *The handbook of research synthesis and meta-analysis* (2nd ed.). New York: Russell Sage Foundation.
- Delgado Sánchez-Mateos, J. (2007). El lenguaje no es neutral. Comentarios sobre el estilo APA. *Psicothema*, 19, 302-307.
- Dunn, D.S., Halonen, J.S., and Smith, R.A. (2008). *Teaching critical thinking in psychology. A handbook of best practice*. Chichester: Wiley-Blackwell.
- Dunn, D.S., McCarthy, M.A., Baker, S., Halonen, J.S., and Hill, G.W. (2007). Quality benchmarks in undergraduate psychology programs. *American Psychologist*, 62, 650-670.
- Feist, G.J. (2006). *The psychology of science and the origins of the scientific mind*. New Haven: Yale University Press.

- Fisher, K. and Julien, H. (2009). Information behavior. *Annual Review of Information Science and Technology*, 43, 317-358.
- Garfield, E. (2003). The meaning of the impact factor. *International Journal of Clinical and Health Psychology*, 3, 363-369.
- Guastello, S.J., Koopmans, M., and Pincus, D. (2008). *Chaos and complexity in psychology*. Cambridge: Cambridge University Press.
- Higgins, J.P.T. and Green, S. (Eds.) (2008). *Cochrane handbook for systematic reviews of interventions*. Chichester: Wiley-Blackwell.
- Hyman, R. (1995). How to critique a published article. *Psychological Bulletin*, 118, 178-182.
- Kligyte, V., Marcy, R.T., Sevier, S.T., Godfrey, E.S., and Mumford, M.D. (2008). A qualitative approach to responsible conduct of research (RCR) training development: Identification of metacognitive strategies. *Science and Engineering Ethics*, 14, 3-31.
- Knorr-Cetina, K. (1999). *Epistemic cultures*. Cambridge: Harvard University Press.
- Koselleck, R. (1993). *Futuro Pasado. Para una semántica de los tiempos históricos*. Barcelona: Paidós. (Orig. 1965-1977).
- Kruglanski, A.W., Pierro, A., Mannetti, L., and De Grada, E. (2006). Groups as epistemic providers: Need for closure and the unfolding of group-centrism. *Psicological Review*, 113, 84-100.
- Kuhn, T.S. (2006). *La estructura de las revoluciones científicas*. México. Fondo de Cultura Económica. (Orig. 1962).
- León, O.G. (2005). *Cómo redactar textos científicos en psicología y educación*. Madrid: Netbiblo.
- Macpherson, R. and Stanovich, K.E. (2007). Cognitiva ability, thinking dispositions and instructional set as predictors of critical thinking. *Learning and Individual Differences*, 17, 115-127.
- Mathiesen, K. (2007) (Ed.). Introduction to special issue of *Social Epistemology* on «Collective knowledge and collective knowers» (Special issue). *Social Epistemology*, 21 (3).
- Maxwell, S.E. and Cole, D.A. (1995). Tips for writing (and reading) methodological articles. *Psychological Bulletin*, 118, 193-198.
- McGee, R., Almquist, J., Keller, J., and Jacobsen, S.J. (2008). Teaching and learning responsible research conduct: Influences of prior experiences on acceptance of new ideas. *Accountability in Research*, 15, 30-62.
- McGuire, W.J. (1997). Creative hypothesis generating in psychology: Some useful heuristics. *Annual Review of Psychology*, 48, 1-30.
- Meehl, P.E. (1990). Why summaries of research on psychological theories are often uninterpretable. *Psychological Reports*, 66, 195-244.
- Montero, I. and León, O.G. (2007). A guide for naming research studies in Psychology. *International Journal of Clinical and Health Psychology*, 7, 847-862.
- Mullen, P.D. and Ramírez, G. (2006). The promise and pitfalls of systematic reviews. *Annual review of Public Health*, 27, 81-102.
- Nersessian, N.J. (2008). *Creating scientific concepts*. Massachusetts: MIT Press.
- Oliver, S., Harden, A., Rees, R., Shepherd, J., Brunton, G., Garcia, J., and Oakley, A. (2005). An emerging framework for including different types of evidence in systematic reviews for public policy. *Evaluation*, 11, 428-446.
- Pérez Álvarez, M. (1992). *Individuo, sociedad y psicología*. Madrid: Siglo XXI.
- Platón (1986). *Banquete*. Madrid: Gredos.
- Ramón y Cajal, S. (2005). *Reglas y consejos sobre investigación científica*. Madrid: Consejo Superior de Investigaciones Científicas. (Orig. 1899).
- Ramos-Álvarez, M., Moreno-Fernández, M.M., Valdés-Conroy, B., and Catena, A. (2008). Criteria of the peer review process for publication of experimental and quasi-experimental research in Psychology: A guide for creating research papers. *International Journal of Clinical and Health Psychology*, 8, 751-764.
- Rehg, W. (2009). *Cogent science in context*. Massachusetts: MIT Press.
- Rieh, S.Y. and Danielson, D.R. (2008). Credibility: A multidisciplinary framework. *Annual review of Information Science and Technology*, 41, 307-364.

- Rosenthal, R. (1995). Writing meta-analytic reviews. *Psychological Bulletin, 118*, 183-192.
- Ruiz-Pérez, R., Delgado, E., and Jiménez-Contreras, E. (2006). Criterios del Institute for Scientific Information para la selección de revistas científicas. Su aplicación a las revistas españolas: metodología e indicadores. *International Journal of Clinical and Health Psychology, 6*, 401-424.
- Saracevic, T. (2007a). Relevance: A review of the literature and a framework for thinking on the notion in information science. Part II: nature and manifestations of relevance. *Journal of the American Society for Information Science and Technology, 58*, 1915-1933.
- Saracevic, T. (2007b). Relevance: A review of the literature and a framework for thinking on the notion in information science. Part III: Behavior and effects of relevance. *Journal of the American Society for Information Science and Technology, 58*, 2126-2144.
- Silvia, P.J. (2006). *Exploring the psychology of interest*. New York. Oxford University Press.
- Simonton, D.K. (2002). *Great psychologists and their times*. Washington: APA Press.
- Slife, B.D., Reber, J.S., and Richardson, F.C. (Eds.) (2005). *Critical thinking about psychology*. Washington: APA Press.
- Sokal, A. and Bricmont, J. (1999). *Imposturas intelectuales*. Barcelona: Paidós. (Orig. 1997).
- Sternberg, R.J. (1991). Editorial. *Psychological Bulletin, 109*, 3-4.
- Sternberg, R.J. (1995). Editorial. *Psychological Bulletin, 118*, 171.
- Sternberg, R.J. (1996). *Investigar en Psicología*. Barcelona: Paidós. (Orig. 1988).
- Sternberg, R.J. (Ed.) (2005). *Unity in psychology: Possibility or pipedream?* Washington: APA Press.
- Sternberg, R.J. (Ed.) (2006). *Reviewing scientific works in psychology*. Washington: APA Press.
- Sternberg, R.J., Roediger III, H.L., and Halpern, D.F. (Eds.) (2007). *Critical thinking in psychology*. Cambridge: Cambridge University Press.
- Thagard, P. (2007). Coherence, truth and the development of scientific knowledge. *Philosophy of Science, 74*, 28-47.
- Thagard, P. and Litt, A. (2008). Models of scientific explanation. In R. Sun (Ed.), *The Cambridge handbook of computational psychology* (pp. 549-564). Cambridge: Cambridge University Press.
- van Drie and van Boxtel, C. (2008). Historical reasoning: Towards a framework for analyzing student's reasoning about the past. *Educational Psychology Review, 20*, 87-110.
- van Eemeren, F., Grootendorst, R., and Henkemans, F.S. (2006). *Argumentación*. Buenos Aires: Biblos. (Orig. 2003).
- van Eemeren, F.H. and Houtlosser, P. (2006). Strategic maneuvering: A synthetic recapitulation. *Argumentation, 20*, 381-392.
- Verhoeven, J. and Perfetti, C. (Eds.) (2008). Advances in text comprehension: Model, process and development (Special Issue). *Applied Cognitive Psychology, 22* (3).
- Virués-Ortega, J. and Moreno-Rodríguez, R. (2008). Guidelines for clinical case reports in behavioral clinical Psychology. *International Journal of Clinical and Health Psychology, 8*, 765-777.
- Wester, K.L., Willse, J.T., and Davis, M.S. (2008). Responsible conduct of research measure: Initial development and pilot study. *Accountability in Research, 15*, 87-104.
- Yanchar, S.C., Slife, B.D., and Warne, R. (2008). Critical thinking as disciplinary practice. *Review of General Psychology, 12*, 265-281.
- Zych, I. and Buela-Casal, G. (2007). Análisis comparativo de los valores en el Índice de Internacionalidad de las revistas iberoamericanas de Psicología incluidas en la Web of Science. *Revista Mexicana de Psicología, 24*, 7-14.

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APPENDIX 1. Evaluation questionnaire.**A – STRUCTURE OF THE ARTICLE**

		Yes	Unsure	No
A-1	The title is clear in content, concise and well formulated			
A-2	The introduction is adequate and focused on the topic			
A-3	Aims of the study explicitly stated, and clearly related to the title of the work, findings and conclusions			
A-4	Quantity and type of materials used specified			
A-5	States whether the study is interpretative or integrative			
A-6	The means used to compile information or knowledge are clearly stated such as, databases consulted, terms, dates and periods of research, criteria of article inclusion, publication languages, coherence of content			
A-7	Specifies how the material is organised and analysed			
A-8	Results should be written in keeping with the objectives and organisation of material analysed.			
A-9	There is a clear relationship between results, discussion and conclusion			
A-10	All referenced works should be referred to using the standards specified by the publication			

B – HISTORICAL BACKGROUND OF THE TOPIC

		Yes	Unsure	No
B-1	Achieves a correct socio-historical analysis of the topic			
B-2	Adopts an integrative focus, bearing in mind the historical-scientific context, chronology of document sources for historical construction of the topic			
B-3	Connects, in a comprehensible way, background of the topic with the current research.			
B-4	Takes into account historical-conceptual changes used in the review			

C – LITERATURE REVIEW

		Yes	Unsure	No
C-1	Good selection of relevant literature within the climate of lack of unity within the discipline			
C-2	Adequate selection of authors and relevant publications			
C-3	Shows an interdisciplinary focus regarding the search for information			
C-4	Includes a bibliography with relevant, evidence based conclusions			
C-5	Is well placed within the large quantity of information available on the current market of psychological research			
C-6	Correctly seeks content on databases, which is the same as asking if it correctly uses ontology of representation of knowledge as the aim of the research			
C-7	Is the bibliographical selection, analysis and comprehension credible?			

D – STYLE AND UNDERSTANDING OF ARGUMENTATION

		Yes	Unsure	No
D-1	Argumentation centred on the topic addressed			
D-2	Writing style is clear, precise and easily understood			
D-3	Avoids emotive language, focusing on knowledge based and empirically founded			
D-4	The argumentation takes into account a reasonable and justifiable interdisciplinary perspective			
D-5	Limits argumentative fallacies			

E – THEORETICAL-PRACTICAL RELEVANCE OF CONCLUSIONS

		Yes	Unsure	No
E-1	Conclusions are empirically coherent and socially relevant			
E-2	Explanations given are genuinely innovative and bear in mind the context of sociocultural values			
E-3	Theoretically and practically integrates empirically based knowledge			
E-4	Conclusions are socially sensitive, fact based and relevant			

F – CRITICAL-INTERDISCIPLINARY PERSPECTIVE OF THE REVIEW

		Yes	Unsure	No
F-1	Adopts a critically constructive direction from a theoretically interdisciplinary perspective			
F-2	Favours theoretical-practical interdisciplinary integration for selection, analysis and critique of literature consulted			
F-3	Integrates diverse directions in the process of structuring the work and drawing conclusions			
F-4	Aims to motivate readers to be critical and reflective with those works consulted, the structure of the work and the drawing of conclusions			

G – RECOMMENDATIONS FOR FUTURE RESEARCH

		Yes	Unsure	No
G-1	Suggests points of view aimed at generating creative hypotheses for future theoretical-practical investigations			
G-2	Encourages an interdisciplinary perspective for psychological knowledge, bearing in mind new information technologies (e.g. the Internet)			
G-3	Counters possible objections to conclusions			
G-4	Suggests alternate explanations to provoke future research			
G-5	Argumentation encourage epistemic curiosity and motivate the search for more relevant information			

H – REFLECTIONS ON IMPROVEMENT OF THE PSYCHOLOGY CURRICULUM

		Yes	Unsure	No
H-1	Seriousness, honesty and sense of the work serve as a guide to and example for Psychology students			
H-2	The topic chosen and conclusions drawn are normally featured within Psychology curricula			
H-3	The structure and writing style are easily understandable and encourage students of Psychology to read more relevant works			
H-4	Aims to encourage responsible research styles			
H-5	Aims to encourage critical thought within the teaching-learning process as part of Psychology curricula			