The Legitimation of Psychotropic Drugs

A Philosophical Discourse Study
on the use of Psychotropic Drugs
in the treatment of children with ADHD
in the Netherlands

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Summary

Medication that falls under the Opium Law is commonly used in the treatment of children with ADHD, while the precise long-term effects are still unknown. This study explores how professionals legitimise this practice in the Netherlands.

A literature review shows that the elements 'mental disorder as an entity', 'neurochemical body', 'normality', and 'morality', are recurring topics in discourses surrounding ADHD. To analyse how the conceptualisation of these elements legitimise the use of pharmaceuticals in treatment of children with ADHD, a philosophical-oriented critical discourse study was conducted. Various materials–the DSM-IV, DSM-5, online information provided by institutions that treat children with ADHD, informative websites, and the Health Council report–were analysed in this study. Examining the materials, another element was found prevalent in the professional narratives, namely 'well-being'.

Multiple philosophers were used to analyse how the elements are conceptualised in professional discourses within the materials: Dehue, De Folter, Foucault, Achterhuis, together with sociologist Te Meerman and microbiologist Dubos. Dehue and Te Meerman show how various reification mechanisms lead to entity thinking and how entity thinking relates to the 'neurochemical body'. Foucault and De Folter show how historically the concept of mental illness relates to the concept of normality and morality. In the work of Achterhuis and Dubos, three conceptualisations of well-being can be found in medical discourse, which are used to distinguish what kind of well-being is referred to in the discourse(s) surrounding ADHD. They also show how the medical view of well-being is interwoven with utopian ideas and values.

The findings of this study suggest that discourses that justify the use of pharmaceuticals found in the materials can be differentiated into two forms: (1) those based on presenting ADHD as a scientific fact; elements are conceptualised in a way that an objective distinction is suggested between a child diagnosed with ADHD and other children, and (2) those that emphasise possible (future) suffering of a child diagnosed with ADHD, in which 'well-being' is conceptualised as the removal of potential struggle.

Analysing the materials with the help of various philosophers has shown a miscommunication between professionals themselves and to the public on ADHD and the use of pharmaceuticals. Reification mechanisms lead to a misconstrued view on ADHD as an entity in relation to the neurochemical body (Dehue and Te Meerman), normality is often unclearly defined or varies between two kinds of models of normality (Foucault and De Folter), and health is presented as the absence of disease, while at the same time containing a broader form of well-being (Achterhuis and Dubos). This miscommunication and vagueness within professional narratives surrounding ADHD contribute to the legitimation of using pharmaceuticals in the treatment of children with ADHD.

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1. Introduction

In the United States it has become a trend to use psychotropic drugs to treat mental disorders. One out of six adults in the US are using pharmaceuticals in the treatment of a mental disorder (Moore, & Mattison, 2017), and one out of thirteen children (Howie, Pastor, & Lukacs, 2014). Psychotropic drugs for children are not only prescribed to teenagers, but also toddlers and even infants.[1] In the Netherlands there is a similar trend.[2]

The prescription of ADHD medication for children quadrupled between 2003 and 2013 in the Netherlands (NOS, 2019). In 2014 the Health Council of the Netherlands and also the Dutch Psychiatric Association (NVvP) sent a document to the former State Secretary for Health, Welfare and Sport on the use of pharmaceutical drugs in the treatment of children with ADHD[3] , stating that measures should be taken to reduce the prescription of ADHD medication. In 2018 there was a 7.8% decline (NOS, 2019). These documents are considered to be one of the reasons that led to this decline in the use of medication for children with ADHD. However, there is still a large group of around 78.000 Dutch children taking ADHD medication (Kerstens, 2019).

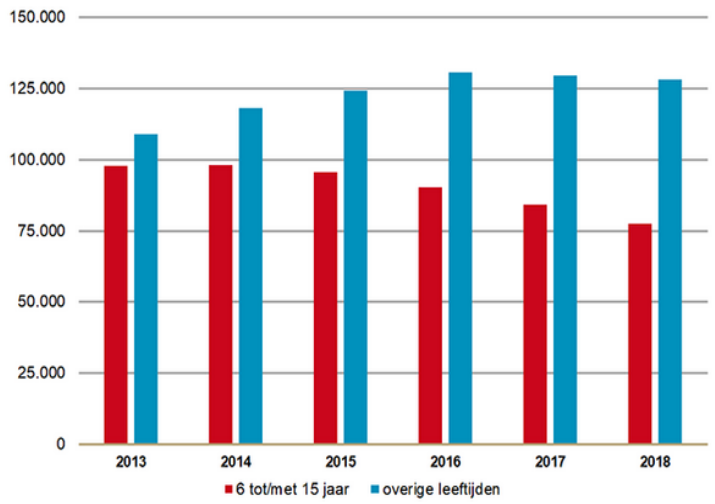

Figure 1. A bar chart on the number of children using methylphenidate in the Netherlands. Children between the age of six and fifteen are compared to other ages.[4]

[1] For further information: https://www.cchrint.org/psychiatric-drugs/people-taking-psychiatric-drugs/

[2] For more information: https://www.kenniscentrum-kjp.nl/professionals/dossiers/babys-peuters-kleuters/#medicatie-jeugd-ggz-baby

[3] ADHD is a mental disorder, which is defined in the DSM-5 as: "a persistent pattern of inattention or hyperactivity-impulsivity that interferes with functioning or development" (American Psychiatric Association, 2013, p. 61).

[4] This graph was taken from Stichting Farmaceutische Kengetallen (SFK), a foundation that collects and analyses data about the use of pharmaceuticals. https://www.sfk.nl/publicaties/PW/2019/sterkere-daling-aantal-jonge-gebruikers-methylfenidaat

A heated debate surrounds the diagnosis of ADHD in children, especially in relation to the prescription of pharmaceuticals. In 2012 psychologist Laura Batstra published the book *Hoe voorkom je ADHD? Door de diagnose niet te stellen*[5], arguing medication is given too easily to children and that we label children too early when they do not conform to socially desirable behaviour (Batstra, 2012). Trudy Dehue, psychologist and philosopher, argues in a similar vein, pleading for more tolerance towards different kinds of people (Dehue, 2014). Psychiatrist Allen Frances, who helped create the DSM-IV[6], has become a fierce critic on the DSM-5, saying it medicalises normal everyday behaviour and experience (Frances, 2013). He is especially worried about the prescription of ADHD medication, since we do not know the long-term consequences (Rubin, 2018; Magliano, 2015). However, there are also proponents of the use of medication, such as paediatrician Pereira, who wrote the book *ADHD: en nu?*[7], saying ADHD is actually underdiagnosed, that more psychotropic drugs should be prescribed to children in need of help (Bakker, 2012); accusing opponents of not taking the suffering of these children seriously (Pereira, Kooij, & Buitelaar, 2011; Brussen, 2012).

The ongoing debate surrounding the diagnosis of ADHD and ADHD medication prescribed to children shows that it is a controversial topic. However, this study is not about whether ADHD is being overdiagnosed or underdiagnosed, whether ADHD as a mental disorder exists or not, but on how professional discourses legitimise the use of medication for the treatment of ADHD.

In 2013 the Dutch TV-program Zembla produced a documentary 'Etiketkinderen' about the debate surrounding children with ADHD using pharmaceuticals. In the documentary, historian Crott, an expert in the field of past and present behaviour of boys and boys' upbringing, says that the view on behaviour of boys has changed. In the last one and a half century most boys in literature are described as agile and easily distracted, having an urge to act and explore, and a need for self-assertion. What was considered behaviour typical of boys changed to a medical problem that has to be treated with drugs (Zembla, 2013). This documentary together with the fact that long-term consequences of using drugs like Ritalin, falling under the Opium Law, on the development of children are unknown, piqued my interest in this subject. It made me wonder how psychiatrists, doctors, teachers and parents legitimise the use of these pharmaceuticals on such a large scale. In this thesis I want to analyse how this practice is legitimised in the Netherlands.

[5] 'How do you prevent ADHD? By not making the diagnosis'

[6] The DSM is a classification system, wherewith professionals can easily classify symptoms of patients, made to avoid confusion when talking about mental disorders among psychiatrists and psychologists.

[7] 'ADHD: and now?'

Within Science, Technology and Society Studies (STS), research has been done on how institutions promote the use of pharmaceuticals in the treatment of people with ADHD (Dehue, 2014; Malacrida, 2004; Singh, 2006).

Other research focused on discourses around the use of pharmaceuticals in the treatment of ADHD, focusing on specific texts, such as the DSM (Crowe, 2000; Pickersgill, 2014; Lluch, 2017), or educational children's books on ADHD (Foget, Haeringen, Te Meerman, & Batstra, 2017). Researchers also looked at oral discourses surrounding this topic, such as the social construction of ADHD in everyday language (Danforth, & Navarro, 2001), the perspectives of parents on children with ADHD (Singh, 2003; Singh, 2004), youth diagnosed with ADHD (Honkasilta, Vehmas, & Vehkakoski, 2016), and children who have been diagnosed with ADHD and take pharmaceuticals (Brady, 2014; Singh, 2011; Singh, 2013).

I have done a literature review[8], to identify common elements, i.e. recurring topics, that these and other researchers have found analysing discourses surrounding mental disorders, ADHD and the use of pharmaceuticals. I found four elements: mental disorder as an entity, normality, neurochemical body, and morality.

Nieweg (2005) found that researchers in psychiatric literature tend to talk about a *mental disorder* as *an entity*. This is a form of reification, making an abstract idea into a thing; in the case of psychiatry, talking about a mental disorder as an entity causing certain symptoms. Dehue (2010) found a similar tendency of professionals talking about mental disorders.

The conceptualisation of mental disorders also relates to the question of *normality*. Bartlett (2011) critically looked at psychiatric literature on the relation between mental disorders and normality. Crowe (2000) analysed the DSM-IV, while Frances (2013) and Vilar-Lluch (2017) analysed DSM-V, looking at the underlying conception of normality of mental disorders. They found that underlying the conceptualisation of a mental disorder is a subjective notion on what is considered 'normal'.

The element *neurochemical body* is considered by several researchers a dominant element in public discourse surrounding ADHD (Bröer & Heerings, 2013; Rose, 2003; Visser & Jehan, 2009; Rafalovich, 2004). This element has been found in UK newspapers (Horton-Salway, 2011) and is emphasised in discourses from pharmaceutical industries promoting psychiatric drugs (Rose, 2003; Dehue, 2010).

Morality also seems to be a recurring element in discourses surrounding ADHD. Singh interviewed children with ADHD, finding that they "believed a core of their 'real' selves was persistently bad" (Singh, 2007, p.1).

[8] For more details on the process of the literature review see Appendix A.

In my literature review I found these four elements in discourses surrounding ADHD and the use of pharmaceuticals. However, when I started studying empirical materials, I noticed another element prevalent in these discourse(s), namely *well-being*. This element seems to play an important role, as it highlights that children get better grades, more friends, a better life, if they use medication. I have coined this element 'well-being', and included it in my analysis.

To better understand how these five elements are given meaning and how they are related in building the legitimisation of taking psychotropic drugs, I decided to focus on professional discourses of psychiatrists and psychologists in the Netherlands. Therefore, my research question is:

> *How is the practice of using psychotropic drugs in the treatment of children with ADHD legitimised within professional discourse(s) in the Netherlands in the period 2000-2019?*

The time period 2000-2019 has been chosen in order to focus on the most recent narrative(s), and to include DSM-IV-TR which is still used alongside the DSM-V by professionals in the Netherlands.

This research focuses on how the DSM and professionals legitimise prescribing pharmaceuticals to children with ADHD, using a philosophical-oriented critical discourse analysis. A critical discourse study is an approach to analyse written or oral text. It focuses on the underlying assumptions, ideologies and values of discourses.

Several philosophers will be used in this study: Dehue, De Folter, Foucault, Achterhuis, together with sociologist Te Meerman and microbiologist Dubos (see chapter 2.2). They give insight into the conceptualisation of the five elements, the underlying values and presuppositions about reality within the context of professional narratives legitimising the use of pharmaceuticals in the treatment of children with ADHD. Thus a philosophical-oriented discourse analysis gives an additional depth to the discourse analysis of the elements.

The research question–How is the practice of using psychotropic drugs in the treatment of children with ADHD legitimised within professional discourse(s) in the Netherlands in the period 2000-2019?– will be answered by means of three sub-questions:

1) *What are the differences and similarities between the discourses legitimising the use of pharmaceuticals in the treatment of ADHD?*
2) *How are the elements (a) mental disorder, (b) normality, (c) neurochemical body, (d) morality, and (e)* well-being framed by professional discourses*?*
3) *How does the conceptualisation of ADHD in relation to the elements, within professional discourses, legitimise the use of pharmaceuticals?*

The thesis is divided into seven chapters. This first chapter introduces the topic and the aim of this study, the research question, sub-questions, and the research approach.

Chapter 2 elaborates on the approach and materials that were used in the analysis. An explanation will be given on what is meant by discourses, critical discourse analysis, and philosophical-oriented discourse analysis.

Chapter 3 provides a historical overview of the beginning of child psychiatry and ADHD. The focus is on how the view on mental disorders changed over time in relation to the use of medication. It includes the emergence of ADHD as a mental disease, the question 'What is ADHD?', and the use of ADHD medication.

Chapter 4 explores the element 'mental disorder' conceptualised as an entity in professional discourses. It builds on the work of Dehue and Te Meerman, who give insights into reification, i.e. the conceptualisation of mental disorder as an entity, and how this relates to the 'neurochemical body'.

Chapter 5 focuses on 'normality' and 'morality' within professional discourses, using Foucault's work and De Folter, who found two conceptualisations of normality in Foucault's work relating to mental disorders: the exclusion and correction model.

Chapter 6 focuses on the conceptualisation of well-being in discourse(s) surrounding ADHD. Achterhuis and Dubos examined historically the relation between the conceptualisation of disease, health, and well-being in medical discourse, and how they are interwoven with utopian ideas and values.

Chapter 7 reflects on the findings of previous chapters, the methods and materials used, and its implications for the professional and public debate around the use of medication by children with ADHD.

In summary, this study examines how professional discourses legitimise the use of pharmaceuticals in the treatment of children with ADHD in the Netherlands using a philosophical-oriented discourse analysis. This will be done by concentrating on how the elements—mental disorder, normality, neurochemical body, morality and well-being—are conceptualised in professional discourses. Using the insights of various philosophers help to get a deeper understanding of how the elements are conceptualised within professional discourses surrounding ADHD and the use of pharmaceuticals. The following chapter deals with the methods and materials used in this study.

2. Approach and materials

To analyse texts in which professionals, both individuals and organisations, legitimise the use of pharmaceuticals in the treatment of children with ADHD a philosophical-oriented discourse analysis was used.

In this chapter an overview will be given of what critical discourse analysis is and how it will be used to analyse the selected materials. Section 2.2 will elaborate on the use of a philosophical discourse analysis. The materials analysed will be discussed in section 2.3. Section 2.4 explains the method used to analyse the materials.

2.1 Critical discourse analysis

A critical discourse study (CDS) was used because it focuses on the analysis of underlying assumptions, ideologies and values in texts or in oral language. Therefore, it is suited to get a deeper understanding of professional narratives in the selected materials.

CDS focuses on the analysis of discourses. There exist different definitions of discourses within CDS (Wodak & Meyer, 2016). Hajer (1993) defines a discourse as:

> an ensemble of ideas, concepts, and categories through which meaning is given to phenomena. Discourses frame certain problems; … Discourse at the same time forms the context in which phenomena are understood and thus predetermines the definition of the problem. (Hajer, 1993, p. 45-46)

In this study Hajer's definition of discourse will be assumed. In this view a discourse can be seen as a a (sub)narrative about a specific phenomenon, which socially constructs our understanding or view of a certain phenomenon. For example, since 1863 pollution in Britain was a phenomenon framed by politicians as not a matter of political concern, unless it was likely to cause damage or danger to human health. During the 1980s this changed, the discourse of ecological modernisation started to become more dominant within politics. In this discourse nature was seen as intrinsically valuable, instead of instrumental. The discourse emphasised preventive measures against pollution (Hajer, 1993). Here we can see that the phenomenon of pollution is framed differently by the two discourses, which has an effect on the actions that are taken (or not taken) in relation to the phenomenon.

CDS assumes that discourses reflect and at the same time produce the social world (Paltridge, 2012). The example of discourses surrounding pollution in Britain has already shown this. An example relating to this study, is the phenomenon of inattentive and hyperactive behaviour of boys. In the past this behaviour was considered to be typical of boys. Now it is framed as a medical problem, which has to

be treated (Crott, 2011). In this way the narrative that has become dominant within our culture changes the lives of boys who exhibit this behaviour, and the way people interact with them, the social world. Within critical discourse analysis, language is seen as a form of structuring social life.

Discourses refer in this study not to a specific text, but to a narrative in texts, i.e. to the way reality is constructed as a form of knowledge. Texts are seen as expressions of a certain discourse, or multiple discourses at the same time. Texts can thus be defined "as the concrete realisation of abstract forms of knowledge" (Lemke 1995, as cited in Wodak & Meyer, 2016, p. 6).

'Critical' in CDS means that discourses are analysed critically, examining the contradictions within and between discourses, and critically analysing the way statements about reality within discourses are presented as rational, as being true (Wodak & Meyer, 2016). Wodak and Meyer describe 'critical' in critical discourse analysis as follows: "Any social phenomenon lends itself to critical investigation, to be challenged and not taken for granted" (Wodak & Meyer, 2016). Critical discourse studies in general tend to focus on social issues within society, to "produce and convey critical knowledge that enables human beings to emancipate themselves from forms of domination through self-reflection" (Wodak & Meyer, 2016, p. 7).

CDS is multidisciplinary, being used not only by text linguistics, but also in psychology, political science, anthropology, and philosophy (Wodak & Meyer, 2016). The critical discourse analysis used in this study is a philosophical oriented one, which goes beneath the discourses, showing underlying values and assumptions of reality.

2.2 Why a philosophical discourse analysis

Philosophical perspectives are needed to help broaden the often one-sided focus on normality by many researchers, who consider the framing of normality as the main reason for children to be diagnosed with ADHD and with it the use of medication.

Frances argues in his book 'Saving Normal' that normal behaviour in reaction to problems of daily life has become medicalised (2013).

Crowe (2000) uses in his article *Constructing normality: a discourse analysis of the DSM-IV* a discourse analysis with a Foucauldian perspective. He found that mental disorder criteria, are based on specific assumptions and cultural values like rationality, unity, moderation, and productivity. Crowe questions these underlying values, "this authoritative image of normality pervades many areas of social life and pathologises experiences that could be regarded as responses to life events" (Crowe, 2000, p. 1).

Freedman and Honkasilta (2017) criticise the DSM-5 and International Classification of Diseases (ICD-10). Similar to Crowe they conclude that what is defined as a mental disorder is culturally laden, as "... most of the symptoms actually describe culturally deviant behavior" (Freedman and Honkasilta, 2017, p.1).

Closely related, and in fact relegated to the conceptualisation of normality are the perception of 'mental disorder as an entity', and the conceptualisation of the 'neurochemical body'. Entity thinking reifies the conceptualisation that people with ADHD are biologically different from 'normal' people (Te Meerman, 2019; Bartlett, 2011). Te Meerman (2019) explains this as follows:

> when studies into brain-anatomy are conducted by comparing groups of children with an ADHD 'diagnosis' with controls, small group differences are often presented as if every individual in the ADHD group is afflicted with an attribute like a smaller brain (part). This is reifying as it suggests the existence of a real physical identifiable attribute that sets those with an ADHD classification apart from 'normal' people (Te Meerman, 2019, p. 9-10).

Generalisation in brain studies is a form of reasoning, a logical fallacy, that leads to a form of reification where children diagnosed with ADHD are being shown to be 'different' from 'normal' children.

The conceptualisation of the neurochemical body is considered in professional narratives to legitimise the use of pharmaceuticals to children whose 'bodies' deviate from 'normal' bodies. The deviation generally is defined as a genetic defect or a chemical imbalance in the brain. According to Rose (2003) brain imaging technology reinforces this belief:

> that it is now possible to visualize the activities of the living brain as it thinks, desires, feels happy or sad, loves and fears, and hence to distinguish normality from abnormality at the level of patterns of brain activity (Rose, 2003, p. 46).

The narrative of chemical imbalance reinforces the idea that pharmaceuticals are the way to treat people with disorders (Rose, 2003; Dehue, 2014).

Even 'morality' is seen in the light of normality, i.e. as deviating from the norm, for instance as behaviour that is considered deviant from 'normal behaviour' (Singh, 2007). Singh (2007) interviewed children with ADHD. Below is an excerpt from an interview, in which she asks a boy about how he views himself in relation to the use of pharmaceuticals.

I: You're saying that there's a bad part of you that the tablets can't make good?

M: Yeah, inside I might be evil. I need the tablets to make me good but they can't take away all the evil.

I: So if I were to ask you what you think is the 'real' you – the bad part that the tablets can't make good, or the good part with the tablets . . .

M: Well of course I'm not real with the tablets!

I: So the real you is the bad you?

M: I think so.

(SIngh, 2007, p. 175)

Singh notes that children report that medication makes them temporarily morally good, and that medication inhibits the 'bad' part of themselves. The children say that when they are on medication they become more 'normal', which they contrast with their hyperactive 'crazy' behaviour, which they equal to morally bad behaviour, when off medication (SIngh, 2007). Being moral or immoral is related to acting according to the norm, what is considered 'normal' behaviour.

However, this thesis questions whether normality is the main reason for the legitimation of pharmaceuticals, as is suggested by the above-mentioned literature. Focusing on normality may blind us from getting a deeper understanding of other discourse elements embedded within the legitimation of giving medication. Philosophical perspectives seem appropriate tools to detect and better understand these elements. The work of philosophers Dehue, Foucault, de Folter, and Achterhuis are used, together with the work of sociologist Te Meerman and microbiologist Dubos, because of their valuable insights, historical and current perspectives, on the five elements.

Table 1 lists how each philosopher contributes to the understanding of the underlying values and assumptions of the elements within professional discourses legitimising the use of pharmaceuticals in the treatment of children with ADHD.

Table 1

A list of elements with corresponding philosophers (and other)

Elements	**Contributions of each philosopher (or other) in analysing the elements**
Mental disorder as an entity Neurochemical body	Dehue and Te Meerman show how entity thinking relates to the 'neurochemical body'. Dehue reveals underlying assumptions about reality in relation to those elements, while Te Meerman gives a detailed analysis of the various reification mechanisms leading to entity thinking.
Normality Morality	Foucault shows how historically the concept of mental illness relates to the concept of normality and morality, and how it has changed over time in medical discourse. De Folter found two conceptualisations of normality in Foucault's work relating to mental disorders: exclusion and correction model of normality. These will be used to analyse the materials.
Well-being	Within Achterhuis and Dubos work, three conceptualisations of well-being can be distinguished in medical discourse, which are used to get a better idea what kind of well-being is referred to in the discourse(s) surrounding ADHD. They also show how the medical view of well-being is interwoven with utopian ideas and values.

2.3 Materials

To find discourses of professionals that legitimise pharmaceuticals, I searched for typical texts representing the narratives of professionals. The following materials have been found: the DSM-IV-TR, DSM-5, online information from medical institutions in the Netherlands that provide pharmacotherapy to children with ADHD, informative websites made by professionals that these medical institutions refer to, and a report of the Dutch Health Council on ADHD and the use of medication. The online information from medical institutions was found using the website 'ZorgkaartNederland'. The date-range of the materials lie between 2000 and 2019. The material was selected because they contain and represent professional discourses that legitimise the use of medication in the treatment of children with ADHD in the Netherlands.

2.3.1 The DSM

The Diagnostic and Statistical Manual of Mental Disorders (DSM) was made by the American Psychiatric Association (APA), to avoid confusion when talking about mental disorders among psychiatrists and psychologists of different schools, as well as researchers (Wisman, 2013). The DSM-IV-TR was published in 2000 and the DSM-V in 2013.

Psychiatrists and other health care professionals use the *DSM* as a diagnostic tool for identifying mental disorders. The DSM defines and categorises mental disorders. It gives clear descriptions, a list of symptoms, and how many symptoms are required for a person to be diagnosed with a certain disorder.

2.3.2 Online information

Professionals from medical institutions that treat children with ADHD use online websites to inform the public, especially parents, how and why these children should be treated. These websites include discourses that legitimise pharmacotherapy.

To find online information from medical institutions that focus on treatment of children with ADHD, the website ZorgkaartNederland[9] has been used. ZorgkaartNederland has been made by the Netherlands Patients Federation to provide a list of healthcare providers for those searching for a healthcare provider.

By using ZorgkaartNederland, 26 websites from medical institutions were selected on the basis of (1) being run by professionals (psychiatrists or psychologists), (2) being an institution that gives pharmacotherapy to children with ADHD, (3) having a website that provides information on ADHD and

[9] https://www.zorgkaartnederland.nl/

(4) information on (the why and how of) treatment by means of psychotropic drugs (see Appendix B). The information on the websites that were analysed are texts, images and videos.

2.3.3 Informative websites made by professionals

The online information from the website of The Dutch Association of Psychiatry and thuisarts.nl, have been commonly referred to by the medical institutions to provide information on ADHD and pharmacotherapy to the public.

Report of the Health Council of the Netherlands

The Health Council is an independent scientific advisory body that gives advice to the government and parliament on matters concerning public health. In 2014 the Health Council wrote the report *ADHD: medicatie en maatschappij*[10], about the use of psychotropic drugs in the treatment of children with ADHD. This report has been included, for it shows how professionals legitimise the use of pharmaceuticals towards the government.

The materials mentioned above were chosen as they represent discourses of professionals that publicly legitimise the use of medication in the treatment of children with ADHD in the Netherlands. The materials differ in that they focus on different target groups i.e. professionals, the public, parents, and government, and have different goals ranging from being a diagnostic tool for professionals, informing patients and parents, to advising the government. This difference makes them interesting to compare to see whether commonalities can be found, and especially whether common discourses can be found with respect to the legitimation of prescribing ADHD medication to children.

2.4 Methodology

To explore the discourses of professionals a philosophical-oriented critical discourse analysis was used. CDS is a qualitative form of research, used to examine and critique discourses reflected in texts. In general, critical discourse studies analyse the structure, form and content of texts (Wodak & Meyer, 2016). In this study the philosophical-oriented discourse approach focuses primarily on how the elements, mental disorder as an entity, normality, neurochemical body, morality, and well-being, are conceptualised within the discourse(s) of the materials selected (see 2.3).

The texts within the materials selected are coded on the basis of the five elements. These coding categories are discourse strands. Discourse fragments or strands are topics a text refers to (Wodak & Meyer, 2016). The data that can be coded are words, sentences or whole paragraphs, as well as

[10] 'ADHD: medication and society'

photographs, images and videos.[11] Certain wording and statements that in some way directly relate to or reflect the elements were used in coding the materials, such as 'normality', 'brain', 'genetics', and 'well-being'. Also coded were indirectly related words or sentences, such as 'poor school performance', and 'falling into criminality', which relate to the element (future) well-being (of the child). For the interpretation of the words and statements in texts, the context is taken into account, as is the form of argumentation used. Also statements are seen in conjunction with other statements. For example, the possibility for a child with ADHD to fall into criminality is seen in conjunction with the statement that ADHD can lead to addiction, which relates to well-being. For a more complete overview see Appendix E.

The discourse strands were examined, looking at the underlying values and assumptions within the elements that are typical in discourses surrounding the use of pharmaceuticals with the help of philosophers Dehue, Foucault, De Folter, Achterhuis, sociologist Te Meerman and microbiologist Dubos (see 2.2 and Table 1).

Foucault and De Folter, for example, give a better understanding of the different conceptualisations of normality, which serves the analysis of normality, implicitly and explicitly mentioned in the narratives of professionals in the materials selected. Dehue and Te Meerman show the relationship between 'entity thinking' and the 'neurochemical body', giving additional insights into these elements, such as that 'entity thinking' primarily relates to differentiating a 'normal healthy' person from one who is biologically different. This directed the attention to the biological aspects in relation to ADHD narratives when coding the materials, such as genes and other statements about biological difference between children with ADHD and other children. Dehue and Te Meerman show several forms of reification, such as language use, logical fallacies, the expansion of definitions, and textual silence, which helped coding the materials in more detail.

To determine the presence of the discourses in the professional materials, the wording in the materials were analysed for indications of the various discourse fragments. For the total counts of the presence of the discourses, in each material was thus counted only once, regardless the number of times a certain discourse on the basis of the elements was found in that material.

[11] The data was coded using the program ATLAS.ti, which can be used for qualitative and mixed methods data analysis. Here it was used for a qualitative analysis. The websites from medical institutions and informative websites from professionals were saved as pdfs and then imported into ATLAS.ti for coding. The other materials were coded manually.

2.5 Conclusion

Discourses, i.e. narratives, within texts influence the world we live in, they structure the way we perceive certain phenomena. To understand how professionals legitimise the use of drugs in treatment of children with ADHD, the focus will be on professional discourses, therefore CDS was considered a suitable approach. Materials have been selected, which professionals use to legitimise pharmacotherapy in the treatment of children with ADHD, to the public, other professionals or the government. These materials are analysed by looking at the way the elements within professional discourses are conceptualised. The work of various philosophers deepens the analysis of the elements within ADHD discourses, revealing how underlying assumptions within these elements legitimise the use of pharmaceuticals.

The next chapter will give a historical overview to better understand the discourses surrounding ADHD and medication, providing a historical context of child psychiatry in the Netherlands.

3. A historical overview of child psychiatry and ADHD in the Netherlands (1890-2020)

This chapter gives a historical context to the question how the use of pharmaceuticals is legitimised in the treatment of children with ADHD.[12] Several mental disorders which are considered to be the precursors of ADHD will be examined: abnormal defect of moral control in children, the nervous child, and minimal brain damage disorder.

Section 3.1 starts with the rise of child psychiatry in the 19th century in the Netherlands and abnormal defect of moral control in children. Chapter 3.2 focuses on psychoanalysis becoming dominant within child psychiatry between 1965 and 1985 (section 3.2.1 and 3.2.2). The last section deals with the biomedical turn in psychiatry, changes in the DSM and the increasing use of psychotropic drugs by child psychiatrists.

3.1 Child Psychiatry

In the 19th century in the Western world there was not much interest in children in psychiatry. It was assumed that children's minds were not mature enough to develop a substantial mental disorder. Children with deviant behaviour were not considered as having a mental disorder, instead they were seen as having moral problems in need of strong discipline (Rey et al., 2015).

In the 1920s there were some small initiatives in the Netherlands to establish psychiatry that primarily focused on children; yet it was after World War II in 1948 that a department on child psychiatry within the Dutch Society of Psychiatry and Neurology was established (Bolt & de Goei, 2008).

3.2 Birth of child psychiatry in the Netherlands (1925-1965)

The public education law implemented in 1900, together with a concern for the rise of criminality among children and the mental hygiene movement, raised an interest in children within psychiatry (Bolt & de Goei, 2008). The mental hygiene movement emerged in the United States and spread to the Netherlands. It was inspired by psychoanalysis, promoting the idea that mental disorders were the result of conflicts within the personality development and therefore that mental disorders could and should be prevented (Kearl, 2014).

[12] The focus will be primarily on internal changes within psychiatry, instead of social and political developments in society.

3.2.1 Abnormal defect of moral control in children

In 1902 British pediatrician Still talks in his Goulstonian Lectures about an abnormal defect of moral control in children, which is considered a precursor of ADHD. He clustered several types of deviant behaviour together, which he considered to be typical of a lack of moral control. Children who were mischievous, dishonest, who had problems with attention, were impulsive and hyperactive, were considered having an abnormal defect of moral control (Lange, Reichl, Lange, Tucha, & Tucha, 2010). He found the behaviour deviated strongly from what was considered normal that he thought the cause of the disorder was something innate, hereditary or potentially the result of brain damage (Still, 2006).

Still's way of thinking of mental disorders was also present in psychiatry in the Netherlands, yet this view started to change with the advance of psychoanalysis.

3.2.2 The influence of psychoanalysis in psychiatry

Between 1925 and 1965 psychoanalysis started to rise within psychiatry. Before 1925 psychiatrists considered hereditary predisposition to be the most important factor in the emergence of a mental disorder. As a consequence treatment for people with a mental disorder was limited. This changed with Freud and Adler, both pioneers in psychoanalysis. Within the theory of psychoanalysis was the assumption that mental disorders were primarily caused by psychological factors, and assumed the plasticity of personality development (Bolt & de Goei, 2008).

Freud divides the mind into the conscious and unconscious, as a consequence there is a part of our personality we are not conscious of that drives our behaviour. The unconscious is where repressed desires and memories reside, which form our habits and behaviours (Ekstrom, 2004).

While Freud thought that problems in psychosexual development played a large role in the development of neuroses, Adler thought that feelings of inferiority played a more important role, with a focus on the relation between the individual and society. While both psychoanalysts had a great influence on psychiatry, it was Adler's psychology that became popular in the Netherlands in the 1930s (Bolt & de Goei, 2008).

Psychoanalysis in general focused on patients' inner experience, 'storylines' and their relations to other people. Mental disorders were caused by psychological factors, such as parent-infant relationship in relation to the child's personality development. Physical factors were seen as less important (Michels, 2015).

3.2.3 The nervous child

Before the 1930s, children who performed poorly at school were thought to be unwilling to learn or limited by their predisposition. In the 1930s some Dutch psychiatrists started describing children with problems in concentrating, hyperactive behaviour and impulsivity as having a mental disorder. During that time psychiatrists called it 'childlike nervositas'[13] or 'the nervous child'[14] (Nieweg, 2006). The problematic behaviour was especially noticeable at school. The children were low achievers and hard to handle for teachers. It was feared that these children had more chance of becoming criminal. Also, there was an emphasis on their feelings of inferiority due to scolding from parents and teachers, and poor school performance (Bolt & de Goei, 2008).

The opinions on the cause of the disorder were divided among child psychiatrists. Psychiatrists with a strong background in psychoanalysis claimed there was no fault within the child, that it was mostly a problem caused by the social environment, especially the domestic situation that impeded the development of the child. Other psychiatrists thought that the child's behaviour was a consequence of hereditary and malfunctions of the body, for example an oversensitive autonomic nervous system. Psychiatrists would point out that these children often had parents with similar behaviour, yet this could also mean that they were simply imitating their parents (Bolt & de Goei, 2008). For many psychiatrists it was unclear whether the disorder was a result of nature or nurture and it was assumed that it was an interplay of these factors (Nieweg, 2006).

Treatment consisted mostly by bringing more structure and rest in the child's life, by adjusting the environment by reducing external stimuli (Nieweg, 2006). However, some child psychiatrists did prescribe medication to children, such as sedatives and roborantia (Bolt & de Goei, 2008).

3.3 Psychoanalysis becoming dominant within child psychiatry (1965-1985)

In the 1970s psychoanalysis became dominant within child psychiatry in the Netherlands. With psychoanalysis came the idea that mental disorders could be prevented by focusing on the personality development of the child. The idea was that the child's mental development could be divided into development phases and that psychiatrists should examine in which phase the mental disorder of a child started, to treat the disorder at its root (Bolt & de Goei, 2008).

[13] 'kinderlijke nervositas'

[14] 'het nerveuze kind'

While treatment focused primarily on the interplay between the child and the social environment, psychiatrists thought that some mental disorders could have an organic cause, such as Minimal Brain Damage disorder (Nieweg, 2006).

3.3.1 Minimal Brain Damage

Around the 1960s rose the idea in the United States that a slight injury in the brain could lead to hyperactivity, inattention and impulsive behaviour. This was called Minimal Brain Damage (MBD). The name implied a neurological cause; however, no evidence was found for this theory. This idea spread to the Netherlands in the 1970s. MBD seems incompatible with the dominant psychoanalytic thinking during that time, yet this was not the case (Lange, Reichl, Lange, Tucha, & Tucha, 2010).

Psychiatrists thought that an interplay of biological, psychological and social factors caused MBD. The theory was that the brain injury made children more susceptible to the negative effects of the social environment, which in turn caused problems in the psychological development, which would lead to inattention, hyperactivity and impulsive behaviour. These behaviours would in turn lead to negative reactions from parents and teachers, which would again have a negative effect on the child's psychological development (Nieweg, 2006).

The child was seen as a victim of his own inner unconscious conflicts (Bolt & de Goei, 2008). Thus the treatment focused mostly on helping children to deal with these conflicts and by creating a safe and understanding social environment (Nieweg, 2006).

In the United States Ritalin was heavily used to treat children with MBD. However, Dutch psychiatrists were reluctant in using it, for there was not enough evidence for its effectiveness and because of the fact that Ritalin falls under the Opium Law (Bolt & de Goei, 2008).

3.4 The Biomedical turn (1985-2019)

In the 1990s biological psychiatry started to rise within child psychiatry. More research started to focus on neurochemical, neurophysiological, and genetic factors in the emergence of mental disorders (de Waardt, 2005).

However, psychiatrists warned for a one-sided focus on the biological aspect. In general it was thought that mental disorders were the result of an interplay between biological, psychological, and social factors, still assuming a biopsychosocial model. Research within psychiatry showed that the development of a mental disorder into adulthood was dependent on psychological and socioeconomic factors, and the family situation. For example, research showed that genetic factors were considered to be probabilistic, not a direct cause of mental disorders (Bolt & de Goei, 2008). However, the

biological aspect was and still is thought to be a major cause of many mental disorders. The idea is that a difference in brain or genetic predisposition is the basis for a mental disorder, which can develop further in relation to the environment the child grows up into (de Waardt, 2005).

3.4.1 DSM from III, IV to DSM-5

During the 1960s and 1970s criticism on psychiatry started to grow in the United States. Psychiatric research showed doubt on the effectiveness of the psychosocial model of mental disorders (Parnas & Bovet, 2015). Furthermore, an anti-psychiatry movement emerged, critical of organised psychiatry in general, influenced by Foucault, Laing, Szasz and Basaglia, saying that mental disorders are socially constructed, a form of oppression, a myth (Rissmiller & Rissmiller, 2006).

Even within psychiatry itself psychiatrists felt dissatisfied with the state of affairs within psychiatry. It was during this time that the DSM-III was developed by the American Psychiatric Association.

The DSM-III was published in 1980 in the United States. In the 1990s it became the standard guide for psychiatric diagnosis in the Netherlands. The DSM-III differed from its predecessor in the sense that it focused on clear descriptions of clear observable symptoms instead of (psychodynamic) theoretical and etiological presuppositions. The DSM-IV and DSM-5 followed suit, being also descriptive, focusing on clear diagnostic criteria, instead of concentrating on theories of underlying causes of mental disorders (Wisman, 2013). The idea was that every psychiatrist independent of their theoretical school could talk to each other, having a common language. This standardisation also gave psychiatric diagnosis a more scientific status (Bolt & de Goei, 2008).

The group of psychiatrists who created the DSM-III were influenced by Kraepelin's theory of nosology, which also influenced the DSM-IV and DSM-5. Kraepelin's hypothesis was "that specific combinations of symptoms in relation to the course of psychiatric illnesses allow one to identify a particular mental disorder" (Ebert & Bär, 2010, p. 2). This means that even if we currently do not know the underlying cause of a mental disorder, we still can find 'disease entities' by focusing on patterns of symptoms that consistently are observed together in the course of the illness. The idea is that a 'disease picture' can be made (Jablensky, 2012).

Thus for now the DSM can only give a temporal description of mental disorders. Psychiatrists wait for results of more research to get a clearer picture of the mental diseases and their cause(s); as psychiatrist Paul Hoff explains: "not to regard diagnostic categories as once and for ever definite, not as 'natural kinds,' but as scientific *conventions* which need further verification—or falsification." (Hoff, 2015, p. 39).

The DSM III, IV and 5 generally follow the same definition of mental disorders. The official definition in the DSM-5 is:

> A mental disorder is a syndrome characterized by clinically significant disturbance in an individual's cognition, emotional regulation, or behavior that reflects a dysfunction in the psychological, biological, or developmental processes underlying mental functioning. Mental disorders are usually associated with significant distress or disability in social, occupational, or other important activities. (American Psychiatric Association, 2013, p. 20)

What exactly is meant by 'dysfunction' is not clear. According to Stein, Phillips, Bolton, Fulford, Sadler, and Kendler (2010) it suggests that a dysfunction of a psychological, biological or developmental process is meant as a statistical deviance from the norm or as a dysfunction from an evolutionary perspective.

The authors of the DSM emphasise that expected natural reactions to certain situations are not considered mental disorders.[15] They give as an example experiencing sadness after the death of a loved one. Deviant behaviour is also not considered to be part of a mental disorder, unless it is the result of a psychological, biological, or developmental dysfunction (American Psychiatric Association, 2013).

3.4.2 The rise of pharmacological treatment

Before 1985 psychiatrists were reluctant in prescribing drugs, yet this changed between 1985 and 1993. Medication became commonly prescribed to patients with a mental disorder, especially children with PDD and ADHD. It was commonly used together with other forms of treatment, for example family therapy or psychotherapy (Bolt & de Goei, 2008).

The rise in pharmacotherapy aligned with the change from DSM-II to DSM-III, from a focus on theory to a focus on clear descriptions of symptoms. Psychiatrists used to focus primarily on the inner psychological conflicts of the child, following the psychodynamic view on treating mental disorders, now they started to direct their attention more on reducing symptoms or making symptoms more

[15] This is an interesting statement for the DSM-5 does not make statements on the cause(s) of mental disorders, meaning that the DSM does not focus on the etiology. It also is an ambiguous statement, for when do we say that certain behaviour is natural, expected or not? Some mental disorders are linked to traumatic events, such as posttraumatic stress disorder. Should not the behaviour of people with PTSD be considered 'natural'?

bearable.[16] The focus came more on preventing and mitigating behaviour problems using among others pharmaceuticals. However, pharmacotherapy was not considered a main form of therapy, but an addition to other forms of therapy (Bolt & de Goei, 2008).

3.4.3 ADHD and medication

What is ADHD?

There was not enough scientific evidence that supported the claim that MBD was the result of a defect in the brain, thus MBD was replaced with ADD (Attention Deficit Disorder without Hyperactivity) and ADDH (Attention Deficit Disorder with Hyperactivity) in the DSM-III. The revised version of the DSM-III and later the DSM-IV changed ADD(H) to ADHD (Bolt & de Goei, 2008).

The DSM-IV and DSM-5 have almost the same definition for ADHD. The DSM-5 defines ADHD as: "a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development" (American Psychiatric Association, 2013, p. 61). In the DSM-IV and DSM-V ADHD has three subtypes: hyperactive-impulsive, attention-deficit and combination subtype (American Psychiatric Association, 2013; Epstein & Loren, 2013).

ADHD falls under the category 'Neurodevelopmental Disorders' in the DSM-5. Neurodevelopmental disorders are considered to be disorders that begin in the developmental period, between birth and the 18th birthday. The name suggests an underlying neurological cause, however there is no conclusive evidence that supports this (Bolt & de Goei, 2008). No statements are made on the cause(s) of ADHD in the DSM-5, as the American Psychiatric Association states:" a diagnosis does not carry any necessary implications regarding the etiology or causes of the individual's mental disorder" (American Psychiatric Association, 2013, p. 25).

In the DSM-5 'ADHD' refers to a cluster of symptoms. The symptoms are divided into 'inattention' and 'hyperactivity and impulsivity' (American Psychiatric Association, 2013). A child is diagnosed with ADHD if it has six of nine symptoms that fall into 'inattention' and 'hyperactivity and impulsivity'. Furthermore, these symptoms must be observed before the age of 12.[17] The symptoms should also be observed to be consistent in different social contexts, such as at school, home, being with friends, or at work, in at least two settings. It is important to note that the symptoms have to negatively affect

[16] However, there were psychiatrists criticising this approach, saying it neglects the patient itself, their personal story. Also some psychiatrists pointed out that scientific research on the effects of psychotropic drugs were often financed by the pharmaceutical industry (Bolt & de Goei, 2008).

[17] In the DSM-IV this used to be before the age of 7. For better understanding of the subtle differences between the DSM-IV and DSM-5 in relation to ADHD see the article *Changes in the definition of ADHD in DSM-5* by Epstein and Loren.

the quality of life in the context of academic performance, social life or work (American Psychiatric Association, 2013).

A noticeable difference between the DSM-IV and DSM-5 in relation to ADHD is the change from 'subtypes' to 'presentations' (American Psychiatric Association, 2013). The subtypes of ADHD (hyperactive-impulsive, attention-deficit and combination), are still the same, however by changing it to 'presentations' it is emphasised that the symptoms often are fluid states, instead of being fixed traits. It accentuates that these subtypes, presentations, can change over time in an individual. Thus a child may be diagnosed ADHD with as presentation 'hyperactive-impulsive', but this may change over time to another presentation, or may wane over time altogether (Epstein & Loren, 2013; Hurtig et al., 2007).

Furthermore, the severity of ADHD can be specified. The severity can be mild, moderate or severe. Mild if only a few symptoms are observed together with a slight impairment in functioning, moderate if the symptoms and impairment are between that of mild and severe. And severe if many symptoms have been found in excess, or the child shows clear impairment in functioning, socially or work-related (American Psychiatric Association, 2013).

ADHD medication

Psychiatrists and other health care professionals use the DSM as a diagnostic tool for identifying mental disorders. On the basis of the diagnosis certain medications are prescribed by psychiatrists. Concerta and Ritalin are the most commonly prescribed drugs to children with ADHD in the Netherlands. These medications contain methylphenidate hydrochloride, a form of amphetamine. While the main ingredient is the same, they are different in dosing and duration. Because methylphenidate is a form of amphetamine, both medications fall under the Opium Law (Bolt & de Goei, 2008).

Methylphenidate affects the neurotransmitters in the brain's dopamine system, similar to cocaine, which results in a person becoming more focused and alert, and decreases hyperactive and impulsive behaviour (Vastag, 2001). Possible short-term side-effects are: decreased appetite, headache, allergic reactions, nausea, anxiety, trouble sleeping, dizziness, stomach ache, irritability, confusion, agitation and unusual moods or behaviour (Graham, 2011; Becker, Froehlich, & Epstein, 2016; Pliszka, 2007; Breggin, 1998). On rare occasions these pharmaceuticals may lead to suicidality or sudden cardiac death (Graham, 2011). The long-term consequences of using these drugs are still unknown (Rubin, 2018; Magliano, 2015**)**.

3.5 Conclusion

The internal history of child psychiatry shows how the view of mental disorders has changed over time. An overview of the history of psychiatry in the Netherlands can be seen in Table 3, Appendix C. With the rise of psychoanalysis, mental disorders were considered to be the result of personality development in relation to the environment; psychiatrists started to take interest in the mental well-being of children. With the biomedical turn, treatment started to focus more on the body of the child, instead of the environment. Medication became more commonly used to alleviate symptoms. The rise in pharmacotherapy aligned with the change from DSM-II to DSM-III, from a focus on theory to a focus on clear descriptions of symptoms.

The elements—mental disorder as an entity, neurochemical body, normality, morality and well-being—can already be found in the thoughts of professionals in the past on mental disorders and specifically precursors of ADHD.

'Normality' is a recurring element in the precursors of ADHD and ADHD. The behaviour is considered abnormal, and in the case of 'abnormal defect of moral control' and MBD, it was thought that children with this behaviour had a different body or defect in the brain. Some psychiatrists thought in a similar vein about 'the nervous child'. In these cases, 'normality' is strongly intertwined with the 'neurochemical body'.

The element 'mental disorder as an entity' relates also to the 'neurochemical body', which will be explained in chapter 4. It can clearly be found within the Kraepelinian idea of the DSM, where it is thought that in the future disease entities will be found that cause mental disorders.

The element 'morality' is also quite noticeable. In the past, hyperactive, impulsive and inattentive behaviour was thought to be a problem of morality. Later this behaviour became medicalised, it was considered abnormal, having a moral deficiency. The following precursors of ADHD did not consider the behaviour a problem of morality. It was still thought that hyperactive children had a higher chance of becoming criminal, but the children were not considered to be immoral, it was more associated with a negative effect on the quality of the child's life, which falls under the element 'well-being'.

The element 'well-being' is prominent in psychoanalysis, especially with Adler, emphasising the emotional development of a child in the emergence of mental disorders. The emotional development was also emphasised in 'the nervous child' and MBD, where hyperactive and impulsive behaviour were seen as negatively affecting social relations and school performance, resulting in a negative effect on the psychological development, resulting in feelings of inferiority.

Now that we have a context on the historical views of the emergence of ADHD and the use of medication, we will have a closer look at the conceptualisation of mental disorder as an entity and its relation to the neurochemical body in current discourse(s) of professionals.

4. Mental disorder as an entity and the neurochemical body

This chapter examines how the elements 'mental disorder as an entity' and 'the neurochemical body' relate to professional discourses that legitimise pharmaceuticals. In chapter 3 we saw that the DSM implicitly assumes the Kraepelinian idea that mental disorders refer to natural entities. This relates to 'mental disorder as an entity'. In some of the precursors of ADHD, hyperactive and inattentive behaviour was already thought to be the result of a deviation in the neurochemical body. In this chapter we will see that these elements are closely interconnected.

In the first section an explanation of reification will be given and how it leads to entity thinking. Reification is a process where a concept becomes to be seen as a concrete entity. Dehue shows in this section how 'mental disorder as an entity' is intertwined with 'the neurochemical body'.

In the second section Dehue and Te Meerman show several reifying mechanisms that are used to reify ADHD: language use, logical fallacies, expanding the definition and textual silence. These mechanisms are used to analyse the materials. As we will see, the element 'neurochemical body' is most often observed when the definition of ADHD is being expanded, a reification mechanism which is examined in 4.2.3.

The second section is subdivided into these reification mechanisms. Every subsection begins with an explanation of a reification mechanism, then we will look whether these mechanisms can be found in the selected materials.

4.1 Reification

Reification is making an abstract idea into a thing; in the case of ADHD, from a name referring to a list of hyperactive and impulsive behaviours to talking about a mental disorder as an entity *causing* these behaviours. Te Meerman explains it as follows:" Reification refers to the process ..., where people confuse the concepts and categories used to probe reality, with reality itself" (Te Meerman, 2019, p. 87).

Psychiatrists have a tendency to talk about a mental disorder as an entity (Nieweg, 2005). Dehue (2010) makes a similar observation, noticing that talking about a mental illness as an entity, happens easily, not only by lay people, but also by scientists and professionals. Nieweg (2005) notes that reification of mental disorders has been warned about by several psychiatrists (Jaspers, 1913; Kuiper, 1965; Kendell, 1975), the Nederlandse Vereniging voor Psychiatrie (1995) and even by the authors of the DSM-IV Guidebook (1995).

Talking about a mental disorder as an entity implies that there is a disease entity that refers to a biological deviation, a brain injury, a bacteria or virus, something which makes the person who has the disorder biologically different from a normal healthy person.

However, in the case of ADHD, there is currently no conclusive scientific evidence that there is a biological entity causing ADHD behaviour. Therefore the DSM-IV and DSM-5 do not make statements about the underlying mechanisms causing ADHD. Although the DSM-IV and DSM-5 do have an underlying Kraepelinian idea that ADHD will refer to a disease entity, from which the underlying (neurochemical) mechanisms will be found in the future. As we have already seen in section 3.3.2, ADHD is not a disease entity that has been found in nature, a scientific fact, but a scientific convention, which still needs further research in order for verification (Hoff, 2015). Currently ADHD is a name that refers to a cluster of hyperactive and inattentive behaviours. Therefore talking about ADHD as a natural entity is a language mistake (Nieweg, 2005; Dehue, 2010; Te Meerman, 2019).

However, even if a neurological basis can be found for hyperactive and inattentive behaviour, it still doesn't mean it should be framed as a medical problem. Dehue explains this as follows:

> Having trouble with understanding specific signals could have a neurological foundation, however this may also be the case with being less good at math (or dancing).... It is still a human decision to regard certain characteristics as a disability or disorder. (Dehue, 2014, p. 20-21)[18]

Even if physical differences that deviate from the norm are found, it are still we humans that define what we consider a mental disorder or not (Dehue, 2014). Another commonly used example to reveal the normative dimension of what is considered a mental disorder is homosexuality. Before 1987 homosexuality was considered a sin in Europe, later it was considered a mental disorder, which needed to be cured. After 1987 homosexuality was not considered a mental disease anymore, and was removed from the DSM-III (Dehue, 2014).

By talking about ADHD as a disease entity, it is implied that children with ADHD are biologically different from other children. ADHD is seen as a natural entity that causes symptoms, a 'scientific fact', instead of a scientific convention. Moreover, reification obscures the normative dimension, and together with a focus on biological difference, it implies that children diagnosed with ADHD have a medical problem, that they need medical help. Emphasising the biological difference of children with

[18] Original quote: "Specifieke signalen minder goed begrijpen kan een neurologische grondslag hebben, maar dat geldt ook voor minder goed kunnen rekenen (of dansen).... Het is een menselijk besluit om bepaalde eigenschappen als een handicap of stoornis te beschouwen."

ADHD has as a consequence that most of the treatment has to focus on the child itself. This does not necessarily imply the use of medication, but it may give additional legitimation to the use of medication.

4.2 Reifying mechanisms

Te Meerman and Dehue found several reification mechanisms that lead to framing ADHD as a natural entity. In general reifying mechanisms can be divided into four categories: language use, logical fallacies, expanding the definition and textual silence.[19] The materials listed in chapter 2.3 were analysed, i.e. it was investigated whether these mechanisms could be found in the selected materials, and how they relate to the legitimation of ADHD medication. Table 4 shows the results of the analysis. The following subchapters elaborate on reification mechanisms in relation to the findings of this study.

4.2.1 Language use

Using an acronym, such as ADHD, instead of attention deficit hyperactivity disorder, makes it more easy to forget that ADHD is just a name for a list of behaviours, and *not* an entity that is causing it (Dehue, 2014). Using nouns is a way to reify ADHD. When using a noun, for example 'ADHD' it implies that there exists a stable entity that causes certain behaviour symptoms. Furthermore, it conceals the agency of the child who is doing the behaviour (Te Meerman, 2019).

Another noun that helps to reify ADHD, is 'symptoms'. Using the word 'symptoms' implies that ADHD is a concrete disease entity. As if there is a clear biological difference between children with ADHD and other children, instead of a name referring to a cluster of hyperactive and inattentive behaviour (Te Meerman, 2019).

Language use as a reification mechanism can be found in all materials (see Table 4). Using the acronym 'ADHD' and the noun 'symptoms' are standardised in the narratives of professionals. Also variants of the word 'symptoms' are commonly used, such as 'features of ADHD'[20] and 'signs of ADHD'[21]. The words 'symptoms', 'signs', and 'features' are used interchangeably in the narratives of professionals. The latter two also imply that ADHD is a disease entity that causes or shows signs, instead of a name referring to a cluster of behaviours, similar to 'symptoms'.[22] For example, see Figure 2.

[19] For more explanation of reifying mechanisms see *ADHD and the power of generalization* by Sanne te Meerman (2019).

[20] 'kenmerken van ADHD'

[21] 'verschijnselen van ADHD'

[22] Te Meerman advises the word 'criteria' instead.

Table 4

List of Reification Mechanisms found in Websites of Medical Institutions, Informative Websites, DSM, and Report of Health Council

		Professional websites (n = 26)	informative websites (n = 2)	DSM-IV	DSM-5	Health Council report
Language use	N	26	2	1	1	1
	Unclear	0	0	0	0	0
Logical fallacies: Generalisation	N	1	0	0	0	0
	Unclear	11[a]	2	0	1	1
Logical fallacies: Circular Argumentation	N	3	0	0	0	1
	Unclear	6	2	0	1	0
Expanding the definition	N	20	1	0	0	1
	Unclear	1	1	0	1[b]	0
Textual silence	N	25	2	1	1	1
	Unclear	0	0	0	0	0

[a]The reification mechanism 'generalisation' can only be found in an implicit way in narratives that state that all children with ADHD have a brain that deviates from a normal one, thus indirect generalisation is assumed.

[b]By placing ADHD under neurodevelopmental disorders it is implied that ADHD has a neurobiological cause, extending the definition of ADHD.

Figure 2. Screenshot from website Jonx (the English translation is in the footnote)[23]

A focus on the reduction of symptoms is very common in narratives of professionals in legitimising the use of pharmaceuticals, except the DSM which does not talk about pharmaceuticals. The Health Council states that medication should be used, for in the short-term medication is effective, meaning it reduces hyperactive, inattentive and impulsive behaviour of children diagnosed with ADHD. However, at the same time they give a list of negative side effects of methylphenidate, mentioning there is no strong scientific support that methylphenidate will improve school performance, and that the long-term effects of methylphenidate are unknown.

4.2.2 Logical fallacies

Another reification mechanism is logical fallacies, which are forms of reasoning that are logically incorrect. We focus on two types of logical fallacies: generalisation and circular reasoning.

Generalisation

Generalisation sometimes happens in neuro-anatomical studies.[24] Some studies compare brains of children diagnosed with ADHD to other children. On group level there is on average a difference between these two groups. 'Generalisation' happens when you apply this conclusion from the group level to the individual, saying that children with ADHD have a different brain from other children, while in reality these groups have overlap (Te Meerman, 2019).

[23] Translation: "What are the symptoms of ADHD? The symptoms of ADHD differ per person. Some people only have problems with hyperactivity, while others are less hyperactive, but have problems with attention. You can also suffer from both symptoms. Often these features of ADHD are less evident in adults than in children." (Jonx)

[24] Te Meerman uses as an example a study by Hoogman and colleagues (2017). Hoogman, M., Bralten, J., Hibar, D. P., Mennes, M., Zwiers, M. P., Schweren, L. S., ... & de Zeeuw, P. (2017). Subcortical brain volume differences in participants with attention deficit hyperactivity disorder in children and adults: a cross-sectional mega-analysis. *The Lancet Psychiatry, 4*(4), 310-319.

Generalisation is almost non-existent in the analysed materials.[25] This form of reification is more common in scientific articles. However, the influence of scientific articles where generalisation happens, such as in the example above, can to some degree be found in websites from medical institutions and informative websites, stating that ADHD is a brain disease, suggesting all children with ADHD have a different brain from healthy children. Below is an example from UMC Utrecht.

> In the interaction of the brain cells and different parts of the brain various chemical substances are involved, such as dopamine and noradrenaline. In someone who has ADHD the balance between these substances in the brain is distorted.[26]

Here implicit generalisation has happened, from some children with ADHD having different brains relative to other children, to all children with ADHD behaviour having different brains.

Circular reasoning

Dehue (2014) shows how professionals talk about ADHD as an entity: "ADHD can 'express itself' in girls for example in fewer symptoms and this disorder can also 'affect' the very elderly" (p. 20-21).[27] This is a circular form of reasoning, suggesting that ADHD causes the symptoms, instead of being a name of inattentive, impulsive, and hyperactive behaviour. Another example of circular reasoning is saying that ADHD causes a form of impairment in school or social occupation, for to be diagnosed with ADHD, a child needs to have a form of impairment due to their behaviour (Te Meerman, 2019).

A few clear examples of circular reasoning have been found analysing the materials, such as the example from Jonx.

> ADHD may impede you in your daily life considerably. As a child, for example, you have problems with learning at school and as an adult you find it difficult to concentrate on your work duties.[28]

This example suggests that it is the ADHD that negatively affects the life of a child, instead of that being inherent in the definition.

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[25] Generalisation can be found implicitly in professional narratives that suggest that ADHD is a brain disease. This can be found in 11 of 26 websites from medical institutions and both information websites (see Table 4).

[26] Original text: "Bij de samenwerking van de hersencellen en verschillende delen van de hersenen zijn verschillende stoffen betrokken, zoals dopamine en noradrenaline. Bij iemand met ADHD is het evenwicht tussen deze stoffen in de hersenen verstoord." (UMC Utrecht)

[27] "ADHD kan 'zich' bijvoorbeeld bij meisjes 'uiten in minder symptomen' en deze stoornis kan ook hoogbejaarden 'treffen'"(Dehue, 2014, p. 20-21).

[28] Original text: "ADHD kan je flink beperken in het dagelijkse leven. Als kind heb je bijvoorbeeld problemen met leren op school en als volwassene moeite je te concentreren op je werkzaamheden." (Jonx)

However, most of the time it was unclear whether the narratives of professionals include forms of circular argumentations.[29] Often the sentences were ambiguous, making it not clear whether ADHD was considered to be an entity that causes symptoms and negatively affects the quality of life or not. For example, medical institution de Hoop says: "Children, teenagers and adults with ADHD (attention deficit hyperactivity disorder) are limited in their daily functioning"[30]. This seems a form of circular reasoning for being limited in daily functioning is already inherent in the definition of ADHD. However, it is unclear whether it means that ADHD is the cause of the limitation of normal functioning or that the limitation of daily function is part of the definition of ADHD.

4.2.3 Expanding the definition

Some textbooks include stories about children with ADHD, that describe them as being highly abnormal. Examples of stories are children with ADHD burning down their home, or hurting their pet.[31] By expanding the definition of ADHD, such as in these stories, it is emphasised that there is a fundamental difference between a child with ADHD and a normal child, this is also a form of reifying ADHD (Te Meerman, 2019).

Expanding the definition of ADHD is typical in the narratives of professionals (see Table 4).[32] Table 5 shows the most common discourses that expand the definition of ADHD found analysing the materials. Except for the DSM, almost all informative websites, as well as the report of the Health Council include various forms of expanding the definition. Below is an example from medical institution Mentaalbeter, talking about ADD, a subtype of ADHD.

> If you have ADD, then you tend to be calm and dreamy, in contrast to someone who has ADHD. However, your head is full of thoughts and you also have problems with concentrating…. Characteristic is also the so-called 'hyperfocus'. If you feel inspired or become interested in something, then your dopamine flow starts to rise. At such a moment you are very good at concentrating and have trouble stopping with what you are doing. At such a moment you are (temporarily) hyper and get more done in a short

[29] Circular argumentation can be found in 3 of 26 websites from medical institutions and the Health Council report. It was unclear in 6 websites from medical institutions, both informative websites and seems absent in the DSM (see Table 4).

[30] Original text: "Kinderen, jongeren en volwassenen met ADHD (Attention Deficit Hyperactivity Disorder) worden beperkt in hun dagelijkse functioneren." (De Hoop)

[31] For more examples see: Freedman (2016) 'An analysis of the discourses on attention deficit hyperactivity disorder (ADHD) in US special education textbooks, with implications for inclusive education'.

[32] Expanding the definition can be found in 20 of 26 websites from medical institutions, 1 of 2 informative websites, and the Health Council report. It can be implicitly found in the DSM-5, which suggests that ADHD is a brain disease (see Table 4). For more information see Table 5.

amount of time than ‘normal’ people.[33]

Here the definition is expanded by adding ‘hyperfocus’. It even seems paradoxical saying that it is characteristic of a child with attention deficit disorder, i.e. a child with attention problems, to be able to ‘hyperfocus’.

ADHD as a brain disease

A common form of expansion of definition in professional narratives is the claim that ADHD is a brain disease.[34] Some emphasise this by displaying a picture of a brain. Even the DSM implicitly suggests that ADHD is a brain disease by letting ADHD fall under ‘neurodevelopmental disorders’, while the American Psychiatric Association states in the DSM that they do not make statements about the etiology of mental disorders (American Psychiatric Association, 2013).

Interestingly, the report of the Health Council does not talk about brain studies in relation to ADHD. The only potential factors of ADHD that are mentioned are genes and the physical environment, which includes the social environment and other physical factors, such as premature birth.

In the discourse of ADHD as a brain disease, ADHD has become reified, defined as a natural disease entity that can be found in nature. In this discourse the ‘mental disorder as an entity’ is combined with the ‘neurochemical body’, for it is said that children with ADHD have a different neurochemical body. Moreover, this expansion of definition not only expands the definition, but changes the definition of ADHD. While ‘ADHD’ refers in the DSM to a cluster of behaviours, negatively affecting the quality of life, it is changed to first and foremost a different structured or functioning brain.

[33] Original text: ”Als je ADD hebt, dan kom je vaak rustig en dromerig over, in tegenstelling tot iemand met ADHD. Maar jouw hoofd zit echter wel vol met gedachten en ook jij hebt last van concentratieproblemen.... Kenmerkend is ook de zogenaamde ‘hyperfocus’. Als je je geïnspireerd voelt of enorm door iets geïnteresseerd raakt, dan komt jouw dopaminetoevoer op gang. Je kunt je dan juist heel goed concentreren en hebt moeite met het loslaten van waarmee je bezig bent. Je bent op zo’n moment (tijdelijk) hyper en krijgt meer voor elkaar in korte tijd dan ‘normale’ mensen’.” (Mentaalbeter)

[34] The ‘ADHD as a brain disease’ discourse can be found in 14 of 26 websites from medical institutions and in 1 of 2 informative websites. In the DSM this discourse is vaguely implied. It is absent in the Health Council report.

Tabel 5

List of typical forms of Expanding the Definition in Professional websites, Informative websites, the DSM, and the Health Council Report

			Professional websites (n = 26)	informative websites (n = 2)	DSM-IV	DSM-5	Health Council report
Expanding the definition	ADHD as a brain disease	N	14	1	0	0	0
		Unclear	2	1	0	1[a]	0
	ADHD as form of personality	N	5	0	0	0	0
		Unclear	1	0	0	0	0
	Relating ADHD to genes	N	14	1	0	0	1
		Unclear	4	1	0	1[b]	0
	Miscellaneous	N	9	0	0	0	0
		Unclear	0	2	0	0	1

Note. This table shows the various types of discourses that expand the definition of ADHD found in the materials. Discourses that were only mentioned in a few of the materials were placed under 'Miscellaneous'.

[a]While the DSM-5 does not make statements about the etiology of mental disorders, it still suggests in an implicit way that ADHD is a brain disease by placing ADHD under 'Neurodevelopmental Disorders'.

[b]In the DSM-5 the suggestion is made that ADHD is associated with certain genes; at the same time the authors say that there is not necessarily a causal relation. They do not make clear statements on the cause(s) of ADHD.

By portraying children with ADHD as having a different brain functioning, ADHD is framed as a medical problem that needs interference of medical professionals. The brain disease is considered permanent and cannot be cured, even if over time the 'symptoms' may become less pronounced. In professional narratives, it is common to justify pharmaceuticals by saying that it represses the symptoms of ADHD, making living with ADHD more bearable. Medical institution Eleos says for example: "Sometimes we recommend using medication. This medication can help you in reducing the symptoms or making them more manageable."[35] In this way pharmaceuticals are seen as a way to learn to live with the disease.

Some professionals frame medication as a way to fill a deficiency of the brain or to activate parts of the brain for it to function properly. Below is an illustration from hospital ST. Jansdal.

> An important neurotransmitter (a chemical substance that transfers impulses in the brain), that plays an important role in ADHD is dopamine. Due to a relative deficiency of dopamine an abnormal functioning occurs in specific parts of the brain. The more severe this brain function deviates, the more the child with ADHD will benefit from medication. This deficiency cannot be tested.[36]

With this form of reification, where ADHD is framed as a natural entity, a brain disease, ADHD becomes a scientific fact, where medication is needed to help fill in the deficiency.

ADHD and the role of genes

Another discourse around ADHD that is prominent in the narratives of professionals, is that ADHD relates to having certain genes.[37] This is also a form of expanding the definition of ADHD. It is similar to 'ADHD as a brain disease', in that ADHD is primarily seen as having a biological cause. It is often combined with the discourse that ADHD is a brain disease. Here is an example from Bravis hospital.

> The processing of information from the external world works differently in the brains of people with ADHD than people without ADHD. ADHD occurs in certain families more

[35] Original text: "Soms geven we je de aanbeveling om medicijnen te gebruiken. Deze medicijnen kunnen helpen om je klachten te verminderen of hanteerbaar te maken." (Eleos)

[36] Original text: "Een belangrijke neurotransmitter (stof die prikkels in de hersenen overdraagt), die bij ADHD een rol speelt, is dopamine. Door een relatief tekort aan dopamine treedt een afwijkende functie van bepaalde hersengebieden op. Hoe ernstiger deze hersenfunctie afwijkt, des te meer zal het kind met ADHD baat hebben bij medicatie. Dit tekort kan niet getest worden." (ST. Jansdal)

[37] 'ADHD being related to having certain genes' can be found in 14 of 26 websites from medical institutions, 1 of 2 informative websites, and the Health Council report (see Table 5).

> often. There is a hereditary factor, however it has not been found yet.[38]

When these discourses are combined, genes are considered to be the cause of brain deviation, which a child may inherit through their parents.

In professional narratives, where ADHD is not portrayed as a brain disease, genes are still seen as a predisposition to ADHD, but it is the environment that will determine if ADHD will 'express' itself. Below is an example from the Health Council report.

> Genetic predisposition is thus a risk factor in developing ADHD. This does not mean that developing ADHD is inevitable, when someone has a genetic disposition to it: the extent to which this disposition expresses itself, is dependent on environmental influences that may strengthen or weaken inherited traits.[39]

Here, hyperactive, inattentive and impulsive behaviour are thought to be a trait that can be inherited. ADHD seems again to be a chronic disease; however, the environment is considered a more important factor than in the 'ADHD as a brain disease' discourse. This leads to a more open-ended way of helping children with ADHD, which does not necessarily lead to the use of medication.

ADHD as a form of being

Few professionals suggest that this biological difference may also promote certain skills. Here is an example from Mentaalbeter.

> Stimuli from the environment have a large impact on you and you tend to proactively seek stimulation. The positive side of this is that it may promote your creativity, problem-solving skills and originality![40]

Some professionals even go a step further, saying that children with ADHD have in general different personality traits than other children.[41] Here mental disorder is not externalised as an entity causing a

[38] Original text: "De verwerking van informatie uit de buitenwereld in de hersenen verloopt bij mensen met ADHD anders dan bij mensen zonder ADHD. ADHD komt in bepaalde families vaker voor. Er is een erfelijke factor maar deze is nog niet ontdekt." (Bravis hospital)

[39] Original text: "Erfelijke aanleg is dus een risicofactor voor het ontwikkelen van ADHD. Dit betekent niet dat het ontwikkelen van ADHD onvermijdelijk is, wanneer iemand er genetische aanleg voor heeft: de mate waarin deze aanleg tot uiting komt, is weer afhankelijk van omgevingsinvloeden die de aangeboren eigenschappen versterken of verzwakken." (Health Council report)

[40] Original: "Prikkels van buitenaf hebben veel invloed op je en deze prikkels zoek je vaak ook proactief op. De positieve kant hiervan is dat het je creativiteit, probleemoplossend vermogen en originaliteit een boost kan geven!" (Mentaalbeter)

[41] 'ADHD as a different form of being' can be found in 5 of 26 websites from medical institutions. It seems absent from informative websites, the DSM, and the Health Council report.

disease, as in the case of a flu, but seen as a fundamental part of a person's being, 'I am an 'ADHDer', instead of 'I have ADHD'. The brain difference is suggested to give a child with ADHD a different personality from other children, a different form of being. Figure 3 is an image from the website from Kinderpraktijk Zoetermeer, showing how ADHD is framed as a type of personality.

'ADHD as a form of being' expands the definition of ADHD, by adding personality traits to children with ADHD, suggesting these children are more creative, original, emphatic, which contrasts with the findings from Te Meerman who found narratives of children with ADHD as being less emphatic, borderline psychopathic in textbooks (Te Meerman, 2019).

'ADHD as a form of being' implies that ADHD cannot be cured, just like 'ADHD as a brain disease'. Hyperactive and impulsive behaviour are seen as permanent personality traits.

The discourse of a mental disorder as a form of being is also observed with other mental disorders such as bipolar disorder in the United States. People with bipolar are framed as disturbed yet special creative people, popularised by psychologist Kay Redfield Jamison (Dehue, 2010).

According to Hansen, a professor of history, this narrative of a mental disorder as a form of being began after 1870, with homosexuality in the United States, changing from "a form of sexual behaviour (a pattern of actions) to a condition (a way of being)" (Hansen, 1992, p. 107). This change relates to a change in public discourse where actions became associated with a type of being (Hansen, 1992).[42] This can also be seen in the discourse of professionals, changing from having anomalous gender behaviour to being homosexual, and from hyperactive and inattentive behaviour to being an 'ADHDer'.

'ADHD as a form of being' implies that ADHD is a scientific fact. The cause of ADHD behaviour is thought to be biological and genetic. Environmental factors are seen as less important. They are sometimes mentioned as being able to worsen ADHD or expose the disorder. Below is an example from Eleos GGZ.

[42] For more information on this change in public discourse see Appendix D.

Figure 3. Image from the medical institution Kinderpraktijk Zoetermeer

> If you have ADHD, your brains process external information differently than someone without this disorder. Biological factors such as predisposition and heredity play here an important role.… Tension between parents, a chaotic upbringing or bullying at school can cause ADHD to become visible.[43]

ADHD is seen as a permanent condition that cannot be cured. The focus is, just like in 'ADHD as a brain disease', on the person, separate from the environment. This supports the use of medication, for the idea is that even when pharmaceuticals cannot cure the disease, they still can make life more bearable.

4.2.4 Textual silence

By leaving out certain information, such as birth-month studies, you can reinforce the idea that ADHD is an entity. Birth-month studies show that children who are the youngest in class, have more chance to become diagnosed with ADHD than children who are older (Whitely, Lester, Phillimore, & Robinson, 2017); birth-month studies indicate that ADHD is not a disease entity (Te Meerman, 2019).

Textual silence is highly common in narratives of professionals (see Table 4). Birth-month studies are not mentioned in the selected materials. Another example of textual silence is not mentioning that ADHD is only a name for a cluster of behaviours. It is interesting to note that some do mention that ADHD is only diagnosed on the basis of behaviour, not by using brain imaging techniques, but still say that ADHD is a brain disorder. Below is an example from medical institution Altrecht.

> ADHD is a biological disorder in the brain and has many causes.… ADHD cannot be determined by physical examination or making an image of the brain. It is determined by looking at the behaviour of the child.[44]

Nevertheless, textual silence remains very typical in narratives of professionals. No mention has been made about reification, birth-month studies, or existing criticism on brain studies criticising the idea of ADHD as a concrete disease, in any of the selected materials.

[43] Original text: "Als je ADHD hebt, verwerken je hersenen informatie van buitenaf anders dan iemand zonder deze stoornis. Biologische factoren zoals aanleg en erfelijkheid spelen hierin een grote rol.… Spanningen tussen ouders, een chaotische opvoeding of pestgedrag op school kunnen ervoor zorgen dat ADHD zichtbaar wordt." (Eleos GGZ)

[44] Original text: "ADHD is een biologische stoornis in de hersenen en heeft verschillende oorzaken.… ADHD kan nog niet worden vastgesteld met een lichamelijk onderzoek of met het maken van een foto van de hersenen. Het wordt vastgesteld aan de hand van het gedrag van het kind." (Altrecht)

4.3 Conclusion

'Mental disorder as an entity' is strongly interrelated with the element 'neurochemical body', especially in the 'ADHD is a brain disease' discourse. Presenting ADHD as having a different neurochemical body, reinforces the idea that ADHD is a natural entity. Here ADHD is reified by expanding the definition. However, seeing a mental disorder as an entity, does not necessarily mean that there has to be a neurochemical difference, just that ADHD refers to something concrete. Therefore other reification mechanisms do not necessarily refer to a neurochemical difference.

Talking about ADHD as a physical disease is very typical in professional narratives, by using the words 'symptoms', 'features' and 'signs'. Textual silence is also highly common. Circular reasoning was not clearly found in the materials, for many statements were ambiguous. Implicit generalisation, stating that all children diagnosed with ADHD have a brain disease or genetic deviation, can to some degree be found.

Three distinctive discourses can be found on children with ADHD: 'mental disorder as an entity', 'mental disorder as a genetic deviance' and 'mental disorder as a form of being'. The first two see ADHD as an entity causing a disease. In the third, ADHD is portrayed as a form of being, 'I am an 'ADHDer', instead of 'I have ADHD'. These discourses cannot always be clearly separated from each other, instead they seem sometimes mingled or intertwined with each.

While the three discourses differ in their conception of ADHD, they have in common that they present ADHD as a scientific fact. 'ADHD' changes, from referring to hyperactive, inattentive and impulsive behaviour to a permanent condition, which cannot be cured. This does not necessarily imply the use of medication, but emphasising the biological defect of children with ADHD may promote the use of medication. Since ADHD is seen as a permanent condition, the focus comes on making life more bearable, using among others pharmaceuticals. In 'ADHD as a brain disease', pharmaceuticals are also promoted as a way to 'normalise' the brain, by filling in a deficiency of chemical substances, or by activating parts of the brain.

In both 'ADHD as an entity' and 'ADHD as a form of being', the normative decision-making process in what is considered a mental disorder is concealed. In the next chapter we will take a closer look at the normative values in relation to the element 'normality' underlying the conceptualisation of ADHD in relation to the legitimation of using pharmaceuticals in the treatment of children.

5. Normality and morality

This chapter focuses on the element 'normality' and its historical intertwinement with 'morality'. Foucault analysed the conceptualisation of normality and morality in relation to mental disorders, showing historically how the view on mental disorders changed in relation to these elements within medical discourses. De Folter examined Foucault's work, discerning two models of normality. These models are used in the analysis of the materials, to gain a better understanding of how the elements are conceptualised within discourses surrounding the use of psychotropic drugs.

The first subchapter introduces Foucault's idea of normality in relation to his conceptualisation of power. De Folter shows there are actually two conceptualisations of normality in Foucault's work: 'exclusion model of normality' and 'correction model of normality'. Subchapter 5.2.1 and 5.2.2 deals with these models, and with the question whether these models and their relation to morality can be found in professional narratives surrounding ADHD.

5.1 Foucault's view on normality and expressions of power

In general the word 'normality' has three meanings: normality as conforming to a statistical average, normality as conforming to an ideal standard, and normality conforming to what is considered (biological) natural, what would be expected, for example a cat hunting a mouse (De Folter, 1987).

Foucault gives an in-depth conceptualisation of 'normality' in relation to sciences, focusing on humans, as in psychiatry. However, to get an understanding of Foucault's conceptualisation of normality we first need to get an understanding of his idea of power. In his view power, specifically the 'power of the norm' is intertwined with normality.

Foucault distinguishes two expressions of power: 'power of the law' and 'power of the norm'.[45] Power of the law can be seen in Western culture from 1650 to 1800, such as corporal punishment. This expression of power is based on repression, exclusion and prohibition of certain behaviour (Foucault, 2011; Foucault, 2012). The second form of power, 'power of the norm', can be seen more clearly from 1800 to the present-day. It is a 'productive' power, forming people on the basis of norms or certain standards, for example drilling the body of a soldier to adhere to the norm of how a soldier should be.

'Power of the norm' is closely related to sciences that focus on human life, such as sociology, psychology and psychiatry. These studies classify humans, define what is normal and abnormal. They

[45] De Folter uses 'the power of the norm' as a more umbrella term for disciplinary power and biopower; both powers focus on the norm.

give norms on how humans should be and behave, and treat those who deviate from the norm. De Folter calls this model the 'correction model of normality'[46] (De Folter, 1987).

However, De Folter notes that there is another model of normality that can be found in Foucault's work in relation to his conceptualisation of power and the history of mental illness: the 'exclusion model of normality'[47]. While the 'correction model of normality' relates to the power of the norm, that became more prominent in the 19th century, the 'exclusion model of normality' relates to the power of the law, during 1650 to 1800 (De Folter, 1987).

In the following sub-chapters these models of normality will be explained in detail in their historical context, followed by an analysis of the materials. The results of the analysis can be seen in Table 6.

5.2 Exclusion model of normality

In the beginning of the 17th century, there was a certain tolerance towards madness in Western society. Foucault does note that some kinds of madness were considered curable, and were treated in madhouses. However, in general there was an acceptance towards people who were considered to be 'madmen'.

> Generally speaking, madness was allowed free rein; it circulated throughout society, it formed part of the background and language of everyday life, it was for everyone an everyday experience that one sought neither to exalt nor to control. (Foucault, 2011, p. 112)

Some of these 'mad' people would entertain the public, such as Bluet D'Arbères, who sold small pamphlets, writing about his visions and dreams (Foucault, 2011).

However, this view on madmen changed in the middle of the 17th century, as Foucault says: "the world of madness was to become the world of exclusion" (2011, p. 112). Society became less tolerant towards people who deviated from the social norm. People who were poor, slothful, libertines, beggars, vagrants, people who prostituted, criminals, and who were considered mad were separated and put into workhouses or 'houses of correction'[48] and forced to work there (Foucault, 2011). These workhouses are an expression of the 'power of law'. By exclusion and repression, people were separated who deviated from the rational and Christian moral norm.

[46] correctiemodel van de normaliteit

[47] uitsluitingsmodel van de normaliteit

[48] Examples of this in the Netherlands were the 'Rasphuis' and the 'Spinhuis'.

Tabel 6

List of models of normality found in Websites of Medical Institutions, Informative Websites, DSM, and Report of the Health Council

			Professional websites (n = 26)	Informative websites (n = 2)	DSM-IV	DSM-5	Health Council report
Exclusion model of normality	Different brain functioning	N	14	1	0	0	0
		Unclear	2	1	0	1	0
	Different form of being	N	5	0	0	0	0
		Unclear	1	0	0	0	0
Correction model of normality	Excessive behaviour	N	25	2	1	1	1
		Unclear	0	0	0	0	0
	Problems functioning in daily life	N	18	2	1	1	1
		Unclear	0	0	0	0	0

Note. This table shows the underlying models of normality found in the materials: 'the exclusion model of normality' and the 'correction model of normality'.

At that time humans were considered rational and autonomous beings, who are moral. Doing work was considered a moral duty. People who deviated from what was considered reasonable and the moral norm were separated from 'normal' people and forced to work in those workhouses. Therefore, the workhouse was not a medical institution, but one of morality (Foucault, 2011).

Underlying this view of normality is an 'exclusion model of normality'. In the case above, a sharp distinction is made between those who are moral and reasonable, to those who are not (De Folter, 1987). In the 'exclusion model of normality', abnormality is considered to be the antithesis of normality, there is a 'bipolar sorting machine', as De Folter (1987) calls it. This binary conception of normality can be seen most clearly in the late 17th century, where people who were considered to be mad were viewed as having lost reason, becoming inhuman, an animal. Here a strong distinction can be seen between the normal, rational, moral, and the abnormal, irrational, immoral and inhuman (De Folter, 1987).

Another example where an exclusion model of normality is assumed, is in the case of the Dakota Indians of North America, mentioned by Foucault in his history of madness. Within one of their tribes there were people called Berdaches, these were homosexuals who were seen as being special and had a special status being a priest or magician. Foucault cites from Callaway, who describes such a person as,

> sturdy in appearance, but in time he becomes more and more delicate…; he is always complaining of being in pain…. He dreams of all kinds of things and his body is muddy… He has convulsions, which cease for a time when water is sprinkled over him. As soon as he is not shown respect, he bursts into tears and cries noisily. A man who is about to become a wizard is a great cause of trouble. (as cited in Foucault, 2011, p. 103)

Here you can see again a dividing line between people who are considered normal and those who are abnormal, a different kind of human being. However, in this case the exclusion model of normality is 'positive', in the sense that the person who behaves 'abnormal', is seen as a higher form of being, instead of mentally ill.

The exclusion model of normality can to a large extent be found in the materials that were analysed. The clearest examples are the discourses 'ADHD as a brain disease' and 'ADHD as a different form of being', which will be examined in the next two subchapters. While diagnosed children are not excluded from society as the madmen in the 17th century, a clear distinction is made between children with and without ADHD.

5.2.1 ADHD as a brain disease

Within 'ADHD as a brain disease' a clear distinction can be seen between children with ADHD, who presumably have a different functioning brain, and healthy children with a normal functioning brain.[49] Here is an example from medical institution Yulius.

> Running around, unable to keep attention, not listening. It is a part of most children. However, some children are often restless. And have often trouble concentrating. They have trouble with planning and organising their daily life.... If you recognise this, then this can be an indication of attention deficit hyperactivity disorder, i.e. ADHD. ADHD is most of the time innate and genetic. The small parts of the brain have an abnormality with ADHD. This may cause people to have trouble concentrating.[50]

Here normality seems to refer to what is assumed to be 'natural functioning' of the body. ADHD is conceptualised as a biological abnormality, but it could also imply a statistical abnormality, this cannot be inferred from the materials.

Sometimes 'ADHD as a brain disease' is intertwined with the idea that medication can temporarily fill the gap or activate parts of the brain to make the brain temporary function 'normal' (see 4.2.3). The use of pharmaceuticals is legitimised for it 'normalises' temporarily the functioning of the brain. However, it does not remove the dichotomy between children with ADHD and normal children.

5.2.2 ADHD as form of being

'ADHD as a different form of being' also fits the exclusion model of normality, which we also have seen in chapter 4.[51] In this discourse children with ADHD are defined as being a different form of human being from other children, which is considered to be innate, caused by genes or different brain structure. Therefore, this discourse sometimes intertwines with 'ADHD as a brain disease'. Below is an example from UMC Utrecht.

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[49] This discourse can be found in 13 of 26 websites from medical institutions, 1 of 2 informative websites, and seems absent in the DSM and Health Council report (see Table 6).

[50] Original text:"Rondrennen, de aandacht ergens niet bij kunnen houden, niet luisteren. Het hoort bij veel kinderen. Maar sommige kinderen zijn heel vaak onrustig. En ze hebben vaak moeite om zich te concentreren. Ze hebben moeite met plannen en organiseren van het dagelijks leven.... Als u dit herkent, dan kan er sprake zijn van een aandachtstekortstoornis met hyperactiviteit, ofwel adhd. Adhd is meestal aangeboren en erfelijk. De kleine onderdelen van de hersenen hebben bij adhd een afwijking. Dit kan ervoor zorgen dat iemand zich moeilijk kan concentreren." (Yulius)

[51] 'ADHD as a different form of being' can be found in 5 of 26 websites from medical institutions. It seems not present in the informative websites, the DSM, and the Health Council (see Table 6).

> If your child has ADHD, many things are going well. Someone with ADHD can be spontaneous and energetic, vigorous, sporty and honest. Also, traits such as creativity, sense of humor, being sensitive, and caring, fit someone with ADHD.[52]

Suggesting that ADHD is innate in the personality implies that there is a clear distinction between normal healthy children and children with ADHD, having a personality that substantially differs from a normal child. In this narrative you are born as an ADHDer.

Here the emphasis is on positive personality traits such as creativity and sense of humor. In some professional narratives ADHD is also associated with being moral, emphatic, honest or righteous.[53] Below is an example from GGZ Delfland.

> There is also an upside to ADHD and ADD. Because your brain works slightly different, you are perhaps super outgoing, honest, or very sensitive to the feelings of other children. In addition, many ADHD-ers are very creative. It may be that you make beautiful works of art, or that you quickly find clever solutions for a problem. There are also several famous and important people with ADHD or ADD, such as Bill Gates (the head of Microsoft), Justin TImberlake (singer and music producer), Walt Disney (the creator of Disney), Jamie Oliver (TV chef) and swimmer Michael Phelps, who has won no less than 22 Olympic medals.[54]

Here children with ADHD are considered to be special and have a personality that is more ethical than a normal child. It is an interesting contrast with the narratives of mental illness in the 17th century, where people with mental illness were considered to be immoral.

'ADHD as a different form of being' is similar to the example of the Berdaches, who were differentiated from 'normal' people. Instead of being considered mentally ill, were given a special status.

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[52] Original text: "Als uw kind ADHD heeft, gaan veel dingen ook goed. Iemand met ADHD kan spontaan en energiek zijn, doortastend, sportief en eerlijk. Ook eigenschappen zoals creativiteit, gevoel voor humor, gevoelig en zorgzaam zijn passend bij iemand met ADHD." (UMC Utrecht)

[53] 'ADHD as being more moral' can be found in 4 of 26 websites from medical institutions. It seems absent in the informative websites, the DSM, and the Health Council.

[54] Original text: "Er zijn ook leuke kanten aan ADHD en ADD. Omdat jouw brein net even anders werkt, ben je misschien wel super spontaan, goudeerlijk of voel je goed aan hoe andere kinderen zich voelen. Daarbij zijn veel ADHD-ers heel creatief. Het kan zijn dat je mooie kunstwerken maakt, of dat jij heel snel slimme oplossingen voor een probleem bedenkt. Er zijn dan ook veel beroemde en belangrijke mensen met ADHD of ADD, zoals Bill Gates (de baas van Microsoft), Justin Timberlake (zanger en muziekproducent), Walt Disney (de bedenker van Disney), Jamie Oliver (tv-kok) en zwemmer Michael Phelps, die maar liefst 22 Olympische medailles won." (GGZ Delfland)

‘ADHD as a special kind of being’, implies that ADHD is a scientific fact, that a clear distinction can be made between children with ADHD and ‘normal’ children. However, that children with ADHD are considered to be ethical, creative, honest, does not seem to align with the professional narrative that legitimises the use of medication, it even seems to contrast this.

5.3 Correction model of normality

During the 18th century the workhouses were abolished. However, madmen were still considered to be ‘dangerous animals’ which needed to be confined. They were put into asylums. These asylums transformed in the 18th and 19th century, instead of focusing on repression, the focus shifted to treatment. These institutions became medical oriented, directed by doctors, however, treatment mostly focused on regaining moral awareness, becoming ‘human’ again (Foucault, 2011; de Folter, 1987). Foucault describes the asylum founded by Pinel in France.

> Certainly, he [Pinel] freed the mentally ill of the material bonds (though not all of them) that physically restricted them. But he reconstituted around them a whole network of moral chains that transformed the asylum into a sort of perpetual court of law: the madman was to be supervised in his every movement, to have all his pretensions shattered, his ravings contradicted, and his mistakes ridiculed; sanctions were immediately applied to any departure from normal behavior. (Foucault, 2011, pp. 118-119)

The mentally ill were observed and corrected when they deviated in any way from what was considered normal. Being normal is here intertwined with being moral, having a ‘human soul’ (Foucault, 2011).

Thus the underlying view of normality changed from an exclusion to a correction model. The relation between normal and abnormal in this model is not absolute, as in the exclusion model, where normal and abnormal are mutually exclusive. In the correction model, normal and abnormal are considered to be on a sliding scale, being gradual, and relative to each other. Abnormal here is seen as a modification of the normal, which implies that the abnormality can be cured, or ‘normalised’, since they do not mutually exclude each other (de Folter, 1987).

Underlying the definition of ADHD lies a correction model of normality. ADHD is defined as having excessive behaviour, often overactive, impulsive, inattentive, forgetful, where this behaviour impedes normal functioning. The following two subchapters examine this model of normality in more detail. It is divided into two discourses: ’ADHD as excessive behaviour’ and ‘ADHD as behaviour impeding daily life’.

5.3.1 ADHD as excessive behaviour

'ADHD as excessive behaviour' can be found in almost all materials.[55] Children with ADHD are defined as often having overactive behaviour, often having problems concentrating, or excessive daydreaming. Being often forgetful, having difficulty listening, and problems with sitting still, are also frequently mentioned. 'ADHD as excessive behaviour' falls into the correction model of normality, for it is about behaviour that is considered to be normal to some degree in everyday life. Below is an example from medical institution Eleos.

> Small children are often overactive. That is part of the development of a child. However, with some children there is more going on. Does your child have much trouble with sitting still, and has he or she trouble concentrating? Then there is a possibility that your child had ADHD. In comparison to other children of the same age, children with ADHD exhibit more impulsive and chaotic behaviour.[56]

The behaviour is considered to be excessive for what is considered 'normal' for a child of a certain age, the view is that it does not fit the normal development of a child. Therefore, it is presumed to be a mental illness. This discourse is often combined with 'ADHD as a brain disease' or 'ADHD is genetic', where a brain or genetic deviation is assumed to be the cause of the abnormal behaviour. The abnormality here seems to refer to 'not being natural', however it is again difficult to determine whether normality as conforming to the ideal, statistical or biological norm is implied.[57]

This discourse to some degree legitimises the use of pharmaceuticals, for a distinction is implied between a child with ADHD and a 'normal' child, where the words 'often' and 'too' are frequently used. However, these words are highly subjective. This problem of subjectivity in interpreting a child's behaviour is mentioned in the Health Council report:

> Whether a child often stands up in class is to some extent dependent on the personal view of the observer, and it is dependent on the characteristics of the environment where the child is observed in. It can for example be affected by the degree of order in the classroom and the parenting skills of the parents. For these reasons, the

[55] This discourse can be found in 25 of 26 websites from medical institutions, both informative websites, the DSM, and the Health Council report. It is an inherent feature of the definition of ADHD given by the DSM (see Table 6).

[56] Original text: "Kleine kinderen zijn vaak druk. Dat hoort bij de ontwikkeling van een kind. Maar bij sommige kinderen is er meer aan de hand. Heeft je kind veel moeite met stilzitten en kan hij of zij zich moeilijk concentreren? Dan kan het zijn dat je kind ADHD heeft. In vergelijking met andere kinderen van dezelfde leeftijd, vertonen kinderen met ADHD meer impulsief en chaotisch gedrag." (Eleos)

[57] The Health Council report is the only material that clearly states that ADHD behaviour is about a statistical normality.

judgement of the parents and the teachers often differ on the same child.[58]

In 'ADHD as excessive behaviour' it is implied that to some degree this distinction can be clearly made when a child is overactive or more than average daydreams, and therefore is mentally ill, when in reality the observing of these behaviours are subjective.

'Excessive' behaviour is considered to be so abnormal, that the child has to have a mental illness, which needs medical help. This discourse is often combined with the narrative that medication (partly) normalises the behaviour of the child, i.e. symptom reduction, legitimising the use of pharmaceuticals, which we already have seen in chapter 4 (see 4.2.1).

'ADHD as excessive behaviour' is in the materials almost always combined with 'ADHD as behaviour impeding daily life', which will be the focus of the following subchapter.

5.3.2 ADHD as behaviour impeding daily life

'ADHD as behaviour impeding daily life' can be found in almost all materials.[59] In this discourse ADHD is defined as excessive behaviour that to an abnormal degree impedes daily life, at school, at home, or social relations. Below is an example from the Dutch Association of Psychiatry.

> Every child is sometimes overactive and every adult sometimes feels restless on the inside. Errors due to carelessness are common in everyday life. However, if it seriously impedes learning and social interaction with others by attentional problems, impulsivity and overactivity (also called hyperactivity) and if these phenomena start at pre-school age and if it persists throughout the years, then it is often a case of ADHD.[60]

Similar as in the previous discourse, it is implied that an objective distinction can be made between children diagnosed with ADHD and 'normal' children, while in reality it is subjective to what degree

[58] Original text: "Of een kind vaak opstaat in de klas is tot op zekere hoogte afhankelijk van het persoonlijk oordeel van de observator, en het is afhankelijk van kenmerken van de omgeving waarin het kind wordt geobserveerd. Van invloed is bijvoorbeeld de mate van orde in de klas en de opvoedingsvaardigheden van de ouders. Om deze twee redenen oordelen ouders en leraren vaak verschillend over hetzelfde kind." (Health Council report)

[59] This discourse can be found in 18 of 26 professional websites, both informative websites, the DSM and Health Council report (see Table 6).

[60] Original text: "Ieder kind is wel eens druk en iedere volwassene voelt zich wel eens onrustig van binnen. Slordigheidsfouten door onoplettendheid zijn ook een alledaags verschijnsel. Als echter het leren en de omgang met anderen ernstig belemmerd worden door aandachtsproblemen, impulsiviteit en overactiviteit (ook wel hyperactiviteit genoemd) én als deze verschijnselen op de peuter- of kleuterleeftijd zijn begonnen en door de jaren heen zijn blijven bestaan, is er dikwijls sprake van een ADHD." (Dutch Association of Psychiatry)

excessive behaviour that impedes the functioning of a child becomes 'abnormal'.[61]

Normality seems to refer to what is considered to be (biological) natural, however, just as in the previous narratives it is not really clear what kind of normality (statistical, biological, ideal) is assumed. It is fairly recent that attendance at school became compulsory, and social relations are considered to be important in our society, thus the normality could also have an ideal norm underlying it.

'ADHD as behaviour impeding daily life' is sometimes linked with the narrative that medication helps to improve the functioning of children diagnosed with ADHD. Below is an example from Youz.

> After treatment, Robin (10 years old) has changed from an hyperactive and isolated child to an open and social boy. … Robin himself says:" I was not able to handle busy surroundings well, and I couldn't stay out of other people's business. When in the back of the classroom some giggled, I was immediately distracted. I got bad grades at school. but ever since I have these pills, I improved with maths from 1 star to 3 stars."[62]

Here children who due to their excessive behaviour have an 'abnormal' degree of problems in functioning in daily life are considered having a mental disorder, and thus in need of medical treatment. The use of pharmaceuticals is legitimised by suggesting that it improves the child's behaviour at school and that the child will become more social, i.e. functions better, more 'normal', in our society.

5.4 Conclusion

'Excessive behaviour', and 'problems in functioning in daily life' are common discourses found in professional narratives (see Table 6). 'ADHD as a brain disease' has also been found to be a common discourse and is also implied in the DSM-5. However, it seems to be absent in the Health Council report (see Table 6).

[61] This problem of subjectivity is also mentioned in the Health Council report.

[62] Original text: "Na behandeling is Robin (10 jaar) veranderd van een druk en geïsoleerd kind naar een open en sociale jongen.... Robin zelf zegt: 'ik kon niet zo goed tegen drukte en wilde me overal mee bemoeien. Als er achterin de klas werd gegiecheld was ik gelijk afgeleid. Ik haalde ook slechte cijfers. Maar sinds ik die pilletjes heb ben ik met rekenen van 1 ster naar 3 sterren gegaan.'" (Youz)

‘Excessive behaviour’ and ‘problems in daily life’ fall into the ‘correction model of normality’, they fall into a gradual scale from normal to abnormal. They are in some of the professional narratives combined with the narrative that children who are diagnosed with ADHD have a biological deviation, genetic or neurological, implying an exclusion model of normality. Thus, a combination can be seen of the exclusion and correction model of normality.

In the narratives of professionals both models of normality legitimise the use of pharmaceuticals. It is implied that an objective distinction can be made between children diagnosed with ADHD, and other children. Moreover, it is implied that this abnormality is a mental disease, which needs medical treatment. Pharmaceuticals are legitimised in the sense that they can temporarily normalise brain functioning and behaviour, or improve the functioning of the child.

The kind of normality (ideal, biological, statistical) is in general unclear. In the case of ‘problems in daily life’ it even becomes questionable whether it really is about normality, or if it actually is about well-being. We will delve deeper into the element ‘well-being’ in the next chapter and how it is used in professional narratives legitimising the use of pharmaceuticals.

6. Well-being

This chapter focuses on the element ‘well-being’ in professional narratives and how it is used in the legitimation of pharmaceutical treatment. In philosophy a distinction is made between two meanings of well-being: health and happiness (Roger, 2017). Achterhuis and Dubos, show historical changes in the conceptualisation of well-being in relation to medical science and the use of medication, revealing utopian values underlying the conceptualisation of well-being.

Before the 19th century medical science focused on health; later the focus became more on happiness, increasing the quality of life (Dubos, 1987; Achterhuis, 2004). Within medical science we still talk about (mental) health, although the underlying definition of health has gone beyond its original definition, from the absence of disease to including forms of happiness. To emphasise this broad meaning of health, in this chapter the term well-being/health will be used.

This chapter is divided into three subchapters, showing three conceptualisations of well-being/health in medical science: (1) well-being as being in harmony with the environment, (2) disease is the result of a specific cause; therefore becoming healthy is removing the specific cause, (3) well-being is conceptualised in a broader sense, where medication is used to increase happiness by giving full control over their own body and moods. These conceptualisations are inferred from Dubos and Achterhuis work.

Every subsection begins with an explanation of a conceptualisation of well-being/health in medical science, whereafter the materials are examined to find whether these discourses can be found in the selected materials, and how they are used in the legitimation of medication. Table 7 shows the results of the analysis.

6.1 Being in harmony with the environment

Before the 19th century the Hippocratic tradition dominated the view on health and disease in the West. Disease emerged when there was a disturbance in the harmony between the internal environment (the body), and the external environment.

Being healthy therefore was having a balance between a person's body and his environment. In this view various parts of the internal and external environment were considered to be interrelated. It was thought that a combination of many factors, direct or indirect, caused a disease. Examples of such factors are the “geographical area, the time, the social customs, the economic status, the occupation” (Dubos, p. 111, 1987). When many people in a society were ill, it was thought that the environment was not healthy for people in general (Dubos, 1987).

Table 7

List of conceptualisations of well-being/health found in Websites of Medical Institutions, Informative Websites, DSM, and Report of Health Council

		Professional websites (n = 26)	Informative websites (n = 2)	DSM-IV	DSM-5	Health Council report
Health as being in harmony	N	1	0	0	0	0
	Unclear	5	1	0	0	0
Becoming healthy by removing the specific cause	N	16	1	0	0	1
	Unclear	2	1	0	1[a]	0
Becoming healthy by removing struggle	N	19	2	1	1	1
	Unclear	1	0	0	0	0

Note. This table shows three discourses on health which have been found analysing the materials.

[a]While the DSM-5 does not make statements about the etiology of mental disorders, it suggests in an implicit way that ADHD is a brain disease by placing ADHD under 'Neurodevelopmental Disorders'.

The 'healthy as being in harmony with the environment' discourse was not clearly found in the professional narratives.[63] Disease is not viewed as a disruption in the internal and external environment; instead ADHD is seen as emerging primarily from the body.

Disease is mostly considered to be the result of a specific cause, instead of multicausal, such as a specific gene or brain malfunctioning. Some professionals do mention that ADHD is caused by a combination of internal (genes) and external environment. However, the main cause lies within the child, the environment can only strengthen or weaken the excessive behaviour.

Moreover, the internal environment of a child diagnosed with ADHD is considered to be mostly static, again strongly contrasting with 'health as being in harmony with the environment' view, where the relation between the internal and external environment are considered to be intertwined and dynamic.

However, in the professional narratives a child with ADHD is considered to disrupt the normal environment, and is seen as having problems to adjust to the environments at school, at home, and with social interaction. Medication here is viewed as a way for the child to adjust to the external environment, to restore in a certain sense the 'harmony'. Thus, in a one-sided way the 'healthy as being in harmony with the environment' discourse can be found in professional narratives. However, in the past this would be viewed as the environment not being healthy for the child, instead of vice versa.

6.2 Specific etiology, normality, and magic bullet theory

In the late 19th century the medical view on health as being in harmony with the environment changed. In 1861 Pasteur, biologist, microbiologist and chemist, introduced the germ theory, which became dominant in the West. Underlying this theory is the doctrine of specific etiology, the idea that a disease is the result of one specific cause, for example a virus, and that a disease can be treated by focusing on the specific cause, or at least by concentrating on a specific part of the body that is affected by the specific cause (Dubos, 1987). This view on disease (and health) strongly contrasts with the Hippocratic tradition, with its multi-causal view on the manifestation of disease.

With the doctrine of specific etiology came the idea that specific chemicals, medication, could be used to remove the microorganism or other cause of the (mental) disease, without harming the rest of the

[63] 'Healthy as being in harmony with the environment' has been found in 1 of 26 websites from medical institutions, and has not been found in informative websites, the Health Council report and the DSM (see Table 6).

body, making the body healthy again. These were called ‘magic bullets’. Dubos describes this view on medication as follows:

> drugs have occupied the center of the stage in the minds of scientists and medical practitioners, as well as of the lay public and manufacturers of biological products. Whatever the nature of the disease, the most important task–so at least is the well-nigh universal belief–is to discover some magic bullet capable of reaching and destroying the responsible demon within the body of the patient. …, the conquest of a disease–microbial or otherwise–is almost always identified with the discovery and use of a drug. (Dubos, 1987, p. 152-153)

With the doctrine of specific etiology, medical science started to focus more on the search for ‘magic bullets’, drugs that would make a person healthy by removing the specific cause of the disease.

However, according to Dubos this view on health and disease is in reality not entirely correct. When a microorganism infects a person, it does not mean that the person becomes ill. There are many microorganisms living in our body. It is in combination with other internal and external factors that a disease might emerge, such as a change in temperature, feeling stressed, or other factors that temporarily reduce the immune system. Dubos explains this as follows:

> The search for magic bullets against cancer, vascular disease, and mental disease is made especially difficult by the fact that so little is known of the target they must reach in the body. This problem epitomizes the dilemma encountered by medical scientists concerned with the search for cures. They try to apply rational methods to the discovery of drugs, but realize that this is a counsel of perfection rarely compatible with practical exigencies. … While the search for magic bullets continues, other studies are revealing that the environment in which the individual lives and his manner of living are of great importance in determining his susceptibility to the diseases of modern times. (Dubos, 1987, p. 199)

The mono-causal view on disease thus in fact is doubted by many professionals (Dubos, 1987).

In the Hippocratic paradigm the focus is on the living body, also called ‘in vivo’, literally meaning ‘in a living thing’. With the change to specific etiology and magic bullet theory, the dominant medical paradigm changed to ‘in vitro’, ‘in glass’. Research became focused on the death body, or parts of the body, the test tube in the laboratory. Research outside the living organism became the focus of medical research, giving a definite answer on whether a person is healthy or not (Achterhuis, 2004). Here the idea is that health and disease can be objectively measured, that certain ‘norms’ can be made to

distinguish clearly the healthy from the diseased. With this change there came less focus on the subjective experience of the people (Achterhuis, 1988).

'Becoming healthy by removing a specific cause' can be clearly found in professional narratives around ADHD.[64] A specific gene or malfunction of the brain are often mentioned as the cause of ADHD (see 4.2.3 and 5.2.1). So the 'doctrine of specific etiology', with the idea that a clear distinction can be made between a healthy and a diseased person, can also be found in the professional narratives.

We have already seen in section 5.2.1 that the discourse that ADHD is caused by a specific gene or brain malfunction is sometimes combined with the narrative that medication can temporarily make the brain function 'normal'. Medication here is not considered to be a 'magic bullet' in the sense that it will remove the cause, but as a way to make a person live like a healthy person. People using medication are not considered healthy, for the underlying cause (the gene or brain malfunctioning) has not been removed. In this sense children with ADHD are considered to have this disease their whole life, showing again clearly the 'becoming healthy by removing a specific cause' discourse.

6.3 Underlying utopian views in narratives surrounding medication

The magic bullet theory shows a beginning of technological utopian thinking in medical science, the idea that with technology we can have full control over our body and moods, and that disease would become a thing of the past. The 'magic bullet' theory suggests that we only need to find the right drugs, that will remove the cause of the (mental) disease, to end human misery. Dubos notes that the effect of a new medication is often referred to as a miracle, that there exists a certain faith in the 'magic power' of drugs, resembling a religion, not only by the public, but also by scientists (Dubos, 1987).

According to Achterhuis, Western culture is highly influenced by social and technological utopias. Starting in 1516 with More's book Utopia, the central idea is that if there is enough social control a society could be organised in such a way that human suffering could be eliminated. Instead of a heaven after death, the idea is that we humans are able to create paradise on earth (Achterhuis, 1998).

Bacon describes in *The New Atlantis* (1627) a utopian society, where well-being is realised through the use of technology. Achterhuis notes that especially Bacon's technological utopia has greatly influenced our culture.

[64] 'Becoming healthy by removing a specific cause' has been found in 16 of 26 websites from medical institutions, 1 of 2 informative websites, and the Health Council report. While the DSM-5 does not make statements about the etiology of mental disorders, it suggests in an implicit way ADHD is a brain disease by placing it under 'Neurodevelopmental Disorders' (see Table 7).

> Plastic surgery, Prozac and Viagra, they are all potentially present in the New Atlantis.… What applies here even more than for More's creation is that Bacon's view of a utopian society is for a large part realised.… What stands out in Bacon's utopia more than in More's, is the 'engineering' principle. The technological promises of health stretch away to infinity. The human can change and control his body and moods. Faith seems to be eliminated. (Achterhuis, 2004, p. 18)[65]

In technological utopian thinking, technology can be used to not only end human suffering from diseases, but also to increase happiness by improving moods. The idea is that through technology we can have full control over human life, and suffering (Achterhuis, 1998).

Technological utopian promises can be found in current narratives surrounding medical technology. Achterhuis gives as an example a newspaper article with a headline 'To conquer childhood leukaemia'[66], saying in a few years it would be possible to cure everyone, which turned out to be false. Utopian promises can not only be found in public narratives, but also in professional narratives surrounding medical technologies, such as bioelectronics, tissue engineering, and germ line genome modification (Achterhuis, 2004).[67]

Both Achterhuis and Dubos see utopian thinking as illusionary. It is an illusion to think that life, our internal and external environment, can be fully controlled, for life is a highly complex phenomenon.[68] Dubos explains this as follows:

> While it may be comforting to imagine a life free of stresses and strains in a carefree world, this will remain an idle dream. Man cannot hope to find another Paradise on earth, because paradise is a static concept while human life is a dynamic process. (Dubos, 1987, p. 281)

[65] Original: "Plastische chirurgie, Prozac en Viagra, ze zijn in potentie alle in het Nieuwe Atlantis aanwezig.… Nog meer dan voor More's schepping geldt ten aanzien van Bacons utopie dat deze voor een groot deel is gerealiseerd.… Wat bij Bacon nog meer dan bij More opvalt is het principe van de maakbaarheid. De technische beloften van gezondheid reiken tot in het oneindige. De mens kan zijn lichamelijkheid en zijn stemmingen zelf bepalen en beheersen. Het lot lijkt uitgeschakeld." (Achterhuis, 2004, p. 18)

[66] Original:"Kinderleukemie te overwinnen." (Achterhuis, 2004, p. 29)

[67] For more information on utopian promises see *Medical Utopias* by Bert Gordijn.

[68] Utopian views can also be seen as technological promises or visions, these are important for technological development, for example to get financial support from firms and aid from policy makers. For more information: Borup, M., Brown, N., Konrad, K., & Van Lente, H. (2006). The sociology of expectations in science and technology. Technology analysis & strategic management, 18(3-4), 285-298.

Utopian thinking is not realistic. It implies a static place and static life to have full control over human suffering. It shows a simplified worldview of health and disease, giving an illusion of control, while in reality life is more complex and dynamic (Dubos, 1987).

Influenced by utopian thinking, our Western society has a specific view on well-being. Dubos describes this as follows

> The modern state is predicated on the assumption that happiness is best reached through freedom from want and from struggle, whereas evolution-wise life implies strife and adventure. Modern man is apparently finding it hard to escape from his biological past. (Dubos, 1987, p. 211-212)

Typical of utopias is that the life of people living in a utopia is static, fully technological controlled, there is no struggle, imperfections of the earthly life are removed. It is therefore not surprising that a diamond is considered a symbol of a utopian society, every flaw, every imperfection is eliminated (Achterhuis, 1998).

The technological utopian narrative, where well-being is equated with the removal of struggles and stress from living on earth through technology, can be found in almost all professional narratives.[69]

Professional narratives often mention that children diagnosed with ADHD are suffering, and therefore are in need of medical help. The suffering emphasised is not a direct pain or disease that can lead to death, as is the case with many physical diseases. Instead the suffering is caused indirectly by the reaction of the environment, possible struggles that the children may be confronted with, due to their excessive behaviour. The behaviour may lead to poor school performance, problems at home and social problems. This is also inherent in the definition of ADHD, that the behaviour 'impairs', 'lowers the functioning' of the child in these environments (American Psychiatric Association, 2013; American Psychiatric Association, 2000). Professional narratives often mention that these problems may also lead to an inferiority complex. These children also have, due to their behaviour, a higher chance of going into criminality and using drugs.

[69] The discourse, where well-being is equated with the removal of struggles, has been found in 19 of 26 websites from medical institutions, both informative websites, the DSM, and the Health Council report (see table 7).

The possibility of suffering sometimes seems more important than whether these children conform to what is considered normal and healthy.[70] For example, the Health Council report notes that the diagnosis of children with ADHD is subjective, as we have seen in 5.2.2., there is no clear delineation between a child with ADHD and a normal healthy child. However, this problem of subjectivity is not considered to be that problematic, for according to the authors of the Health council report:

> ... the DSM criteria have a prognostic value: they identify a group of children that are more likely to get problems than their peers. In other words, ADHD is a risk factor in the children's development.[71]

Children diagnosed with ADHD do not seem to need medical help because they do not conform to the norm, but because they will suffer due to their behaviour. Medical help is needed in order to remove possible struggles the children will encounter due to their excessive behaviour. Medication helps to control the behaviour of the child, so the child will not have to be confronted with these struggles. Medication is often mentioned to reduce the excessive behaviour, the 'symptoms'.[72]

6.4 Conclusion

The element 'well-being' can clearly be found in the professional narratives, which is not surprising since medical sciences, such as child psychiatry, focus on well-being. What is interesting here is the kind of well-being that is used in these narratives.

Two discourses of well-being can be found explicitly in the professional narratives: 'becoming healthy by removing a specific cause', and the discourse where well-being is equated with the removal of struggles or stress, through technology. The second discourse of well-being can be clearly found in professional narratives, showing underlying technological utopian values, where medication is considered to be needed to remove possible struggles that children diagnosed with ADHD may be confronted with in their lives.

Children with ADHD are in need of medical help, not only because they deviate from the norm, but because they are said to have a higher chance to have certain struggles in life due to their behaviour.

[70] Interestingly, the possible suffering by using medication and the fact that long-term effects of using ADHD medication are unknown, are rarely mentioned.

[71] Original text:"... hebben de DSM criteria prognostische waarde: zij identificeren een groep kinderen die een grotere kans op problemen hebben dan hun leeftijdsgenoten. Met andere woorden, ADHD is een risicofactor in de ontwikkeling van kinderen." (Health Council report)

[72] The narrative that medication helps reducing excessive behaviour, can be found in 20 of 26 websites from medical institutions, both informative websites, and the Health Council report (see Table 6).

Chapter 7 contains a reflection on the findings of previous chapters and its implications for the debate surrounding the use of medication by children with ADHD.

7. General discussion

This study explored how professionals legitimise the use of drugs in the treatment of children with ADHD, focusing on the elements: mental disorder as an entity, normality, neurochemical body, morality, and well-being. Various materials have been examined looking whether these recurring topics, and with it common discourses could be found. To analyse the meaning given to these elements, their underlying assumptions within professional narratives, a philosophical-oriented critical discourse analysis has been used.

This study contributes to the field of STS by focusing on discourses that legitimise technology and its use, in this case psychotropic drugs used in the treatment of children with ADHD. Within critical discourse analysis it is assumed that discourses reflect and at the same time produce the social world. Therefore it is important to look at discourses that legitimise the use of technology, exploring underlying worldviews and assumptions. The perspectives of various philosophers were used to get a deeper understanding of how the elements were given meaning in professional discourses.

The findings of this study will be examined in section 7.1, looking at the differences and similarities between the discourses, and the way the elements are conceptualised in the materials analysed. Section 7.2 focuses on the strengths and limitations of this study. Section 7.3 compares the findings with previous studies done on discourses surrounding ADHD. The implications of these findings and recommendations for further research will be discussed in section 7.4.

7.1 The legitimation of using medication in professional narratives

The most common discourses surrounding the legitimation of drugs in the treatment of children with ADHD found analysing the materials are listed in Table 7. The element morality has not been included; even though it has historically strong intertwinement with normality, it has not been found to be that prevalent in the analysed materials (see 5.2 and 5.3).

In general the legitimation of drugs in the treatment of children with ADHD consists of two parts, (1) ADHD is a mental disease that needs treatment, and (2) that in order to treat ADHD, specific medication is needed.

Discourses that present ADHD as a scientific fact fall into the first group. Discourses that fall into the second group emphasise possible suffering of a child diagnosed with ADHD, in which ‘well-being’ is conceptualised as the removal of potential struggle.

Table 8

List of the most common discourses surrounding the use of drugs in the treatment of children diagnosed with ADHD found in the materials

Discourse	**Element(s)**	**Conceptualisation of the element(s)**	**Materials**
ADHD as an entity. ADHD is a disease entity that causes excessive behaviour.	Mental disorder as an entity	A mental disorder is viewed as a concrete disease entity found in nature.	This discourse has been found in all materials. This is most profound in certain words that are used, such as 'symptoms' and by expanding the definition of ADHD (for details see 4.2.1, 4.2.3 and Table 4).
Relating ADHD to genes. The idea is that ADHD is caused by specific genes. Usually the environment is mentioned as a factor that can strengthen or weaken the 'symptoms' of ADHD. This discourse is often found together with 'ADHD as a brain disease' (see section 4.2.3).			'ADHD being related to having certain genes' can be found in 14 of 26 websites from medical institutions, 1 of 2 informative websites, and the Health Council report (see Table 5).
ADHD as a brain disease. Excessive behaviour is caused by malfunctioning of the brain, a clear distinction is assumed between normal healthy children and those with ADHD.	Mental disorder as an entity	A mental disorder is viewed as a concrete entity	'ADHD as a brain disease' can be found in 14 of 26 websites from medical institutions and in 1 of 2 informative websites. However, it seems to be absent in the DSM-IV (see Table 5, Table 6, section 4.2.3, and 5.2.1).
	Neurochemical body	The 'neurochemical body' refers to the brain.	
	Normality	Exclusion model of normality: a dual conception of normality.	The DSM-5 does not make statements about the etiology, however it suggests that children with ADHD have a different neurochemical body by placing ADHD under ''neurodevelopmental disorders'

			. Interestingly, this narrative seems to be absent in the Health Council report (see Table 5).
Excessive behaviour. ADHD is defined as having excessive behaviour, e.g. overactive, excessive daydreaming, too impulsive, difficulties with listening, compared to other children.	Normality	Correction model of normality: the relation between normal and abnormal is considered to be gradual.	This discourse can be found in 25 of 26 websites from medical institutions, both informative websites, the DSM, and the Health Council report. It is an inherent feature of the definition of ADHD given by the DSM (see 5.3.1 and Table 6).
Problems functioning in daily life. Excessive behaviour causes problems to an abnormal degree in daily life. This discourse is often combined with 'excessive behaviour'.			This discourse can be found in 18 of 26 professional websites, both informative websites, the DSM and Health Council report (see 5.3.2 and Table 6).
Becoming healthy by removing the specific cause. ADHD is considered a disease that is thought to have a specific cause (e.g. specific genes or brain malfunction). To become healthy the specific cause has to be removed.	Well-being/ health Normality	Health is equated with the removal of a specific cause. Exclusion model of normality: binary conception of normality.	'Becoming healthy by removing a specific cause' has been found in 16 of 26 websites from medical institutions, 1 of 2 informative websites, and the Health Council report. It seems to be absent in the DSM-IV. While the DSM-5 does not make statements about the etiology of mental disorders, it suggests in an implicit way ADHD is a brain disease by placing it under 'Neurodevelopmental Disorders' (see section 6.2 and see Table 7).
Becoming healthy by removing struggle. Excessive behaviour leads to problems in daily life, and a higher chance to be confronted with certain struggles in life. By giving medical help these struggles are said to some degree to be preventable.	Well-being/ health	Health is equated with the removal of struggle.	The narrative, where well-being is equated with the removal of struggles, has been found in 19 of 26 websites from medical institutions, both informative websites, the DSM, and the Health Council report (for details see 6.3 and table 7).

’ADHD as an entity’, ‘Relating ADHD to genes’, ‘ADHD as a brain disease’, and ’Becoming healthy by removing the specific cause’, suggest that ADHD as a mental disease is an objective fact; that a clear distinction can be made between those that are mentally ill and those that are not.

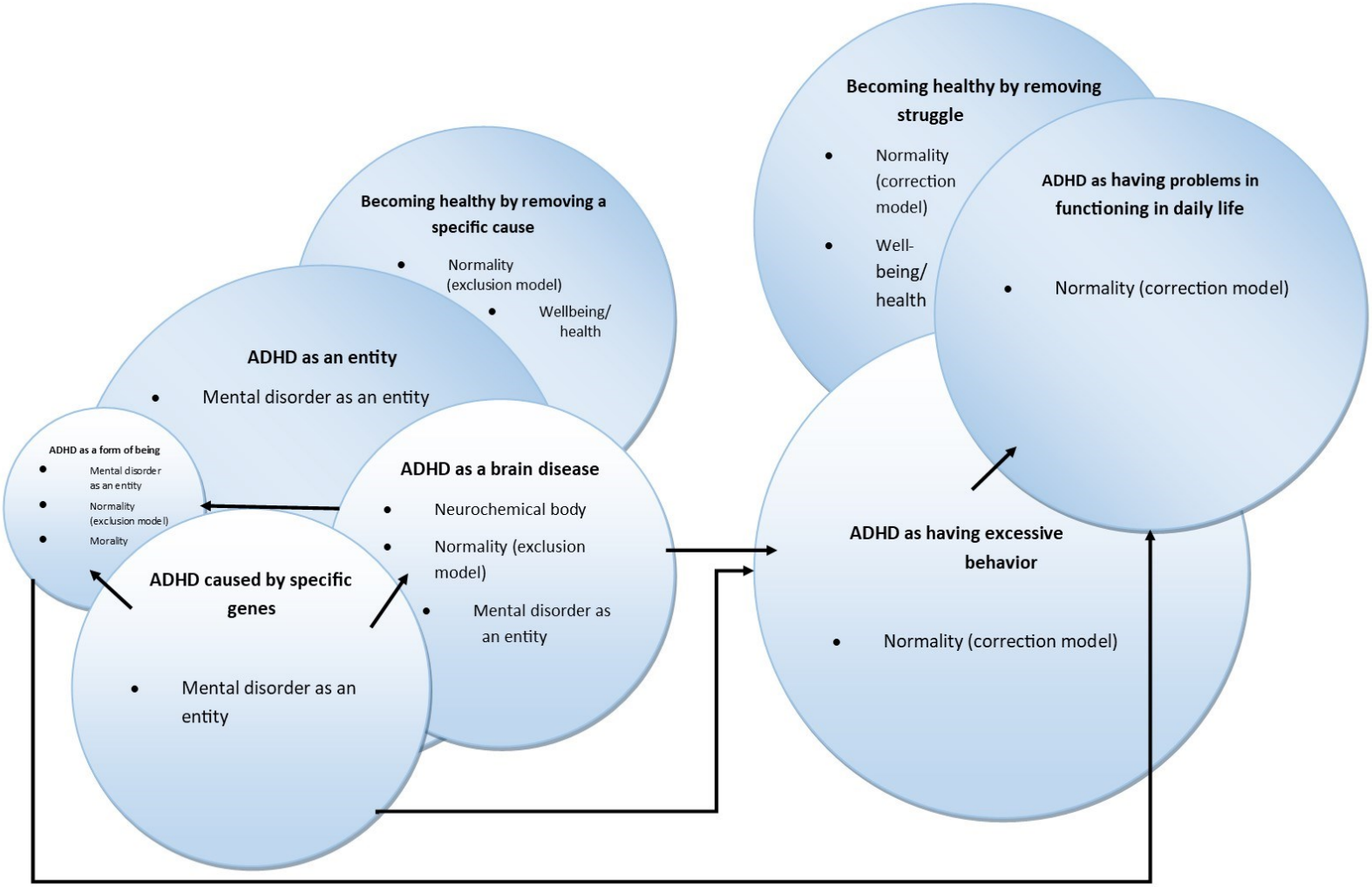
‘Excessive behaviour’ and ‘Problems functioning in daily life’ to some degree also suggest that ‘having ADHD’ can be objectively measured, that children with ADHD can be clearly distinguished from healthy children. But at the same time these discourses show a certain subjectivity in the diagnosis of ADHD, for when is the behaviour ‘too’ excessive or to what degree does a child have to have problems in daily functioning? Only in the Health Council report it is noted that the ADHD criteria are to a certain extent subjective (see section 5.3.1).

These discourses that present ADHD as a scientific fact, are contrasted with the ‘Becoming healthy by removing struggle’ discourse, which focuses on the possible suffering of children who are observed to have excessive behaviour. Looking specifically in the professional narratives why drugs are prescribed, the discourse ‘becoming healthy by removing struggle’ is a dominant discourse in the analysed materials (see Table 7). The idea is that with pharmaceuticals, the ‘symptoms’, the excessive behaviour can be reduced, and in this way the situation at school, at home and in relations can be improved. This finding suggests that besides the discourses that frame ADHD as an objective scientific fact, the possibility of suffering, the struggle that a child possibly will face in life is also a main factor in legitimising drugs. An overview of the differences and similarities between the discourses legitimising the use of pharmaceuticals in the treatment of ADHD is visualised in figure 4.

In figure 4 the discourses found in this study are presented as circles, within each circle are the discourse elements, i.e. recurring topics, that are part of that discourse. The size of the circles is based on their prevalence in the materials.

Some discourses overlap, for example ‘ADHD as a brain disease’ can be considered a ‘sub-discourse’ of the discourse ‘ADHD as an entity’ and ‘becoming healthy by removing a specific cause’. Another example is ‘ADHD as having excessive behaviour’ and ‘ADHD as having problems in daily life’, fall partly in the discourse ‘becoming healthy by removing struggle’, the excessive behaviour is considered problematic meaning that the child will be confronted with certain struggles in life, leading to problems in daily life, requiring medical help. Therefore, assuming that becoming healthy is removing possible struggle.

Figure 4. Overview of similarities and differences between discourses surrounding the legitimation of ADHD medication



The arrows within the figure refer to causal relations. For example, 'ADHD as having specific genes' is seen together with 'ADHD as a brain disease'; genes are said to be the cause of the brain deviation, which in turn leads to excessive behaviour. And this excessive behaviour in turn is considered to be the cause of problems in daily functioning.

The discourses are divided in those that have an exclusion or a correction model of normality. The exclusion model implies that a clear distinction can be made between those who are normal or those who are not. The correction model assumes a gradual scale of normality. With this in mind it is interesting to see how in professional narratives a step is made from an exclusion model to a correction model in the legitimation of ADHD medication.

This observation is similar when looking at the conceptualisation of 'well-being', from 'becoming healthy by removing a specific cause' to 'becoming healthy by removing struggle'. Seeing ADHD as a disease caused by certain genes or brain deviation falls into the broader discourse 'becoming healthy by removing a specific cause'. However, this gene or brain deviation are not considered in themselves as problematic, the fact that they lead to excessive behaviour and with it problems in daily life, is why treatment is needed. The use of pharmaceuticals is legitimised for it reduces the excessive behaviour, which leads to less problems in daily life, which falls into 'becoming healthy by removing struggle'.

7.2 Strengths and limitations

The philosophers were essential for this study, because they specifically focused on the elements—mental disorder as an entity, normality, neurochemical body, morality, and well-being—in relation to mental disorders, or specifically ADHD. They illuminated the historical conceptualisation, the meaning that has been given to these elements, and how it changed overtime. Because of their clarity they provided excellent tools to analyse the materials, broadening the understanding of how pharmaceuticals are legitimised, and of how the elements are interconnected to each other.

The materials in this study were analysed focusing on the five elements. While this gave guidance in analysing the materials, starting with a blank slate might have resulted in discovering other elements that are important in professional narratives.

The analysed materials differ in that they focus on different target groups, and have different goals ranging from being a diagnostic tool for professionals, informing patients and parents, to advising the government. This broadened the analysis, but at the same time the findings might have been different if materials had been chosen focusing on one target group, for example analysing scientific articles directed to professionals which could have brought generalisation in brain studies more to the fore.

Furthermore, analysing materials from a different medium may show variations in professional narratives. The medium (technology), through which information is communicated (tv, radio, or news articles), seems to influence the way discourses around phenomena are formulated. For example, Ponnou and Gonon (2017) found that discourses from the same medical experts differed when talking about ADHD in different media. In French TV programmes, the biomedical model of ADHD dominated, while in the French press, the same medical experts conveyed a more complex and nuanced view of ADHD (Ponnou, & Gonon, 2017).

Another limitation of this study is that the coding of the materials was done by a single person. To limit personal bias, I tried to be systematic in the analysis (see Tabel 4-7 and Appendix E), however "any data analysis, including discourse analysis, is inevitably interpretive, shaped to some extent by the researcher, …. An analysis is always partial and incomplete" (Taylor, 2013). Therefore replication of this research is recommended, with multiple people coding the data, to reduce the possibility of researcher bias within this research.

Sometimes it was difficult to interpret the written texts that were analysed. For example, one of the reification mechanisms, circular reasoning, was not clearly found for the statements made in the materials were often ambiguous. Another example is the conceptualisation of normality, it was often not clear what kind of normality was talked about, ideal, biological, or statistical. Therefore, to some degree the in-depth analysis of this study was limited.

7.3 Implications

This study contributes to existing research by giving an overview of common discourses found in a variety of materials of professional narratives in the Netherlands (Table 8). It examined commonalities and differences between these discourses on the basis of the work of philosophers (and others) whose work contributed to analysing the elements in the search for how ADHD pharmaceuticals are legitimised, showing a clear distinction in discourses that present ADHD as a scientific fact, and those that focus on potential suffering of a child with ADHD (see 7.1, and Table 8).

Research on the conceptualisation of normality in relation to mental disorders, has shown that there is a subjective notion of normality (Crowe, 2000; Frances, 2013; Vilar-Lluch, 2017). This research confirms this finding, but at the same time goes more in-depth in the specific model of normality (De Folter). The exclusion model presents ADHD as an objective fact, while the correction model shows a form of subjectivity (see chapter 5).

The findings of this study show that Nieweg's findings on reification (2005), which focused on scientific articles on ADHD, can also be found in the various analysed materials. At the same time this study

shows more in detail how specific kinds of reification mechanisms, proposed by Te Meerman (2019), who focused on academic textbooks, are used within professional narratives. It also shows how the neurochemical body is linked specifically to reification, i.e. by generalisation and expansion of definition in the materials.

Reification (Nieweg, 2005; Dehue, 2010) and the subjectivity of normality (Frances, 2013; Crowe, 2000) have been warned by various researchers; however, awareness of these problems has not been found in the analysed materials (see 4.2.4 and chapter 5), which is a cause of miscommunication between professionals and the public (see also 7.4).

The findings of this study to some degree contrast with previous studies on discourses surrounding ADHD. Freedman (2016) and Te Meerman (2019) found that education textbooks presented children with ADHD as more likely to be immoral, this contrasts with the findings of this study, which found that children with ADHD are presented as more ethical than other children.

The neurochemical body (Rose, 2003; Broër & Heerings, 2012; Visser & Jehan, 2009) and normality (Frances, 2013; Crowe, 2000) are considered to be key elements within discourses surrounding ADHD, however this study shows there is a third element that is highly important, namely 'well-being'. This raises new questions surrounding our conceptualisation of what we view as a mental disorder, and whether this case study of ADHD can be applied to other mental disorders as well. This study is a start in more focused research on the utopian values relating to our view surrounding mental disorders in relation to the use of technology, such as medication.

7.4 Recommendations and further research

This study analysed the ways how normality is conceptualised in professional narratives, using De Folter's exclusion and correction model of normality, however as already mentioned, it is still unclear what kind of normality, ideal, biological, or statistical, is referred to. Therefore, to get a more detailed understanding of how professionals legitimise the use of drugs, interviewing professionals is recommended for further research. This may also help to get a better understanding of how and what kind of reification mechanisms are used in professional narratives.

The findings of this study also have implications on the debate surrounding the validity of psychiatry.[73] The findings suggest that currently the diagnostic criteria of ADHD are subjective, which corresponds with findings from previous studies. Frances (2013) argues that everyday experience is being

[73] This relates to a colloquium (2020) by Miriam Solomon called *Untidy Pluralism in Psychiatry*, in which she talks about the validity crisis, i.e. the growing criticism on the DSM, and its consequences for psychiatry. She argues that the recent crisis in validity results in pluralism of approaches to disease and nosology within psychiatry.

medicalised. Dehue (2014) says that in modern society there is less acceptance towards diversity of people. Crowe (2000) and Vilar-Lluch (2017) argue that the criteria for ADHD are subjective and related to our cultural view of what being normal entails. They question to a certain extent the validity of mental disorders or specifically the validity of ADHD as a mental disorder. However, mental disorders in the DSM are scientific conventions, not hard truths as is presented in professional narratives to the public. The DSM was created to make it easier to communicate between psychiatrists from different schools of psychiatry.

The results of this study suggest that the problem is not as much a validity crisis, but a problem of miscommunication between those that have made the DSM, the professionals and the public. Professionals present ADHD to the public as a scientific fact, not a scientific convention in need of more verification. The professional narratives directed to the public suggest that ADHD is caused by a brain deviation or specific genes, also extending in other ways the definition of ADHD presented in the DSM-IV and DSM-5 (for details see 4.2.3); while, the DSM-IV and DSM-5 explicitly state that they do not make statements about the etiology of a disease. However, the DSM-5 is highly suggestive in this regard by placing ADHD under 'neurodevelopmental disorders' and using reification mechanisms, such as certain language use (for details see 4.2.1).

Moreover, while ADHD is presented as an objective fact in professional narratives to the public, the ADHD criteria are partly subjective as is stated in the Health Council report (see section 5.3.1). This also relates to the unclarity about what kind of normality is assumed in the DSM and professional narratives (for details see 5.2.1).

Professional narratives that legitimise the use of pharmaceuticals, present ADHD as a concrete disease entity, and at the same time conceptualise health as removing possible struggle, thus include a broader form of well-being, which goes beyond the idea of removing a disease entity causing a disease (see section 6.3).

Furthermore, in the DSM no suggestions are made on how mental disorders should be treated, while in professional discourses to the public it is suggested that pharmaceuticals are a good way to help those with ADHD, even suggesting that it can improve school performance, which according to the Health Council report is currently still unfounded. Thus, there seems to be a certain discrepancy between the DSM and professional narratives to the public, which the DSM-5 in itself promotes by being suggestive to certain degrees.

Based on the findings of this study, it is recommended that professionals should be informed on the ways miscommunication surrounding ADHD and use of medication may arise, i.e. the various

reification mechanisms that lead to entity thinking in relation to the neurochemical body, what kind of normality is talked about, and the utopian values underlying the current conception of mental health and the use of medication.

This philosophical study raises awareness among professionals and the public, about this miscommunication and vagueness surrounding ADHD and the use of medication, and may contribute to further research, in gaining more clarity in communication about ADHD and with it how psychotropic drugs are legitimised.

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Appendix A: On the literature review process

A literature review was conducted to look for elements typically found surrounding discourses on ADHD and the use of pharmaceuticals. For the literature review, the online database Google Scholar was used to search for recent articles on this topic. Keywords that were used in this search were 'ADHD', 'Attention deficit disorder', 'mental disorders', 'children', 'youth', 'discourse'. The abstracts of the articles were read in order to determine whether they were relevant to the topic, talking in some way about discourses or narratives around mental disorders, ADHD, or children with ADHD, and/or use of medication. Recent books that relate to this topic, which in some way talk about the narratives surrounding ADHD have been included in this preliminary literature review. The book *Saving Normal* from Allen Frances, a psychiatrist, was included for he helped in creating the DSM-IV. *Beter mensen* written by Trudy Dehue, philosopher and psychologist, has also been included, for it specifically focuses on ADHD and use of ADHD medication in the Netherlands.

Appendix B: List of analysed materials

Table 2

List of Websites of Medical Institutions that Treat Children with ADHD with Pharmaceuticals and Informative Websites made by Professionals

Medical institutions	
Youz	https://www.youz.nl/adhd/kenmerken
	https://www.youz.nl/adhd/kind-met-adhd
EPI Zorg B.V.	https://www.epi-groep.nl/publicaties/
	https://www.epi-groep.nl/psychologisch-instituut-tilburg/publicaties-2/
GGZ Drenthe	https://ggzdrenthe.nl/psychische-problemen/adhd
	https://ggzdrenthe.nl/behandelingen/farmacotherapie
UMC Utrecht	https://www.umcutrecht.nl/nl/Ziekenhuis/Afdelingen/Hersencentrum/Ziektebeelden,-onderzoeken-en-behandelingen/Ziekten/ADHD
	http://folders-hersencentrum.umcutrecht.nl/nl_NL/12056/178170/adhd.html
	http://folders-hersencentrum.umcutrecht.nl/nl_NL/12084/178514/medicatie_bij_adhd.html
Ziekenhuis St Jansdal[74]	https://www.stjansdal.nl/folders/adhd-en-medicatie-bij-kinderen
Mentaal Beter	https://mentaalbeter.nl/adhd/
	https://mentaalbeter.nl/adhd/kenmerken/

[74] Hospital St Jansdal

	https://mentaalbeter.nl/adhd/oorzaak/
	https://mentaalbeter.nl/adhd/gevolgen/
	https://mentaalbeter.nl/adhd/behandeling/
	https://mentaalbeter.nl/adhd/wat-is-add/
GGz Breburg	https://www.ggzbreburg.nl/psychiatrische-problemen/adhd/
	https://www.ggzbreburg.nl/probleemcategorieën/ontwikkelingsstoornissen/
MoleMann Mental Health	https://www.molemann.nl/uw-hulpvraag/adhd
Eleos	https://www.eleos.nl/zelftesten/contact-en-aandachtsproblemen/
Bravis Ziekenhuis	https://www.bravisziekenhuis.nl/patientenfolders/adhd
Jonx	https://www.jonx.nl/probleem/adhd/
	https://www.jonx.nl/probleem/adhd/wat-zijn-symptomen-van-adhd/
	https://www.jonx.nl/probleem/adhd/wat-zijn-de-oorzaken-van-adhd/
	https://www.jonx.nl/probleem/adhd/welke-behandelingen-jonx-adhd/
Plushome	https://plushome.nl/behandeling/adhd-behandeling/
Rijnstate	https://www.rijnstate.nl/aandoening-en-behandeling/adhd/behandeling/
	https://www.rijnstate.nl/media/13083/het-adhd-team.pdf
	https://www.rijnstate.nl/aandoening-en-behandeling/adhd/
Yulius	https://www.yulius.nl/aandoening/kindenjeugd-adhd/
	https://www.yulius.nl/behandeling/behandeling-met-medicijnen-2/

Kindertherapeuticum	https://www.kindertherapeuticum.nl/wat-wij-behandelen/adhd/
Herlaarhof	https://www.herlaarhof.nl/aanbod/adhd-3
De Hoop	https://www.dehoop.org/behandelingen/farmacotherapie/
	https://www.dehoop.org/psychische-problemen/adhd/
Altrecht	https://www.altrecht.nl/wp-content/uploads/2015/12/Alles-over-ADHD-jongeren.pdf
	https://www.altrecht.nl/wp-content/uploads/2016/04/Behandelmogelijkheden-ADHD-4-18-jaar-jongeren-en-ouders.pdf
Antonius Zorggroep	https://www.mijnantonius.nl/kinderen-met-adhd-of-add
GGZ Rivierduinen	https://www.rivierduinen.nl/uw-hulpvraag-ons-zorgaanbod/ADHD/adhd-bij-kinderen-onder-18-jaar/wat-is-het
	https://www.rivierduinen.nl/uw-hulpvraag-ons-zorgaanbod/ADHD/adhd-bij-kinderen-onder-18-jaar/wat-merkt-u-ervan
	https://www.rivierduinen.nl/uw-hulpvraag-ons-zorgaanbod/ADHD/adhd-bij-kinderen-onder-18-jaar/hoe-komt-het
	https://www.rivierduinen.nl/kinderenenjeugd/clienten/behandelingen
GGZ Delfland	https://www.ggz-delfland.nl/jeugd/stoornissen/adhd/
	https://www.ggz-delfland.nl/jeugd/behandelingen/farmacotherapie/
Slingeland Ziekenhuis	https://kindergeneeskunde.slingeland.nl/kenniscentrum/adhd/1552
Praktijk voor Neuropsychiatrie, Psychotherapie en Expertise W.C.	https://praktijkbohlmeijer.praktijkinfo.nl/?s=adhd&submit=zoeken+

Bohlmeijer, J.G. Upmeijer	
Karakter	https://www.karakter.com/media/37459/zorgprogramma-adhd-def.pdf
Kinderpraktijk Zoetermeer	http://www.kinderpraktijkzoetermeer.nl/behandeling
Therapeutisch Centrum GGZ	http://www.therapeutisch-centrum.nl/kind-en-jeugd/adhd-kind-en-jeugd/adhd-hoe-kan-therapeutisch-centrum-ggz-helpen/adhd-hoe-ontstaat-het/
	http://www.therapeutisch-centrum.nl/kind-en-jeugd/adhd-kind-en-jeugd/adhd-hoe-kan-therapeutisch-centrum-ggz-helpen/adhd-wat-is-het/
	http://www.therapeutisch-centrum.nl/kind-en-jeugd/adhd-kind-en-jeugd/adhd-hoe-kan-therapeutisch-centrum-ggz-helpen/
Informative websites	
Nederlandse Vereniging voor Psychiatrie (NVvP)	https://www.nvvp.net/website/patinteninformatie/aandoeningen-/adhd-bij-kinderen
	https://www.nvvp.net/website/patinten-informatie/aandoeningen-/adhd-bij-kinderen/symptomen
	https://www.nvvp.net/cms/showpage.aspx?id=1399
	https://www.nvvp.net/cms/showpage.aspx?id=1400
Thuisarts.nl	https://www.thuisarts.nl/adhd
	https://www.thuisarts.nl/adhd/mijn-kind-heeft-adhd
	https://www.thuisarts.nl/adhd/heeft-mijn-kind-adhd
	https://www.thuisarts.nl/adhd/mijn-kind-met-adhd-krijgt-medicijnen

Appendix C: Historical overview of child psychiatry

Table 3

Historical overview of psychiatry in the Netherlands

Time period	View on mental disorders	ADHD, precursors of ADHD and treatment
Before 1902	Before the 19th century, psychiatrists thought hereditary predisposition to be the most important factor in the development of a mental disorder. Child psychiatry started in the 19th century. Before that, it was assumed that children could not have a mental disorder, for their minds were not fully developed. Problematic behaviour of children was considered to be problems of morality, not a medical problem, which needed psychiatric intervention, but a problem that could be solved using strong discipline.	Hyperactive and impulsive children who performed poorly at school were thought to be unwilling to learn or being limited by their predisposition.

1902-1925	Few psychiatrists, such as George Frederic Still, thought that children could develop mental disorders, however it is in the period 1925-1965 that child psychiatry would become more organised and officially recognised.	Abnormal defect of moral control in children sees hyperactive and inattentive behaviour as a moral defect, which aligns with pre-psychoanalytic thought before the 19th century, when children were thought not capable of having a mental disorder. At the same time this moral defect was considered to be innate or the result of a defect in the brain, thus being a medical problem, which aligned with the idea of a mental disorder before the rise of psychoanalysis.
Birth of child psychiatry in the Netherlands (1925-1965)	With the rise of psychoanalysis and the mental hygiene movement the idea came that mental disorders emerge primarily due to conflicts in the personality development, instead of being innate. It was assumed that the personality development was malleable. This resulted in the idea that mental disorders could be prevented by focusing on children's well-being.	The nervous child is considered to be a precursor of ADHD in 1930, referring to children with problems of inattention and hyperactivity. The behaviour was not linked anymore to morality. However, it was feared that these children had a higher chance of becoming criminal. The behaviour was also associated with poor school performance and the negative effect it had on the emotional development of the child. There was no consensus on the origin of the disorder, if it was mainly psychological, physical or an interplay. During that time psychoanalysis started to rise within psychiatry. The influence could be seen in the way the disorder

		was treated, by focusing predominantly on the environment, by making life more bearable for the child by adjusting the environment. It is also interesting to note that a few psychiatrists prescribed some forms of medication to children, such as sedatives.
Psychoanalysis becoming dominant within child psychiatry (1965-1985)	Within child psychiatry the focus became on psychological conflicts, social relationships and parent-infant relations. There was not much attention on physical factors.	Minimal Brain Damage Disorder (MBD) aligned and at the same time contrasts with the dominating psychoanalytic theory. This focus on the psychological causes of mental disorders did not mean that the physical cause was fully neglected. However, it was thought that a brain injury gave a greater susceptibility for mental disorders, but it was the social environment and psychological conflicts that rose from the interaction of that environment that was thought to lead to MBD. Treatment was in line with psychoanalytic thought by focusing on inner unconscious conflicts. However, treatment also consisted of adjusting the social environment, similar to the treatment of 'the nervous child' disorder. Pharmaceuticals were in general not used, psychiatrists in the Netherlands were hesitant in using Ritalin.

The Biomedical turn (1985-2019)	Psychiatrists started to focus more on neurological and genetic research. Physical factors were thought to be the major cause of several mental disorders. However, psychological factors and social environments were (and still are) considered to be important factors in the emergence of a mental disorder. What is especially interesting is the underlying Kraepelinian view of mental disorders that underlies the DSM-III, DSM-IV and DSM-5. While the DSM is descriptive and does not make statements about the cause(s) of mental disorders, there still is the assumption that these mental disorders are not just a cluster of symptoms, but will refer to real disease entities. The idea is that the underlying (biological) mechanisms will be found in the future.	ADHD refers to a cluster of hyperactive, impulsive and inattentive behaviour. In the DSM-IV and DSM-5 no statements are made about the causes of ADHD. Before 1985 psychiatrists were reluctant in prescribing drugs, this changed around 1985. Methylphenidate started to become commonly prescribed to children with ADHD. It is often used together with other forms of treatment. The focus came more on alleviating symptoms by using among others pharmaceutical drugs.

Appendix D: Change in public discourse, from behaviour to a form of being

Before 1870 the public discourse surrounding homosexuality did not talk about homosexuality as a type of person, but in terms of behaviour. This change relates to a change in public discourse where actions became associated with a type of being (Hansen, 1992).

> People's thoughts today commonly proceed, for example, from the observation of a theft to the recognition of a thief, from a crime to a criminal, and from a homosexual act to a homosexual; but our ancestors did not think that way about those acts. To them theft and sodomy were sins, which any one might commit. A sinner might subsequently be socially labeled a 'thief' or a 'sodomite,' but this label was only shorthand for 'person who perpetrated this sinful act.' It was not an indication of one's being a fundamentally different kind of person from one's peers. Furthermore, in this traditional viewpoint, a person could not be a thief or a sodomite without having committed the relevant act. (Hansen, 1992, p. 107)

This change in cultural thinking relates to an observation made by Healy, a historian of psychiatry. Healy says that our idea of personality, as identity with certain characteristics, started in the 1880s in Europe. Before the 1880s personality or 'psyche' was related to the soul, with an emphasis on morality, the identity of a person was related to his/her relationship with other people. This changed during the industrial revolution. Before the industrial revolution the identity of people was associated "by place of origin and relational ties" (Healy, 2002, p. 24-25), but with people going to the city, interacting with a large amount of people, they started to define themselves "in terms of their self-presentations" (Healy, 2002, p. 24-25).

Appendix E: Overview data analysis

Figure 5 and 6 show an overview of the focus when analysing the materials. The coloured circles are the elements, i.e. recurring topics found in professional narratives surrounding ADHD and use of ADHD medication. Below each element an explanation is given of the kind of content that is looked at within the materials. 'Mental disorder as an entity' is more complex, various reification mechanisms were looked at, the prevalence of these reification mechanisms within texts suggest the presence of this element within professional narratives. The element 'Normality' was analysed by focusing on two conceptualisations of normality: the exclusion and correction model. Below each model is a short description what kind of content was focused upon when analysing the materials. Each element is surrounded with cursive black text, these show extra indication for what was looked at when examining the materials. The cursive coloured text show examples of what kind of words and sentences have been found analysing the texts.

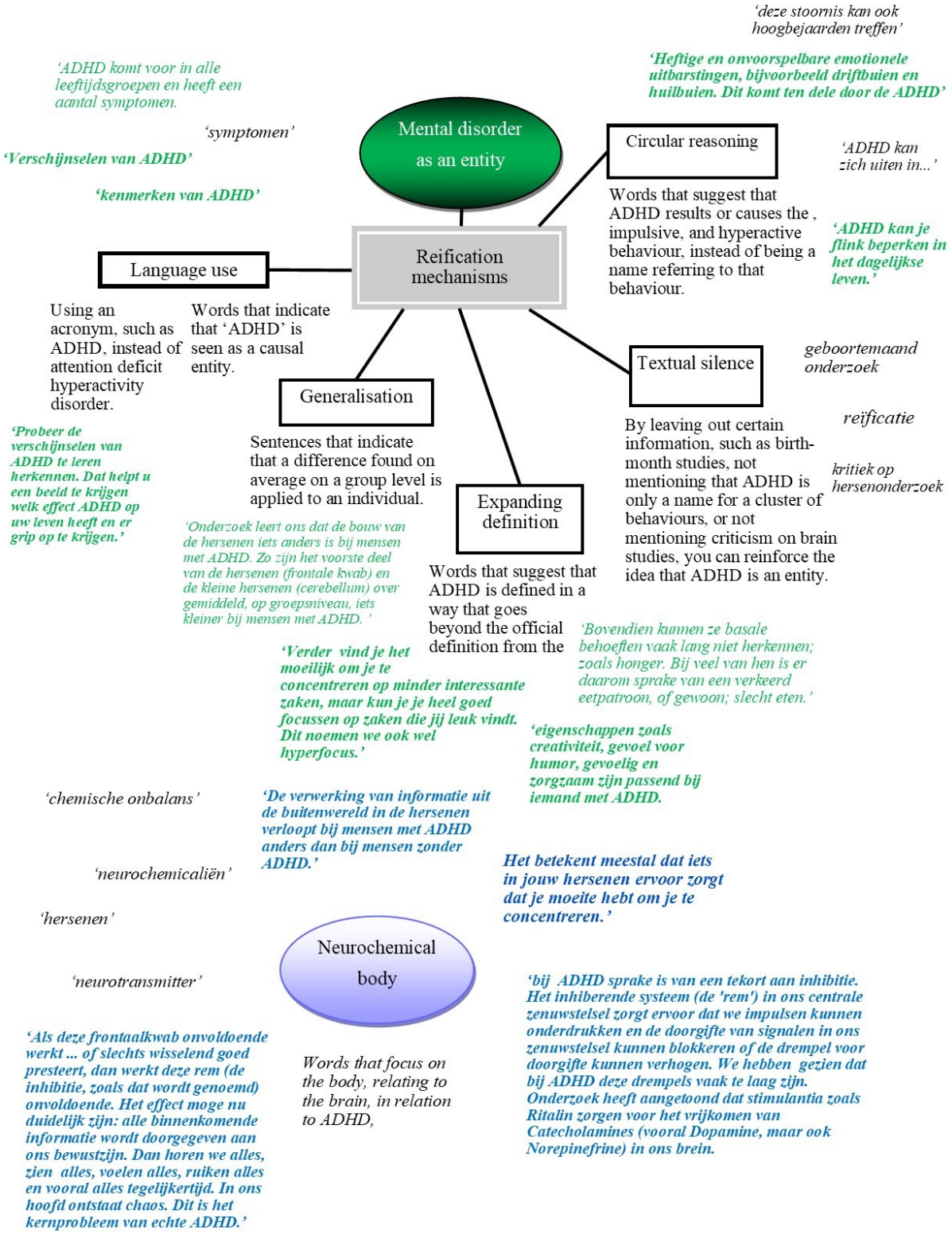

Figure 5. An overview of the element 'mental disorder as an entity' and 'neurochemical body'

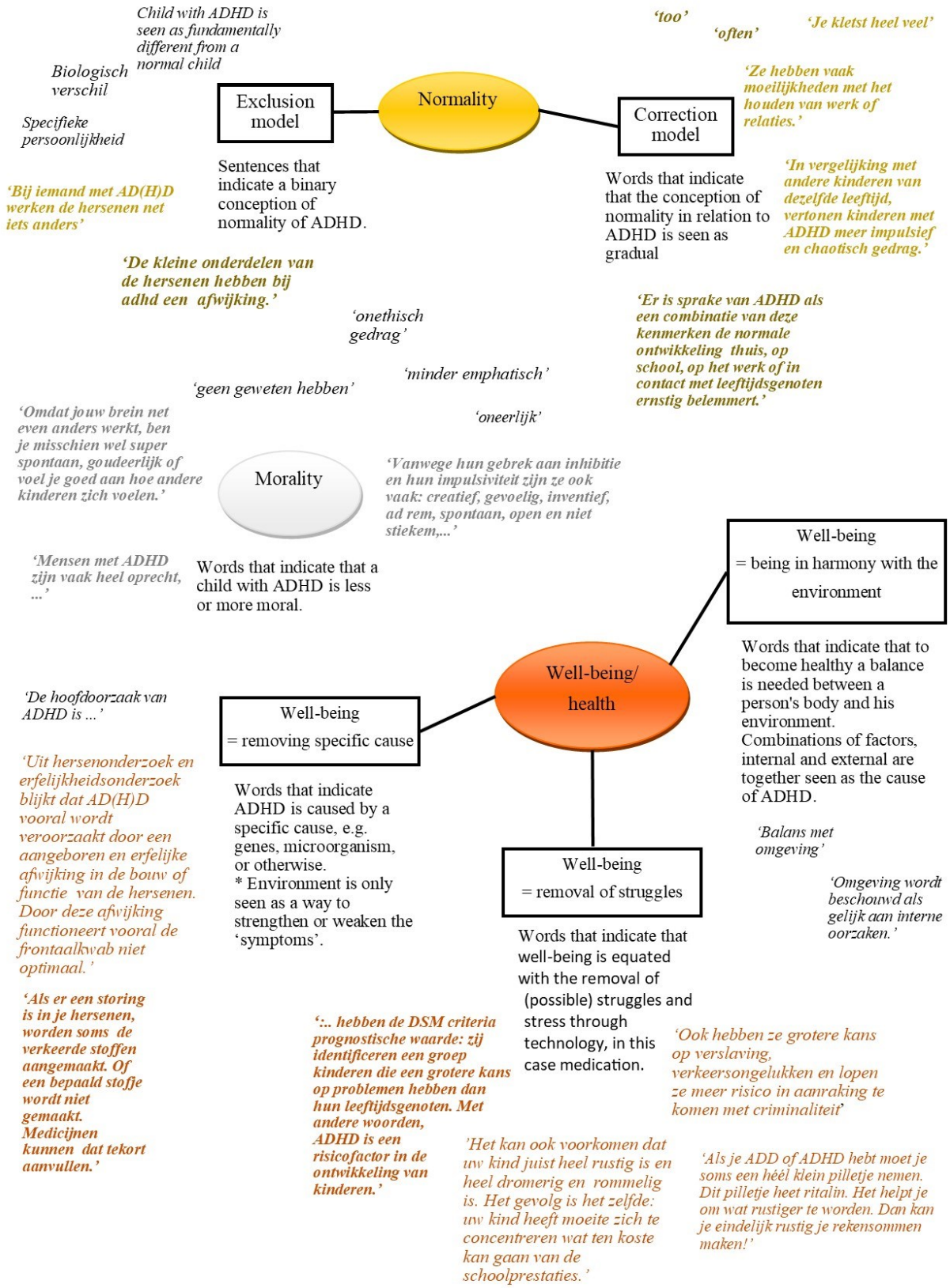

Figure 6. Overview of the elements 'normality', 'morality', and 'well-being/health'