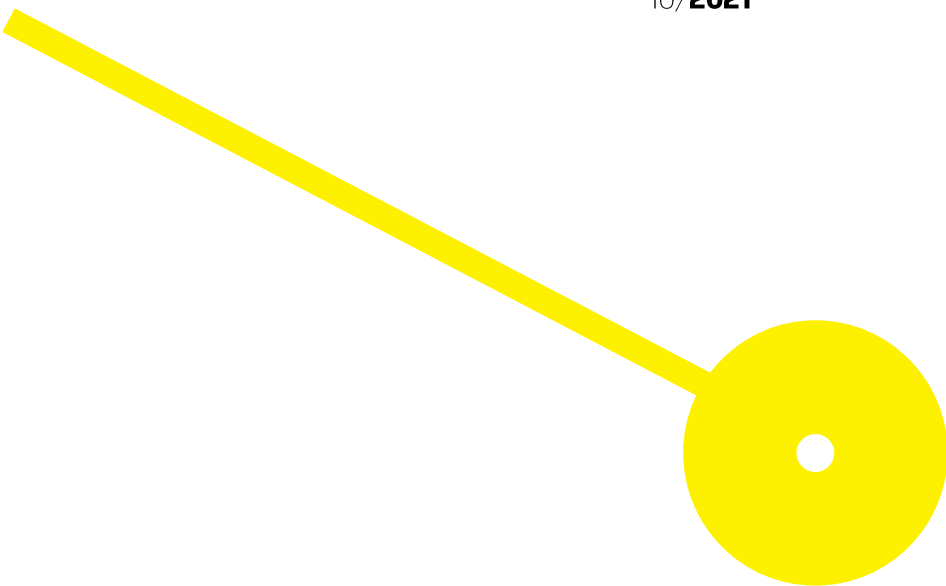




# Stigma associated with Attention Deficit Hyperactivity Disorder (ADHD) in the young Portuguese population

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Portuguese population**

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## **Abstract**

**Background:** ADHD is a common neurodevelopmental disorder associated with significant functional impairments. Young people with ADHD often suffer from stigma, which can exacerbate their symptoms, discourage them from seeking help, and increase functional deficits. Understanding the factors that lead to stigma is necessary to promote a change in public awareness and to combat stigma and its consequences.

**Aim:** Describe the prevalence of ADHD stigma in the young Portuguese population aged 11–17 years and understand the factors that lead young people to stigmatise people with ADHD.

**Methods:** The sample was recruited through a non-probabilistic method, due to the easy access to individuals aged between 11 and 17 years, in several schools and youth organisations from Porto Metropolitan Area. In order to select participants for the interviews, a non-probabilistic purposive maximum variation method was used. The ADHD Stigma Questionnaire (ASQ) allowed assessing the participants' levels of stigma, and a semi-structured interview was utilised to generate qualitative data.

**Results:** The quantitative sample was made up of 102 individuals. According to the variables under study, no statistically significant differences were found in the ASQ score, although some trends were observed. The interviews with 17 individuals allowed the identification of some promoters of stigma: ADHD symptoms, psychological and pharmacological treatment, “being different”, and public knowledge.

**Conclusion:** Several factors that lead young people to stigmatise were found, although further studies are needed. The present study is a positive contribution to the understanding of stigma against ADHD and, consequently, to the development of prevention and intervention programmes on ADHD stigma.

**Keywords:** Attention Deficit Hyperactivity Disorder (ADHD); stigma; young people; mental health.

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## 1. Introduction

Attention Deficit Hyperactivity Disorder (ADHD) is a common and multifactorial neurodevelopmental disorder, characterised by severe and pervasive patterns of inattention, hyperactivity, and impulsivity in more than one setting<sup>(1-5)</sup>. With a lifetime prevalence of 10,1%, ADHD affects approximately 3-7% of children and adolescents worldwide and is frequently diagnosed in childhood<sup>(1,3,6-8)</sup>. There are few studies on the prevalence of this disorder in Portugal, but those that exist do point to values similar to those obtained worldwide for children and adolescents<sup>(9,10)</sup>.

ADHD is associated with significant functional impairment in academic performance and social adaptive and behavioural functioning<sup>(1-4,8,11,12)</sup>. Children with ADHD tend to have problems in relationships with peers and family members, unsatisfactory school performance, and difficulty regulating behaviour. Later, as teenagers, they have more difficulty transitioning from primary to secondary education, a reduced social support group, and a greater tendency to oppose aggressive behaviours<sup>(13-15)</sup>. ADHD is also frequently accompanied by other disorders, including disruptive mood and anxiety disorder, increasing functional impairment and the negative impact on youths' lives<sup>(1,2,4,15)</sup>. Considering the negative effect of ADHD in multiple domains and its prevalence globally and in Portugal, this disorder represents a significant challenge for public health, namely in reducing the stigma associated with diagnosis<sup>(7,12,16)</sup>.

Stigma was first defined by Goffman<sup>(17)</sup> as a profoundly discrediting attribute directed towards those of considered lower social standing. Operating through social processes of comparison, identification, and evaluation, the stigma classifies individuals as deviant, defective, and undesirable by their physical, behavioural, and/or biographical characteristics<sup>(2,17,18)</sup>, being conceptualised on different levels<sup>(2,18-20)</sup>.

Public stigma is often manifested in the forms of stereotypes, discrimination, and prejudice<sup>(2,18,19)</sup>. Stereotypes include cognitive labels and negative beliefs about one person or social group members, while prejudice involves negative attitudes that influence behaviour towards the stigmatised person or group. On the other hand, discrimination involves the differential treatment of one group or individual in relation to another, which in childhood and adolescence is visible as peer exclusion<sup>(21-23)</sup>. Self-stigma occurs when the stigmatised individual internalises others' beliefs about him or herself<sup>(2,5,18,19,23)</sup>. Several studies have shown that self-stigma has detrimental consequences for the psychological well-being, self-esteem, and emotional regulation of stigmatised individuals<sup>(5,19,23)</sup>. Lastly, courtesy stigma represents the stigma that people related to individuals stigmatised may suffer<sup>(18-20,24)</sup>.

People with experience of mental illness, such as ADHD, often suffer stigma, but there is considerable evidence that not all these disorders are stigmatised in the same way<sup>(20,22,25)</sup>. The literature shows that ADHD is more stigmatised than other disorders, such as depression<sup>(2,22,24,26)</sup>. This stigma also occurs in young people, where the behaviour displayed is often attributed to educational problems<sup>(2,5,27-29)</sup>, despite the scientific knowledge about the neuroanatomical causes of ADHD<sup>(7,11,12,30)</sup>. Negative attitudes

and perceptions towards people with ADHD can begin in primary school and last until adulthood<sup>(21,22,31,32)</sup>, which shows that stigma is not age-related<sup>(2,25)</sup>. Therefore, the disruptive behaviours of children and adolescents with ADHD are primary potential sources of discrimination, isolation, and social rejection, leading to harmful and punitive handling, including in the school context<sup>(21,29,33)</sup>. Children with ADHD are considered by typically developing peers as highly disrupting the school environment and are excluded from social groups and games<sup>(6,22,24,32,34)</sup>.

The literature indicates that adolescents are more stigmatised than children, which can be explained by the adolescents' preference for social order within the peer group. Moreover, to establish personal identity and obtain protagonism, there is a tendency to advocate exclusion over those who interfere with the normal functioning of the group<sup>(6,22,23,28)</sup>. During this developmental stage, stigma has a significant impact on determining the adult identity of the individual targeted by stigma. Some individuals internalise the attitudes they suffer from society, resulting in self-devaluation and self-stigmatisation<sup>(21,23,26,28,35)</sup>. Public stigma and self-stigma exacerbate ADHD symptoms, discourage individuals from seeking help, and increase psychological distress and functional impairment<sup>(25,35,36)</sup>.

Stigma can affect many facets of an individuals' life, such as education, employment, and social relationships<sup>(25,35,36)</sup> and is considered the most significant barrier to mental health care and improving the quality of life for people with mental health problems<sup>(21,37)</sup>. A change in public awareness is needed to combat stigma and its consequences and to increase tolerance of individual differences<sup>(16,38,39)</sup>. However, despite evidence that young people with ADHD are among the most stigmatised, it is still unknown what causes such attitudes by peers and society in general, with this being an under-researched topic<sup>(20,24)</sup>.

To this end, a study was designed with the aim of 1) describe the prevalence of ADHD stigma in the young Portuguese population aged 11-17 years old, 2) understand the factors that lead young people to stigmatise people with ADHD.

## **2. Methods**

### **2.1. Study design**

In order to a better understanding of the phenomenon under study – the stigma associated with ADHD – a mixed-method explanatory sequential research study<sup>(40-42)</sup> was used. The study began with a survey, which allowed the characterisation of the ADHD stigma in the young population, using a stigma assessment questionnaire. The second study was carried out as an explanatory complement to the results obtained in the observational study<sup>(40-42)</sup>. To this end, interviews were conducted with 17 young people, taken from the sample used in the quantitative study, and belonging to the opposite extremes of scores obtained in the questionnaire: those with higher and lower levels of stigma<sup>(43-45)</sup>.

## **2.2. Ethics**

The study was approved by the Ethics Committee of the School of Health – Polytechnic Institute of Porto (process nº. CE0063A).

## **2.3. Participants**

We used a non-probabilistic sampling method, by convenience<sup>(46,47)</sup>, due to easy access to young people attending schools and youth organisations from Porto Metropolitan Area. Inclusion criteria included (a) currently aged 11-17 years, and (b) having Portuguese nationality. Exclusion criteria included (a) to have communication or/and cognitive deficits that prevent understanding the questions, and (b) participants must not have a diagnosis of other neurodevelopmental and mental disorders or similar, including Autism Spectrum Disorder (ASD) or schizophrenia.

The qualitative study sample was recruited using a non-probabilistic purposive maximum variation method<sup>(43,44)</sup>. Considering the score obtained on the ADHD Stigma Questionnaire (ASQ), cases that vary as much as possible between the dimensions were found<sup>(43-45)</sup>, and participants with the lowest and highest scores were selected.

## **2.4. Instruments**

### **2.4.1. Sociodemographic and health issues data**

In addition to the ASQ, sociodemographic variables were collected, such as age, sex, education level and city of residence. Relevant questions were also made to characterise the participants, such as the existence of health problems (and if so, which ones), and regarding the perception of stigma: if they have meeting someone with ADHD and, if so, how often they contact them (daily, weekly, monthly, occasionally, or never), and what is their relationship (family, friends, or acquaintance). The guardians filled in the sociodemographic and health issues data about young people.

### **2.4.2. MTA-SNAP-IV**

In order to track participants at high and low risk for ADHD, was utilised the Portuguese version of MTA-SNAP-IV<sup>(48)</sup>, which is a 26-items scale abbreviated from Swanson, Nolan, and Pelham Questionnaire (SNAP)<sup>(49,50)</sup>. This scale is used to assess the severity of ADHD problems in children and young people between the ages of 6 and 18, considering parents' or teachers' reports, and is based on the DSM-IV diagnostic criteria<sup>(48,51)</sup>. The MTA-SNAP-IV consists of three subscales: nine symptoms of inattention (items 1 to 9), nine symptoms of hyperactivity-impulsivity (items 10 to 18), and eight symptoms of the oppositional defiant disorder (items 19 to 26). The evaluation of each item/behaviour is made on a 4-point scale between "Not Occurring" and "Very Frequent"<sup>(48,51)</sup>. The final score may be

obtained by calculating the mean. The higher the score, the greater the presence of ADHD symptoms<sup>(48,51)</sup>.

Internal consistency of the original SNAP-IV was reportedly high (>0,9 for all symptom clusters), and two-week test-retest reliability was 0,7 for inattention items, 0,8 for impulsivity items, and 0,9 for hyperactivity items. Screening and diagnostic utility have also been established<sup>(49,51,52)</sup>. Cultural adaptation for the Portuguese population<sup>(48)</sup> did not evaluate the psychometric properties, which did not allow for cut-off scores. Although, the correspondence with the DSM-5 criteria allowed the content validity<sup>(48)</sup>.

### **2.4.3. ADHD Stigma Questionnaire (ASQ)**

To assess stigma against ADHD, the ASQ was used. The ASQ, developed in 2010 by Kellison et al.<sup>(29)</sup>, is a 26-item adaptation of the 40-item HIV Stigma Scale<sup>(53)</sup>.

The ASQ is subdivided into three factors related to stigma towards ADHD: Disclosure Concerns, Negative Self-Image, and Concern with Public Attitudes<sup>(29)</sup>. Each question, written in the third person, was rated on a 4-point Likert scale, being 1 "Strongly Disagree", 2 "Disagree", 3 "Agree", and 4 "Strongly Agree". The overall stigma score is composed of the sum of all 26 items, ranging from 26 to 104, with higher scores indicating higher levels of stigma<sup>(29)</sup>.

Internal consistency of the original ASQ was reportedly high (>0,8 for all items), and two-week test-retest reliability was 0,7 for the overall measure. Confirmatory Factor Analysis (CFA) resulted in satisfactory fit indices and clearly showed the existence of three factors. No cut-off point has been defined by the authors<sup>(29)</sup>. The ASQ is under validation for the Portuguese population in young people (11 to 17 years old) and adults (above 18 years old), and the content validity was already made<sup>(54)</sup>.

### **2.4.4. Interviews**

A semi-structured interview with open-ended questions was used to generate qualitative data. A detailed schedule of six questions was developed intending to explore the factors associated with stigma. Participants were asked about domains related to stigma and ADHD, considering their perspectives and opinions. The interview included the following questions: "Do you know what the *stigma* means?"; "Do you think stigma exists in our society?"; "Do you think there is stigma against ADHD in our society and, if so, how do individuals manifest it?"; "In your opinion, the way society deals with ADHD influence individuals with this disorder?"; "What do you think that can lead society to react negatively against individuals with ADHD?"; and "Do you think individuals with ADHD are all the same as each other?".

## 2.5. Procedures

Schools and youth organisations in Porto Metropolitan Area were contacted via email and asked to disseminate the study by potential participants who agreed to participate.

Since all participants were under 18 years of age, legal guardians had to accept, and sign the informed consent, based on the Declaration of Helsinki<sup>(55,56)</sup>, allowing the young people to participate in the two phases of the study – the completion of the questionnaire and the subsequent interview. Total anonymity was guaranteed, with the names of the participants being omitted in the data analysis and replaced by an alphanumeric code.

The average duration of completing the questionnaire through the Google Forms platform was approximately 15 minutes, and the collection took place between March and June 2021. The questionnaire was divided into two parts: the first part, with the sociodemographic questionnaire and the MTA-SNAP-IV, was filled in by the guardians, giving information related to the young people; the second part, with the ASQ, was filled in by the young people.

The authors designed the semi-structured interview that was reviewed by an expert panel. A preliminary study was carried out with two participants to check the clarity of the questions. The interviews were conducted online through the Zoom-Colibri platform, with each interview having an average duration of approximately 40 minutes. This phase took place between June and July 2021. Interviews were conducted by the lead author and were scheduled at a time convenient to the participants. All interviews were audio-recorded and later transcribed verbatim.

## 2.6. Data analysis

Statistical analysis was performed using IBM SPSS Statistics software, version 27<sup>(57)</sup>, and a significance level of  $\alpha=0,05$ <sup>(46)</sup> was considered. Descriptive statistics were used to analyse the sociodemographic data. Categorical variables were described using absolute (n) and relative (%) frequencies and quantitative variables by measures of central tendency (mean) and dispersion (standard deviation, maximum, and minimum)<sup>(46,58)</sup>. The assumptions of normality were tested using the Kolmogorov-Smirnov test<sup>(46,58)</sup>, having verified that the variables under study did not follow the normal distribution. Thus, non-parametric tests were used to assess the relationship between the ASQ score and the variables under study: age, gender, education level, city of residence, health problems, knowing someone with ADHD, regularity of contact and relationship with that person, and ADHD symptomatology (based on the MTA-SNAP-IV score).

The interviews were analysed following inductive coding, whereby the categories emerged through analysis of the interview transcripts<sup>(59,60)</sup>. After the transcription process, the first author read and made detailed notes on each interview, from which the first coding emerged<sup>(59,60)</sup>. Three interviews were selected and analysed by a second researcher to obtain agreement about the categories. The content

analysis included peer review<sup>(61,62)</sup> and researcher triangulation, and the result of categorisation was analysed by a third researcher, independent of the first two<sup>(63,64)</sup>. To support the qualitative data analysis, the web-based qualitative data analysis software webQDA was used<sup>(65)</sup>.

### 3. Results

#### 3.1. Quantitative results

The sample was composed of 102 young people between the ages of 11 and 17, with a mean age of 14,23 years. Most participants did not know anyone with ADHD and did not have clinically significant ADHD symptomatology. The results of the descriptive statistics are presented in **Table 1**.

**Table 1.** Descriptive characteristics of the quantitative sample.

		Frequencies n (%)	Minimum	Maximum	Mean ( $\bar{x}$ )	Standard deviation ( $\sigma$ )
<b>Age</b>		102	11	17	14,23	2,01
<b>Gender</b>	Male	62 (60,80)	-	-	-	-
	Female	40 (39,20)	-	-	-	-
<b>Educational level</b>	Elementary school	9 (8,80)	-	-	-	-
	Middle school (5 to 6 grade)	29 (28,40)	-	-	-	-
	Middle school (7 to 9 grade)	34 (33,30)	-	-	-	-
	High school	30 (29,40)	-	-	-	-
<b>Health problems</b>	ADHD	5 (4,90)	-	-	-	-
	Other	8 (7,80)	-	-	-	-
	ADHD and other	4 (3,90)	-	-	-	-
	None	85 (83,3)	-	-	-	-
<b>Knowing someone with ADHD</b>	Yes	39 (38,20)	-	-	-	-
	No	63 (61,80)	-	-	-	-
<b>Regularity of contact*</b>	Daily	18 (17,60)	-	-	-	-
	Weekly or monthly	7 (6,90)	-	-	-	-
	Occasionally or never	14 (13,70)	-	-	-	-
<b>Relationship with the person*</b>	Family member or friend	32 (31,40)	-	-	-	-
	Acquaintance	7 (6,90)	-	-	-	-
<b>ADHD symptomatology (SNAP-IV)</b>	Unlikely to have ADHD	94 (92,20)	-	-	-	-
	Likely to have ADHD	8 (7,80)	-	-	-	-

\*N = 39.

**Table 2** shows the results of the score obtained in the ASQ for the total sample and according to the variables under study. In the total sample, the value obtained ( $\bar{x}=59,08\pm 15,15$ ) was above the average value of the score ( $\bar{x}=52$ ), which suggests that the sample presents above average stigma towards

ADHD. The results obtained indicate that there are no statistically significant differences in ASQ scores ( $p$ -value > 0,05) according to sociodemographic variables, knowing someone with ADHD or presenting symptoms of the disorder. However, some trends were observed regarding the level of stigma, for example, young people who reported having ADHD showed higher stigma values ( $\bar{x}=65,00\pm 10,10$ ;  $\bar{x}=67,50\pm 15,72$ ) than others who do not present the disorder ( $\bar{x}=53,63\pm 19,74$ ;  $\bar{x}=58,85\pm 14,88$ ). A higher level of stigma was also found in people who contact someone with ADHD on a weekly basis ( $\bar{x}=65,14\pm 9,21$ ) relative to those who never contact ( $\bar{x}=56,36\pm 14,91$ ) or contact daily ( $\bar{x}=58,67\pm 14,28$ ). Differences in mean scores were also seen when comparing relationship types, with family and friends of the person with ADHD showing higher levels of stigma ( $\bar{x}=60,78\pm 12,21$ ) than acquaintances ( $\bar{x}=50,86\pm 18,44$ ).

**Table 2.** Differences between age, gender, educational level, city of residence, health problems, knowing someone with ADHD, regularity of contact, relationship with the person and ADHD symptomatology in relation to stigma.

		ASQ Mean ( $\sigma$ )	Spearman Correlation ( $\rho$ )	p-value
		59,08 (15,15)	-	-
<b>Age</b>		-	0,07	0,50
<b>Gender</b>	Male	58,00 (17,06)	-	0,37
	Female	60,75 (11,59)	-	
<b>Educational level</b>	Elementary school	63,33 (23,00)	-	0,69
	Middle school (5 to 6 grade)	58,21 (15,56)	-	
	Middle school (7 to 9 grade)	60,56 (14,60)	-	
	High school	59,08 (15,15)	-	
<b>Health problems</b>	ADHD	65,00 (10,10)	-	0,47
	Other	53,63 (19,74)	-	
	ADHD and other	67,50 (15,72)	-	
	None	58,85 (14,88)	-	
<b>Knowing someone with ADHD</b>	Yes	59,00 (13,79)	-	0,96
	No	59,13 (16,04)	-	
<b>Regularity of contact*</b>	Daily	58,67 (14,28)	-	0,63
	Weekly or monthly	65,14 (9,21)	-	
	Occasionally or never	56,36 (14,91)	-	
<b>Relationship with the person*</b>	Family member or friend	60,78 (12,21)	-	0,28
	Acquaintance	50,86 (18,44)	-	
<b>ADHD symptomatology (SNAP-IV)</b>	Unlikely to have ADHD	58,21 (15,13)	-	0,41
	Likely to have ADHD	69,25 (11,89)	-	

\*N = 39.

### 3.2. Qualitative results

The sample was composed of 17 young people aged between 11 and 17 years. Nine young people knew someone with ADHD, eight from school and one from a family context. In the ASQ, the young people with a lower level of stigma scored between 31 and 50, whereas the ones with a higher level obtained scores between 56 and 84. The characteristics of the interviewees are detailed in Table 3.

**Table 3.** Characteristics of the young people interviewed.

ID	Gender	Age	Knowing someone with ADHD	MTA-SNAP-IV score*	ASQ score**
I1	Female	16	No	2	41
I2	Male	16	Yes	20	77
I3	Male	13	Yes	5	64
I4	Female	16	No	20	60
I5	Male	14	No	14	41
I6	Male	16	Yes	54***	68
I7	Female	11	Yes	18	64
I8	Female	14	No	1	43
I9	Female	14	Yes	2	76
I10	Male	16	No	16	50
I11	Female	17	Yes	10	62
I12	Male	12	Yes	66***	84
I13	Male	12	Yes	30	72
I14	Female	17	No	2	56
I15	Female	12	No	16	42
I16	Male	15	Yes	3	31
I17	Female	16	No	6	48

\*If score < 40, unlikely to have ADHD; if score > 40, likely to have ADHD.

\*\*Scores above 52 indicate the existence of stigma.

\*\*\*Participants diagnosed with ADHD.

From the content analysis of the interviews, three categories emerged, described in Table 4. Categories one and three were present in the speeches of all the interviewees, and category two in 88.24% of them. Category three has occupied more than half of the percentage of occurrences: 63.87%. In Table 5 are presented some examples of excerpts from the three categories, which are illustrated in more detail in Appendix A.

**Table 4.** Categories characteristics.

Categories	Occurrences n (%)	Interviews n (%)
1. ADHD concepts and recognition	92 (25,77)	17 (100)
2. Interaction and conduct with people with ADHD	37 (10,36)	15 (88,24)
3. Stigma in ADHD	228 (63,87)	17 (100)

**Table 5.** Examples quotes by categories.

Categories	Example quotes
<b>1. ADHD concepts and recognition</b>	<p>"Is a person who cannot stay quiet and may not be able to concentrate on tasks" (I3).</p> <p>"Hyperactivity must be different from person to person, some can be very restless, others more controlled, so I think they are not all the same as each other" (I1).</p>
<b>2. Interaction and conduct with people with ADHD</b>	<p>"I have my friend who has been with me since kindergarten and, in my class, we were always protective (...) some were bullies, but we always tried to protect him (...) we would go to his side and play with him" (I3).</p> <p>"Children with hyperactivity are treated differently, but that shouldn't happen because we have the human rights, we have children's rights, we have the right to be different" (I12).</p>
<b>3. Stigma in ADHD</b>	<p>"People can feel bad and not feel integrated into society (...) because the opinion of others always counts (...) because people want to be well seen by society and they want to feel normal" (I15).</p> <p>"If the child harms the class by always interrupting it, that can harm the other classmates, and have collective consequences, and so they may have stigma" (I10).</p>

### **Category 1. ADHD Concepts and Recognition**

The first category corresponded to the participants' prior knowledge about ADHD and the concepts related to the disorder. It also covered the interviewees' perception of a person with ADHD based on the description of their behaviours.

Most participants were able to describe the disorder by naming the most common and observable symptoms, as shown by their speeches: "when he is in the classroom he is always playing with a pen, he is always doing something, he can never stand there and pay attention" (I11). Some interviewees associated ADHD with nervousness and anxiety: "I think it's a condition where you always have to be doing something because I don't know if it's anxiety, but you can't sit still" (I1). In addition, several descriptions of the disorder were based on the observed aggressive behaviours, such as: "when he gets nervous, he threatens everyone that he's going to hit them" (I2); "he gets nervous very easily and speaks very loudly for anything" (I12).

Although participants perceived ADHD as a health condition with groupable and identifiable characteristics, most considered that its manifestation varies from person to person, being influenced by factors such as: personality – "people with ADHD are all different. Each one has their way of showing the illness because of their personality" (I17); the environment – "I suppose the manifestation of hyperactivity can be influenced by the environment" (I11), "the environment influences because, for example, if his colleagues keep teasing him he won't be able to control his hyperactivity, but if they stop he will" (I12); and the types of ADHD presentations – "I imagine that there are cases of hyperactivity where the problem is just lack of concentration" (I14), "hyperactivity has a more severe level where the person has to take pills in order not to have attacks" (I7).

## **Category 2. Interaction and conduct with people with ADHD**

The second category contained the description of the interviewees' interactions with young people with ADHD, and the notion of what socially correct behaviours are during those interactions.

In the case of interviewees who were friends with young people with ADHD, the reports of interaction were mostly positive, such as: "he is part of my closest group of friends, I get along very well with him, and he talks to me a lot about his hyperactivity" (I11). However, some interviewees, mainly classmates/acquaintances, described the moments when interacting with young people with ADHD was difficult due to their behavioural changes: "it was difficult to deal with him because he would change his mood very quickly when someone told him something he didn't like" (I9); "when we are playing with him and start saying nice things, he starts shouting swearwords" (I12). Moreover, some participants confessed little interest in interacting with their colleagues with ADHD: "he comes to my side, and he starts talking to me, but I can't pay attention, I don't catch what he says (...) he tries to communicate with me, but I don't know why" (I2).

There were also descriptions of inappropriate behaviours towards young people with ADHD, including: "most people at school know that my friend has hyperactivity, and they start to look sideways and to whisper when we pass by" (I7). Due to the existence of these behaviours, interviewees reported the need to protect their friends with ADHD: "our group has always been very protective with B. because we know the difficulties he goes through in life" (I3).

Additionally, the existence of a discourse of social desirability became evident, with interviewees using standard and popular sentences, such as: "you don't judge people without really knowing them" (I17); "just because you are different does not mean you have to be treated differently" (I8). Even participants who confessed to not having any interest in interacting with their peers with ADHD stated that no one should be excluded. However, several associated "being different" with something negative: "I see what is different as a bad thing, but what is bad for me, may not be for someone else" (I2).

## **Category 3. Stigma in ADHD**

Finally, the third category covers the participants' knowledge of the concepts of stigma and prejudice, as well as their opinions on: the existence of stigma in society, factors influencing stigma and the consequences of stigma.

Only three interviewees reported knowing what stigma is and described it as: "it's when a person who is different from us or has a disease is rejected by society" (I8). However, when asked about prejudice, most interviewees were able to describe it: "it is a person who judges other people for what they are not guilty of, such as race, skin colour or religion" (I15). Most participants mentioned social exclusion as well as verbal and physical aggression as the primary manifestations of stigma, namely: "sideways glances, drop a hint, being picked last and being left out" (I9).

All interviewees agreed that there is stigma in society towards ADHD and those who are medicated or receive treatment for this disorder: "there are people who make fun of those with hyperactivity and don't want to know about the person for anything" (I12); "if the person already has prejudice towards the disorder, then medication is just one more thing to add" (I11). However, they agreed that if medication reduces the manifestation of symptoms, stigma also decreases: "if she takes medication and becomes calmer, people will find it easier to be her friend" (I5). Regarding psychological treatment, participants considered that society associates psychologists with people with mental disorders and that this leads to stigma: "because society thinks that crazy people are the ones who go to the psychologist" (I17). The behaviour of people with ADHD was also frequently mentioned as a justification for the existence of stigma: "I think stigma can only exist because of the way people with ADHD act, because if it doesn't affect anything corporally, I think the reason may be that they act differently" (I5); "once the person acts differently, they may be looked at negatively, because seeing a person having those behaviours is a bit weird" (I13).

On the other hand, society's lack of information emerged several times as a triggering factor for stigma: "when society is not properly informed and does not know the problem that the person has, then that is one of the reasons why they treat people with ADHD badly" (I16). Most interviewees reported that having ADHD and, consequently, "being different" is still negatively perceived by society, while normative behaviours are universally accepted: "there is a standard of the normal person in society, and it seems that more and more, the person who is not considered normal has to be criticised" (I1); "I think that if the person is more normal, then it will be easier to be accepted and have fewer problems of social exclusion" (I5).

However, some interviewees, particularly those with ADHD, considered that the stigma that exists is not significant: "I think I would say that there is stigma, but not as much as when hyperactivity was not so well known" (I6). However, all interviewees agreed that, in the presence of stigma, the consequences for the stigmatised individual include sadness, anxiety, low self-esteem and self-confidence, school failure and even social isolation. In some cases, when stigma is permanent, some interviewees considered that it could lead to depression and suicide: "in cases where the negative part can be very, very high, it can lead to suicide" (I13).

#### **4. Discussion**

Stigma is considered an underestimated risk factor for negative consequences and functional impairments in young people with ADHD<sup>(66,67)</sup>. However, the causes that lead young people to stigmatise those with ADHD are still poorly understood<sup>(20,24)</sup>. For this reason, the present study aimed to describe the prevalence of ADHD stigma in the young Portuguese population and to explore the factors that lead young people to stigmatise other young people with this disorder.

In order to analyse the score obtained by the participants in the ASQ, the mean score of the questionnaire was considered as a reference value since the authors of the original version did not define the cut-off value<sup>(29)</sup>. Therefore, the results obtained in the present study indicated that the participants' levels of stigma are slightly above the average ASQ score. However, in comparison with the study of Rim et al.<sup>(20)</sup>, which consisted in the validation of the ASQ for Korea, the levels of stigma in the present study are lower than those obtained by the authors ( $\bar{x}=70,90$ ), indicating that the young Portuguese population has average levels of stigma. To better understand the levels of stigma obtained, a cut-off value of the questionnaire or further studies characterising the level of the stigma of populations using the ASQ would be necessary.

On the other hand, in this study there were no significant differences in the ASQ score according to the variables age, gender, education level, diagnosis of ADHD, knowing someone with ADHD, and, if applicable, relationship with the person with ADHD and regularity of contact, suggesting that more stigma is not associated with these variables. Previous studies have also concluded that stigma may not be influenced by sociodemographic variables or contact with people with ADHD<sup>(18,20,21)</sup>. However, some trends were observed in the quantitative study: participants with ADHD and family members/friends of people with the disorder showed higher levels of stigma than participants without ADHD and acquaintances of people with the disorder. These results were supported by the interviews carried out because young people with ADHD tended to present prejudiced speeches about themselves, excusing some social behaviours based on the lack of public knowledge about the symptoms underlying the disorder. In other words, having ADHD seems to promote higher levels of stigma in this sample. In previous studies with young people with ADHD, these results were also found and were justified by the susceptibility that young people revealed in seeing their behaviours as stigmatising<sup>(26,67)</sup>. This susceptibility often results in the internalisation of public stigma, which is associated with increased levels of stigma<sup>(21,67)</sup>. On the other hand, interviewees who were friends of young people with ADHD also presented, in their speeches, prejudiced ideas, since they identified the disruptive behaviours of their peers with ADHD as justification for the discriminatory behaviours of society. In several studies, being family members or friends of people with ADHD was associated with higher levels of stigma, due to the tendency that those individuals revealed to assume the prejudiced thoughts and behaviours of society as authentic or valid<sup>(1,5,20)</sup>.

Considering that family members and friends of young people with ADHD tended to have higher levels of stigma, it was expected that participants who had daily contact with young people with ADHD (e.g., family members) would show more stigma than those who had only weekly or monthly contact with people with the disorder. However, the opposite was found. This result may be justified by the possibility that the participants with less regular contact were classmates of young people with ADHD who, in the qualitative study, were the ones that revealed feeling bothered and disturbed by the

disruptive behaviours of those peers. In previous studies, young people with ADHD had already been described by their peers as disruptive of school norms and rules because of their behaviours<sup>(1,21,67)</sup>. Moreover, some interviewees stated that they avoided contact with peers with ADHD because they did not know how to deal with their behaviours. This means that, as described in the literature, ADHD symptoms are clear sources of rejection, discrimination and stigmatisation<sup>(1,21,67)</sup>. The behaviour of young people with ADHD was the common factor among all interviewees to justify stigma.

However, the participants who scored higher on the ASQ were not always the ones who, in the interview, presented more stigmatising discourses. Some of the young people with higher scores presented discourses promoting acceptance of peers with ADHD and the understanding of their symptoms and behaviours. However, they defended the existence of public stigma towards ADHD and agreed that the manifestation of symptoms and factors such as taking medication lead to more stigma. This might mean that the ASQ does not only measure individual stigma towards ADHD, but also individuals' perceptions of the public stigma attached to the disorder. Therefore, individuals with more awareness of public stigma would show higher scores on the ASQ. On the other hand, some of the respondents with low scores in the ASQ presented discourses marked by preconceived ideas that promote stigma and by a devaluation of the stigma impacts. This devaluation may have influenced the filling in the ASQ to the extent that they did not consider, for example, that people with ADHD are rejected by society. In this way, low levels of stigma may not represent an absence of stigma but the perception of its non-existence in society. The fact that stigma is a deep-rooted and subtle process may prevent the perception of its manifestation, either at the individual or public level<sup>(19,37)</sup>. This means that people with prejudice may score low on the ASQ because they do not perceive the existence of ADHD stigma in society.

Nevertheless, there were also participants who obtained high scores on the ASQ and whose discourses revealed ingrained prejudices. In these cases, the lack of knowledge about ADHD may justify the high levels of stigma. In fact, these participants described ADHD based on observable symptoms and behaviours, not recognising it as a disease. Since the behaviours of young people with ADHD are generally perceived negatively, understanding ADHD only by its symptoms may have contributed to the high levels of stigma. Several studies proved that stigmatisation results from the lack of public awareness about ADHD<sup>(6,67)</sup> and that the decrease of public stigma can be promoted by knowledge<sup>(18,68,69)</sup>. Most of the interviewees reported that increasing public knowledge could decrease stigma, improve the understanding of symptoms, and promote treatment acceptance.

Most interviewees also reported that knowing that a person is receiving pharmacological or psychological treatment is sufficient to increase stigma towards ADHD, as concluded in previous studies<sup>(2,70)</sup>. In their perspectives, this happens for two reasons: either because it accentuates the individuals' belief that the person with ADHD is "not normal"; or because they automatically associate

treatment with having a mental disorder ("being crazy"). These hypotheses suggested by the interviewees are supported by studies indicating that the experience of having a mental disorder, such as ADHD, is described by young people as "being different" and interpreted in a prejudicial way<sup>(2,70)</sup>. This suggests that the roots of stigma may not be medication and treatment by itself, but rather the existence of a mental illness that requires treatment, which leads the individual to be considered as "different".

This study, like any other, had some limitations. First, not all participants agreed to participate in the interview phase, which did not allow access to the individuals with the most extreme scores in the ASQ. Therefore, it was not possible to understand whether the factors leading to stigma vary between extreme levels of stigma or not. Secondly, the answers given by the interviewees may have been conditioned by the presence of the interviewer and the consequent perception that they were being evaluated. There was a tendency for interviewees to respond based on standard and popular sentences, considering what is socially correct and accepted.

## **5. Conclusion**

This study aimed to describe the prevalence of ADHD stigma in the young Portuguese population aged between 11 and 17 years. In addition, it was intended to explore the factors that promote the existence of stigma. Several factors emerged from the study, including having ADHD, being a friend/family member of someone with ADHD, weekly/monthly contact with someone with ADHD, ADHD symptoms, taking medication, psychological treatment, "being different" and society's lack of knowledge about the disorder.

Furthermore, this study allowed us to confirm that stigma is still a widely misunderstood and deep-rooted social phenomenon. Future research should confirm the quantitative results of this study by using a more significant and geographically dispersed sample. It would also be interesting to know the perspective of young Portuguese people with ADHD concerning the impact of stigma on their occupational performance, especially in school contexts. Experimental studies to assess the most appropriate stigma prevention and intervention programmes are also essential.

Bearing in mind the impact of stigma on public health, the factors found in this study as promoters of stigma should be further explored. Their complete understanding may ensure effective intervention in the causes of stigma. In conclusion, stigma reduction should be understood as a primary goal in intervention with young people diagnosed with ADHD.

## References

1. Charbonnier E, Caparos S, Trémolière B. The role of mothers' affiliate stigma and child's symptoms on the distress of mothers with ADHD children. *J Ment Heal* [Internet]. 2018;1–7. Available from: <https://doi.org/10.1080/09638237.2018.1521944>
2. Bussing R, Mehta AS. Stigmatization and self-perception of youth with attention deficit/hyperactivity disorder. *Patient Intell*. 2013;5:15–27.
3. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. 5th ed. American Psychiatric Association; 2013.
4. Gavin B, McNicholas F. ADHD: science, stigma and service implications. *Ir J Psychol Med*. 2018;35:169–72.
5. Chang C-C, Chen Y-M, Liu T-L, Hsiao RC, Chou W-J, Yen C-F. Affiliate Stigma and Related Factors in Family Caregivers of Children with Attention-Deficit/Hyperactivity Disorder. *Int J Environ Res Public Health*. 2020;17(2):576.
6. Speerforck S, Stolzenburg S, Hertel J, Grabe HJ, Strauß M, Carta MG, et al. ADHD, stigma and continuum beliefs: A population survey on public attitudes towards children and adults with attention deficit hyperactivity disorder. *Psychiatry Res* [Internet]. 2019;112570. Available from: <https://doi.org/10.1016/j.psychres.2019.112570>
7. Hoogman M, Muetzel R, Guimaraes J, Shumskaya E, Mennes M, Zwiers M, et al. Brain Imaging of the Cortex in ADHD: A Coordinated Analysis of Large-Scale Clinical and Population-Based Samples. *Am J Psychiatry*. 2019;1–12.
8. Caye A, Swanson JM, Coghill D, Rohde LA. Treatment strategies for ADHD: an evidence-based guide to select optimal treatment. *Mol Psychiatry* [Internet]. 2018. Available from: <http://dx.doi.org/10.1038/s41380-018-0116-3>
9. Marques MI, Matias J, Machado R, Duarte A, José M, Monteiro JP. Perturbação de Hiperatividade e Déficit de Atenção em Idade Pediátrica: Papel dos Cuidados de Saúde Primários. *Gaz Médica*. 2018;5:28–36.
10. Oliveira L, Pereira M, Medeiros M, Serrano A. PHDA: O que há de novo no DSM5? *Rev Port Pedagog*. 2015;75–94.
11. Samea F, Soluki S, Nejati V, Zarei M, Cortese S, Eickhoff SB, et al. Brain alterations in children/adolescents with ADHD revisited: A neuroimaging meta-analysis of 96 structural and functional studies. *Neurosci Biobehav Rev* [Internet]. 2019;100:1–8. Available from: <https://doi.org/10.1016/j.neubiorev.2019.02.011>
12. Matthews M, Nigg JT, Fair DA. Attention Deficit Hyperactivity Disorder. *Curr Top Behav Neurosci*. 2014;235–66.
13. Sharma A, Couture J. A Review of the Pathophysiology, Etiology, and Treatment of Attention-

- Deficit Hyperactivity Disorder (ADHD). *Ann Pharmacother*. 2013;48(2):209–25.
14. Pham AV, Riviere A. Specific Learning Disorders and ADHD: Current Issues in Diagnosis Across Clinical and Educational Settings. *Curr Psychiatry Rep*. 2015;17:38.
  15. Meinzer MC, Pettit JW, Viswesvaran C. The co-occurrence of attention-deficit/hyperactivity disorder and unipolar depression in children and adolescents: A meta-analytic review. *Clin Psychol Rev* [Internet]. 2014;34(8):595–607. Available from: <http://dx.doi.org/10.1016/j.cpr.2014.10.002>
  16. Swami V. *Mental health literacy of attention-deficit hyperactivity disorder (ADHD)*. Nova Science Publishers; 2014.
  17. Goffman E. *Stigma: Notes on the Management of Spoiled Identity*. Prentice Hall, editor. Englewood Cliffs NJ; 1963.
  18. Corrigan PW, Druss BG, Perlick DA. The Impact of Mental Illness Stigma on Seeking and Participating in Mental Health Care. *Psychol Sci Public Interes*. 2014;15(2):37–70.
  19. Bos AER, Pryor JB, Reeder GD, Stutterheim SE. *Stigma: Advances in Theory and Research*. *Basic Appl Soc Psych*. 2013;35:1:1–9.
  20. Rim SJ, Jang H, Park S. Psychometric Properties of the Korean Translation of the Attention-Deficit/Hyperactivity Disorder Stigma Questionnaire. *J Korean Acad Child Adolesc Psychiatry*. 2018;29(3):122–8.
  21. Meza JI, Monroy M, Ma R, Mendoza-Denton R. Stigma and attention-deficit/hyperactivity disorder: negative perceptions and anger emotional reactions mediate the link between active symptoms and social distance. *ADHD Atten Deficit Hyperact Disord* [Internet]. 2019. Available from: <https://doi.org/10.1007/s12402-019-00302-x>
  22. O'Driscoll C, Heary C, Hennessy E, McKeague L. Explicit and implicit stigma towards peers with mental health problems in childhood and adolescence. *J Child Psychol Psychiatry*. 2012;53.
  23. McKeague L, Hennessy E, O'Driscoll C, Heary C. Retrospective Accounts of Self-Stigma Experienced by Young People With Attention-Deficit/Hyperactivity Disorder (ADHD) or Depression. *Psychiatr Rehabil J*. 2015;38(2):158–63.
  24. Mueller AK, Fuermaier ABM, Koerts J, Tucha L. Stigma in attention deficit hyperactivity disorder. *ADHD Atten Deficit Hyperact Disord*. 2012;4:101–14.
  25. Lebowitz MS. Stigmatization of ADHD: A Developmental Review. *J Atten Disord*. 2013;20(3):199–205.
  26. Moldavsky M, Sayal K. Knowledge and Attitudes about Attention-Deficit/Hyperactivity Disorder (ADHD) and its Treatment: The Views of Children, Adolescents, Parents, Teachers and Healthcare Professionals. *Curr Psychiatry Rep*. 2013;15(8).
  27. Gajaria A, Yeung E, Goodale T, Charach A. Beliefs About Attention-Deficit/Hyperactivity

- Disorder and Response to Stereotypes: Youth Postings in Facebook Groups. *J Adolesc Heal* [Internet]. 2011;49(1):15–20. Available from: <http://dx.doi.org/10.1016/j.jadohealth.2010.09.004>
28. Kaushik A, Kostaki E, Kyriakopoulos M. The Stigma of Mental Illness in Children & Adolescents: A Systematic Review. *Psychiatry Res*. 2016.
  29. Kellison I, Bussing R, Bell L, Garvan C. Assessment of stigma associated with attention deficit hyperactivity disorder: Psychometric evaluation of the ADHD Stigma Questionnaire. *Psychiatry Res*. 2010;178(2):363–9.
  30. Vieira de Melo BB, Trigueiro MJ, Rodrigues PP. Systematic overview of neuroanatomical differences in ADHD: Definitive evidence. *Dev Neuropsychol* [Internet]. 2017;43(1):52–68. Available from: <https://doi.org/10.1080/87565641.2017.1414821>
  31. Fuermaier ABM, Tucha L, Koerts J, Mueller AK, Lange KW, Tucha O. Measurement of Stigmatization towards Adults with Attention Deficit Hyperactivity Disorder. *PLoS One*. 2012;7(12).
  32. Thompson AC, Lefler EK. ADHD stigma among college students. *ADHD Atten Deficit Hyperact Disord*. 2015;8(1):45–52.
  33. Fuermaier ABM, Tucha L, Mueller AK, Koerts J, Hauser J, Lange KW, et al. Stigmatization in teachers towards adults with attention deficit hyperactivity disorder. *Springerplus*. 2014;3:26.
  34. Singh I. A disorder of anger and aggression: Children's perspectives on attention deficit/hyperactivity disorder in the UK. *Soc Sci Med* [Internet]. 2011;73:889–96. Available from: <http://dx.doi.org/10.1016/j.socscimed.2011.03.049>
  35. Masuch TV, Bea M, Alm B, Deibler P, Sobanski E. Internalized stigma, anticipated discrimination and perceived public stigma in adults with ADHD. *ADHD Atten Deficit Hyperact Disord* [Internet]. 2018;11(2):211–20. Available from: <https://doi.org/10.1007/s12402-018-0274-9>
  36. Godfrey E, Fuermaier ABM, Tucha L, Butzbach M, Weisbrod M, Aschenbrenner S, et al. Public perceptions of adult ADHD: Indications of stigma? *J Neural Transm* [Internet]. 2020. Available from: <https://doi.org/10.1007/s00702-020-02279-8>
  37. Stuart H. Reducing the stigma of mental illness. *Glob Ment Heal*. 2016;3.
  38. Singh A, Yeh CJ, Verma N, Das AK. Overview of attention deficit hyperactivity disorder in young children. *Heal Psychol Res*. 2015;3:2115.
  39. Vogel DL, Bitman RL, Hammer JH, Wade NG. Is Stigma Internalized? The Longitudinal Impact of Public Stigma on Self-Stigma. *J Couns Psychol*. 2013;60(2):311–6.
  40. Bowen P, Rose R, Pilkington A. Mixed Methods–Theory and Practice. Sequential, Explanatory Approach. *Int J Quant Qual Res Methods*. 2017;5(2):10–27.
  41. Kajamaa A, Mattick K, de la Croix A. How to ... do mixed-methods research. *Clin Teach*. 2020;17:

- 267-27:1-5.
42. Rendle KA, Abramson CM, Garrett SB, Halley MC, Dohan D. Beyond exploratory: a tailored framework for designing and assessing qualitative health research. *BMJ Open*. 2019;9:e030123.
  43. Palinkas LA, Horwitz SM, Green CA, Wisdom JP, Duan N, Hoagwood K, et al. Purposeful sampling for qualitative data collection and analysis in mixed method implementation research. *Adm Policy Ment Heal Ment Heal Serv*. 2015;42(5):533-44.
  44. Ames H, Glenton C, Lewin S. Purposive sampling in a qualitative evidence synthesis: a worked example from a synthesis on parental perceptions of vaccination communication. *BMC Med Res Methodol*. 2019;19:26.
  45. Suri H. Purposeful Sampling in Qualitative Research Synthesis. *Qual Res J*. 2011;11(2):63-75.
  46. Marôco J. *Análise Estatística – com utilização do SPSS*. 5th ed. Edições Sílabo; 2013.
  47. Elfil M, Negida A. Sampling methods in Clinical Research; an Educational Review. *Emergency [Internet]*. 2017;5(1):e52. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/28286859><http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=PMC5325924>
  48. McMilan M, Antunes R, Medeiros P, Silva FG. Adaptação Cultural do Questionário MTA-SNAP-IV para o Português Europeu. *Gaz Médica*. 2018;5.
  49. Swanson J. *School-Based Assessment and Intervention for ADD Students*. K. C. Publishing; 1992.
  50. Swanson J, Lerner M, March J. Assessment and intervention for Attention-Deficit/Hyperactivity Disorder in the schools. *Pediatr Clin North Am*. 1999;46(5).
  51. Swanson JM, Kraemer HC, Hinshaw SP, Arnold LE, Conners CK, Abikoff HB, et al. Clinical Relevance of the Primary Findings of the MTA: Success Rates Based on Severity of ADHD and ODD Symptoms at the End of Treatment. *J Am Acad Child Adolesc Psychiatry*. 2001;40:2.
  52. Bussing R, Fernandez M, Harwood M, Hou W, Garvan CW, Eyberg SM, et al. Parent and Teacher SNAP-IV Ratings of Attention Deficit Hyperactivity Disorder Symptoms: Psychometric Properties and Normative Ratings From a School District Sample. *Assessment*. 2008;15(3):317-28.
  53. Berger BE, Ferrans CE, Lashley LR. Measuring stigma in people with HIV: Psychometric assessment of the HIV stigma scale. *Res Nurs Heal*. 2001;24(6):518-29.
  54. Couto B, Trigueiro M, Simões-Silva V. Identificação dos níveis de estigma na Perturbação de Hiperatividade e Défice de Atenção: Tradução, adaptação cultural e avaliação psicométrica da versão portuguesa do Attention Deficit Hyperactivity Disorder Stigma Questionnaire - dissertação de mestrado: Escola Superior de Saúde do Politécnico do Porto; 2021.

55. A. Mundial. Declaração de Helsínquia. 1996.
56. Braga R. Ética Na Publicação De Trabalhos Científicos. *Rev Port Clínica Geral*. 2018;29(6):354–6.
57. IBM Corp. IBM SPSS Statistics for Windows. Armonk, NY; 2021.
58. Oliveira AG. Bioestatística Descodificada – Bioestatística, Epidemiologia e Investigação. 2ed ed. LIDEL, editor. 2014.
59. Azungah T. Qualitative research: deductive and inductive approaches to data analysis. *Qual Res J*. 2018;18.
60. Graneheim UH, Lindgren B-M, Lundman B. Methodological challenges in qualitative content analysis: A discussion paper. *Nurse Educ Today* [Internet]. 2017;56:29–34. Available from: <http://dx.doi.org/10.1016/j.nedt.2017.06.002>
61. Herber OR, Bradbury-Jones C, Böling S, Combes S, Hirt J, Koop Y, et al. What feedback do reviewers give when reviewing qualitative manuscripts? A focused mapping review and synthesis. *BMC Med Res Methodol*. 2020;20:122.
62. Zaharie MA, Osoian CL. Peer review motivation frames: A qualitative approach. *Eur Manag J*. 2016;34(1):69–79.
63. Natow RS. The use of triangulation in qualitative studies employing elite interviews. *Qual Res*. 2019;1–14.
64. Renz SM, Carrington JM, Badger TA. Two Strategies for Qualitative Content Analysis: An Intramethod Approach to Triangulation. *Qual Health Res*. 2018;1–8.
65. Sousa F, Costa A, Moreira A. webQDA (programa de computador). Aveiro: Microio/Ludomedia; 2019.
66. Bisset M, Winter L, Middeldorp CM, Coghill D, Zendarski N, Bellgrove MA, et al. Recent Attitudes toward ADHD in the Broader Community: A Systematic Review. *J Atten Disord*. 2021.
67. Nguyen PT, Hinshaw S. Understanding the Stigma Associated with ADHD: Hope for the Future? *ADHD Rep*. 2020;28.
68. Bjørnsen HN, Eilertsen MEB, Ringdal R, Espnes GA, Moksnes UK. Positive mental health literacy: development and validation of a measure among Norwegian adolescents. *BMC Public Health*. 2017;17:717(1).
69. Jung H, Sternberg K von, Davis K. Expanding a measure of mental health literacy: Development and validation of a multicomponent mental health literacy measure. *Psychiatry Res* [Internet]. 2016;243:278–86. Available from: <http://dx.doi.org/10.1016/j.psychres.2016.06.034>
70. Bussing R, Koro-Ljungberg M, Noguchi K, Mason D, Mayerson G, Garvan CW. Willingness to use ADHD Treatments: A Mixed Methods Study of Perceptions by Adolescents, Parents, Health Professionals and Teachers. *Social*. 2012;74(1):92–100.

## Appendix

### APPENDIX A – EXCERPTS OF INTERVIEWS BY CATEGORIES.

Categories	Excerpts from the interviews
1. ADHD concepts and recognition	<p>"it's an illness that causes difficulty in being attentive and quiet" (18).</p> <p>"is when a person can't stand still, is very nervous, doesn't concentrate" (14).</p> <p>"he always has to be fiddling with something. He has his pencil case and he's always playing with pens. He has to go to the bathroom, he has to stand up (...) the teacher is explaining something, asks him what she just said, and he doesn't know (...) he is always talking about things that don't have nothing to do with it and you can see that he is very distracted (...) he is always moving his legs, arms, snapping his fingers" (11).</p> <p>"it affects the person in a way that she gets more energy, move more, becomes a more restless person (...) some may be more talkative, others may be more of running and moving around a lot, others may have several different symptoms" (15).</p> <p>"it can be a person with hyperactivity, but still be very calm, or also have hyperactivity and be explosive, or the middle way. If it is a more stressed person, it will also be more explosive" (17).</p> <p>"people were not very aware of what it was, so they ended up saying that it was an excuse I gave for the fact that I was very restless and did not respect the teachers (...) but I think that nowadays hyperactivity is better known and even teachers are more aware of what it is" (16).</p>
2. Interaction and conduct with people with ADHD	<p>"in our class nobody treats the boy who has hyperactivity differently, he is a boy like all the others, a normal person" (17).</p> <p>"in the playground, he is often with his phone or playing games. Other times he is with us in group playing normally (...) he talks a lot with his friends, he is very funny, very outgoing" (11).</p> <p>"at playground he got angry very easily (...) but he was funny and good friend" (113).</p> <p>"I don't think it makes sense for her to be teased and bullied for it, because it's a disease she can't control" (15).</p> <p>"people with hyperactivity should be accepted by society and not seen as disabled (...) because many times disability is the word used (...) and we are distancing ourselves from each other, because supposedly there are healthy people and the disabled ones, and it is not correct" (14).</p>
3. Stigma in ADHD	<p>"it's when a person who has some disability or mental illness is left aside by society and is considered defective because she is different" (17).</p> <p>"is to discriminate a person just because she is different, or because she has a condition that prevents her from doing some things" (14).</p> <p>"I think there might be stigma against hyperactivity, but if there is it's very small, it's not hardcore as with racism (...) you've never heard of a person being arrested for being hyperactive" (110).</p> <p>"the fact that they make jokes about it, laugh at it (...) treat that person differently just because of hyperactivity. That shows that they have stigma" (11).</p> <p>"I think that the person will feel bad, sad, excluded (...) will be afraid to make new friends, afraid that they will be judged, and become anxious about it. Maybe even afraid to go to school (...) and isolate herself from the others" (11).</p> <p>"If there is no sharing of psychological treatment, the person will improve their way of being and other people will stop criticising" (12).</p> <p>"they may think that going to the psychologist is a thing of crazy or disabled people and think that it is harmful. Or they can support her and say she is making the right choice" (110).</p> <p>"if the person is very uncontrollable, very restless, I think it's normal that some people move away because there are people who don't like to be with people who move a lot and don't stop talking" (15).</p> <p>"society has always been centred on a lineage of so-called normal people and when they see someone different, they tend to recoil" (19).</p> <p>"I really think that when people know what hyperactivity is, they have less prejudice (...) if the kids knew that he wasn't doing it on purpose, or that he wasn't doing that to harm them, they wouldn't judge him" (111).</p>