

Research on educative psychology in Colombia during 2000-2010: Analysis of groups A and B

Juan Carlos Restrepo Botero*
Luis Felipe Londoño Ardila**
Liliana María Gómez Cardona***

*Psychologist, is a specialist on neurocognitive rehabilitation, Doctor of Psychology with orientation on Applied Cognitive Neuroscience, teacher and director of the research group on Applied Psychology la Lasallist University Corporation, juarestrepo@lasallistadocentes.edu.co.

** Psychologist, Specialist of Educative Management, Specialist of Organization Psychology, Magister of Education, Teacher of Psychology at Lasallist University Corporation, member of Research Group on Applied Psychology. lulondono@lasallistadocentes.edu.co.

***Psychologist, Specialist of Educative Management, Magister of Education, Coordinator of Psychology Program at Lasallist University Corporation, member of Research Group on Applied Psychology. ligomez@lasallista.edu.co,

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Abstract

In 2012 the Research Group of Applied Psychology of Lasallista University Corporation, performed a bibliographic analysis of 415 scientific articles reported in LAC research Group, groups A1, and B, classified by Colciencias, in order to identify trends in Colombian scientific production of Psychology in general, and educative Psychology in particular, during the term 2000-2010. The researchers selected those groups endorsed by universities running programs holding High Quality Accreditation granted by the National Council of Accreditation, and included in the data base published by the Colombian Society of Faculties of Psychology- ASCOFAPSI (Spanish abbreviation), through the Observatory of Quality of Higher Education on Psychology in Colombia (2012). The most outstanding results on educative Psychology found that: 26,3% of analyzed groups coincide in researching on learning; 5,3% of such articles is written on learning; 43,1% performed research with students, and, that since 2004 there is a meaningful growth in production of educative Psychology. It is observed that publications on educative Psychology along years have moved from a fifth place (Guerrero and Jaraba 2010) to a second place as evidenced by this study, and as claimed by Perdomo et al (2003). Parting from such results, these groups are suggested, in addition, to study first infancy, school phenomena, and extra-school, that is, those not under school scenarios or Higher Education Institutions, to approach informal education and Education for Labor and Human Development.

Keywords: Bibliometry; scientiometry; history of educative Psychology; Research groups; educative Psychology.

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Introduction

During the last years interest in studying scientific production of Psychology in the world has increased, (García-Martínez, Guerrero-Bote, & Moya-Anegón, 2012; Navarrete-Cortes, Fernández-López, López-Baena, Quevedo-Blasco, & Buela-Casal, 2010), in Iberoamérica; (García Martínez, Guerrero Bote, Vargas Quesada, & Moya-Anegón, 2008; López-López, García-Cepero, Aguilar Bustamante, Silva, & Aguado López, 2010), in Latinoamérica; (Gutierrez, Pérez-Acosta, & Plata-Cadaviedes, 2009; Vera-Villaruel, López-López, Lillo, & Silva, 2011) and, specifically in countries like Colombia, (Guerrero & Jaraba, 2010; Perdomo, Zambrano Hernández, Hernández Zubieta, Pérez-Acosta, & López López, 2003; Puche-Navarro & Ossa, 2012). The above is not strange when taking into account that scientific production is one of the critical factors used to measure country development.

In the review made by Garcia-Martinez et al (2012) on this interest, they report that it was incipient in 1970, except for the analysis made by Garfield between 1975 and the 90s. If a list is made per year of initiation of the analysis of psychological production in the above mentioned studies, it will be found that exploration of this phenomenon initiated in 1949 by Guerrero and Jaraba (2010), and continues as follows: 1968 (Puche-Navarro & Ossa, 2012); 1969 (Gutierrez et al., 2009); 1983 (Perdomo et al., 2003); 1990 (García Martínez et al., 2008); 1996, (Vera-Villaruel et al., 2011); 1999 (Navarrete-Cortes et al., 2010); 2003 (García-Martínez et al., 2012); and 2005 (López-López et al., 2010).

In general, these authors made a bibliometric analysis and reviewed international data bases of prestigious indicators such as SCOPUS, Web of Science, Psyc info, Redalyc (Network of scientific journals of Latin America and the Caribbean, Spain and Portugal), SIR (Scimago Institutions Rankings), SJR (Scimago Journal Rank), JCR (Journal Citation Report), ISI (International Science Index), SSCI (Social Science Citation Index) and index h^1 , and domestic sources such as the Observatory of Quality of Psychology

¹ An index that balances importance of articles according to the number of citations made about them

of the Society of Faculties of Psychology – ASCOFAPSI, (Spanish abbreviation), ScienTI platform of Colciencias, mainly through analysis by GrupLAC² of the Colombian Research Groups. Analyses performed include those classified in terms of countries, institutions, journals, and articles, in order to identify trends, macro-trends, analysis of domestic and international production by Colombian Psychologists, identification of development of Psychology in one or several regions, and, even, comparison to development of this science in general worldwide.

In order to establish world, Ibero-American, Latin American, and Colombian reality of Psychology, the following is a list of some contributions made by the above mentioned researches:

First, the world panorama between 2003 and 2008 contributed by Garcia-Martinez et al (2012) will be approached, which states that from 230 countries that published in this period of time, 69% was in the field of Psychology; from 4,686 institutions that published on Psychology, just 70 outstood as the most productive; in Scopus, 17,000 journals of all areas of knowledge were reported; there are 624 journals on Psychology, 74 of which are not listed in SJR yet, since they are very new; according to the production, specialization topics, citation level, and variation percentage of these two last indicators, according to these authors, countries may be grouped into four large groups, as follows: Exceptional, recognized, productive, and neutral. Within this classification, Colombia is in the third group, that is, the one of productive, together with Spain, Ireland and South Africa, while, countries as Russia, Portugal, Greece, Poland, Argentine, India, Turkey, Iran, Taiwan, Chile, Mexico, Brazil, South Korea, France, Czech Republic, and Japan are either in the fourth group or the neutral ones. This fourth group is recognized as low production, except for France, Brazil and Japan, who hold exceptional indicators; Portugal, Mexico and Chile have advanced in their production, and Argentine and Brazil are said to keep in their positions.

² Latin America and the Caribbean Group (GrupLAC), is the data base where information of research groups on Science, Technology and Innovation in Colombia is registered.

In addition, from Navarrete-Cortes' et al (2012) study it appears that between 1999-2004 data base Web of Science, there were 108,741 documents on Psychology that were analyzed by them and that there were 11 categories considered by the JCR to be classified for publications.

Secondly, in Ibero-American reality, Garcia-Martinez et al (2008), in his study from 1990 through 2004, analyzed these countries by establishing a science-chart³ of Psychology in each country, parting from relationships found between psychology and another sciences. Their findings state that in Spain, Psychology is a part of Biomedicine connected by Neurosciences and Psychiatrics. There are very few connected to the education field; in Chile, Mexico and Venezuela it is the same as in Spain. In Argentina, Psychology is divided into two groups connected by Biomedicine through Neurosciences. In Cuba, Psychology majors, except Biological Psychology, are connected through Physiology. The two large identified groups are connected to Biochemistry and Molecular Biology through Neurosciences.

In Colombia, Psychology majors depend on Psychiatrics but the way is not through Neurociences. They conclude that in all countries Psychology is connected to Bochemistry and molecular Biology through Neurociences, except in Colombia, where such connection is through Neurology, Clinic-Medicine and Internal Immunology as intermediate categories between the Biology and Neurosciences.

Lopez-Lopez et al (2010), find that between 2005-2007, three of each four articles are written in cooperation. However, they claim that most research in Ibero-America, in spite of its outstanding development, continues to be marginal due to phenomenon such as low number of contributions, little time dedicated to publication by teachers and research centers, low quality of some research projects, endogamy and low international cooperation, ignorance by foreign researchers of Ibero-American research, and excessive publication in Spanish language and Portuguese.

³“Science-chart”, may be defined as a graphic representation of links held by sciences among themselves, according to citation of thematic categories.

In the exploration made at REDALYC data base they found that most production is made by Spain, Colombia, and Brazil. Spain published 884 articles; Colombia 629; Brazil 622; Mexico 236; Chile 183; Argentine 89; and Peru 11. In addition, in this analysis they found that approximately 75% of projects are published by more than one author, and that Psychology performs more as a discipline of biometric sciences than humanities, where more individual authors use to publish.

Third, regarding Latin American panorama, Navarrete-Cortes et al (2010) identified between 1999 and 2004 the five countries with the highest number of citations per article, led by Argentina with 4,187, followed by Brazil with 3,302; Colombia with 2,846; Mexico with 1,859, and lastly Chile with 1,922. These countries hold the best indicators in production and impact on Psychology, which, does not meet expected international standards, turns into a light of hope for the region. Vera-Villarroel et al (2011), in their study of the period of time 1996 – 2008 claim that there are four Latin American journals which appear both in the Web of Science and in JCR, as follows: *Universitas Psychologica*, *Revista Latinoamericana de Psicología*, *Revista Mexicana de Psicología* and *Revista Argentina de Clínica Psicológica*, (for their Spanish name). According to the above, Latin America still faces many challenges in terms of publications and their impact to meet standards of countries holding major scientific and technological development. (Navarrete-Cortes et al 2010; Vera-Villarroel et al 2011).

Finally, regarding Colombian situation, it is important to state that authors such as Garcia-Martinez et al (2012), between 2003-2008, ranked Colombia among the first three countries holding higher growth in Psychology production. The other countries are Brazil and Poland, ranking first and second, respectively. Vera-Villarroel et al (2011) established that between 1996 and 2008 Colombian h index surpasses the Cuban one in almost twenty points, in spite of the fact that the number of publications is similar. This Colombian index also surpassed Mexico, Argentine, Chile and Brazil. During this term, regarding productivity, Colombia, Mexico, Argentine and Chile published the same amount of articles. In addition,

these authors established that notwithstanding the number of documents citable in the analyzed period of time located Brazil, Mexico and Argentine as the ones of higher productivity, Colombia has meaningfully grown during the last years. Gutierrez et al (2009) stresses on the effort seen in countries like Colombia in increasing international publications. However, in the analysis made by Puche-Navarro and Ossa (2012) for the term 2000-2010, without ignoring such progress, they find low cooperation level among groups, and few publications in English language. Likewise, they acknowledge that there is an exponential growth which demonstrates that more than a profession, Psychology has begun to be regarded as a science. According to these authors, previously to 2000 Colombian Psychology could be classified only as a profession. In support of the above, they identify an important growth in the number of Psychology journals in Colombia during the last decade of XX Century, and first decade of XXI Century. And appearance of such journals is not important but their inclusion in the index. In addition, they found that 24 Colombian journals have reached a certain level, since they are duly registered in ISI, SCOPUS, Google Scholar, REDALYC and PUBLINDEX, among other. Lastly, they provide an interesting critic on the fact that a large number of studies on Psychology production approaches production in domestic journals.

As a result of the report made by Guerrero and Jaraba (2010) on the research performed for the Observatory of Academic Psychology Quality in Colombia of the Society of Schools of Psychology –ASCOFAPSI (Spanish abbreviation), Puche-Navarro and Ossa (2012) summarize the three main periods of time of this country in psychological production, as follows: a) 1969-1991, characterized by a low productivity and growth; b) 1992-1996, productivity increased four times higher than the previous period of time; and c) 1997-2009, which term shows a high productivity. The study made by Puche-Navarro and Ossa (2012) established that the highest growth in production of the Colombian Psychology is in the period of time 2000-2010. This phenomenon is considered by these authors as the period of birth of a more productive scientific community. Among the reasons that could explain Psychology taking-off as science, they state

that it was thanks to role of the policy of National System of Science Technology and innovation-SNCTI (Spanish abbreviation), managed by Colciencias, support to creation of research groups surged in at the end of the 90s, and because of requirements qualified registry, and quality accreditation.

Once completing the above review of research background, it is convenient to consider recommendations made by Vera-Villaruel et al (2011), and Puche-Navarro and Ossa (2012). The first, suggest that future studies should evaluate the impact caused by Latin American psychological production, with a more detailed emphasis showing the areas of most impact, the topics, and what scientific group of population it is contributing to. The second ones recommend to explore dispersion of scientific production and locate thematic nucleus and their distribution through the various publication means. In an attempt to attend some of these demands, this article reports the results of analysis of scientific articles published between 2000 and 2010 by Colombian research groups ranked by Colciencias as A1, A, and B of Psychology accredited programs, taking into account that, as stated by Guerrero and Jaraba (2010) and Puche-Navarro and Ossa (2012), are the years of higher productivity of Psychology in Colombia. These groups were selected parting from the assumption that they are the leading research groups on this science, and, therefore, parting from their analysis it will be possible to establish trends and contribute reflections to guide future research, and researching and professional development of the same.

Materials and methods

A bibliometric analysis was performed to 415 scientific articles reported in GrupLAC of research groups A1, A, and B classified by Colciencias, endorsed by universities registered in the data base published by the Colombian Society of Schools of Psychology-ASCOFAPSI (Spanish abbreviation), through the Observatory of Higher Education Quality on Psychology in Colombia (2012), which Psychology programs held High Quality Accreditation granted by the National Council of Accreditation-CNA⁴, which

4. The National Council of Accreditation of the Republic of Colombia is an academic entity which reports to the National

complied with the following criteria for inclusion: a) articles published between 2000-2010 meeting the type “scientific and technological research article”, of the Administrative Department of Science Technology and Innovation –Colciencias (Spanish abbreviation); b) articles of publication of results of research with human beings or investigation parting from document sources; and c) open access articles.

Procedure

First, the list of Colombian researching groups classified as A1, A, and B was taken from ASCOFAPSI. Those groups which endorsing higher education institutions providing CNA high quality accredited Psychology programs, were selected. Once identified, information reported by each group in their respective GrupLAC was found.

Secondly, an Excel data base was prepared with the following categories for analysis. The following information was taken from each research group: group name, group classification according to the GrupLAC, and research line name. For each article reported at the platform as “Articles published in scientific journals”, the following information was registered: Group name, article name, year of publication, purpose or research question, study population, and key words reported by the article.

Third, each article meeting inclusion criteria was traced. The Excel data base was fed both through information provided by such articles and the one provided by GrupLAC platform. Like in Puche-Navarro and Ossa’s (2012) research, a manual deputation was made of GrupLAC data, since, for example, the same article may be reported in two or more different ways, and there is no a standardized instrument which filters such information.

Fourth, an analysis was made by group on identified trends of scientific production in Psychology, parting from their analyzed articles. Subsequently, general trends identified both in groups and in articles were analyzed.

Council of Higher Education, and its powers include granting High Quality Accreditation upon graduate programs in Colombia. For more information enter <http://www.cna.gov.co/1741/article-186382.html>

Results

From 177 research groups in Psychology in Colombia reported by ASCOFAPSI, through the High Quality Observatory of Psychology Higher Education in Colombia (2012), 1 group is classified by Colciencias as A1; 8 as A; 19 as B; 34 as C; 77 as D, and 38 are recognized as not classified. From these, Table 1 reports those groups analyzed by this research, having complied with establishes criteria for inclusion.

Table 1: Distribution of analyzed groups having complied with inclusion and exclusion criteria, according to category assigned by Colciencias:

Category	Frequency
A1	1
A	7
B	11
TOTAL	19

Source: own preparation

Regarding articles analyzed, it was found that 1,343 article reported in Colciencias ScienTI platform under the category: “Articles published in scientific journals,” 69,1% were not analyzed (Table 2), since they did not meet inclusion criteria proposed at the beginning of the research: Some of them were not published between 2000-2010, were not open access, were not really scientific articles but newspaper articles, essays, poetry, interviews, booklets, reflections, informal publications in Internet, non-existing articles, or which information was wrongly reported, institutional documents, among other.

Table 2: Distribution of articles reported on GrupLAC which were analyzed

Criterion	Frequency	Percentage
Analyzed articles	415	30,90%
Non-analyzed articles	928	69,10%
Total reported in the GrupLAC	1,343	100%

Source: own preparation

Taking into account that the purpose of the research was to identify trends of scientific production of Colombian Psychology between 2000 and 2010, through an analysis of groups A1, A and B of

accredited programs, an analysis was made of those groups which coincide in researching mainly in the same topics, according to key words reported by analyzed articles (Table 3).

Before mentioning findings regarding research thematic subjects, it becomes necessary explain that articles were classified according to key words reported in the same in order to prevent mistakes which may lead to another type of subjective classification. However, it is important to state that not always key words reported by the authors include or exclude other topics. For example, it may be seen in Table 3 that life quality may be a sub-thematic of psychology of health. Therefore, it is important to clarify that the report prepared is determined by the frequency or not frequency of their appearance in each analyzed article. It was found that 26.3% of analyzed groups mainly research on learning; 15.8% on topics of psychology of health; 10.5% on life quality, and 47.4% on other varied topics.

Table 3: Number of groups that coincide in investigating mainly on the same topics, according to key words reported in the articles.

Most investigated topics	Frequency	Percentage
Learning	5	26,30%
Psychology of health	3	15,80%
Life Quality	2	10,50%
Other	9	47,40%
TOTAL	19	100%

Source: own preparation

Other analysis made was identification of the number of articles approaching the main topics⁵ studied by analyzed groups (Table 4). While in Table 3 an analysis of topics by groups was made, in Table 4 such analysis was made by topics of articles.

Table 4: Number of articles approaching the main topics studied by analyzed groups.

5. In this study, a topic was considered as principal when approached by more than ten articles.

Topics	Number of Articles	Percentage
Mental health	31	7,50%
Learning	22	5,30%
Life quality	22	5,30%
Psychometric analysis	21	5,1
Psychology of health	19	4,6
HIV/AIDS	17	4,1
TOTAL accumulated	132	31,8
TOTAL analyzed	415	100%

Source: own preparation

In this analysis it was found that 7,5% of the articles are related to mental health; 5,3% to learning; 5,3% to life quality; 5,1% to psychometric analysis; 4,6% to Psychology of health, and 4,1% to HIV/AIDS.

Table 5: Distribution of populations or most investigated sources.

Population or source	Number of articles	Percentage
University students	52	26,70%
High school students	32	16,40%
Hospital patients	30	15,40%
Document sources	29	14,90%
Adolescents	17	8,70%
Adults	14	7,20%
Elder	11	5,60%
Other	10	5,10%
TOTAL	195	100%

Source: own preparation

Target population of study reported by articles was also analyzed (Table 5). It was found that 26,7% of articles studied university students; 16,4% high school students; 15,4% hospital patients; 14,9% document sources; 8,7% adolescents; 7,2% adults; 5,6% elder; and 5,1% other population.

Table 6: Research lines reported by groups in the GrupLAC which would be related to educative Psychology.

Line name	Frequency	Percentage
Emerging alphabetism	1	1,10%
Learning, language, and context	1	1,10%
Human vital cycle, risk, and socialization	1	1,10%
Cognition, learning, and human development	1	1,10%
Reading comprehension	1	1,10%
Development of metalinguistic skills, and metacognitive operations	1	1,10%
Alterations of language development	1	1,10%
Descriptive studies on linguistic development and cognitive.	1	1,10%
Evaluation of learning, and quality management.	1	1,10%
Evaluation of pedagogic processes.	1	1,10%
Evolution and cognition	1	1,10%
Multiple intelligence	1	1,10%
Writing as a process	1	1,10%
Language and cognition: educative development	1	1,10%
Neuropsychology and education	1	2,30%
Cognitive linguistic processing on school normal population and special	1	1,10%
Educative Psychology and individual difference	1	1,10%
Subjectivity, narrative, and education	1	1,10%
Other non-related research lines	69	77%
Number of research lines related to educative Psychology	18	23%
Total number of research lines reported	87	100%

Source: own preparation

Parting from the 87 names of research lines of analyzed groups reported in the GrupLAC, those which could be related to educative Psychology were identified. Table 6). It is important to mention that, a judgment of value was made parting from the line name, since platform ScienTI does not provide detailed information on such lines, and therefore, perhaps other research lines remained out of such list.

Table 7: Distribution of articles related to educative Psychology

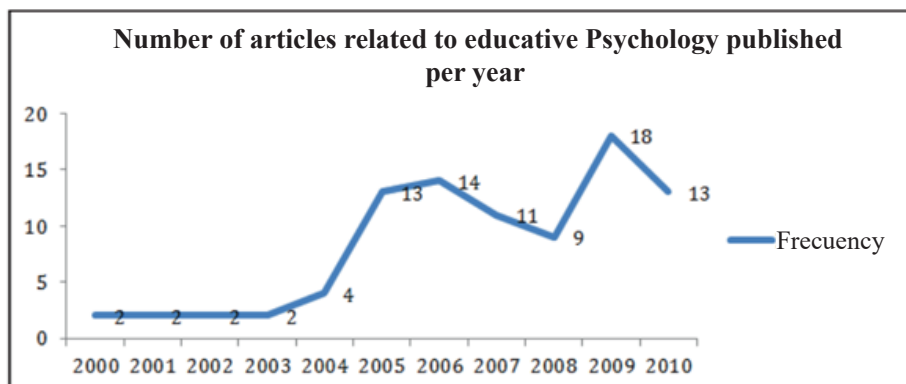
For purposes of this article it was necessary to learn about the percentage of articles analyzed specifically related to educative Psychology. The percentage found was 21,7%.

Studying field	Frequency	Percentage
Educative Psychology	90	21,70%
Other	325	78,30%
TOTAL	415	100%

Source: own preparation

Graphic 1

Distribution of articles publication related to educative Psychology



Source: own preparation

Finally, Graphic 1 shows the curve of publications of analyzed articles between 2000 and 2010, related to educative Psychology. There is significant growth since 2004, 2009 being the year reaching the highest number of publications.

Discussion of results

Some reflections on Colombian research groups

Taking into account the report of the number of research groups published by ASCOFAPSI, mentioned in results of this article one group A and 8 groups B were not included in our analysis because of not meeting criterions for inclusion and exclusion reported in the methodology. A first important reflection is that, if we assumed that groups A1, A and B as model groups of research, it would be found that there as groups that perform an outstanding research labor, without being linked to high quality accredited Psychology programs. Perhaps some of these groups are in this process. Therefore, this matter deserves future studies since quality of groups may not necessarily be associated to accreditation of their programs. It does not mean disregarding for the importance of accreditation processes in search of quality of such programs. Although groups C and D registered were not analyzed, without qualifying (89% of groups reported by ASCOFAPSI), it is important to point out that it is necessary to work and expand much more on quality of what is published, and on efforts made by universities to keep their groups better qualified, by means of more cooperative efforts among institutions and groups as proposed by Puche-Navarro and Ossa (2012).

At comparing the number of groups A1, A and B analyzed in this research to those analyzed by Puche-Navarro and Ossa (2012), it is found that these authors analyzed the 8 groups A, and the 24 groups B existing by then. It draws the attention that among the study made by these authors and ours, 5 groups had lost the category B. In Fact, Puche-Navarro and Ossa (2012), identified 179 groups in Psychology. When ASCOFAPSI data base was consulted for this study, 177 groups were reported, that to say, 2 groups had disappeared from the registry. Among the various hypothesis that could be stated for this phenomenon, it could be considered that although such groups had

disappeared, their researchers joined another groups and, therefore, other groups were strengthened. Another hypothesis could point that, indeed researching conditions of these groups just ended. For these matters not to remain just in speculation, it is also proposed to study this phenomenon.

Some reflections parting from articles published in the GrupLAC under the category “Articles published in scientific journals”.

At analyzing results achieved in Table 2, it is concerning that among the 69,1% of non-analyzed articles the study found articles that were not really scientific ones but newspaper articles, essays, poetry, interviews, leaflets, reflections, informal publications on Internet, non-existing articles, or which information was wrongly reported, institutional documents, among other. In addition, like Puche-Navarro and Ossa (2012), several articles were found duplicated one or more times with different information. It is concerning that non-scientific publications are being reported under GrupLAC category: “Articles published in scientific journals”. Even, the means through which some of these analyzed groups achieved the qualification A1, A or B could questioned from Colciencias, when taking into account that there are cases where scientific productions are few as compared to those non-scientific already mentioned. For example, there were cases in some groups where scientific publications were not higher than 4,7% of the total published under category: “Articles published in scientific journals”. The above, being cautious to avoid disqualifying research scientific articles on animals that, for purposes of this study, were not analyzed⁶ and the number of articles published previously to 2000 and after 2010, which were not within the period of analysis either.

6.The research, parting from which this article surged, was aimed at analyzing Colombian research trends in the lines of the Research Group on Applied Psychology which are related to applied research, and, therefore, studies with animals were not the subject of its interest.

Regarding the number of groups that coincide in investigating mainly on the same topics, according to key words reported in the articles (Table 3), it draws the attention that 'learning' is the most studied topic, which could be associated to educative Psychology. Notwithstanding, some authors state that this area of Psychology holds a second place (Perdomo et al 2003), a third place (Gutierrez et al 2009), or a fifth place in investigations on Psychology (Guerrero & Jaraba, 2010). There is not only a consensus on the position held by educative Psychology, but, in addition, proposals of preceding thematic areas are different. For Perdomo et al (2003), psychometrics is located in a first place. Gutierrez et al (2009), locate Social Psychology, and analysis and modification of behavior in the first positions. In turn, Guerrero and Jaraba (2010), report Clinical Psychology and Health, Psychoanalysis, History, Epistemology and theoretic models, and Social Psychology as leading areas or specialties in research. These differences should not be interpreted as contradictory among themselves, since analysis periods of these investigations are different, as well as criterions for collection of analyzed information, and defined thematic areas. In spite of such limits, it could be thought that these differences lead to see that, in fact, the area of educative Psychology is among the first most studied. Regarding Psychology of health, which in our study ranked second, it coincides with Perdomo's et al (2003) already mentioned results.

Other results that deserve a detailed reflection is the 47,4% of the groups researching on varied topics. Before this phenomenon, it is worth to restate the critic of Alonso and Nicenboim (1999, cited by Gutierrez et al 2009), that in Psychology of the Americas there is a disarranged multiplication of information centers. Analyzed groups show a variety of study topics which prevents a clear recognition a research specialized thematic as expected in category A1, A, and B groups.

Regarding the number of articles which approach the main topics studied by analyzed groups (Table 4), it is found that learning and Psychology of health are not the first and second thematic most studied as it was found in previous analysis. This is due to the existence of other topics reported from key words

of articles such as: mental health and psychometric analysis which are approached by various articles of one or two groups. Among these topics there are some so ample and including such as mental health and other so specific like HIV/AIDS.

As Puche-Navarro & Ossa (2012), claim, there is a limit in classification of topics in absence of a production code which identifies on unique and right basis each production.

A different thing happens to areas and specialties of Psychology. Even, when along history new specialties have been created in Psychology, and other ones have achieved major force, as Puche-Navarro & Ossa (2012) state, there are 13 out of 15 thematic categories mentioned by Gutierrez et al (2009), which have remained stable, and that allow to classify Psychologists' production since 1970 so far, as follows: 1) Social Psychology; 2) Analysis and modification of thought; 3) Educative Psychology; 4) Measurement/psychometrics; 5) Clinical Psychology; 6) Psychology of Development; 7) Psychology and Health; 8) Industrial/Organization Psychology; 9) Psychophysiology; 10) History of Psychology and Psychological Systems; 11) Psychology of Personality 12) Compared Psychology; 13) Gerontological Psychology; 14) Language, and 15) other areas.

Some specific reflections on educative psychology

At analyzing the most investigated target populations or sources, (Table 5), it was found that the highest percentage corresponds to the students (43,1%), when adding university and school percentages. This phenomenon is questioned while it is the captive population held by research groups belonging to any Higher Education Institution. ¿At what extent these researches are performed more because of the existing facility to get a public ready to cooperate in such researches than an actual need, or the main problems calling for a national research? Furthermore, ¿At what extent the eagerness for the number of publications for accreditation purposes is influencing? On this matter, Vera-Villaruel et al (2011), pose the challenge of improving production quality over the amount.

In addition, there are more investigations performed with university students than with school students. ¿perhaps, is the national education reality mainly represented through higher education? Studies on first infancy, for example, are scarce in these groups. Likewise, it concerns that most of validated and standardized psychological tests for Colombian population are performed with this population. Do students represent the Colombian population that, in its majority, cannot afford Higher Education, and who are used to determine the standards of these tests?

Regarding names of research lines of analyzed groups reported in the GrupLAC, (Table 6), related to Educative Psychology 18 different lines were found, although perhaps some of them related among themselves. Future researches are required which allow to establish the scope at which this diversity may be understood as a major of research on Educative Psychology, or, otherwise, a thematic diversity that does not allow any degree of expertise on this area by the studied groups, and which makes it difficult cooperative research among two or more groups.

Specifically, at analyzing the articles, it was found that 21.7% of them were related to Educative Psychology, while 78.3% were related to other areas of Psychology, (Table 7). Gutierrez et al (2009) in his historical journey describes that Ruben Ardila around the 70s found a principal interest in Clinical Psychology with a psychoanalytical approach, a research on transcultural studies of social Psychology, and an interest in psychometrics, and in applications to therapy of behavior. Seemingly, these trends have changed, since areas such as Educative Psychology appear within the first positions of current studies. Notwithstanding the fact that each year in general it is observed an increase of research by analyzed groups on matters related to Educative Psychology since 2004 (Graphic 1), it is still necessary to concentrate research in its problems. In addition, in Colombia graduate studies on Educative Psychology are not so frequent, unlike those provided by education programs. Among the names of the 19 analyzed groups, only three show explicit intention towards research on matters related to Educative Psychology. On this question, it is important to point out that future research is required which expands on the purpose of

study of the groups, since ScientTI platform does not provide this information.

Conclusions

In an attempt to approach identification of trends in scientific production of the Colombian Psychology by groups A1, A, and B of accredited programs, it is important to recognize, as Puche-Navarro y Ossa (2012) did, that any study like this one provides a limited picture of the studied phenomenon, even when it was intended to achieve the best accuracy possible, since there are slants involving to all researchers. For example, inclusion criteria, both of groups and analyzed articles, should be taken into account for proper interpretation of results. Results and reflections stated promote more questions than answers, in order to motivate future researchers on Psychology seeking pertinence and specific solution to problems faced by the Colombian situation nationwide.

Research requires cooperative work today, that is, two or more groups working on the same project. Notwithstanding the trend to increase of cooperative work, as identified by Puche-Navarro y Ossa (2012), there is not enough percentage of groups working together. In turn, Lopez-Lopez et al (2010) find out that, between 2005 and 2007, three out of four articles were prepared on cooperative basis. However, they warn that most of Ibero-American research, in spite of its outstanding development, continues to be marginal because of phenomena such as low amount of contributions, little time dedicated to publish by teacher bodies, and research centers, poor quality of some researches, endogamy and poor international cooperation, ignorance by foreign researchers of Ibero-American research, and excessive publication in Spanish language and Portuguese. Therefore, once improvement of conditions required for this cooperative work are made, it is necessary to encourage Colombian researchers to publish in English language in order to achieve a major impact and visibility. Notwithstanding the above, the social impact of research on Psychology should not be forgotten. It is worth to mention the importance of performing studies on evaluation of the social impact of Psychology, since, as Perdomo et al (2003) states, it is not clear how investment in scientific and technological research produce tangible returns,

social influence, knowledge transference, and cooperation, among other.

Regarding Educative Psychology, research on Educative Psychology should not be limited just to learning, because important topics such as school management, public policies, educative system evaluation, among other, may become abandoned.

In addition, formal education⁷ is generally studied, but it is also require to approach problems and requirements of the informal⁸ and education for labor and human development⁹, as well. Likewise, it is suggested that research on Educative Psychology approaches the study of school and extra-school phenomena, that is, those not subordinated to scenarios of the school or Higher Education.

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7. Education provided by institutions authorized by the Ministry of National Education-MEN.

8. Education that, although not endorsed by the MEN, aims to citizen formation. It is provided by media, out-of- school projects, among other.

9. Previously named “non-formal education”. Courses provided by extension centers, and other institutions.

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