

RESEARCH ON HIGH ABILITIES: TRENDS AND METHODOLOGICAL OPTIONS**INVESTIGAÇÃO SOBRE ALTAS CAPACIDADES: TENDÊNCIAS E OPÇÕES METODOLÓGICAS**

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Abstract

The knowledge about high ability students has implied the development of several studies on the subject. The main goal of this paper is to present a bibliographic research, regarding research interests and typology of studies carried out. So, a search for empirical studies published in 2018 was conducted in 3 journals of the specialty, namely, High Ability Studies, Talincrea [*Talent, Intelligence and Creativity*] and Sobredotação [*Giftedness*]. Through the search 31 articles were found, which were examined using content analysis, considering two main categories: Themes of the studies and Research methods used. The collected data showed the existence of different topics studied related mainly to Characterisation and Intervention, as well as different methodological processes adopted in the research, prevailing the quantitative research. This study revealed that, in gifted education, qualitative research is valued, but the majority of scientific contributions are from quantitative research.

Keywords: *High abilities; giftedness; research; literature review.*

Resumo

O conhecimento sobre os alunos com altas capacidades tem implicado a realização de vários estudos sobre os mesmos. O objetivo deste trabalho é apresentar uma pesquisa bibliográfica focada, especificamente nos interesses de investigação e na tipologia de estudos realizados. Nesse sentido, realizou-se uma pesquisa sobre os estudos publicados em 2018, em 3 revistas da especialidade, ou seja, High Ability Studies, Talincrea [*Talent, Intelligence and Creativity*] e Sobredotação. Na pesquisa efetuada foram encontrados 31 artigos, os quais foram analisados

através de análise de conteúdo, considerando duas categorias principais: Temáticas estudadas e Tipologia de estudos. Os dados recolhidos permitem verificar a existência de diferentes temas em estudo, relacionados sobretudo com a Caracterização e a Intervenção, bem como diferentes processos metodológicos adotados nos estudos, prevalecendo a metodologia quantitativa. Este trabalho revela que na temática da sobredotação a investigação qualitativa é valorizada, mas a maioria dos contributos científicos resultam de investigação quantitativa.

Palavras-chave: *Altas capacidades; sobredotação; investigação; revisão de literatura.*

The knowledge about high ability students has implied the development of several studies on the subject. Several researchers have questioned the research done in the field of gifted education not only searching for the best practices, trying to develop evidence-based intervention (Robinson, Shore, & Enersen, 2007), but also searching for the topics studied and the research methods used (Friedman-Nimz, O'Brien, & Frey, 2005), or to compare some recommendations (e.g., the American National Excellence report) with the research priorities and practices (Jolly & Kettler, 2008).

In Psychology, despite the recognition of qualitative methodology (Michell, 2004) and the creation of qualitative research journals (Brinkmann, 2017), quantitative methodology still tends to be the dominant paradigm (Rubin, Bell, & McClelland, 2018; Wiggins, Gordon-Finlaysonb, Beckerc, & Sullivan, 2015). However, the presence of qualitative research comes from the founders of Psychology, although it was not always designated as qualitative research. In this regard, Wertz (2014) refers that “A rough sketch of a history of qualitative inquiry in psychology might differentiate phases from the founding of psychology to the present” (p. 4). In his opinion, since the 1970s, qualitative research has been more accepted in the psychological science, but tension between qualitative and quantitative psychologists

has not disappeared. Currently, mixed methods seem to be an option to develop psychological knowledge, combining qualitative and quantitative contributions (Wertz, 2014).

Nevertheless, the way of conducting qualitative research in Psychology has been questioned. Qualitative research refers to a kind of scientific practices that are used “to describe a set of approaches that analyze data in the form of natural language (i.e., words) and expressions of experiences (e.g., social interactions and artistic presentations)” (Levitt et al. 2018, p. 27). So, a great diversity of qualitative studies is possible. In that sense, standards for quality studies are requested (Levitt et al., 2016; Levitt, 2018) as well as qualitative training (McMullen & Winston-Proctor, 2018). The renewed interest in qualitative research and its pertinence in psychological science is highlighted by the new journal of the American Psychological Association (APA), that is dedicated to this research methodology since 2013. Also, APA’s concern about the quality of can be expressed by the creation of the Working Group on Journal Article Reporting Standards for Qualitative Research (JARS-Qual Working Group) to organise and “to develop recommendations to the APA Publications and Communications Board” (Levitt et al., 2018, p. 27), because of the well-known APA Style “has not included reporting standards for qualitative research” (Levitt et al., 2018,

p. 26). So, the recent Publication Manual of the APA (2020), the official source for APA Style, besides the reporting standards for quantitative research section also has the qualitative and the mixed methods reporting standards sections.

So, research on the field of giftedness and gifted education, a branch of Educational Psychology, has somehow accompanied this evolution seeing that authors of empirical research still use primarily quantitative methods (Leech, Collins, Jiao, & Onwuegbuzie, 2011). However, a growing number of qualitative studies are found (Dai, Swanson, & Cheng, 2011) and exemplars of quality studies are discussed (Coleman, Guo, & Dabbs, 2007). In addition, training and updating research methods is crucial (Thompson & Subotnik, 2010). Definitely, research on giftedness is a concern and an important topic in the field. The contribution and the richness of different studies, including qualitative research, must be taken into account by researchers and practitioners.

Currently, the subject of research on giftedness and gifted education is relevant because it allows the development of future policies and practices (Plucker & Callahan, 2014), and the construction of collaboration networks between countries/regions, institutions, and researchers (Hernández-Torrano & Kuzhabekova, 2019).

The main goal of this paper is to present a bibliographical research, regarding research interests and typology of studies carried out in the field of high abilities and giftedness.

Method

A systematic literature review was conducted (De-la-Torre-Ugarte-Guanilo, Takahashi, & Bertolozzi, 2011; Galvão, Pansani, & Harrad, 2015). More specifically,

we analysed the articles published in 3 specialised journals, in the year 2018. The journals were all available online at the Portuguese university where the search was conducted. The procedure followed to collect and to analyse the data included three steps.

The first step was to decide the journal descriptors. The choice of journals was centered in the fact that there was an interest in the study of what was being published in the journals closer to our country and network. So, the criteria were to look for a Portuguese journal, a Spanish journal and a European journal. In this sense, a search was conducted in February 2019, on the most recent publications, in three journals: *Sobredotação [Giftedness]* (the journal published in Portugal by the National Association for the Study and Intervention in Giftedness); *Talincrea - Talento, Inteligencia y Creatividad [Talincrea - Talent, Intelligence and Creativity]* (the journal published in the University of Guadalajara, Mexico, in collaboration with the University of Oviedo, and the University of La Laguna, Spain); and *High Ability Studies* (the official Scholarly Journal of the European Council of High Abilities).

The second step was to define the period of time to select the articles, which was the year 2018. Thereafter, the number of articles published was quantified ($n=37$).

Finally, the third step focused on these 37 articles and another inclusion criterion was employed, that was the selection of empirical studies (or systematic reviews), as well as the exclusion criteria: theoretical articles and interviews. So, 31 articles were selected and 6 were excluded (5 theoretical articles from *Sobredotação [Giftedness]* and 1 interview from *Talincrea*).

A reading of the 31 titles and abstracts was performed to organise the information for two main categories (Themes, related to the main purpose of the studies, and Research

Results

methods, related to the typology of the studies), through content analysis (Bardin, 2008). A grid was built for this purpose following the topics: Journal, volume (number), author(s), title, theme(s), and research method(s). At the end of the analysis four categories were found for Themes: Intervention, Characterisation, Characterisation and Intervention, and Learning and Education; and three categories were found for Research methods: Quantitative studies, Qualitative studies and Mixed studies. In some cases, in the Themes and/or Research methods categories, a specific topic was identified in the subcategories, as can be seen in the results section.

The collected data showed the existence of different subjects studied, as well as different methodological processes adopted. In the Portuguese journal, *Sobredotação [Giftedness]*, nine empirical studies were found (see Table 1). The prevalent Theme was Intervention (5), with an emphasis on Evaluation of intervention practices. The Characterisation Theme was also found (4), focusing the Identification of students (2) and the Relation between variables (2). Concerning Research methods, the Quantitative methodology was predominant (7). The two Qualitative studies were about Intervention.

Table 1
Results for Themes and Research methods in the Sobredotação journal

N	Title (authors, year)	Theme	Research method
1	What can innovation Education learn from innovators with longstanding records of breakthrough innovations? (Shavinina, 2018)	Intervention (Innovation Education)	Qualitative (case studies)
2	Multiple intelligence scales to identify precocity (Ortega, Ferrándiz, Prieto, & Ferrando, 2018)	Characterisation (Identification)	Quantitative
3	Programme for precocious students: Identification, Evaluation, and Extracurricular and Family Enrichment (Chacon & Martins, 2018)	Intervention	Qualitative
4	Orientation tendencies to goals in high ability students (Del caño & Pomar, 2018)	Characterisation (Relation and differentiation)	Quantitative
5	Relationship between executive functions and high intellectual ability in school students (Rodríguez, Valadez, Verche, & Soltero, 2018)	Characterisation (Relation)	Quantitative (correlational and descriptive)
6	The educational response to high intellectual ability students: Functionality and effectiveness of a curriculum enrichment program (García, 2018a)	Intervention (Evaluation)	Quantitative (experimental)
7	Level of difficulty and reagents discrimination power in a mathematical performance test: Impact on mathematically high ability students (García, 2018b)	Characterisation (Identification)	Quantitative
8	Evolution of social interaction mechanisms based on social acceptance in high ability students (Tèllez, Rodríguez-Dorta, & Borges, 2018)	Intervention (Evaluation)	Quantitative
9	High abilities/giftedness training and its influence on teacher self-efficacy (Martins & Chacon, 2018)	Intervention (Evaluation)	Quantitative

The results related to the 8 empirical papers from the Spanish journal, *Talincrea [Talent, Intelligence and Creativity]*, are presented in Table 2. The Characterisation of students was the prevailing Theme (5), specially focusing on the Relation between

variables (3), whereas the Intervention Theme emerged in three studies. Those studies were mainly Qualitative (4), concerning Characterisation of students (3) and Intervention (1), followed by Quantitative studies (3) and Mixed studies (1).

Table 2
Results for Themes and Research methods in the Talincrea journal

N	Title (authors, year)	Theme	Research method
1	Resource rooms in Brazilian state education networks: Support for students with high abilities/giftedness (Mani, Rangni, & Costa, 20018)	Intervention	Qualitative (documental analysis)
2	Evaluation of the First Edition of the Mentoring Program Comparte with the University of La Laguna (ULL) (Borges, Rodríguez-Dorta, Aguirre, Dorta, Noda, 2018)	Intervention (Evaluation)	Mixed
3	Gifted student's creative process playing Conting 60 (Vestena, Stadler, Deliberalli, & Costa-Lobo, 2018)	Characterisation	Qualitative (multi-case)
4	A study on the relationship between empathy, age, multiple intelligences and gender differences in student's during High School (López-Fernández, Ramirez, & Navas, 2018)	Characterisation (relation)	Quantitative (quasi-experimental, correlational and descriptive)
5	The influence of social class in the identification and intervention of students with high abilities (Donate & Borges, 2018)	Characterisation (relation)	Qualitative (Systematic review)
6	Profile of personal and social adaptation in The Behavior Assessment System for Children (BASC, Reynolds and Kamphaus, 2004) of the participants of a program of socio-affective intervention for high abilities (Rodríguez-Naveiras, Rodríguez-Dorta, & Pérez, 2018)	Intervention (Evaluation)	Quantitative
7	Analysis of the relationship between Social Class and Creativity in adolescents (Herranz, 2018)	Characterisation (relation)	Quantitative
8	Gifted child in the family: early detection of giftedness (Borges, & Hernández-Jorge, 2018)	Characterisation (Identification)	Qualitative

Finally, results related to the 14 empirical articles published in the High Abilities Studies journal (Table 3) revealed Characterisation of students as the main Theme (8), followed by Characterisation and intervention (3 studies),

Intervention (2) and Learning and education (1). The preferred Research methodology option was for Quantitative studies (12) against one Mixed study and another Qualitative study (related to Characterisation).

Table 3

Results for Themes and Research methods in the High Abilities Studies journal

N	Title (authors, year)	Theme	Research method
1	Training effects on Belgian preschool and primary school teachers' attitudes towards the best practices for gifted children (Vreys, Ndungbogun, Kieboom & Venderickx, 2018)	Intervention	Quantitative
2	Enriched education promotes the attentional performance of intellectually gifted children (Tao & Shi, 2018)	Characterisation and intervention (differentiation)	Quantitative
3	Smart is who makes lots of errors? The relevance of adaptive reactions to errors and a positive error climate for academic achievement (Grassinger, Scheunflug, Zeinz & Dresel, 2018)	Characterisation and intervention (differentiation)	Quantitative
4	Can't pay, can't play? Talent lead's perspectives on the financial constraints experienced by athletes on the England Talent Pathway (Morley, McKenna, Gilbert, French, Till, Quarmby, & Turner, 2018)	Intervention	Mixed
5	Relative age effects and academic timing in Canadian interuniversity football (Chittle, Horton, & Dixon, 2018)	Characterisation	Quantitative
6	Substantiating a special cultural emphasis on learning and education in East Asia (Balestrini & Stoeger, 2018)	Learning and education	Quantitative (documental analysis)
7	The Big Five personality predictors of academic achievement in gifted students: Mediation by self-regulatory efficacy and academic motivation (Mammadov, Cross, & Ward, 2018)	Characterisation (relation)	Quantitative
8	The PASS to superior reading performance (Dunn, Georgiou, & Das, 2018)	Characterisation	Quantitative
9	How children's intellectual profiles relate to their cognitive, socio-emotional, and academic functioning (Gubbels, Segers, & Verhoeven, 2018)	Characterisation (relation and differentiation)	Quantitative
10	Attitudes about gifted education among Irish educators (Cross, Cross, & O'Reilly, 2018)	Characterisation and intervention	Quantitative
11	Two sides of the same coin: The experiences of high-achieving women in the Swedish workplace (Wolontis & Hoff, 2018)	Characterisation	Qualitative (grounded theory)
12	Exploring talent identification and recruitment at circus arts training and performance organizations (Bailey & MacMahon, 2018)	Characterisation (identification)	Quantitative
13	Determinants for table tennis performance in elite Scottish youth players using a multidimensional approach: A pilot study (Doherty, Martinent, Martindale & Faber, 2018)	Characterisation	Quantitative
14	Retrospective analysis of accumulated structured practice: A Bayesian multilevel analysis of elite Brazilian volleyball players (Mendes, Nascimento, Souza, C Collet, Milistetd, Cote, & Carvalho, 2018)	Characterisation	Quantitative

In addition, the results from these three journals were grouped by Themes and Research methods categories and were quantified (Table 4). Consequently, it is possible to take a broader view of research interests and research types. The emerging Themes categories were four: Characterisation (17); Intervention (10); Characterisation and Intervention (3); and Learning and Education (1). The Research methods (type of research) options were three: Quantitative studies (21); Qualitative studies (8); and Mixed studies (2).

Table 4
Results for Themes and Research methods in the 3 journals

Category	Subcategory	n
Themes	Characterisation	17
	Intervention	10
	Characterisation and Intervention	3
	Learning and Education	1
Research methods	Quantitative studies	21
	Qualitative studies	8
	Mixed studies	2

Discussion

The three specialised journals published diverse kind of articles. When putting together the 3 journals, the most frequent Theme was Characterisation and the most frequent research method was Quantitative. Concretely, in the *Sobredotação [Giftedness]* journal there was an emphasis on the subject of Intervention and Quantitative studies; in the *Talincrea [Talent, Intelligence and Creativity]* journal more articles related to Characterisation and Qualitative studies were found; and in the *High Ability*

Studies journal there was an emphasis on Characterisation and Quantitative studies.

The data showed that Themes are somehow diverse (the conceptual framework and the studied variables). A more detailed analysis revealed that Characterisation could be related to high abilities identification, relation of variables and differentiation of variables. It is interesting to notice that the *High Abilities Studies* journal published the majority of those studies. Probably, this interest indicates that high abilities and giftedness is an evolving subject, not yet clarified (Friedman-Nimz et al., 2005) that must continue to be studied (Plucker & Callahan, 2014).

The concern with Intervention was also present in the articles, namely in the *Sobredotação [Giftedness]* journal. Maybe that happened because it is published by the National Association for the Study and Intervention in Giftedness, in Portugal, and intervention can be a main topic of interest. In fact, evidence-based intervention is a demanding and a growing requirement in gifted education (Robinson, Shore, & Enersen, 2007). Research, practices and policies should be related and compared (Jolly & Kettler, 2008). On intervention with gifted and talented students it is important not to forget the attention that must be given to personalised learning, responding with flexibly and respect to the diversity of gifted and talented students (Tourón & Freeman, 2017).

Moreover, the data showed that despite the development of some qualitative studies there was a predominance of quantitative studies. Clearly, there was a preference for quantitative research. Qualitative methods were used to study the effects of Intervention and factors related to the Characterisation of students. So, there was no expressive

differences in the subject of qualitative and quantitative studies, despite the fact that only for quantitative studies was registered the specific topic of Characterisation and intervention, including both subjects. In recent international studies similar results were found in the general field of Psychology (e.g., Rubin et al., 2018; Wiggins et al., 2015), as well as in the field of gifted education (e.g., Leech et al., 2011). In gifted education, as in the broad area of Psychology, the development of qualitative inquiry has been a “hard walk” for qualitative researchers, when compared to the strong implementation and the wide spread of quantitative research. The growing appreciation of qualitative research in Psychology (e.g., APA, 2020; Brinkmann, 2017; Levitt et al., 2018) is likewise reflected in specific psychological domains such as in the gifted education field.

Despite the referred highlights of this study, some limitations can be outlined. For instance, only the studies of 3 specialised

journals were considered, during one year, which represent a fraction of all the studies produced in the domain. Also, only one researcher did the content analysis and data were analysed considering two main categories. In future studies these limitations should be overcome performing a deeper data analysis, in an extended number of articles and including more than one coder to compare the analysis carried out.

Nevertheless, these preliminary results revealed that knowledge about high abilities students is not outdated and future research may have a greater focus on the complementarity of qualitative research. Mixed studies could be a concrete possibility. In fact, qualitative research can contribute to social changes for minority groups (Denzin, 2017). In this case, qualitative inquiry could contribute to a broader and deeper knowledge of giftedness and gifted education, what can contribute to the educational response to diversity and inclusion.

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