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Narrative writing proficiency in children with and without Attention Deficit/Hyperactivity Disorder

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STATEMENT OF INTEGRITY

I hereby declare having conducted this academic work with integrity. I confirm that I have not used plagiarism or any form of undue use of information or falsification of results along the process leading to its elaboration.

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Proficiência na escrita de narrativas em crianças com e sem Perturbação de Défice de Atenção e Hiperatividade

Resumo

A escrita é uma tarefa de extrema importância, e a sua produção em grupos de crianças com desenvolvimento atípico merece ser estudado, uma vez que as crianças com PDAH têm geralmente piores resultados em tarefas de escrita narrativa do que os seus pares sem PDAH. Os principais objetivos deste estudo são analisar as diferenças na construção de narrativas entre uma tarefa com uma sequência de imagens e uma tarefa com uma instrução escrita, e verificar se o vocabulário, a memória de trabalho e a atenção são preditores da proficiência na escrita. Portanto, dois grupos de crianças, um com alunos de desenvolvimento típico (n=63) e outro constituído por crianças com PDAH (n=5), foram submetidos a testes padronizados para o QI, o vocabulário, a memória de trabalho e a atenção. Depois disso, foram submetidas a duas tarefas de escrita de narrativas. Os resultados mostram que uma tarefa narrativa com um estímulo visual aumenta a produtividade na escrita em ambos os grupos, sendo que o grupo com desenvolvimento típico apresentou pontuações mais elevadas em ambas as tarefas narrativas. O vocabulário, a memória de trabalho e a atenção não se revelaram preditores da proficiência na escrita.

Palavras-chave: PDAH, narrativas, estímulo visual, proficiência na escrita

Narrative writing proficiency in children with and without Attention Deficit/Hyperactivity Disorder

Abstract

Writing is a tremendously important task, and its development in atypical developing groups is worth studying, given that children with Attention Deficit/Hyperactivity Disorder generally do worse in narrative writing tasks than their typically developing peers. The main objective of this study is to analyze the differences in the construction of a narrative between a task with a visual stimulus (six images) and a task with a written instruction, as well as ascertain whether vocabulary, working memory and attention are predictors of writing proficiency in children with and without ADHD. To achieve this, one group of typically developing children (n=63) and one group of children with ADHD (n=5) were assessed with standardized tests for working memory, attention, vocabulary, and IQ. After that, they completed two narrative writing tasks. Results show that a narrative task with a visual stimulus increases the productivity in writing in both groups, although the typically developing group showed higher scores in both narrative tasks. Vocabulary, working memory and attention were not significant predictors of writing proficiency.

Keywords: ADHD, narratives, visual stimulus, writing proficiency

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Introduction

Writing involves several cognitive processes, such as working memory (Al-Saad et al., 2021), attention (Oberauer, 2019) and vocabulary (Kim, 2020). Writing processes struggle for limited cognitive resources, being compared to managing phone calls on a switchboard (Flower & Hayes, 1980). The use of images to elicit textual production shows that it has a significant impact on the texts produced. Children with ADHD typically do worse on achievement assessments than their typically developing classmates (Frazier et al., 2007). Our aim is to investigate if children with ADHD have lower scores in narrative production than children with typical development, and whether the format of the tasks, written instructions vs using a set of pictures has a differential effect in both groups. Moreover, we want to analyse whether working memory, attention and vocabulary are good predictors of writing proficiency.

Working memory plays a fundamental role in cognition and allows information to be stored. This executive function is defined by its flexibility, as people can store some information, at least temporarily, for a continuous cognitive task (Al-Saad et al., 2021). In 1996, Hayes argued that several types of working memory (such as phonological memory and visuospatial memory) are used in the cognitive processes of writing.

Berninger (1996) studied individual differences in working memory and writing, and investigated whether this executive function may predict writing. The sample consisted of 100 fourth graders, 100 fifth graders and 100 sixth graders, tested in several measure of working memory, such as visuospatial working memory and phonological working memory. To test writing ability, the children were asked to write about topics that were pre-selected, like whether the individual had a good or bad day, or what they like to do. The results showed a clear relationship between working memory and writing skill, with working memory being clearly identified as a good writing predictor.

Recently, De Vita et al. (2021) studied the relationship between working memory and writing processes. The purpose of these authors, in this study, was to measure the more active components of working memory and to investigate the relationship between different writing skills and performance on the working memory refresh task. From a sample of 160 Italian students (3rd-5th grade), 46 children were selected according to their score on a working memory update task, being divided into two groups. This task was comprised of an updating working memory test from the *Comprensione Orale*, *Test e Trattamento* (CO-TT, Carretti et

al., 2013) and the *Batteria per la Valutazione della Scrittura e della Competenza Ortografica –
2* (BVSCO – 2, Tressoldi et al., 2013). The first group consisted of 21 children with low scores
on the task mentioned (≤ 10th percentile), and the second group was comprised of 25 children
with high scores (90th percentile or higher). All selected children were tested in writing tasks
to evaluate their writing speed, spelling ability and expressive writing skills. Their results
showed that for the majority of the tasks, children with higher working memory scores
performed significantly better than children with low working memory scores. The results
from this study highlight the pertinent role of working memory's active components on
writing. These results clearly accentuate working memory as a strong writing predictor.

Attention is another process involved in writing. Writing is a process that involves keeping
information in the working memory, while the individual is planning the structure and content
of their ideas. All of these activities place heavy demands on central executive functioning,
namely on attentional resources. Garcia et al. (2009) concluded that, both writing processes
and writing performance are likely to be impacted by student's attention. According to some
authors (e.g., Reid, et al., 2005; Torrance et al., 2007), when these attentional difficulties are
analysed in relation with the writing composition, the writing patterns show short narratives.
Oberauer (2019) claimed that there are two important distinctions to be made regarding
attention: its definition and the object someone is paying attention to. There are many ways
to define attention because, as Oberauer (2019) stated, attention can be used as a resource,
meaning that the cognitive system has scanty resources that can be utilized to perform
sensitive attentional processes, that can be arbitrarily divided according to the needs of the
task and allocated to different processes. Moreover, retrieval of long-term memory
information in working memory is controlled to allow information relevant to the ongoing
goal, and discard information no longer necessary, much like what happens during the writing
process.

Vocabulary plays a crucial role in writing. Reading comprehension and writing composition
rely heavily on the breadth and depth of one's vocabulary (Cadime, 2021). Vocabulary can be
conceptualized as our personal internal dictionary, or a list of all the words we know (Cadime,
2021). The variety of terms used in a text is referred to as vocabulary diversity, which is
probably the most frequent vocabulary component examined in earlier writing studies
(Olinghouse & Wilson, 2013). The personal internal dictionary, or the lexical memory, is a
concept stemming from the lexical quality hypothesis by Perfetti (2007). When examining

lexical quality, Perfetti (2007) considered two factors: the quality of the components of word identity (phonological, orthographic, and semantic) and the coherence between these components. The fluctuation found in children's writing in the same text, for the same word, according to Perfetti (2007), shows a still-developing lexical representation, and when phoneme constituents and letters become stable in memory, one may spell words consistently and precisely. The presence of more complex terms in a writing sample indicates better lexical knowledge and, thus, better quality of the text (Crossley, 2020).

Already in 1981, Grobe in a sample of fifth, eighth, and eleventh grade students found that vocabulary breadth was a major predictor of narrative writing quality. Furthermore, it was reported that vocabulary was a strong predictor of narrative quality in the sample of students in the eleventh grade and a substantial predictor of narrative quality in the sample of students in the fifth grade. Similarly, Olinghouse and Wilson (2013) studied the use of vocabulary, in a sample of fifth graders, in three different genres of writing: informational, persuasive, and narrative. Each essay focused the same subject (space) in order to account for prior knowledge. The following criteria were used to score written compositions, in accordance with the vocabulary used: diversity, maturity, elaboration, academic terms, content words, and register. Results showed that pupils use different vocabularies according to genre. When compared to informative material, narrative text was more diverse and mature than persuasive text. Furthermore, the results of commonality and multiple regression analyses showed that vocabulary is associated with writing quality, especially in narrative texts.

Word and sentence dictations were frequently used to test writing skills in elementary school students. However, during the last two decades, studies on language acquisition have been centred on the narratives (Batoréo, 2000). A narrative can be defined by its structure, which involves characters, a beginning, middle and ending, and an organized sequence of events. Furthermore, the writing of a narrative requires knowledge and the necessary abilities to construct a story (Reis, 2008). The content of the story to be told, whether it be the retelling of an existing story or the creation of a new one, has a big influence on the structure of the narrative. Memory and attention are put to the test by the high-level, strategic skills required when writing (Deane et al., 2008).

Lins e Silva and Spinillo (2000) studied the impact of production conditions on performance, in a sample of students form the first to the fourth grade. Four distinct scenarios were proposed to elicit the writing of narrative texts, namely free production, oral/written

production, reproduction of a story previously heard and writing a story based on a set of images. The results suggested that writing is influenced by the production context of the narratives. Stories with a more advanced language structure and organization were generated in the condition where students had visual and linguistic support (reproduction of a story previously heard and writing a story based on a set of images.

Sousa and Silva (2003) also studied the writing of narratives in students of the 2nd, 3rd and 4th grade. They were asked to listen to a story by Alice Vieira, by the name of "The Green Bird[1]" and then recount it in writing. In this study, it was evident that the construction of narratives is a long and complex process, because of the necessary linguistic, textual, and conceptual developments. Nevertheless, children with ADHD seem to have difficulty writing narrative texts, as is concluded by Ko (2017). In the study, 16 students with ADHD and 16 typically developing students in the 3rd and 4th grade were asked to hear both short and lengthy stories, and then rewrite those stories. This study concluded that, in the condition of longer stories, but not in the short story condition, children with ADHD wrote less in terms of quantity than children with typical development.

Children with ADHD have learning problems, one of which is related to writing. Two theoretical frameworks were proposed to explain writing disabilities in children with ADHD. In the first one, attention problems are the main mechanism underlying the association between ADHD and underperformance in areas such as writing (Mayes & Calhoun, 2006). The second one suggested that deficits in the executive function abilities (such as attention and working memory) in children with this condition may be underlying the writing deficits (Eckrich et al., 2019).

Kasper et al. (2012) made a meta-analysis in which they reviewed papers that addressed the issue of the influence of working memory deficits in children with ADHD by evaluating a wide variety of moderating variables of effect size variation across phonological and visuospatial working memory tasks. According to these results, children with ADHD have working memory deficiencies that are statistically significant and considerable compared to their typically developing peers.

In a meta-analysis by Graham et al. (2016), it was highlighted the characteristics of writing of students with ADHD, by comparing the writing abilities of pupils with ADHD in grades one

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[1] Vieira, A. (1994). *The Green Bird*. Editorial Caminho

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through 12 with their classmates with a typical development. The final sample was composed by 44 articles. The average weighted effect sizes revealed that students with ADHD performed worse on vocabulary tasks (-0.76), writing quality (–0.78), and spelling (–0.80) than their typically developing counterparts. Furthermore, because of their difficulties with inhibition, they also have more difficulties in sustaining attention and effort when writing, since they were more prone to distractions and interruptions (Graham et al., 2016).

In summary, the type of narrative (with a visual stimulus and with no visual stimulus) and the kind of writing predictors (working memory, attention, and vocabulary) are some of the factors that can affect students' performance when writing narratives. In addition, the literature is scarce about the differences between the two types of narrative writing tasks. With regard to types of narratives, the vast majority of research does not take into account the possible advantage of a visual stimulus (e.g., Ko, 2017; Sousa and Silva, 2003) Thus, the objectives of this study are: (1) to analyse the differences in the construction of a narrative between a task with a visual stimulus (six images) and a task with a written instruction (no visual stimulus); (2) to understand whether vocabulary, working memory and attention are predictors of writing proficiency. It is hypothesized: (1) the typical development group will show better results in both narrative tasks; (2) the narrative test with a visual stimulus will wield better results than the narrative task with no visual stimulus; (3) higher scores in the tests for vocabulary, working memory and attention predict better writing proficiency in both groups.

Method

Participants
The present study used a sample of 68 children, from which 57.7% were male, and 42.3% were female. These children were enrolled in the third grade of primary school in the North of Portugal, namely Guimarães and Braga. The participants were divided into two groups: a typically developing group and a group with ADHD. The first group was composed of 63 children, of which 50% were male. The following inclusion criteria were used for this first group: not at risk for learning disabilities and inexistence of neurodevelopment disorders. The second group was composed of five children with ADHD, all male. The following inclusion criteria were adopted for this group: a formal ADHD diagnosis by a doctor

(neurologist/psychiatrist) and taking medication at the time of the study. In both groups, all children attended the third grade of primary school in September of 2022, all spoke European Portuguese, and all had normal values in the Raven's Coloured Progressive Matrices (CPM; Raven et al., 1938; Ferreira, 2009).

Measures

Social-demographic questionnaire This questionnaire is composed of questions related with the age, gender and characteristics of the participants (typical development vs ADHD).

Raven's Coloured Progressive Matrices (CPM; Raven et al., 1938; Ferreira, 2009)

This instrument was devised for the evaluation of children and adolescents between the ages five to 15 years old, and it measures deductions of relations of subjects, which is considered one of the main components of intelligence and abstract reasoning. It's composed by 36 items, divided into three series of 12, identified as: A, AB, and B. This test is comprised of visually displayed, geometric analogy-like tasks in which the proper entry for a matrix of geometric figures that has one item missing must be chosen from a list of possible answers. The student is presented several patterns that are incomplete. The simple-shaped bits that were removed have been positioned underneath the matrix with other pieces of a similar shape (although the figures on those pieces do not compete the pattern) The application can be individual or collective. This test was adapted to the Portuguese population by Simões (2000), with reliability ranging from .65 to .88.

Subscale of Memory of Stories in the Coimbra Neuropsychological Assessment Battery (BANC; Simões et al., 2008)

The battery was developed for the evaluation of children and teenagers, between five to 15 years old. Memory, language, attention, executive functions, laterality, orientation, and motor function are subtests included in the BANC. One or more tests are used to assess each of these aspects of neuropsychological functioning. In this study, only the subtest Memory of Stories was administered. It measures working memory. Subjects are required to listen to a narrative and retell it immediately. After 20 to 30 minutes they are asked to retell once more. Finally, the students must answer questions about the narrative. This will evaluate immediate recall, delayed recall, and delayed recognition, respectively. The application is individual. The BANC is also validated for children with ADHD. The validity was ascertained by a Confirmatory Factor Analysis, as well as relationships with other cognitive tests (e.g., WISC-III, Raven Coloured

Progressive Test). The validity was also established for special groups, such as children with ADHD.

d2 – Attention test (Brickenkamp, 1962; Ferreira & Rocha, 2007)

This is the most used test in Europe to evaluate selective attention and the capability to concentrate on tasks. It can be administered either individually or collectively. Moreover, this test can be used to evaluate children (starting at eight years old), teenagers and adults. Subjects are asked to signalize a specific symbol on the test sheet (a "d" shaped image with two lines), in a span of time of 280 seconds. This test was adapted to the Portuguese population by Ferreira and Rocha (2007) with Cronbach's alphas bigger than .90 and the correlation between d2 parameters and the WISC-III Processing Speed Index was analyzed, with the results indicating an excellent convergent validity of d2.

Subscale of Vocabulary in the Wechsler Intelligence Scale for Children – Third Edition (WISC-III; Wechsler, 1991; Simões et al., 2003)

This test measures general intelligence and was design for children and adolescents (age range: 6 to 16 years old).

Its application is individual. Includes 13 subtests, organized in two major groups, verbal (Information, Similarities, Vocabulary, Arithmetic, Comprehension, Digit Span) and performance (Picture Completion, Coding, Picture Arrangement, Block Design, Object Assembly, Symbol Search, Mazes). All tests are administered individually. In this study only the Vocabulary subtest was used. Children are requested to explain orally the meaning of a set of words presented by the evaluator. This instrument was validated for the Portuguese population by Simões et al. (2003), with Cronbach's Alphas ranging between .62 and .93 for the subscales, scales, and indexes.

Batoréo's (Batoréo, 2000)

In this task students are required to observe a set of six images. In the center of each image there is a tree with a nest. In the first there's a bird on top of the nest; in the second the bird flew away and a cat appears; in the third the cat spots the nest; in the fourth the cat tries to climb the tree and a dog appears; in the fifth, the dog bites the cat's tail, and the same bird reappears; in the six the bird returns to the nest and the dog chases the cat. After observing the images, the students must write a narrative text in which they must describe the actions that are succeeding in the sequence. The task does not have a time limit, and its application is collective.

Text production (Viana & Ribeiro, 2021)

The second task consisted of a written instruction, "Mateus wanted to cross a creek, near his house, but didn't have a bridge to do so. Find a way for him to get to the other side", with no type of visual stimulus. The participants must write a narrative that provides an answer to this problem. Like the previous task, this writing task does not have a time limit, and is also performed collectively.

Procedure

The recruitment of the children was executed through contact with educational psychologists in northern Portugal. The project was approved by the department of Monitoring of Surveys in the School Setting (MIME) (n.º 0461200033) of the Portuguese Ministry of Education, the Ethics Committee of the University of Minho (CEICSH 119/2022) and the school boards. The informed consents were required from parents. Some instruments were administered to children collectively (CPM, d2, Batoréo's six images and text production instructions) and others were administered individually (Memory of Stories and Subscale of Vocabulary). Data collection began in December of 2022, and finished in March of 2023.

Statistical analysis

For the statistical analysis in this study, the *Software SPSS – Statistical Package for the Social Sciences*, version 27.0 was used.

To test the first and second hypothesis, a mixed ANOVA was performed, being that the reference values for the effect size are: small, > .01; medium, > .06; large, >.14 (Cohen, 1992). Finally, for the analysis of the third hypothesis, correlations between the aforementioned variables and the writing task were made, with the following reference sizes: small, .10-.30; moderate, .30-.50; large, >.50, followed by two linear regressions were made, one for the typically developing group and the other for the ADHD group. The dependent variable was the total number of written words in both writing tasks, and the independent variables were vocabulary, working memory and attention.

Results

To ascertain whether the typical development group had better results in both narrative tasks, and whether the narrative test with a visual stimulus yielded better scores, a mixed ANOVA, with a 2x2 design, comparing both narrative tasks, the type of development and the interaction between both was performed. Table 1 presents the results of the mixed ANOVA. A statistically significant and large effect for the type of task was found, with higher scores being obtained in the narrative task with a visual stimulus than in the narrative task with no visual stimulus.

Table 1

Descriptive Statistics and Results of Analysis of Variance for the Comparison of Both Narrative Task by Type of Development (Group)

|	TD	ADHD	Group			Task			Group×Task		
	M (SD)	M (SD)	F(df)	p	$_p\eta^2$	F(df)	p	$_p\eta^2$	F(df)	p	$_p\eta^2$
Narrative with images	60.02 (23.59)	47.00 (13.04)	3.19(1.00)	.079	.046	10.67(1.00)	.002	.139	.17(1.00)	.683	.003
Narrative without images	42.46 (23.45)	24.40 (6.07)									

Note: M, Mean; SD, Standard Deviation; TD: Typically Developing; ADHD: Attention Deficit/Hyperactivity Disorder

[1] Effect size: Small, > .01; Medium, > .06; Large, >.14 (Cohen, 1992)

Moreover, as is shown on Table 1, the group effect was marginally significant, with a small effect size (pη2 = .046) is small, which indicates there is a significant difference between groups, with the ADHD children showing lower scores in the witing tasks compared to the typically developing children. The interaction effect was not significant (Table 1), indicating that the differences between both tasks occur equally in both groups (Figure 1).

Figure 1

Performance of each group in each writing task
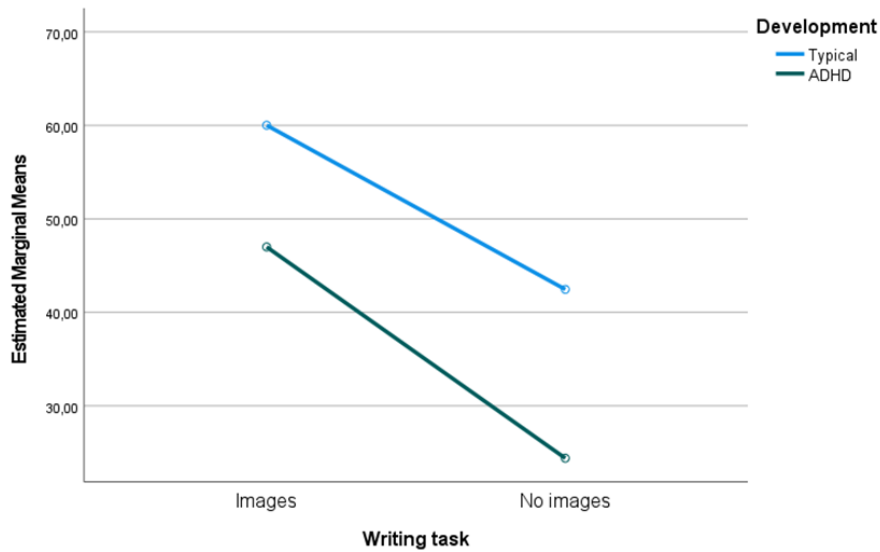
Note: TD: Typically Developing; ADHD: Attention Deficit/Hyperactivity Disorder

[2] Effect size: Small, .10-.30; Moderate, .30-.50; Large, >.50

Correlations among vocabulary, working memory, attention and the total number of written words in both tasks were calculated. There were no significant correlations between the narrative tasks and the variables working memory, attention and vocabulary. The correlation between both narrative tasks was statistically significant and moderate. The linear regressions were not performed, as the correlations showed no statistically significant differences (Table 2).

Table 2

Correlations Between Both Narrative Tasks and the Writing Variables

Variables	*M* (*SD*)	D2 (TA)	D2 (TC)	Voc.	MS (IE)	MS (DE)	MS (DR)	Nar. Images	Nar. No Images
D2 (TA)	85.63 (22.16)		.451**	.306*	.158	.177	.295*	-.048	.056
D2 (TC)	225.09 (54.30)			-.020	.016	.064	-.027	.140	.100
Voc.	12.79 (4.57)				.491**	.518**	.589**	-.043	.237
MS (IE)	25.28 (12.65)					.926*	.759**	-.003	.014
MS (DE)	21.29 (12.43)						.709**	.023	.030
MS (DR)	23.07 (3.81)							.079	.100
Nar. Images	59.06 (23.17)								.354**
Nar. No Images	41.13 (23.10)								

Note: Voc: Vocabulary; MS (IR): Memory of Stories (Immediate Evocation); MS (DE): Memory of Stories (Differed Evocation); MS (DR): Memory of Stories (Differed Recognition); Nar. Images: Narrative With Images; Nar. No Images: Narrative With No Images

* p < .05.

** p < .001.

Discussion and limitations

The main aim of this study was to analyze the differences in the construction of a narrative between a task with a visual stimulus (a sequence of six images) and a task without a visual stimulus, as well as determine whether vocabulary, working memory and attention are predictors of writing proficiency in children with and without ADHD, and it was postulated that: (1) the typical development group will show better results in both narrative tasks; (2) the narrative test with a visual stimulus will wield better results than the narrative task with no visual stimulus; (3) higher scores in the tests for vocabulary, working memory and attention predict better writing proficiency in both groups.

The results of this research provide supporting evidence regarding the first two aforementioned hypothesis, because the scores show that children with a typical development showed better narrative text productions than children with ADHD, as supported by the literature, that concludes that in comparison to their counterparts, students with ADHD experience more substantial challenges when performing writing tasks, as well as a larger number of spelling errors (Cheng et al., 2022; Re et al., 2007).

These results represent the first direct comparison of two writing tasks with and without a visual stimulus in children with ADHD. The results support the second hypothesis, as differences were discovered in the production of narratives depending on the kind of stimulus presented, being that both typically developed children and children with ADHD show better text production when narratives present a visual stimulus, such as a sequence of images, as shown by the number of words written per task. It doesn't appear to exist studies comparing various modalities of narratives in children with ADHD, despite the narrative being a fundamental type of writing task, with specific characteristics such as time and sequence (Cobley, 2013; Lins e Silva & Spinillo, 2000).

Whereas past researchers have found working memory, attention and vocabulary as good writing predictors, the present study has shown the opposite. The results don't suggest that these three variables are good writing predictors, as there were no significant correlations found in both groups. This finding is not in accordance with previous works (Berninger, 1996; Oberauer, 2019; Olinghouse & Wilson, 2013) that depict these three variables as fundamentally important for the proficiency of writing; the process of learning to write calls for the development of numerous abilities, each of which is likely to require a different

amount of working memory resources (Ferrara & Cornoldi, 2019), as well as attention (Oberauer, 2019) and vocabulary (McCutchen et al., 2014). Additionally, according to DeBono et al. (2011), the findings of written expression ability are more consistently correlated with cognitive processes, such as working memory and attention, rather than behavioral assessments of ADHD. Nevertheless, these results need to be considered with caution, as the sample number is too small to conclusively discard this hypothesis. The sample size is the main limitation of this study. Previous studies used a larger sample size for the ADHD group. Due to time constraints in this study, it was only possible to search students with ADHD in schools in the north of Portugal. Future studies may need more time to find these students, as well as broadening the places for participants' recruiting, such as hospitals.

The second limitation would be the type of the stimulus used in the narrative tasks. For a better control of the difficulty of the task, and to manage the productivity in writing, the narrative with no images should consist of a written instruction describing the same situation of the sequence of images in the other narrative task.

These results point to an increasing necessity to assess the paradigm present when writing is considered, given that better results in productivity when writing narratives come from the aid of a visual stimulus. The data shows, however, an unexpected result: vocabulary, working memory, and attention were not shown to have a predictive value when it comes to writing. Nevertheless, this result should be considered with wariness, as the sample size was too small and narrative tasks may need better control.

Despite these limitations, this research can be seen as a first step towards integrating two lines of research (the writing of narratives in children with ADHD) that, to our knowledge, have not been directly linked.

Future studies should encompass a bigger sample size of children with ADHD, as well as designing more controlled narrative tasks, with different modality tasks but identical content, i.e., the same story represented in different ways.

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Appendix

Universidade do Minho

Conselho de Ética

Comissão de Ética para a Investigação em Ciências Sociais e Humanas

<u>Identificação do documento</u>: CEICSH 119/2022

<u>Relatores</u>: Emanuel Pedro Viana Barbas Albuquerque e Marlene Alexandra Veloso Matos

<u>Título do projeto</u>: *Writing proficiency of narratives in children with typical development and children with Attention Deficit/Hyperactivity Disorder (ADHD)*

<u>Equipa de Investigação</u>: Núria Micaela Perpétua da Costa (IR), Mestrado em Psicologia da Educação, Escola de Psicologia, Universidade do Minho; Doutora Maria Iolanda Ferreira Silva Ribeiro (orientadora), Escola de Psicologia, Universidade do Minho; Doutora Irene Maria Dias Cadime (Orientadora), Centro de Investigação em Psicologia, Escola de Psicologia, Universidade do Minho

PARECER

A Comissão de Ética para a Investigação em Ciências Sociais e Humanas (CEICSH) analisou o processo relativo ao projeto de investigação acima identificado, intitulado *Writing proficiency of narratives in children with typical development and children with Attention Deficit/Hyperactivity Disorder (ADHD)*.

Os documentos apresentados revelam que o projeto obedece aos requisitos exigidos para as boas práticas na investigação com humanos, em conformidade com as normas nacionais e internacionais que regulam a investigação em Ciências Sociais e Humanas.

Face ao exposto, a Comissão de Ética para a Investigação em Ciências Sociais e Humanas (CEICSH) nada tem a opor à realização do projeto nos termos apresentados no Formulário de Identificação e Caracterização do Projeto, que se anexa, emitindo o seu parecer favorável, que foi aprovado por unanimidade pelos seus membros.

Braga, 12 de dezembro de 2022.

O Presidente da CEICSH

(Acílio Estanqueiro Rocha)