GENDERING ADHD AND BIOPOLITICS IN THE KNOWLEDGE ECONOMY

By

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ABSTRACT

This thesis revolves around the question of how the gendered diagnosis of ADHD informs the production and regulation of a new kind of neoliberal subject in the Knowledge Economy. The Netherlands, as a country in which various institutions support Knowledge Economy discourses is taken as a case study. The thesis is a combination of critical engagement with existing theories and research on ADHD, education and the knowledge society, and data analysis of governmental discourses and representations of popular media such as interviews and television broadcasts. Analysis of Dutch discourses on gendered learner traits lead me to conclude that boys become a site of contested masculinity in a Knowledge Economy. Through engaging with theories on discourse and biopolitics, the analysis of ADHD characteristics and desirable traits in a Knowledge Economy lead me to conclude that ADHD diagnosis can be considered biopolitical/neurochemical disciplinary practice on the misfit (masculine) subject. Furthermore, theoretical engagement with authors such as Foucault, Rose and Youdell inspire me to suggest that ADHD diagnosis may be considered a way of allocating resources to "failing" learners that may yet be redeemed.

Keywords: ADHD, biopolitics, gender, the Netherlands, Knowledge Economy, neoliberalism, discourse

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I have not been a very good student, historically speaking. I am chaotic and erratic and disorganised (depending on who you ask it's either a character trait, the ADHD, or both), an eternal procrastinator and incredibly undisciplined. Despite all these things, I will finish this M.A. with a pretty decent GPA and a finished thesis. After the drama that was my BSc thesis I didn't think that would be possible, yet here we are. I have learned a great many things in the past two years, and I am grateful for that to more people I could possible list. There are a few people who I would like to extend a special thanks however, so here they come.

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DECLARATION

I hereby declare that this thesis is the result of original research; it contains no materials accepted for any other degree in any other institution and no materials previously written and/or published by another person, except where appropriate acknowledgment is made in the form of bibliographical reference.

I further declare that the following word count for this thesis are accurate:

Body of thesis (all chapters excluding notes, references, appendices, etc.): 20,565 words

Entire manuscript: 25,798 words

Signed, Floor Jantje van't Ende

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Introduction

> *Attention Deficit Hyperactivity Disorder (ADHD) is many things to many different people. To the majority of medical practitioners – psychiatrists and paediatricians – who will most likely make the diagnosis, it is a genetically inherited brain based disorder, a dysfunction of the dopaminergic system creating deficits in various 'executive functions'. For many psychologists, who stand in a somewhat awkward alliance alongside medical practitioners, it is an emotional and behavioural difficulty, its source possibly found in some kind of deficit of attachment or esteem, likely located in the early interactions of the family. To the pharmaceutical makers, which trade among the very biggest companies in the world, it is the means by which the largest ever known quantity of psychoactive medication can be supplied to children. To teachers it is those few children who constantly threaten the fragile social order of the classroom, take precious learning time from others, and who simply cannot be included in everyday activities. For the parents of children with ADHD, it is a major source of distress and conflict in the family, threatening paternal authority, undermining normal parenting practices, and prompting that most discomforting of recurring thoughts: "what have I done wrong?" (Bailey, 2015, p. 98)*

The above quote by Bailey provides a perfect insight into the multiplicity that is ADHD[1].

ADHD is not only a brain disorder, a behavioural difficulty, a cash cow, a nuisance, a source

[1] The critical reader might notice that of all the things ADHD is to all the people here, children (with ADHD) themselves are not included in this quote. Bailey did write about them; to say that we can only guess to what ADHD means to them, as their opinions are rarely sought (Bailey, 2015, p. 99). I myself was diagnosed with ADHD at age 22; like many women with an ADHD diagnosis, this happened not as a child but as an adult with some level of agency. To me, at the time, and still now, it came as a relief; I still remember the attending psychologist telling me *you might feel like you're just not trying hard enough, but you are, you're doing your very best, and I can see that* and what it meant to me at the time and what it meant to me still. To me, the label ADHD means (self) forgiveness. To my brother, who was diagnosed with ADHD in high school at age 15, and who always told me "I think you're like me, I see a lot of myself in you", at the time it meant clarity about what he could do to learn things more easily, he tells me. Now it means the knowledge that he must handle some things differently than some other people do.

of distress, or to some (such as myself) a site of understanding and self-forgiveness, but it is also a controversial locus of societal unrest. In this thesis I will answer the question as to how the gendered diagnosis of ADHD informs the production and regulation of a new kind of neoliberal subject in the Knowledge Economy. This introduction will first provide context for this question, and introduce existing literature to support my research. It will then go into the subquestions and research methodology I will employ in order to answer the main research question, and last provide the theoretical lens which I will use to analyse the data.

Context

In the Netherlands (as elsewhere, see M. Smith, 2017), there is a public worry about the recent rise in ADHD diagnoses that takes shape in the use of labels such as "ADHD epidemic" (Ministerie van Volksgezondheid, Welzijn en Sport, personal communication, 2016) and "medicalization (of youth)" (Ministerie van Volksgezondheid, Welzijn en Sport, 2012, personal communication, 2013) that seemingly goes alongside this increase. These worries are expressed for example through a 2016 quickscan on ADHD and youth commissioned by the Ministry of Education (Cuelenaere, 2016), a study into the increased youth of ADHD medication among Dutch children (Trip, Visser, Kalverdijk, & de Jong-van den Berg, 2009) and a 2011 parliamentary roundtable on ADHD (De vaste commissie voor Volksgezondheid, Welzijn en Sport, 2011). Unease surrounding ADHD in the Netherlands does not occur in isolation; ADHD has been labelled a "contested illness" (Dew, Scott, & Kirkman, 2016), and some studies show a correlation between ADHD diagnosis and social disadvantages to such an extent that there is a worry that ADHD might be literally diagnosing social disadvantage (Isaacs, 2006) or that children might be misdiagnosed (Graham, 2008; Schwandt & Wuppermann, 2015).

In this thesis I find that ADHD shows the biopolitical aspects of the gendered impact of the Knowledge Economy in education, which is often manifested or understood as "feminisation of education". This concept can be understood in various ways; Skelton (2002) shows that the term "feminisation of education" is used

> *statistical[ly] - to indicate the number of women teachers in relation to men teachers; cultural[ly] - where the teaching environment is seen to be biased towards females; [and] political[ly] - 'backlash' politics* (p. 85).

In the Netherlands we can see the discourse around "feminisation of education" in the governmental worry about the relative underachievement of boys vis-á-vis girls in education; Bussemaker & Ministerie van Onderwijs, Cultuur en Wetenschap, 2017; Maréchal-van Dijken, de Laar, Vliegenthart, & Sanders, 2012; Ministerie van Onderwijs, Cultuur en Wetenschap, personal communication, 2011, personal communication, 2012 are all parliamentary documents (either questions, reports or discussions) to do with boys' "underachievement". We can also trace discourses of "feminisation of education" in the outcry about the decline in, and lack of, male teachers in primary education. (Bussemaker & Ministerie van Onderwijs, Cultuur en Wetenschap, 2017). The connection between the decline of male teachers and the underachievement of boys is often made either along narratives that refer to the disputed[2] idea that boys need male role models, or embedded in the narrative that due to the high percentage of female teachers, *education itself* has become oriented towards the "learning style" of girls, for example in Bausch, 2014; Beaman, Wheldall, & Kemp, 2006; Carrington & McPhee, 2008; I. Davis, 2015; Drudy, 2008; Houtte ,

[2] I say "disputed" because various studies show that 1) boys do not perform better or worse under male teachers than under female teachers (Carrington, Tymms, & Merrell, 2008; Driessen & Doesborgh, 2004; Drudy, 2008; Timmerman & Van Essen, 2004) and other studies (such as Bügel, Alberts, & Zwitser, 2011), show that in the Netherlands, boys are not "doing worse" education wise than they did before. All students perform better now than in the past; the difference is that girls' performance has improved drastically over time, while boy's performance has improved more slowly.

2004; Younger, Warrington, & Williams, 1999. Implied here is, of course, that "boys and girls" have separate ways of learning, which I argue is related to biopolitical aspects of the (gendered) impact of the Knowledge Economy in education.

Existing literature

Gendered ADHD diagnosis

Significant research has been done on gender in (primary) education, ADHD and medication in education, and gender and ADHD. Various studies show that the recognition of symptoms and the diagnosis of ADHD is gendered, which leads to an under diagnosis of girls. One explanation for this under diagnosis is that boys and girls exhibit or perform behaviour associated with ADHD in different ways (Arnett, Pennington, Willcutt, DeFries, & Olson, 2015; de Zeeuw, van Beijsterveldt, Lubke, Glasner, & Boomsma, 2015; Derks, Hudziak, & Boomsma, 2007; Dobbs, Arnold *, & Doctoroff, 2004; Elkins, Malone, Keyes, Iacono, & McGue, 2011; Gershon & Gershon, 2002; Gómez-Benito, Van de Vijver, Balluerka, & Caterino, 2015; Günther, Knospe, Herpertz-Dahlmann, & Konrad, 2015; Isaksson, Ruchkin, & Lindblad, 2016; Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ, n.d.; Meyer, Stevenson, & Sonuga-Barke, 2017; Rizzo, 2016; Silva et al., 2015). There are various ways to understand that difference in performance. One Dutch study on twins with ADHD found that while parent reports on disruptive behaviour of children with ADHD was fairly gender-neutral, teacher-reports report lower levels of disruptive behaviour in girls than boys (Derks et al., 2007, p. 768). Derks et al. speculate that girls may be more adaptable in school than boys, which might explain this discrepancy (idem, p. 765). This speculation is

supported by another study that found larger influences of environmental effects on disruptive behaviour of girls with ADHD than on boys; de Zeeuw et al. (2015) argue that this

> *may be explained by the fact that girls appear to be more sensitive to reprimands from the teacher than boys. Earlier research already concluded that girls more often feel the pressure from peers or others to behave prosocially (Roberts and Strayer 1996). Girls might be more inclined to adapt their behavior when they are called upon by the teacher (p. 402).*

They also reiterate that child behaviour is related to the teacher's reaction to disruptive behaviour (Rydell and Henricsson 2004, cited in de Zeeuw et al. 2015, p. 406) which in turn can be related to teacher's gendered expectations of appropriate classroom behaviour. One study into how teachers related their perceptions of gender identity/typical gendered behaviour to students' academic achievement however proposed that the disruptive behaviour of underachieving girls (similar to girls with (undiagnosed or diagnosed) ADHD) was in fact just as present as in boys, but simply overlooked by teachers (Jones & Myhill, 2004). So while some studies try to explain teacher's misrecognition of disruptive behaviour in girls by suggesting that girls may not behave as disruptively in class as at home/as boys, Jones and Myhill (2004) argue that this is not the case. Instead the misrecognition of disruptive behaviour can be attributed to the gendered, normative expectations that they have of (typical) boy- and girl-like behaviour. In chapter 2 and 3 I will discuss these findings in relation to the *gendered* and *gendering* nature of ADHD, in which I will argue that ADHD is already pre-emptively gendered masculine, and that at the same time ADHD diagnosis serves as a way to police proper gendered behaviour. With regards to the effects of the gendered diagnosis of ADHD on girls I discuss in chapter 3 that ADHD diagnosis contributes to naturalized notions of gender, as well as disproportionate resource allocation towards boys.

The Knowledge Economy

The concepts of Knowledge Economy and Knowledge Society also feature strongly in this thesis, as I consider it the backdrop and partial explanation for the interaction between biopolitics and gendered diagnosis of ADHD in the Netherlands. In that sense I will be looking at ADHD in a Knowledge Economy context, using various theories and concepts mainly by Foucault as an analytical lens to examine the ADHD subject. I will first discuss the general concepts of Knowledge Economy and Knowledge Society and explain why I consider the Netherlands a Knowledge Economy. The next section will then move on to the relationship I see between the concept of a Knowledge Economy and the (neuro-psychological) concept of Executive Functioning.

In a Knowledge Economy, the main mode of production is no longer labour or capital, but is rather technology, innovation and information (Matei, 2018; United Nations Division of Public & Management, 2005). A Knowledge Society is

> *one in which institutions and organizations enable people and information to develop without limits and open opportunities for all kinds of knowledge to be mass-produced and mass-utilized throughout the whole society. At its best, the Knowledge Society involves all members of the community in knowledge creation and utilization; it supports the goal of high quality and safety of life* (United Nations Division of Public & Management, 2005, p. 141).

For the purpose of this thesis I will not consider the "presence" of a Knowledge Economy an undisputable material fact, but rather a discourse that may or may not be accepted, acted upon and exerting influence on a society and its governance.

The Netherlands considers itself one such Knowledge Economy; various parliamentary debates and documents discuss the way forward to ensure the Netherlands provides fertile ground for a Knowledge Economy to grow and prosper. A handful of examples are a report on "the road towards a learning economy" from 2013 by the Scientific Council for Government Policy (Wetenschappelijke Raad voor het Regeringsbeleid, 2013), a plenary parliamentary debate from 2015 in which investment in the Knowledge Economy is directly set against investing in the "craft economy" (clerk, 2015) and a 2008 letter from the Prime Minister to the chair of parliament, named "the Knowledge Economy in sight" (translated by me), which states that 'investments in the Knowledge Economy are of great importance to the economic strength of the Netherlands' (also translated by me) (Balkenende, 2008). Because of these traceable discourses, I will take the "Knowledge Economy discourse" as one part of the setting in which (gendered) biopolitical discourses on ADHD take place.

In the logics of the Knowledge Economy, there is a need for highly skilled knowledge workers to push itself to the forefront of the global competition for development and innovation. One way through which a country or governing body can guarantee a large and diverse pool of high skilled knowledge workers to support and drive the economy is by 1) including as many people as possible into higher education and 2) to promote Life Long Learning. Dutch preoccupation with life long learning becomes clear for example through parliamentary hearings on the topic (de vaste commissie voor Onderwijs, Cultuur en Wetenschap, 2017).

Executive Functioning

The main objective for Life Long Learning (LLL) is to ensure that workers constantly acquire and update relevant (knowledge) skills to keep up with the constantly developing world

(Knowledge) economy (Brine, 2006). The reason why I have separated LLL from higher education is because there are reasons to believe that *skills* (gained through LLL) rather than formal education are valuable in a Knowledge Economy; *"There is strong empirical evidence that cognitive skills, rather than the level of schooling reached, influence individual earnings, the distribution of income and more generally economic growth (Hanushek and Woessmann, 2008)"* (OECD, 2017, p. 75). Whereas these skills are also taught in higher education, they can be considered a subject in themselves. When we look at which skills exactly are relevant or necessary for a Knowledge Economy we see the following examples:

> *While there is no broad agreement on a typology of skills, skills that matter for job performance can be considered as a continuum, with some skills having mostly a cognitive component (e.g.* ***literacy*** *and* ***numeracy****), some mostly linked to personality traits (e.g.* ***conscientiousness*** *and* ***emotional stability****), and others arising from the interaction and combination of these two components (e.g.* ***communicating***, ***managing*** *and* ***self-organising****)* (OECD, 2017, p. 27)

> *Along with cognitive skills, a wide range of personality traits matter for economic performance (Heckman and Rubinstein, 2001). Some authors argue that for many outcomes, these skills are just as important as cognitive skills, or even more so (Kautz et al., 2014). Many researchers group personality measures under five key factors:* ***extraversion***, ***agreeableness***, ***conscientiousness***, ***emotional stability***, *and* ***openness to experience*** *(Goldberg, 1990)* (OECD, 2017, p. 76)

In chapter 1 I will link these "skills for the Knowledge Economy" to the concept of Executive Functions (EF), which is often connected to ADHD in clinical psychology and psychiatry. The concept refers to those mental processes and abilities that are considered to be important in problem solving and general successful interaction with the environment. This definition seems quite vague, and that is there is no one agreed definition of executive functions or executive functioning as of yet (Barkley, 2012). One of the most commonly cited

definitions of EF is *'[…] the ability to maintain an appropriate problem-solving set for attainment of a future goal'* (Welsh & Pennington, 1988, pp. 201–202, cited in Barkley. 2012, p. 4). Barkley criticizes this definition because it does not offer any delineation between mental functions that do and do not qualify as executive functions (2012, p. 4); which is a reoccurring theme in his discussion of other definitions of EF. Some of the most commonly listed functions that are understood as Executive Functions are '*self-regulation, sequencing of behavior, flexibility, response inhibition, planning, and organization of behavior'* (Eslinger 1996, cited in Barkley, 2012, p. 8). However, this list is but one instance of a number of other sets of functions labelled EF. Barkley expresses frustration with the "polyglot of constructs" in the study of EF, which all lack the articulation of an 'essential nature' which makes a particular mental function an Executive Function (2012, pp 8-9). Barkley in fact notes that:

> *So variously defined is EF that some authors simply skip defining EF entirely … proceeding instead to directly listing one or a few constructs they believe to represent EF, such as response inhibition … working memory, set shifting, and planning …* (2012, p. 20).

However valid this critique might be, the development rate or level of particular EF are still used in the diagnosis of several disabilities and disorders, among which ADHD (Hatoum, Rhee, Corley, Hewitt, & Friedman, 2018; Øie, Hovik, Andersen, Czajkowski, & Skogli, 2018; Skogli, Teicher, Andersen, Hovik, & Øie, 2013). I want to critically look at what I suspect to be the contingent notion of EF. If it is the case that EF are those capabilities that are "necessary for successful functioning", then that is dependent on which kind of functioning is successful in a particular environment. I suspect that some (I will not say "the", because as Barkley has showed, there seems to be a lack of consensus on the matter)

understandings of EF will be directly related to the kind of cognitive functioning that is expected for a successful subject in the Knowledge Economy, or in other words, "skills for the Knowledge Economy". In fact, Barkley's own suggested definition fits in perfectly with what I would expect a desirable (economic) subject to master in a (capitalist/neoliberal) Knowledge Economy:

> *EF was […] concluded to be the use of self-directed actions so as to choose goals and to select, enact, and sustain actions across time toward those goals usually in the context of others often relying on social and cultural means* ***for the maximization of one's longer-term welfare as the person defines that to be*** (Barkley, 2012, p. 176, emphasis in original).

If this is the case, then that will support the argument that the rise in ADHD diagnosis is related to the Knowledge Economy and the characteristics of a desirable learner/subject.

Neoliberalism and Education

Knowledge Economy discourses in the Netherlands do not operate in isolation; they take place within neoliberal discourses as well. Neoliberalism has strong effects on all aspects of life, including education. Exploring the effects of neoliberalism in education will allow a greater insight into the way disciplining practices surrounding ADHD come about.

Significant work has already been done on the desirable subjects in Neoliberal systems and on and education systems within neoliberalism; see for example Allan & Harwood, 2014; Brancaleone & O'Brien, 2011; Davies *, 2005; Davies, 2006; Graham, 2008; Hay & Kapitzke, 2009; Jaeger, 2017; MacLure, Jones, Holmes, & MacRae, 2012; Olssen * & Peters, 2005; Vainker & Bailey, 2018; Verdouw, 2017. Most of these authors argue that in

Neoliberalism, schools have become so focussed on efficiency and performance that education becomes commodified (Connell, 2013; McGregor, 2009; Pierce, 2012).

In relation to efficiency and performance; Youdell (2004) argues that in a neoliberal system, educational triage becomes necessary. In practice this means that some children will be cut off completely in order to redistribute resources to other children who are deemed more likely to succeed. In chapter 3 I will argue that, seeing resource distribution from the perspective of educational triage ADHD diagnosis, can be considered a way of allocating resources to "failing" learners that may yet be redeemed.

On the role of pathologization in education and its relation to the contingent nature of non-normative behaviour, some work has been done by Monk (2000), who pays special attention to the *"problematizing of certain pupils behavior and in the establishing of the ideal norm for pupils"* (p. 361). Monk refers to Rose (N. S. Rose, 1998, 2005, 2007) when discussing how "*medical knowledge and expertise operate as a technique of modern government that serve to legitimize the problematization of child behavior that deviates from the norm"* (p. 362), which I intend to do as well. The understanding of the problematization of child behaviour that is undesirable or "not useful" will be a helpful tool in my research. My theory is that undesirable behaviour that is coded masculine leads to a biomedicalized way of disciplining their and others' bodies. This is resisted against through various narratives, but most strongly though the "boys will be boys" narrative (see chapter 2). In chapter 3 I will argue that hegemonic ideas/ideals of gender are in friction with capitalist/Knowledge Economy narratives.

Having gone through all of this existing literature, I was sure of a correlation between gender, ADHD, neoliberalism and the Knowledge Economy. However, there was no work I could

find that explicitly linked these concepts together. Connecting these concepts and thus adding to existing theory is therefore the aim of this thesis.

Research questions and methodology

In this thesis, I aim to establish how the gendered diagnosis of ADHD in children sheds light upon biopolitical discourses in the Netherlands as a society with a Knowledge Economy. The main question is therefore:

How does the gendered diagnosis of ADHD inform the production and regulation of a new kind of neoliberal subject in the Knowledge society?

To answer this question, I will have to answer three subquestions, which correlate with the three main chapters of this thesis.

1) What does ADHD diagnosis/do ADHD characteristics suggest about the production and regulation of the ideal worker (and its constitutive other) in the Knowledge Economy?
2) How is the ADHD subject portrayed in a gendered way/how are discourses on ADHD gendered?
3) How do the answers to (1) and (2) suggest gendered implications of a biopolitical regime in a neoliberal society?

This project will be on the one hand a theoretical exploration into the relationships between ADHD, the Knowledge Economy and gender, and on the other hand a case study of a particular space, time and culture, the Netherlands. In that sense my method will mostly be a critical engagement with existing theories and research on medicalization/(dis)ability,

education and the knowledge society, but will also consist of some analysis of data particular to the Netherlands itself, such as guidelines and directives on diagnosing (ADHD) provided by Dutch psychiatry associations and not-for profit research and knowledge centres such as the Dutch Trimbos Institute of Mental Health and Addiction; governmental discourses in the form of parliamentary debate, and representations of popular media such as interviews and television broadcasts.

Theoretical Framework

In order to connect these narratives, I will make use of theories of discourse (Foucault's in particular) and social constructionism in order to analyse my data. Foucault's notions of governmentality, biopower and biopolitics (Foucault, 2010) will be helpful to explore the subject-creation and "management" of students as future desirable subjects, as shown by Douglas, 2010; Larner, 2000; Lemke, 2001; Li, 2007. Foucauldian biopolitics, in the sense that I am using them, refer to a politics, a way of governing, that presides over the (human) body. Foucault wrote that in the nineteenth century, due to an amalgamation of a multiplicity of things, among which the field of statistics and probability and new ways of record keeping, governments realised that they could keep track of what was going on with their people/*volk* than ever before. Bookkeeping, data gathering, and statistical analysis led to 1) the development of a focus on the norm in the sense of a bell-curve as opposed to the norm in the sense of an ideal, and 2) the insight that human health could be governed intensely on a large scale. The governing of health occurred in two ways; on the one hand through the '*disciplining of the individual body'*, and on the other hand through the regulatory control of the population (Foucault 1980, p. 139 cited in Lemke, Casper, & Moore, 2011, p. 36). The

regulatory control of the population refers to the statistical, biological and technical insights that convinced those in power that a population ought to be managed to be its best and most productive self, that is, to be fertile with lowered death rates, to prevent the spread of diseases, etcetera (Lemke et al., 2011, p. 37).

The disciplining of the individual body refers to institutional practices of training and moulding, to make people both more economically productive as well as less likely to revolt against authority. In other words; '*the aim of disciplinary power is to forge a "docile [body] that may be subjected, used, transformed and improved"* ' (Foucault, 1977, p. 136 cited in Dreyfus & Rabinow, 1983, p. 153). It is this form of disciplinary bio-power that is particularly helpful as an analytical lens in discussing ADHD in the Netherlands.

The governing of health, of the body and of personal wellbeing is connected to economical production. Whereas this is often not stated explicitly, a body and a mind (within a neoliberal biopolitical regime) needs to be optimal so that it may be optimally productive. Since we are analysing the Netherlands as a neoliberal biopolitical regime with a Knowledge Economy, in chapter 1 I will show how the discursive creation – recognition – diagnosis - treatment of ADHD is the product of a neoliberal biopolitical regime with a particular interdependence on a Knowledge Economy through discussing both the Dutch diagnostic practice for children with ADHD as well as by taking a deeper look into the (clinical) psychology behind the concept of ADHD. I will also demonstrate how some theories on the nature of ADHD uncover a close link between "ADHD characteristics" and what we know of the ideal worker/learner in a Knowledge Economy such as the Netherlands.

Foucault also features strongly in Valerie Hardwood's *Critique of Behaviour Disorder Discourses* (2006), which provides an excellent and helpful critique of the diagnosing of

"behavioural problems" in children. She uses Foucault's "5-point analysis of power"[3] (Foucault, 1983, p. 223. Cited in Hardwood, 2006, p. 63) to look into the power relations that are necessary to first construct the notion of "conduct disorder" and then to diagnose "disorderly children" with this disorder (2006, p. 63). Her application of this analysis is helpful to me as a way to understand biopolitical practices of diagnosing children with ADHD, not in the least because the "disorder" that Hardwood discusses (conduct disorder) shows overlap with ADHD in various ways. Hardwood shows that the Diagnostic and Statistical Manual of Mental Disorders (which I will discuss in chapter 1) can be interpreted as both a manual and an authority to distinguish "normal" from "not normal" and "particular people" from other people (2006, p. 63). The second point serves to expose the beneficiaries of a particular form of power, which for Hardwood's purposes she uses to question and expose the (non-)objectivity of experts (2006, p. 63). The third point refers to the means through which relations of power, which in Hardwood's case refers to the production of conduct disorder and in my case to the production and diagnosis of ADHD, take place (2006, p. 63). The fourth point serves to show the various forces or institutions through which a power is exercised, which in Hardwood's case refers to schools, justice system and health system (2006, p. 63), and in my case refers mostly to school, health system and social services. The last point refers to the rationalizations behind the application of force/power upon others, which in both Hardwood's and my case mainly refers to young people.

Rose's writings on neoliberalism will aid me in understanding the connections between neoliberalism, responsibility, productivity and citizenship . In his 2005 book "governing the

[3] The five points of powers in this particular case are '*1. The system of differentiations which permits one to act upon the actions of others..2. The types of objectives pursued by those who act upon the actions of others…. 3. The means of bringing power relations into being… 4. Forms of institutionalisation… 5. The degrees of rationalization*' (Foucault, 1983, p. 223. Cited in Hardwood, 2006, p. 63)

soul", Rose writes that in neoliberalism the citizen is expected to *'take responsibility for their own conduct and its consequences in the name of their own self-realization'* (N. S. Rose, 2005, p. 264). The particular conduct the citizen is supposed to take responsibility for is "active engagement" and (labour) productivity: in an earlier volume (Powers of Freedom), Rose writes that *'citizenship is (…) realized (…) through active engagement in a diversified and dispersed variety of private, corporate and quasi-corporate practices, of which working and shopping are paradigmatic*' (1999, p. 246). These theoretical insights will aid me in connecting the biopolitical governance of "ADHD-subjects" to productivity, which is a major part of my argument. Rose has also written considerably on biopolitics and biopower. In his 2007 work "The politics of life itself", Rose introduced the notion of "becoming neurochemical selves", which refers to a process in which discourses in neurology and psychology have connected behaviour to neurological states and "molecular phenomena" (N. S. Rose, 2007, p. 43). According to Rose this has opened up a space for (behavioural) medical intervention on the neurological level, and discourse that connects behaviour and personhood to neurochemical and hereditary bodily states (2007, p. 43). Moreover, Rose theorizes that this medical intervention is not framed to simply improve the individual, but rather to return it to a previously lost *authentic state* (2007, p. 211).

Rose's "becoming neurochemical selves" will serve as a helpful tool in understanding how behavioural characteristics can be translated into ADHD, how ADHD can be connected to (deficits in) Executive functioning, and how medication can become a viable option for children with (presumed) ADHD.

Chapter 1 – The ideal worker

In this chapter I will uncover the notion of the ideal worker and its constitutive other in the Netherlands by analysing the diagnostic process of ADHD. My argument is that "ADHD characteristics" reveal the characteristics of the ideal worker in the Dutch Knowledge Economy.

Considering the importance of the DSM-5 in mental health care in the Netherlands generally, and since various Dutch guidelines for ADHD diagnosis and treatment (that will be discussed in this chapter) refer to the DSM as the authoritative source on classification of diagnosis, I will briefly discuss the nature of the DSM itself. Then I will look at the particulars of "ADHD characteristics" according to the DSM. After this general discussion I will go into ADHD diagnosis in the specific context of the Knowledge Economy. Understanding the DSM will help in analysing both the nature of docile bodies as well as their constitutive Other in a neoliberal biopolitical regime with a Knowledge Economy.

The Diagnostic and Statistical Manual of Mental Disorders

The Diagnostic and Statistical Manual of Mental Disorders (DSM) is maybe the most important international authority on mental disorders and diagnosis. It is used to determine eligibility for health insurance in mental health care; in 2016 the then minister of public health, welfare and sports informed parliament that from 2017 on, the DSM-5 would be the required to determine health insurance claims in mental health care (Schippers, 2016).

The DSM is developed by the (North) American Psychiatric Association, which consists of about 40.000 members in the psychiatric field ("About APA," n.d.). The DSM-I was

published in 1952 (Vanheule, 2014, p. 2) to provide a categorical classification system of "mental health conditions", mainly for the benefit of epidemiologists and statisticians (Vanheule, 2014, p. 5). After many revisions which included more and more different "mental health conditions", the DSM-5 (2013) provides its readers with a way of '*classifying and labelling mental health conditions*' (Vanheule, 2014, p. x). Right now, the DSM can be considered the main classification manual of "mental disorders" around the world (Cooper, 2014, p. 57). It is noteworthy that the DSM-5 explicitly mentions that its aim is not to suggest treatment or treatment methods but rather to

> *assist trained clinicians in the diagnosis of their patients' mental disorders as part of a case formulation assessment that leads to a fully informed treatment plan for each individual. The symptoms contained in the respective diagnostic criteria sets* ***do not constitute comprehensive definitions of underlying disorders, which encompass cognitive, emotional, behavioral, and physiological processes that are far more complex than can be described in these brief summaries****. Rather, they are intended to summarize characteristic syndromes of signs and symptoms that* ***point to an underlying disorder*** *with a characteristic developmental history, biological and environmental risk factors, neuropsychological and physiological correlates, and typical clinical course* (American Psychiatric Association, 2013, p. 19. My emphasis).

This quote shows an interesting paradox; on the one hand, the DSM-5, which is the leading authority on the diagnosis of ADHD, explicitly states that its manual only includes symptoms, not definitions of underlying disorders. On the other hand, it also reiterates that there definitely is an underlying disorder to be found in these symptoms. So where on the one hand, the DSM-5 can be said to purely refer to behavioural characteristics, it in the same breath supports a narrative of underlying, neurological (dis)order.

The DSM-5 workgroup on ADHD and Disruptive Behavior Disorders consists of 10 people whose expertise is overwhelmingly focused in clinical psychology and behavioural neuroscience. Eight out of ten people in the workgroup worked for North-American universities, one for a Brazilian university, and one for a Puerto Rican university. In the six years the DSM-5 took to develop (APA, 2013, preface), these researches will have combed through decades worth of research and publications, and met with advocacy groups and other stakeholders to consolidate the piece on ADHD that can be found in the DSM-5 today. In itself there is nothing wrong with this approach to compiling a reference book. I do however want to highlight some critiques that the DSM-5 has garnered over time.

Stijn Vanheule (clinical psychologist and professor at Ghent University) wrote a critical review of the DSM-5 and its use in diagnosis (2014) in which he criticized the DSM not necessarily for what it is, but rather for what is seems and alleges to be. He warns that

> *end users often take for granted that an instrument like the DSM-5 (an impressive 991-page book published by a highly prestigious professional society) provides us with an accurate basis upon which to draw far-reaching conclusions about people's mental health. Indeed, by means of this respected handbook, professionals and laypersons alike make important decisions about the presence or absence of psychological conditions in themselves and in others (Vanheule, 2014, p. x).*

In the end, all the DSM-5 is, is a book that has clustered together various perceivable behaviours and characteristics and given them a label for convenience sake. Moreover, the perception of these characteristics depends on the (probably) professional who is doing the observing, with all their biases and pre-conceived notions that will influence which behaviours will and will not be noted and checked against the DSM (2014, p. 66). Vanheule also points out that whereas the APA uses various rhetorical devices to make the DSM sound

as trustworthy as possible through referring to statistics and the "methods of science", a lot of diagnostics (such as those for mood disorders) are in fact not all that statistically reliable (Vanheule, 2014, p. 39). Through various ways, for example by lowering statistical thresholds for statistical significance, the APA manages to conceal how questionable and subjective many of the diagnoses using the DSM really are.

Another critique that is repeated across the board (Caplan, 1995; Cooper, 2014; Vanheule, 2014) is that the APA and those in DSM revision committees have connections to the pharmaceutical industry to various extents. Moreover, the research that the revision committees rely on has also often been financed (in part) through the pharmaceutical industry, further complicating ties between the pharmaceutical industry and the world's most influential diagnostic tool in the area of mental health. Vanheule sums up the power of the DSM perfectly in the following section:

> *people believe in its accuracy and legitimacy, largely without question. The manual could also be said to function somewhat at the base of the economy of psychiatry. After all, the DSM not only facilitates a belief system, but also survives as an important economic device for managing the flow of money invested into mental health care. It is on the basis of this classificatory system that decisions are made on issues such as the reimbursement of treatments, the right to financial aid and the allocation of means across health care providers (Vanheule, 2014, p. xi)*

Diagnostic process

Having now reached some understanding of the DSM, we can look into the diagnostic process of ADHD in the Netherlands[4]. In order to do so, I will focus on the NHG guideline on ADHD in children (Stijntjes et al., 2014). The NHG (Dutch College of General Practitioners, *Nederlands Huisartsen Genootschap*) publishes various guidelines for General Practitioners. According to the NHG's website[6] these standards are meant to serve as a support for daily general practice. As for the nature of ADHD; the NHG guideline on ADHD in children (Stijntjes et al., 2014) considers ADHD a "descriptive diagnosis" which is aimed at changing behaviour, and does not comment on or aspire to "cure" any underlying "disease" (p. 2). The multidisciplinary Youth Health Care guideline on ADHD in children (Boer & van de Glind, 2015), another guideline on ADHD diagnosis and treatment but with a different audience (youth healthcare workers in different fields), also emphasizes that ADHD is a descriptive diagnosis based on observed behaviour which tells us nothing about underlying causes of these behaviours (p. 17). Both the NHG and JGZ guidelines consistently refer to the DSM[7] as the main diagnostic tool for ADHD and include a translated overview of ADHD characteristics as listed in the DSM-5. I therefore consider the DSM-5 the main authority on characteristics ascribed to people with ADHD.

[4] Keeping in mind a Foucauldian understanding of biopolitics, we can read the preoccupation of medical institutions with people daily functioning, especially in the case of ADHD, as a "technology of the Self" (H. Dreyfus & Rabinow, 1983, pp. 174–175; Foucault, 1988). This technology of the Self refers to idea that self-knowledge and self-truth are of vital importance and can often only be accessed through mediation of a professional. Through "confession" or sharing the inner mind with a professional who then interprets what is shared, '*the individual has become an object of knowledge, both to himself*[4] *and to others, an object who tells the truth about himself in order to know himself and to be known'* (H. Dreyfus & Rabinow, 1983, pp. 174–175). The diagnostic process around ADHD unsurprisingly betrays a similar occupation.

[6] (NHG.org/nhg-standaarden, accessed March 2019)

[7] See appendix A for the DSM-5 section on ADHD

The NHG guideline on ADHD in children (Stijntjes et al., 2014) sets out an elaborate road map for the process of recognising, diagnosing and treating ADHD[8]. According to the guideline, usually parents, teachers or children themselves request diagnosis and treatment (p. 2). The guidelines also emphasize that '*there has to be clear evidence that the behaviour adversely influences social and academic functioning'* (p. 3). Following an interpellation of the body/individual as a source of (endless) analytical data, the GP will start questioning the child on their general wellbeing, their functioning in social and institutional environments such as school or extracurricular clubs and will focus on ADHD related features such as forgetfulness, restlessness and disorganisation if parents, children or others suspect ADHD (p. 4). The GP will also note when and where problems manifest, whether there is a family history of ADHD related behaviour, the (negative) effects ADHD like behaviour has had on the child's wellbeing, social circumstances, substance abuse and particular concerns voiced by teachers or other in the child's environment (p. 5). If there are signs of hyperactivity, impulsivity and or inattention present in two or more (social, domestic or institutional) settings, which lead to clear limitations in functioning, the GP will investigate whether or not the ADHD-like behaviour could be the result of social circumstance, somatic impairment, or a psychiatric condition (p. 5). If only limited impairment in daily functioning is established the GP is not advised to continue diagnosis but instead to proceed with guidance and parenting advice. If this proves not to be effective, further investigation into ADHD and educational intervention is advised (p. 6). What this insight shows us that the diagnostic practice surrounding ADHD is not solely concerned with isolating those who display

[8] In this discussion of ADHD it is important to keep in mind at all times the complicated relation that a person who has been diagnosed as ADHD may have with the concept. DSM classification, or "label" carries with it both the stigmatizing and disempowering forces of being considered "mentally ill", the exclusion of "normality" and "health" or being of "sound mind", but at the same time also offers access to (financial and emotional) aid that may well be sorely needed by a person who struggles in society.

characteristics that are labelled ADHD. As we just read, there are many ways in which a child might exhibit some behaviour labelled as ADHD behaviour who will not be diagnosed, but whose family and/or school will instead receive intervention. This can be considered an exhibition of "pastoral power"; a power that resolves to ensure "salvation" in life through wellbeing (Foucault, 1983a, pp. 214–215)[9].

If ADHD has been diagnosed but no comorbid psychiatric conditions are determined, the GP is advised to provide information and counselling for parents and/or teachers, and where necessary behavioural therapy for the child. If these interventions prove insufficient the GP may consider pharmacological treatment (p. 6). When starting pharmalogical treatment, the GP is advised to set targets with the parents and child and to establish how the journey towards these targets will be assessed and evaluated (p. 6-7). The guidelines also list some examples of possible targets, which are eerily reminiscent of the concept of "docile bodies": calmer and more agreeable behaviour, increased focus, improved planning, and improved school results (p. 7).

Docile bodies and their constitutive "Other"

If the desired outcome of ADHD treatment are calmer and more agreeable behaviour, increased focus, improved planning, and improved school results, then that tells us something about the particular docile body that is desired. Agreeability is understandable considering that the purpose of a docile body is to be '*subjected, used, transformed and improved'* (Foucault, 1977, p. 136 cited in Dreyfus & Rabinow, 1983, p. 153). Increased focus, improved planning and improved school results however reveal how the docile body is also

[9] While initially bound to Christian "ecclesiastical organization", Foucault argues that pastoral power has spread to the "whole social body" and found support in "a multitude of institutions" such as the family, school, hospital, psychiatry, employers etc (Foucault, 1983a, p. 215).

the product of a particular time and place. Before contextualizing the docile body/desired worker according to ADHD diagnosis however, I want to take a closer look at the constitutive "other" of the docile body through analysing the "characteristics of ADHD".

As I wrote earlier, bodies and minds within a neoliberal biopolitical regime need to function optimally so that they may be optimally productive. By analysing first the "characteristics" of ADHD according to the DSM-5, and later including some neurological theories surrounding ADHD as well, it will become clear that the discursive creation – recognition – diagnosis - treatment of ADHD is one biopolitical "dividing practice" (Tremain, 2006, p. 186) to achieve both management of "high-risk" groups in a Knowledge Economy to whom ADHD diagnosis and medication may be offered as an opportunity, as well as way to discipline "unteachable subjects" into "docile bodies" well suited to a Knowledge Economy.

To see what ADHD diagnosis can tell us about docile bodies in a neoliberal biopolitical regime with a Knowledge Economy, it is important to take a good look at which behaviours the DSM-5 classifies as exemplary for someone with ADHD. Following a logic of docility and disciplining practice, simply inverting the characteristics of ADHD will present us with a desirable subjectivity in the Netherlands today.

Symptoms related to inattention	*Symptoms related to hyperactivity and impulsivity*
Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g. overlooks or misses details, work is inaccurate).	Often fidgets with or taps hands or feet or squirms in seat
Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or reading)	Often talks excessively
Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).	Often runs about or climbs in situations where it is inappropriate (Note: In adolescents or adults, may be limited to feeling restless.)
Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly focus and is easily side-tracked).	Often unable to play or engage in leisure activities quietly
Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).	Is often "on the go," acting as if "driven by a motor (e.g., is unable to be or uncomfortable being still tor extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).
Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers)	Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her *[sic]* place in the classroom, in the office or other workplace, or in other situations that require remaining in place).

Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).	Often blurts out an answer before a question has been completed (e.g., completes people's sentences; cannot wait for turn in conversation).
Is often easily distracted by extraneous stimuli (for older adolescents and adults, may include unrelated thoughts).	Often has difficulty waiting his or her *[sic]* turn (e.g., while waiting in line).
Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).	Often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

Table 1: ADHD symptoms according to the DSM-5

I formatted this table based on the symptoms of ADHD according to Association, American Psychiatric. *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5*. 5th ed. American Psychiatric Publishing, 2013, pp. 59-60.

The symptoms of ADHD are reveal a preoccupation with both the docile body as well as the docile mind. Symptoms related to inattention, which I argue are connected to the docile mind, show a strong preoccupation with institutional settings such as school or work. Symptoms related to impulsivity/hyperactivity, related to the docile body, seem more strongly connected to interactions with others/society than situated particularly in institutions. If we imagine the symptoms numbered from one to nine, then 'inattention' symptoms 1,2 and 4-7 all explicitly reference school/educational and occupational settings, whereas in the 'hyperactivity/impulsivity' symptoms the only explicit reference to education or/and occupation occurs in 'hyperactivity/impulsivity' 6. The influence of school and the workplace

on the recognition of inattentive symptoms is thus one aspect of ADHD diagnosis that reveals its (strong) connection to education and economy. Some characteristics of the docile mind/ideal worker we can take away from the list of inattentive symptoms of ADHD are: paying attention to details and meticulousness (in 1), focussed and obeying authority (in 2-4), organised and disciplined, capable of exerting sustained effort (in 5, 6, 8), dependable (all).

Inattentive ADHD characteristics	*Desirable characteristics*
Careless/inaccurate	Careful/accurate
Avoids sustained mental effort	Embraces sustained mental effort
Does not follow through on instructions	Follows instructions well
Easily distracted	Focussed
Difficulty sustaining attention (reading)	Easily sustains attention/literacy
Difficulty organizing tasks and activities	Organized
Loses things necessary for tasks or activities	Orderly
Forgetful in daily activities	Reliable
Does not seem to listen when spoken to	Listens when spoken to

Table 2: Inattentive ADHD characteristics and their opposites

It is easy to see how the desirable characteristics I have identified reflect docility, but how do they relate to the concept of a Knowledge Economy? As I discussed in the introduction to this thesis, a Knowledge Economy needs highly skilled knowledge workers to push itself to the forefront of the global competition for development and innovation. These knowledge skills/skills for the Knowledge Economy can be summarized into conscientiousness, literacy,

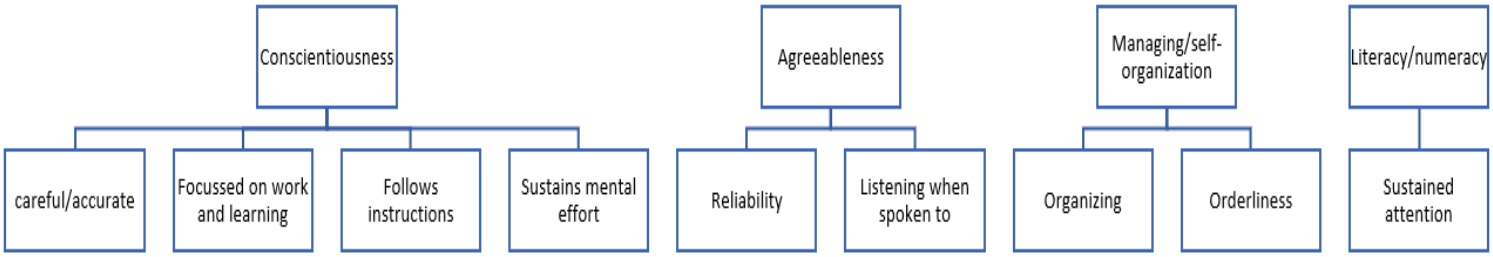

Figure 1: skills for the Knowledge Economy and desirable characteristics

numeracy, self-organising, managing, agreeableness, emotional stability, communicating and extraversion (OECD, 2017, pp. 27, 76).

When comparing these skills to the list of desirable characteristics, we see how conscientiousness is reflected in the desire for a worker/citizen that is careful/accurate, embraces sustained mental effort, follows instructions well and is focussed on work and learning. Literacy and numeracy is reflected in the desire for sustained attention (and literacy, which is mentioned explicitly in the DSM-5 list of ADHD characteristics). Self-organizing and managing are mirrored in the desire for organization and orderliness, respectively, while agreeableness is implied in the desire for reliability and listening when spoken to.

Up until now I have discussed the connections between inattentive ADHD symptoms and desirable characteristics in a Knowledge Economy. But how do the more "physical" characteristics, hyperactive/impulsive ADHD characteristics fit into this analysis?

As I mentioned earlier, where inattentive ADHD symptoms are related to the docile mind, hyperactive/impulsive ADHD symptoms are related to the docile body. When we derive desirable characteristics from the opposite of hyperactive/impulsive ADHD characteristics, it becomes clear that hyperactive/impulsive ADHD symptoms are very similar. There has been considerable critique on the overlap among the symptoms of ADHD, which has sometimes been pointed towards to explain high diagnosis rates. Docility itself is reflected already in calm, reserved, quiet, tranquil, patient and respectful characteristics. So these characteristics fit in with the general conceptualisation of a docile body, but how do they relate to the specificity of the neoliberal regime with a Knowledge Economy?

Hyperactive/impulsive ADHD characteristics	*Desirable characteristics*
Fidgety	Calm
Talks excessively	Reserved
Restless/disruptive	Manageable
Loud	Quiet
Restless	Docile
Cannot remaining seated	Tranquil
Impatient in conversation	Listens
Impatient taking turns	Patient
Intrusive	Respectful of boundaries

Table 3: Hyperactive/impulsive ADHD characteristics and their opposites

Again I want to focus on optimal productivity in a knowledge-based market, but this time less so on the productivity of the ADHD individual. If we take into account that hyperactive/impulsive ADHD symptoms are connected to interactions with others, then we may conclude that the "problem" with hyperactive/impulsive ADHD symptoms lie less with the ADHD individual and more with the way that these behaviours relate to the attention and focus of other people around them. What characterizes hyperactive/impulsive ADHD symptoms is that they disrupt the status quo and distract others around them. In an economy which is dependent on focus, accuracy and dependence, a desirable and productive subjectivity is one which does not disrupt but rather nurtures these states in others around them. If we think back to the quote that this thesis opened with, Bailey (2015, p. 85) referred to something very much like this: '*To teachers [ADHD] is those few children who constantly threaten the fragile social order of the classroom, take precious learning time from others'.*

Clinical Psychology and the "underlying causes" of ADHD

So far I have discussed the characteristics of ADHD and the diagnostic criteria of ADHD as found in the DSM-5, and their relationship with desirable, docile bodies. Now I want to explore another aspect of ADHD diagnosis that goes beyond simple symptoms; the connection between ADHD and powerful discourses of biological and neurological truths within the biopolitical regime.

The NHG guideline on ADHD in children (Stijntjes et al., 2014) considers ADHD a "descriptive diagnosis" which is aimed at changing behaviour, and does not comment on or aspire to "cure" any underlying "disease" (p. 2). The multidisciplinary Youth Health Care guideline on ADHD in children (Boer & van de Glind, 2015), another guideline on ADHD diagnosis and treatment but with a different audience (youth healthcare workers in different fields), also emphasizes that ADHD is a descriptive diagnosis based on observed behaviour which tells us nothing about underlying causes of these behaviours (p. 17).

The JGZ guideline goes into research on the underlying causes for ADHD somewhat, but draws no conclusions. Others, however, feel less cautious about making claims regarding the underlying causes of ADHD behaviour; with neuroimaging especially, people with ADHD have been said to have smaller brains or special genes (for an overview on theories on ADHD, see Bailey, 2009). I would like to discuss the work of clinical (neuro)psychiatrist Russell A. Barkley here. Barkley criticizes current ADHD research for its focus on description and exploration instead of theorising (Barkley, 2006, pp. 297–299). Those theories that do exist, he finds lacking in unifying and overarching narrative connection.

Barkley himself hypothesizes that ADHD is in fact an Executive Function Development Disorder. A quick reminder on Executive Functions (EF): a term used in clinical psychology and psychiatry to refer to those mental processes and abilities that are considered to be important in problem solving and general successful interaction with the environment.[10]

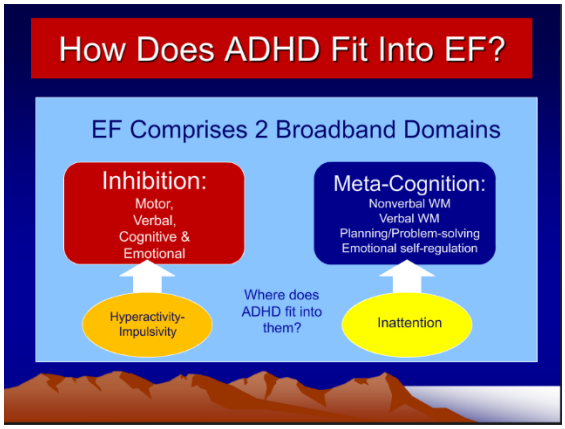

Figure 2: Barkley, ADHDlectures.com, date unknown

His elaborate theory connects the pronounced similarity between ADHD characteristic behaviour and the two broad domains of EF, as shown in figure 2, in order to argue that ADHD leads to an underdevelopment of self-directed action. In other words;

Or said in a more complex way; the various EF (listed in figure 3) that together lead to self-regulated behaviour, are all differently but negatively affected by ADHD, which in turn, according to Barkley, leads to the ADHD symptomatic behaviour we use to diagnose people with ADHD.

[10] I expand on Executive Functions and their various definitions in my introduction.

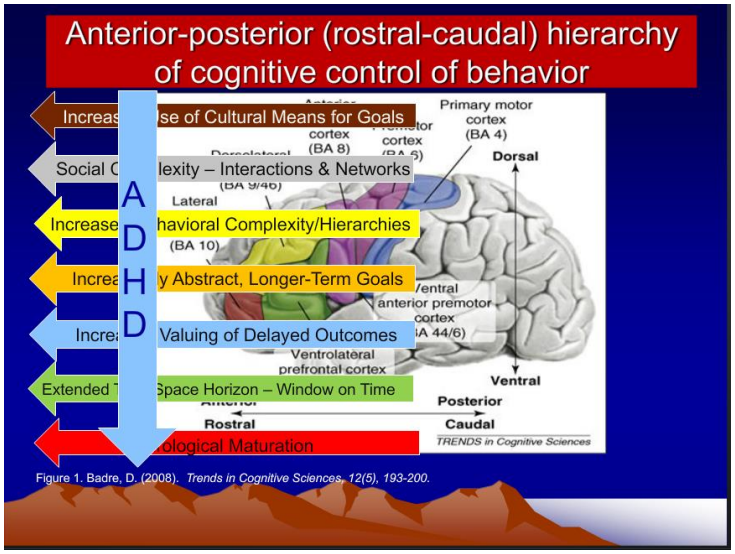

Figure 3: Barkley, ADHDlectures.com, date unknown

Barkley's connection between EF and ADHD interest me greatly for various reasons, among which the fact that EF are not just reserved for neuropsychologists; in Dutch primary schools the importance of EF is visible as well. To a certain extent there is even an explicit acknowledgement that one of the main functions of education is to help develop and train EF in children and young people for "success in education and in life", according to one education consultancy company (BCO Onderwijsadvies en ondersteining, n.d.). A quick overview on what EF are according to a special on "capable teaching" in a 2013 edition of a Dutch magazine for opinions and research on education (*Didactief*):

> *the controlling functions of our brains. They help us set goals and plan for how to achieve these goals (planning). They also help us keep track of our journey towards completing these goals and ensure access to necessary information on the way (working memory). They further help us adjust our plan when necessary (flexibility) and not to get distracted by information from within or outside us (inhibition) (Boonstra & Goudswaard, 2013, translation provided by me).*

Inhibition, flexibility, working memory, planning. I certainly agree with Barkley that these terms remind me a lot of the "desirable characteristics" I extrapolated earlier in this chapter. Another bell starts ringing when we compare this definition EF with Bradbury's (2013) policy analysis in which she exposed how the 'ideal learner' displays and internalises characteristics in line with neoliberal discourses around self-regulation, rationality, independence, responsibility and self-promotion.[11]

Professor of neuropsychology and regular contributor to *Didactief* Jelle Jollens also emphasizes that EF development lies at the basis of successful educational performance (Jolles, 2017; Jolles & van Tetering, 2019). Other contributors enthusiastically explain not only new research on EF, but also how knowledge of EF can help teachers to help children and young people skills necessary for successfully functioning in education and society (Blom, 2018; Boonstra & Goudswaard, 2013; Breek, 2018; van de Sande, Segers, & Verhoeven, 2014).

The connection of particular behaviour to neurochemical operations is a process that Rose introduced as "becoming neurochemical selves" (N. S. Rose, 2007, p. 43). This connection, which becomes norm not only for neuroscientists but even within educational circles, as was just shown, opens up a space for (behavioural) medical intervention on the neurological level. It further connects behaviour and personhood to neurochemical and hereditary bodily states (2007, p. 43). The question is how Executive Functions, as part of the process of "becoming neurochemical selves" contribute to the production and regulation of the ideal worker (and its constitutive other) in the knowledge society.

[11] I discuss this article in my introduction

ADHD in the Knowledge Economy

The logic that diagnosis and treatment is only ever offered if and when the patient experiences negative effects from whatever ailment is widespread in Dutch health practice generally, not only in ADHD diagnosis. The "Multidisciplinary guideline on ADHD in children and youth" (GGZ, 2007), a third, older guideline on diagnosing and treating ADHD with a similar audience as the JGZ guideline from 2013, also states that an aid worker needs to find suitable aid for the patient who posits an aid request (p.1). What is important to note here is that it is up to the *patient* to posit and aid request- regardless of "ADHD-like behaviour" or not, if a patient does not request (or need) aid, then they are also not a patient and do not "require" diagnosis. It may seem obvious, but let's think back for a minute to the distinction between impairment and disability[13]; ADHD characteristics only become a "disability" when in interaction with a disabling environment. I argue that in the case of ADHD, the Knowledge Economy can be considered such a disabling environment. If we think back to what we know about the Knowledge Economy we remember its emphasis on cognitive skills such as literacy, numeracy, conscientiousness, emotional stability, communicating, managing, self-organising, extraversion, agreeableness (OECD, 2017, pp. 27, 76) as well as lifelong learning (remember that we just established that (according to *Didactief)* EF lie at the basis of educational success!). The KE needs a particular skillset- a skillset that correspond pretty well to EF. Remember that EF develop within the brain, but are also taught, refined and trained in education/primary schools.

[13] An impairment only becomes an impairment once it is recognised (and thus constructed) as such. An impairment becomes a *disability* once a person interacts with a *disabling environment*.

A relative “underdevelopment” of EF would hardly be a problem, never mind be recognized as a problem, if EF would not be fundamental to the Knowledge Economy. It is not such a wild leap to tentatively conclude that the KE, needing workers who regulate themselves, are rational and independent, goal oriented, reliable and stable, needs an ideal citizen with their Executive Functions nicely aligned, in order, and well developed.

Back to disabling practices and aid requests. As we have seen, both the NHG, GGZ and JGZ guidelines emphasize that ADHD only becomes a “disability” when in interaction with a disabling environment. At the same time however, considering that most ADHD diagnosis take place during childhood, the person positing an aid request is not in fact the “patient”, but rather an adult supervisor who recognizes “ADHD-like behaviour”. “Behavioural issues”, which are understood as the basic requirement for diagnosis and treatment, are predominantly reported by parents and caretakers, not children themselves (GGZ, 2007, p. 16). Thus what may first be considered a person requesting aid due to interaction with a disabling environment is soon betrayed by the consistent use of terminology like “problem behaviour”; terminology which not only individualises ADHD as not a problem with environment or interaction with environment but rather the individual child; it also stigmatises and demonises in the sense that the child is the problem. With this I don’t mean to say that the three guidelines I discuss here are the source of demonization of children with ADHD interacting with a disabling environment; the behaviour that these children display is mostly considered disruptive, problematic or generally irritating by their environment. No wonder, considering the frustration and powerless a person with ADHD who is consistently told to do something they know to do but cannot do over and over again experiences. The guidelines simply reflect and reinforce the framework that postulates ADHD characteristics as “problematic”.

ADHD diagnosis as disciplining practice

Shelley Tremain (2006) builds upon a Foucauldian framework of biopower to trouble the traditional distinction between disablement and impairment. She argues that the social model, which considers impairment a 'real entity, with unique and characteristic properties, whose identity is distinguishable from, though may intersect with, the identities of an assortment of other bodily "attributes"' (p. 191) obscures the fact that impairments 'are actually constituted in order to sustain, and even augment, current social arrangements' (p. 192).

If we accept the premise that well-developed EF could be fundamental to a successful Knowledge Worker, then Tremain's logic opens up an analytical lens that reveals how some people become objectified as ADHD subjects by biopolitical "dividing practices" (Tremain, 2006, p. 186). These people are singled out from wider society and "identified", "objectified" or "subjectified" into ADHD subjects. In a sense this practice precedes the ADHD diagnosis- (remember how the diagnosis only takes place once the subject becomes disabled by their environment) but at the same time it does not; I argue that that which lies at the basis of ADHD symptoms, underdeveloped EF, can only be constructed as an impairment in the "current social arrangements" or in other words, the KE.

When we think back to the way Hardwood has used Foucault's 5-point analysis of power, we can recognize various stages of ADHD diagnosis in the Netherlands as points of power in the framework. First the primacy of the DSM-5 is present as a way of differentiating "normal" from "not normal". The second point of power is the "neuro-chemical" narratives, in which ADHD becomes connected to neurochemical states, and thus is ensconced in the realm of

neuro-medical specialists. As for the means through the production and diagnosis of ADHD takes place, up until now I have discussed the diagnostic process behind ADHD, but in chapter 2 I will discuss more means in which this takes place through perhaps more coercive ways. The fourth point of analysis serves to show the various forces or institutions through which a power is exercised, which my case refers mostly to school, health system and social services. This will become clear in chapter 2. The last point, the rationalizations behind the application ADHD diagnosis intervention to young people, is of course that these people *are* truly struggling in society, having problems at school and often, when left untreated, problems with mental health and substance abuse later in life. This is the justification for medical intervention.

In a KE, a context in which teaching is based on the development of EF, people with "underdeveloped" EF are unteachable subjects. Following a Foucauldian understanding of biopolitics, objectifying people into ADHD subjects through diagnosis allows for disciplining these people into "docile bodies"- it allows for "improving" them into the (desired) norm; a subject with fully/well developed EF; a good and reliable learner.

Chapter 2 – Gendered discourses?

The ADHD subject is often (both implicitly and explicitly) considered a male subject in the Netherlands (as will become clear through the analysis of media sources later in this chapter). Part of the reason for this is that boys are diagnosed considerably more often with ADHD than girls are (Arnett et al., 2015; Elkins et al., 2011; Gómez-Benito et al., 2015). Another reason, which is strongly connected to these gendered diagnoses, according to Gershon & Gershon, 2002; Meyer et al., 2017 and Rizzo, 2016, is that ADHD characteristics themselves are already gendered even before diagnosis takes place. In this chapter, I want to first highlight how ADHD itself is gendered by gathering gendered characteristics according to Dutch narratives and discourses, and then by comparing these characteristics to the symptoms of ADHD according to the DSM (and their desirable opposites as set out in chapter 1). Dutch discourses on gendered characteristics will be extrapolated from two sources from 2012; reports that were commissioned by the minister of Education, Culture and Science at the time on "appropriate" education for boys (Ministerie van Onderwijs, Cultuur en Wetenschap, 2012, p. 1). This will show how boys become a site of contested masculinity in a Knowledge Economy. Then, I will analyse how gendered-traits operate in ADHD discourses, and how ADHD discourses can be seen as a disciplinary practice on the masculine (i.e. misfit) learning subject. These ADHD discourses will be provided by the same guidelines on ADHD in children that were used in chapter 1, as well as 'de ADHD epidemie?', a 25-minute episode on ADHD in the Netherlands by investigative journalism platform "De Monitor", part of public broadcasting networks KRO-NCRV.

“Boyish” and “girlish” traits according to Dutch teachers

To determine Dutch beliefs about feminine and masculine characteristics and behaviours in children, I have analysed two reports that were commissioned by the minister of Education, Culture and Science at the time, Maria van Bijsterveldt-Vliegenthart. “Successful Educational Practices for Schooling Boys” (Succesvolle Onderwijsaanpakken voor Jongens in het Onderwijs) was written by a research group called the Kohnstamm institute (Heemskerk, Van Eijk, Kuiper, & Volman, 2012), and “Boys… get on with it!” (Jongens... aan de slag!) was compiled by APS (an educational consultancy firm). The findings from these reports were summarized into a handout with ideas for “appropriate” education for boys (Ministerie van Onderwijs, Cultuur en Wetenschap, 2012, p. 1).

APS based their findings on interviews with teachers from schools who undertake gender-specific practices. They found three schools (it is unclear how they found these schools or based on what, exactly) with particular teachers who have gender-specific teaching habits (no schools were found that have a “school-wide boys-policy” (Maréchal-van Dijken et al., 2012, p. 8).

The APS report distilled so called “masculine characteristics” from very specific literature (mostly by controversial philosopher Michael Gurian), and then proceeded with semi-structured interviews with teachers, using these pre-determined characteristics as a basis. The literature review was interspersed with quotes from the teacher interviews, which served to support findings from the literature.

The Kohnstamm Institute also starts their report with an international literature review. The instate selected 20 schools based first on the low percentage of pupils that need to leave the school or repeat a year, and then on diversity in order to represent the different kind of schools the Netherlands hosts. 13 out of 20 schools were willing to participate in the study, which took the shape of a qualitative analysis of all 13 schools, in the form of case studies. Interviews were structured based on findings from the literature, with a focus on pedagogical, didactive and organisational measures (as well as "pedagogical atmosphere") that work well for boys (and girls).

It was telling that while the Kohnstamm report uses sceptical and tentative language throughout, making sure to emphasize that there is both a "nature" and "nurture" approach to understanding boys' and girls' classroom behaviour without concluding on either one as the origin for the perceived classroom behaviour of boys and girls, the APS report seems to feel no need to stay tentative and bases a lot of its essentialist assumptions on the writings of Michael Gurian[14].

Regardless of their theoretical frameworks, both reports provided a lot of information on Dutch understandings of the "nature" (or nurture) of boys and girls (in and out of school, but mostly in).

[14] Gurian is a strong proponent of sex-segregated education and teaches educators on the "brain-based" differences between girls and boys' learning styles. See https://gurianinstitute.com/ (accessed 31-05-2019)

Gendered learner-traits as found in the Kohnstamm report

The Kohnstamm institute found typification of boys and girls by teachers in the 13 schools that participated in the following fields (all cited from pp 110-111 and translated from Dutch to English by myself):

> *Meta-cognitive skills: girls were said to be are **more independent** and able to **work more systematically** than boys, who were said to **need more structure and control**.*
>
> *Motivation: girls were said to have a more **study-focussed attitude** and to be **more motivated to perform well and achieve higher results** than boys. Boys were said to be **less motivated,** more **easily satisfied** and to take more **risks**. Boys were also said to need to be challenged more and to need a **clear goal** to work towards. There was a range of views on the importance of student-teacher relationship; girls supposedly love to work "for a teacher" while boys were said to keep more distance. At the same time however, boys were also said to be in need of teachers who care about the boys' interests.*
>
> *Capacities and self-confidence: opinions within schools are divided on this subject. It was said that boys repeat or level down more often than girls, but on the other it was also indicated that girls do not perform much better than boys. Differences in specific skills were mentioned; girls supposedly have better **fine motor skills** and better **language skills** whereas boys were said to have more **analytical ability**. Boys were understood to have more **confidence** than girls, while at the same time teachers noted that boys give their opinion less easily than girls.*
>
> *Learning and studying: in terms of learning style, girls were said to employ a **step-by-step approach** to learning, and to **follow instructions well**, while boys were said to use an **'all-at-once'** strategy and supposedly **prefer short, clear instruction** in order to get started **as soon as possible.** Girls were thought to be better able to **collaborate** than boys, and to act as the driving force in group work. Boys were understood as more **competitive** and to enjoy **challenge** and*

__risk__ more so than girls. Boys were said to prefer __active__ and __varied__ learning styles, and to be less open to __reading__ and __theory__. Girls supposedly put more __effort__ in essays and were said to have better __learning skills__ than boys. Boys supposedly enjoy __practical__ assignments with an investigative element more. When given the choice, they supposedly prefer __practical__, __concrete__ activities.

Development, behaviour, problems: girls were understood to be further developed during the first years of secondary education than boys. It is thought that boys are more __playful__, __restless__ and __agile__. They supposedly more often display __tough__ or __(undesirable) physical behaviour__, and more often __push boundaries__. Some teachers also pointed out that boys are often more __direct__ and more __violent__ in conflicts than girls, but they do solve them at once. Girls are thought of as __neater__ and __more serious__. Girls supposedly talk about problems more and also more often seek help from counsellors. Boys supposedly ask for help less often. Boys are discussed more frequently in staff meetings and are more likely to be in __special support__ classes and under guidance for __learning or behavioural problems__.

Guidance: according to the respondents, boys need more guidance in __learning skills__, more __attention__ and __encouragement__ and personal interest from teachers. They supposedly attach more value to teachers with humour and professional expertise. Girls are thought to be more open to __study advice__ and lend themselves more to __guidance__.'

These quotes show a quite distinct understanding of "the way boys and girls are" in education, they reproduce a particular understanding of femininity and masculinity in school-age children.

Reay's in-depth study into the self-identification and femininity-construction of a small group of girls in a British primary school (2006) acknowledged the dominant (binary) discourses on achieving/mature girls and underachieving/immature boys that can be found in the quotations

above, but instead found much variation in the way that girls (and boys) constructed their own gendered identities. The typification of "academically motivated girl" for example, that is found in both the Kohnstamm and APS reports was taken up mainly by middle-class girls. This finding is supported by various studies that show that gender operates in interaction with race, class and sexuality in educational settings as well as outside of these (Connelly, 1998; Hey, 1997; Mac an Ghaill, 1988; Reay, 2006, p. 122). This highlights the fact that the typification of "boys and girls" as given in both the Kohnstamm and APS reports are blind to the ways that class, ethnicity and ability interact with gender.

In the Kohnstamm report teachers admit at multiple points that "not all boys/girls" act a particular way, "*however generally speaking…"* they do. This may be a way to signal that some teachers are aware that there is much variety in students generally, variance that transgresses gender boundaries. Moreover, with a history of (some) gender-critical thought in the Netherlands, many teachers might not want to put themselves in a position in which they can be accused of (gender) essentialism. Regardless of this though, the findings above do present both girls and boys as unitary and undifferentiated categories who are not only expected to exhibit, but (in the view of teachers and wider society) are perceived to *internalize* the particular gendered characteristics named in these reports.

In order to make a comparison with the characteristics of ADHD (and their respective other, the characteristics of a "docile body" as set out in chapter 1), I summarized the gendered characteristics found in the Kohnstamm institute report in the table below:

Boyish	*Girlish*
Need structure	Independent
Need control	Systematic
Less motivated	Study-focussed
Easily satisfied	Motivated to perform
Take risks	Fine motor skills
Need clear goals	Language skills
Analytical ability	Step-by-step approach
‘All-at-once’ strategy	Follow instructions
Prefer short, clear instruction	Collaborate
Start as soon as possible	Put in effort
Active and varied learning styles	Learning skills
Less open to reading and theory	Neater
Practical, concrete	More serious
Playful	Open to study advice
Restless	Accept guidance
Agile	
(Undesirable) physical	
Push boundaries	
Direct	
Violent	
Special support	
Learning or behavioural	
Need guidance in learning skills	
Need attention	
Need encouragement	

Table 4: gendered characteristics according to the Kohnstamm report

Gendered learner-traits as found in the APS report

The APS report identifies 15 categories of "boyish behaviour", based on both literature and interviews with teachers (Maréchal-van Dijken et al., 2012, p. 19). These categories are mobility (pp. 19-20), learning by trial and error (pp. 20-21), moral vacuum (p. 22), impulsivity (pp. 22-23), competitiveness/working together (pp. 23-24), risk taking (pp. 24-25), over/underestimation (p. 26), conflict management (p. 27), emotional development (p. 28), response to monotony (pp. 28-29), sensory perception/preference for visuals (pp. 29-30), eye contact (p. 30), correction (pp. 31-32), leadership games (pp. 32-33) and independence (pp. 33-34). APS chose to present these categories first with relevant quotes from interviews with teachers, and then by *explaining* the identified behaviour on the basis of essentialist/"biology-based" theories and literature. This can be interpreted as both a consequence of, and contributing to, a process of "becoming neurochemical selves"; in this report, which will be used in parliament to make decisions about educational reforms, gendered behaviour and traits are explicitly linked to (neurochemical) biological states and bases, entrenching naturalized ideas about gender and ability. Since the outline of these behaviours was quite extensive, I will focus only on what was found in the interviews with teachers as I feel that it more strongly represents Dutch thinking on gendered classroom behaviour than a discussion of an international literature review would.[15] I also excluded sections that weren't directly relevant to ADHD diagnosis for the sake of brevity, although their inclusion would have been valuable in painting a more detailed picture on discourse on boyishness and girlishness in this report.

[15] Not to forget, of course, that the fact that identified behaviour was *explained* by essentialist biology-based theories *in itself* tells us something about Dutch thinking on gendered classroom behaviour.

> ***Mobility*** *is a given, according to all teachers we interviewed. 'Boys have more* ***trouble sitting still****. Especially in the lower grades, boys need to mess around with each other more'. 'With boys there's more* ***commotion'****, one teacher tells us… 'Boys have* ***trouble sitting still'****, another says, 'they're not as focussed on work. They're more easily* ***distracted'****. (p. 19)*
>
> *'[boys are] more* ***chaotic****,* ***impulsive*** *and* ***practical****…. girls more often chose to do* ***essays*** *and* ***creativity****….boys learn better by doing than by* ***listening****. They're doers,* ***result-oriented****. They're more "hands-on" learners'. (p. 20)*
>
> *'Girls learn in a more* ***structured*** *way; they provide* ***structure****, boys hand in draft versions….. Girls read* ***carefully*** *and* ***obediently*** *do the assignment. Boys do a* ***cursory reading****…… Boys are more* ***flexible*** *when facing curriculum changes, girls are more likely to comment on that. Boys* ***procrastinate*** *more….' Someone else notes; 'boys feel more* ***freedom****, they're allowed to try more, think they will figure it out eventually as a matter of course. Boys think it's cool to fail, they can* ***afford to be "lazy"****. Girls have stronger feelings about this. They want a good grade, also for their parents. For them there is more external* ***pressure to perform well'****. (p. 21)*

Similarly to how I handled the Kohnstamm report, I summarized the gendered characteristics found in the APS institute report in the table below in order to make a comparison with the characteristics of ADHD (and their respective other, the characteristics of a "docile body" as set out in chapter 1).

Boyish	*Girlish*
Physical	Focussed
Impulsive	Theoretical
Rowdy	Structured
Competitive	Careful
Have trouble focussing	Obedient
Need to be challenged	Pressure to
Have trouble planning	Unobtrusive
Impulsive	Disciplined
Take risks	Well
Instant gratification	Adaptable
Fidgety	Organized
Limited emotional development	Perfectionist
Loud	Quiet
Easily satisfied	

Table 5: gendered characteristics according to the APS report

As can be seen in comparison between ADHD/desirable characteristics and boyish/girlish characteristics, there are many overlaps between these sets of traits. For example; "fidgety" and "loud" are both characteristics found under the list of hyperactive/impulsive ADHD characteristics as well as "boyish characteristics", and "focussed", "organized" and "quiet" are listed under both "desirable" and "girlish" characteristics. But these are just the exact duplicates; there are many more characteristics that are not shared word-for-word between the two sets of characteristics (ADHD and gendered), but that reveal their eerie likeness when one reads between the lines.

The "careless/inaccurate" and "avoids sustained mental effort" characteristics, for example, are reflected in the coded "boyish" characteristics of "easily satisfied", "less open to reading and theory", "cursory reading" (Maréchal-van Dijken et al., 2012, p. 21), "less motivated" and "less pressure to perform well" (Maréchal-van Dijken et al., 2012, p. 21). In contrast, the

desirable characteristics "careful/accurate" and "embraces sustained mental effort" can be found in the "girlish" characteristics of "neater", "theoretical", "careful", and "perfectionist".

"Girlish" characteristics of "organized", "structured", "disciplined", "step-by-step approach" and "systematic" are reminiscent of the "desirable" characteristics "organized" and "orderly", vis-à-vis "boyish" characteristic such as "need structure", "all-at-once strategy", "need guidance in learning skills" and "have trouble planning" (which are reminiscent of ADHD characteristics such as "difficulty organizing tasks and activities" and "Loses things necessary for tasks or activities").

What should we make of these overlaps and similarities? One thing that these discourses on the "nature" of boys and girls show, when we connect them to valorisation through "desirable" and "undesirable" characteristics, is that boys become a site of contested masculinity in a Knowledge Economy. Whereas on the one hand they are expected to behave in certain boyish ways, on the other hand this behaviour is not productive or desirable in the Knowledge Economy (as I discussed in chapter 1). Another way of looking at their connection is by considering Butler's "Undoing Gender" (2004), in which she says that '*the norm governs intelligibility, allows for certain kinds of practices and actions to become recognizable as such, imposing a grid of legibility on the social and defining the parameters of what will and will not appear within the domain of the social*' (p. 42). If the norm for the girl, the feminine, is to be a docile learner, with all the characteristics that we found in both reports, then that is how she is recognized; similarly for the boy, the norm becomes not what he does, but how he is seen. When we notice the similarities between "boyish" characteristics and ADHD characteristics, it becomes clear why boys get diagnosed with ADHD relatively often, and girls get diagnosed with ADHD relatively little. Even if girls were displaying

ADHD behaviours, they would either not be intelligible as a girl-subject, or they *would* be intelligible as a girl-subject but not as an ADHD-subject. Some of the studies that were discussed in the introduction to this thesis hypothesized that girls get "underdiagnosed" with ADHD perhaps because they display symptoms/characteristics differently, or because they are socialised in such a way that they feel more constrained to display ADHD characteristics in the ways that boys do. Other literature argues that girls (with or without ADHD diagnosis) do in fact display similarly disruptive behaviours as boys (with or without ADHD diagnosis) do, but that teachers simply do not *perceive* their behaviour as such (Jones & Myhill, 2004); the disruptive behaviour, because it is coded masculine, becomes *unintelligible* to the teacher when performed by a feminine subject. I find it most helpful to see the connection between ADHD and gender as bi-directional; ADHD is both gendered and, at the same time, gendering practice. On the one hand, ADHD is pre-coded as masculine; so it is gendered, on the other hand, when one might be diagnosed with ADHD, one is then reinscribed with masculine notions of behaviour and ability.

ADHD as disciplinary practice on the misfit (masculine) learner subject

In the previous chapter I briefly discussed how, from a biopolitical point of view, "unteachable subjects" can be understood to become objectified into ADHD subjects through dividing practices (Tremain, 2006, p. 186). This objectification into the ADHD subject then creates a space in which the ADHD subject may be disciplined into docility. This may happen through treatment, behavioural change, and for many people most shockingly,

medication; but also through self-identification *as* an ADHD subject, which lies at the basis of subjectification and discipline.

In the following sources from the Netherlands, we will see how ADHD medication is promoted by schools and other child-rearing services as a disciplinary measure. Rose (2007) writes about psychiatric drugs that they aim to '*correct anomalies, to adjust the individual and restore and maintain his or her capacity to enter the circuits of everyday life'* (p. 210). In this chapter I will also consider how the nature of "incapacity to enter everyday life" is gendered.

I will discuss first "de ADHD epidemie?", and then Angela Crott's work on the perception of "boyish traits" in the Netherlands. I will claim that both sources may be understood as indicative of a resistance to the objectification and ensuing disciplining practices of children with/out ADHD.

De ADHD-epidemie?

Investigative journalism platform "De Monitor", part of public broadcasting networks KRO-NCRV devoted one of their 25-minute episodes on ADHD, under the title "ADHD epidemie?". This documentary-style broadcast stirred public interest enough that it gave cause for discussion within parliament; two members of Parliament (of centre-left party D66) filed official questions regarding what was found in the program to the state secretary and minister of public health, wellbeing and sports. Their questions were answered that same year, and I will use the document containing both questions and answers in my analysis. I will also analyse the episode itself, as it provides an insight into both the perception and representation of ADHD in children in the Netherlands.

One of the specialists interviewed, professor of pedagogy Micha de Winter, was part of the national health council that warned about the increase of ADHD-medication that young Dutch people take in their report (Ministerie van Volksgezondheid, 2014). In his section of the episode, he exclaims exasperatedly;

'of course there are energetic mannetjes (little men), there are mannetjes that are a little less energetic, and you have mannetjes that are a little more energetic, and you also have mannetjes that are very calm, is that supposed to be an illness? No, that's not the situation- in many classrooms, with all the demands that teachers have to comply with, we find it very difficult when there are children who do not fit well within the system in which we have all these demands for all these children at the same time' ("De ADHD-Epidemie?," 2016, min. 04:08-04:33, translated by me).

Some may dismiss this as a singular instance, but the fact that a professor of pedagogy, who is treated like an expert on the subject of ADHD in a documentary-style program, refers specifically to *boys only* is telling of a wider perception of the ADHD subject as a *male* subject, and an energetic or disruptive subject as a male subject as well. Furthermore, in this episode, all the cases that are discussed concern only boys, which presents and strengthens the connection between boyishness and (ADHD-related) disciplinary practice.

For the first case, a parent is interviewed about her negotiations with a primary school regarding her son's behaviour. Her son talks a lot in class, sometimes while the teacher or other students are talking. He also sometimes gets up at times when this is not allowed or expected of him. When prompted by the interviewer, the parent informs the school deals with her son's "disruptive" behaviour is by giving him a separate workplace which is cordoned off with tape indicating where he is not to go ("De ADHD-Epidemie?," 2016, min. 06:45). Both

parent and interviewer express shock and dismay regarding this. Because the other (31) students are suffering from the child's disruption, and the teacher is nearly overwrought (which in the Netherlands, is reason for medical leave), the school has politely but firmly advised the parent being interviewed to start the child on a Ritalin trial ("De ADHD-Epidemie?," 2016, min. 07:06-07:15). The parent is not unwilling to eventually try Ritalin for her child, but first wants to enrol her son in a patient trajectory. She has the support of her GP, who stresses that they do not have the authority to prescribe ADHD medication, only a psychiatrist does (07:15-07:31). The parent describes her unease with the school's persistent insistence on a medication trial, describing her unwillingness to medicate her son so that '*he can be sedated in class in order for the (female) teacher and the class have some peace'* (08:35-08:45). The school, in response, argues that the mother is harming the proper development of her child by withholding him from medication (08:46-08:54). This relates strongly to Rose's notion of "becoming neurochemical selves" and the idea that the medicated child or individual is not improved but rather returned to an "authentic" state in which the child would "develop properly".

A family coach, part of social services, advised also to have the child tested for ADHD again (at this point he had been tested twice, both times without conclusive diagnosis) and in the meantime to start using behavioural inhibitors. The host of the program reminds us that in the Netherlands, only psychiatrists, general practitioners and paediatricians are allowed to prescribe ADHD medication (10:22-10:28). An attorney specialized in education law sees the situation described as social services siding with the school; instead of considering the needs of the family, as they are supposed to, the family coach considers the needs of the school (11:19-11:30). Regardless of diagnosis, the parent is prompted to medicate the child, and, as the attorney notes as a point of interest, only during school hours (11:32-11:41). In this

program, the connection between disciplining the boy's behaviour and the educational setting is particularly noticed and commented upon, supporting the idea that ADHD can be seen as a way of intervening in contested masculinities in boys.

There are various ways to look at this program as a source of discourse. On the one hand, it provides an interesting insight in biomedical and biopolitical practices of governance of the child-body and subjectivity. On the other hand the program, with its "exposure-style" reporting, carries a particular (but unspoken) understanding of the nature of childhood and the proper way of child governance itself. This "counter-discourse" might be just as interesting as the discourse of (biomedical/biopolitical) governance itself, if only because it reveals how various practices of governance and discipline are perceived by (some) Dutch people.

The first case discussed in the programme provides us with various points of interest. The very first is how the school has reacted to the child's "disruptive" behaviour. Cordoning off the child's workplace to explicitly restrict the offensive and disruptive body can be understood as a very explicit tool of Foucault's notion of the training and moulding of the body in order to reshape it into a docile body; one that has internalised its place and its proper conduct (Foucault, 1977). Whereas normally a school will subtly discipline children's bodies (by teaching them to sit, to stand in line, not to run in the classroom, etcetera), the disruptive boy calls for more explicit disciplinary measures; physical markers and barriers, which seems appalling to the parent and show-host (and therefore presumably a significant portion of the audience).

The second point of analysis regards the school's firm insistence on the use of ADHD medication. As the parent explains, the boy-child has been tested for ADHD twice already, with results proving inconclusive both times. In spite of this, the school insists on the use of

ADHD medication. The family coach, who is supposed to serve the needs of the family first, advises to have the child tested for ADHD *again,* and to start using behaviour inhibitors in the meantime. The unspoken message here, from both school *and* family coach, is that there is *something wrong* with the child, and the way to fix that is by *medicating* it. What is wrong, exactly? The child is not behaving "properly". It is being disruptive and restless and loud, and it will not listen to the teacher. This is a perfect example of a shift in thinking and a shift in governance of children and people generally. Whereas from at least the 19th century on schools have functioned to adjust and train the subject's behaviour into that of appropriate citizenship (see, again, Foucault 1977), in this case the school now takes a step further to say that in its non-compliance with "regular" and every-day disciplinary practices, there is something *inherently wrong* with the child's (bodily) being. Something that can only be managed through medication, so implicitly there is something *medically wrong* with the child. What kind of discourse does this notion reflect? If we think back to Rose (2007) and his theorizing on the alliance of biology and medicine to construct medication as a way to return to the "authentic" (neurochemical) self (p. 211), we might very well say a *biomedical* one.

This discourse is not directly accepted by either the parent, who disagrees with school and family coach to the extent that she contacts *de Monitor*, nor the presenter of the programme. While neither parent nor presenter argue that there is "nothing wrong" with the boy's behaviour, they do drive the point home that it is not the place of anyone but medical specialists (either children's health specialists or psychiatrists) to decide on medication or what is or is not wrong with a child. The mother strengthens this idea by presenting her alliance with another medical specialist, her GP, who in spite of his authority as a doctor, also does not feel in place to medicate a child with their limited knowledge. To me this shows not

a rejection of the medicalization of children's behaviour overall (neither the programme host nor the parent seem adverse to having medical specialists examine the child and making pronouncements regarding the child's nature), but a rejection of the extension of the medicalization of children's/boys' behaviour by schools and other (non-medically certified) actors. The problem, for this parent, lies not with biopolitics per se, but with the insidious spread of biopower through various institutions that have to do with childrearing. Moreover, from what both the parent and the attorney say about the use of medication in school, what shows is a suspicion that the school nor social services are concerned with the *wellbeing* of the child, but solely with the management of disruptive elements in school- with *drugging for docility*.

This is only one parent's experience though. To emphasize that this kind of pressure to medicate is not a singular occurrence, the program cites two more instances of schools firmly advising parents to medicate children (12:31-12:51)- both of them regarding boys, and both of them referring to "unmanageable behaviour". Another section of the program is about a parent who has provided the producers with a recording of her conversation with her child's mentors at school, who coerce her into accepting that her child has ADHD and should be medicated, against the advice of a paediatrist (17:38-18:03). The child in question is also a boy. The disruptive behaviour in this case is bouncing around and not listening. This high school has told the parent her son should either take ADHD medication (although he does not have ADHD diagnosis) or leave the school for special education (18:50-19:00). At his new school, a teacher informs the parent that her son is known as 'that restless *mannetje* (little man)' among staff, and advises to medicate her son (20:00-20:20). The parent feels blackmailed; if her child is not medicated he will have to leave the school. The principal of the school, when interviewed, asserts that the boy '*puts the pedagogical climate under constant pressure'* (21:45-22:00). He

also asserts that the advice given by his school is '*what is best for the student'* (23:00-23:06). To this end, pedagogue de Winter replies that '*the most difficult children within a group are the problem. That's a problem you want to brush off, and that makes ADHD medication very tempting' (04:33-04:45),* implying that schools look to medication as a simple and quick solution to a problem partially created by funding cuts to education (see my section on neoliberal reforms in education in chapter 3).

What we can gather from the section above is that there are repeated occurrences of what is called "unmanageable behaviour", all exhibited by boys, which is then treated as symptomatic of something (wrong) within the child, that ought to be treated with medication. This "unmanageable behaviour" is not only displayed by boys, it is also referred to multiple times in a gendered sense; two completely separate actors use the term "restless *mannetje"*. Is this evidence conclusive enough for me to conclude that ADHD is gendered masculine by many in the Netherlands? Perhaps not, but it is certainly indicative of some link between the two, stronger yet when we consider the overlap between ADHD characteristics and "boyish" characteristics according to various Dutch teachers as discussed earlier this chapter. Others, too, see a connection between ADHD and "boyish" behaviour; Angela Crott (PhD) wrote a dissertation on "images of boys in the 20th century" (Crott, 2011, p. 387), the (Dutch) title of which roughly translates to "From hope of the fatherland to one with ADHD; the image of the boy in educational literature (1882-2005)" (2011). In this historical study of decades of Dutch books on the raising of boys, the draws various conclusions, one of which is that ADHD is nothing more than "natural" boyish behaviour.

Van hoop des vaderlands naar ADHD' er

Crott's dissertation, possibly due to its controversial nature, definitely due to its timing (2011 is a time in which the Dutch government is debating both ADHD diagnoses and boy's educational performances, see (Ministerie van Onderwijs, Cultuur en Wetenschap, personal communication, 2011; Ministerie van Volksgezondheid, Welzijn en Sport, personal communication, 2011) was very popular, enough so that Crott turned it into a book for the general public (Crott, 2013). Over 20 articles and fragments in newspapers and radio shows were devoted to the study in the Netherlands and Belgium ("Angela Crott - In de Media," n.d.), and Crott participated in a highly controversial campaign about the question "do you let your boy be boy enough?" by SIRE, foundation for Idealistic Advertisement[16] ("Laat jij jouw jongen genoeg jongen zijn?," n.d.; "Nieuwe SIRE campagne: laat jij jouw jongen genoeg jongen zijn?," 2017). Crott's thesis is that the perception of boy's behaviour over time has changed from boys as the hope of a nation to boys as a problem to be dealt with. The behaviour itself, she concludes, has not changed all that much (Crott, 2011, pp. 387–388). She finds 11 societal developments that she argues have contributed to this shift in perception of boys, a select few of which are '*the increasing multicultural character of society*' (p. 400), '*the emancipation of women'* (p. 399), '*the rise of the nurture-theory'* (p. 399), and '*the extension of compulsory education'* (p. 399). About ADHD specifically, she relates the rise and popularity of the Medical Educational Bureau, to whom boys with "behavioural problems" are sent, to the disproportionate amount of boys that are diagnosed with ADHD and similar labels (Crott, 2011, p. 399). She also relates ADHD to the "nature nurture debate", explaining that '*adepts of ADHD profit from this debate, especially from the*

[16] SIRE is a non-governmental, non-profit organisation of the Dutch communications industry, established in 1967. Up until now (June 2019) it has published 112 campaigns.

biological side, argu[e] that noisiness and liveliness are abnormal behavioural patterns which may be changed (read suppressed) by medicine' (p. 400). This connection between discourses of biological truths about the self and ADHD is not Crott's alone either; remember how in the introduction to this thesis, Rose's writing on biological/biomedical citizenship showed a strong connection between biomedical truth regimes and diagnosing and medicating for ADHD.

In summary, Crott argues that "regular boy behaviour", such as rowdiness and (mild) vandalism is first considered natural and unimportant, and then due to societal changes such as urbanisation becomes more and more seen as a problem. She then relates this "problematising of boyish behaviour" to the rise of ADHD (diagnoses), with the somewhat unspoken argument that ADHD is one more way in a long process of problematising and criminalizing boyish behaviour in a (supposedly) feminised society (Crott, 2011, pp. 393–397).

This source shows most clearly the (perceived) connection between "boyish" behaviour and ADHD. According to Crott, ADHD is literally the medicalization of "boyish" behaviour- which she mostly attributes to the "feminisation" of society. One interview with Crott, in the major Dutch newspaper NRC, is titled '*the way boys are, that will never change'.* It starts with the following introduction (translated by me); '*boys are naturally rowdy, says historicist Angela Crott. And because we don't want to deal with that, we just say they have ADHD. Just stop making them go to school for so long, she reckons*' (de Bruijn, 2013). After a short introduction to Crott's dissertation (which was edited for a general audience in 2013, the year this interview was published in the NRC), the piece continues;

> *her conclusion: boys have always remained the same. Boisterous, proud, lazy and taciturn, those are the characteristics that she came across repeatedly. But in the current society, that boyish behaviour no longer fits. "These days we take issue with that stuff", she tells me over the phone. "We are already so busy, we don't want to have to spend any more attention on these guys. Typical boys' behaviour, rowdy and noisy, is a nuisance. So we stick a label on these boys, like ADHD. In the past, society approached boys as heroes…They were going to make it. Now boys are treated like losers before they've even done anything, because they can't manage to be obedient and diligent. Girls are naturally better at that."*

In the quotation above, we see how Crott connects "girlish" characteristics like diligence and obedience to (academic) success, and "boyish" characteristics to ADHD. This is what I tried to make clear in my discussion of gendered ADHD characteristics; people (such as Crott) consider girls to be *naturally better* at particular "girlish" traits which are valorised, and boys to be *naturally better* at particular "boyish" traits that are frowned upon and medicalised (hence ADHD diagnosis). The difference in Crott's own conclusions and the ones in this thesis are a fundamental disagreement on particular groups being "naturally better" at anything than other groups, and the particular reasons for the valorisation of what Crott and others consider "girlish" traits. In conclusion, this chapter has showed that in common Dutch ideas about gendered learner traits, "feminine" or "girlish" learner traits are compatible with desirable characteristics for subjects in a Knowledge Economy, while "masculine" or "boyish" characteristics are much more conflicting with these desirable traits. The correspondence between "boyish" learner traits and ADHD characteristics, combined with the insight that ADHD can be seen as a way of disciplining undesirable subjectivities in a biopolitical environment, leads to the conclusion that ADHD can be understood as a biopolitical intervention in contested forms of masculinity.

Chapter 3 – Implications

In this chapter I will discuss the complex implication of gendered-AHDH phenomena by looking at the double sidedness of the production of the ADHD subject in neoliberal education. I will discuss how hegemonic ideas and ideals of gender are in friction with capitalist or Knowledge Economy narratives, as uncovered throughout this thesis, in order to answer the question 'how do gendered discourses on ADHD and the production and regulation of the ideal worker suggest gendered implications of the biopolitical regime in a neoliberal society with a knowledge economy?'.

The connection between ADHD and the Knowledge Economy

Throughout this thesis I have connected ADHD to the Knowledge Economy. I have even argued that ADHD diagnosis serves to discipline subjectivities that are presumably not as productive as they could be in a Knowledge Society. However, of course the concept of ADHD did not come out of thin air around the development of the concept Knowledge Economy; "ADHD-like behaviour" has a rich history. Before ADHD there was "Minimal Brain Damage" (MBD)[17], an umbrella that included '*at least 100 clinical manifestations (…) including dyslexia, dysgraphia, dyscalculia, visual perception problems, dysarthria, hyperactivity, poor attention span, temper tantrums, aggression, clumsiness, and vague*

[17] First introduced in the Netherlands in 1961 by psychoanalytic/professor in child psychiatry Th. Hart de Ruyter (Bolt, 2008, p. 109)

spells' (Schmitt, 1975). Before MBD, that there was "moral deficiency"[18]. The differences between these "precursors" and the ADHD I am discussing in this thesis however are, first, that the vast numerical scope of ADHD diagnoses (in the Netherlands) cannot be compared to that of, for example, MBD (Bolt, 2008, p. 154). Second, MBD encompassed more and more "serious" disorders (according to Bolt's research) than ADHD, which is understood by many to apply to less "serious" impairments that at the time of MBD were thought of as "normal" (Bolt, 2008, p. 173).

There are various theories as to why there was such a significant increase in attention-related (in this case ADHD) diagnoses in the end of the 20th and beginning of the 21st century. Bolt identifies three different strands in Dutch historiography of ADHD; the first one, which is mainly upheld by mass media, holds that more children have more behavioural issues now than in the past due to hectic and overwhelming societal stimuli (Bolt, 2008, pp. 186–187). The second strand, which Bolt terms the "medical advancement perspective" (p. 187) holds that due to progress in medical research and less taboos about medication use among children, more children are offered the help that they need now than ever before (p. 197). The third view is similar but with a completely different perspective; due to the power of the medical-industrial complex and the medicalisation of society, normal behaviour becomes medicalised and problematised in order to control children's behaviour through pharmaceutical means (p. 187).

My personal view somewhat combines the latter two theories, but in this thesis I have used a Foucauldian lens to point out that a (biopolitical) culture in which the discursive separation of

[18] Introduced by Still in the UK and Bouman in the Netherlands in the beginning of the 20th century, see Bolt (2008) p. 25-39. While some historians propose a continuous development of the concept of ADHD starting from Still's moral deficiency in the 1900s, Bolt strongly argues against this.

people based on (neuro)psychological traits is possible is a prerequisite for the explosion of discourses around ADHD. I also want to add the Knowledge Economy as another essential element in the discursive formulation of ADHD as we know it now in the Netherlands. In chapter 1 I referred to the Knowledge Economy as a "disabling environment"; I still hold that, among various other societal development, part of the reason that there has been an explosive increase in the diagnosis of ADHD is because the Knowledge Economy functions as on the one hand a (further) disabling environment for many people, and on the other hand as an impetus to recognise, identify and diagnose "unproductive" people as ADHD subjectivities.

As I argued in chapter 1 and 2, ADHD characteristics can be seen as the antithesis of "desirable" characteristics in a Knowledge Economy when compared to "skills for the knowledge economy" (as determined by OECD documentation). This provides a logic to the need of or profit in identifying people with "undesirable" characteristics in order for them to be disciplined through medication, exclusion or therapy (in chapter 2 the main examples discussed referred to medication and exclusion as preferred option by (some) schools; in the medical guidelines for diagnosing young people with ADHD discussed in chapter 1 it is emphasized that medication should always only occur in combination with therapy).

However much a Knowledge Economy might have a focus on learning and educating however, we must at no point think that Knowledge Economy logics and rationalities take place and function in a vacuum. For example, in an ideal world with unlimited resources, a Knowledge Economy, needing many well-educated workers, might prompt unlimited support to make education accessible for everyone, regardless of their learning style or background, neurological or otherwise. However, the Knowledge Economy discourse in the Netherlands

takes place within neoliberal discourses as well, which has strong effects on all aspects of life, including education.

Neoliberal reforms in education

Marketization, the pressure on schools to perform better and better on standardized tests have been some of the results of the impact of neoliberal reforms in education, in the Netherlands as well as in other (western) states such as the UK, Australia and the USA (Martens, 2014; McGregor, 2009; Verhaeghe, 2011). Youdell (2004) argues that in the United Kingdom, these reforms have led to practices of "ability-based" 'educational triage' (2004, p. 408); a way of sorting children's odds of success in order to distribute resources so that as many people achieve high results as possible. In this process of redistribution some children are also "given up" on, in order to redirect resources meant for them to students that schools believe are more likely to succeed. While Youdell's analysis is based on a small-scale ethnographic study of a school in Australia, and while it is beyond the scope of this thesis to empirically prove or disprove that these practices of educational triage are taking place in the Netherlands, her insights nonetheless provide valuable for the Dutch context as well.

As I briefly discussed in the introduction to this thesis, one of the key premises of neo-liberalism is the conceptualization of freedom as '*the capacity for self-realization which can be obtained only through individual activity*' (N. Rose, 1999, p. 145). This self-realization is not only a freedom, but even more so a responsibility; "active engagement" and labour (/productivity) are key to self-responsibility and even forms the basis of citizenship (N. Rose, 1999, p. 246). Considering that, it is unsurprising that a key aspect of neoliberal education

reforms locates responsibility for (educational) success and failure not in institutions on structural inequalities, but within the individual (Francis, 2006; Youdell, 2004, p. 410). The idea is that schools offer tools for (educational) advancement, and it is up to the individual student to "take advantage of these tools and grow". As Bauman (2005) eloquently puts it: '*We are responsible, offering the poor opportunities. The poor are irresponsible, refusing to take them'* (Bauman 2005, p. 77, cited in Francis, 2006, p. 194).

When we connect neoliberal logics of opportunism and the moral duty to self-realization to Youdell's theory of educational triage, educational resources, which are scarce, can be considered opportunities. In the neoliberal logic that locates success and failure in the individual, "failing" children do not fail because there are insufficient resources, but because they do not take up the opportunities and resources that are offered to them. To use the words of Bauman I quoted earlier, in this logic of individualism the "failing child" can be constructed as "irresponsible" for supposedly not taking up the opportunities offered to them.

In the logic of educational triage, resources then are moved away from "irresponsible" learners, and redistributed to either "successful" learners or those that are considered "possible successes"; unsuccessful learners that have the potential to become successful once more support is given to them. When we connect this logic to children with ADHD, the following picture arises: students with ADHD are generally considered to be "failing" in education (see chapter 1 and the focus on educational success/failure in ADHD diagnosis). The question is then whether these students are dismissed like "irresponsible" learners, or supported like potentially successful learners, and why.

Youdell suggests that the allocation of resources to "unsuccessful" learners is dependent on whether or not the learner is held responsible for their own failure: '*the individual who is the locus of his/her own failure may yet be deserving of specialist intervention'* whereas *'the individual who is responsible for his/her own failure will not'* (Youdell, 2004, p. 411). When we think back to Rose's notion of "becoming neurochemical selves" (N. S. Rose, 2007, p. 43) and how he found that psychiatric drugs such as ADHD medication do not create but *restore* one's capacity to '*enter the circuits of everyday life'* (2007, p. 210) we start to see a pattern that discursively shapes the (abstract) individual as "able" to achieve the capacity to "enter the circuits of everyday life", but that they may be brought off-balance or are made "unable" by neurochemical imbalances in the brain (which can be combatted by medication). If we take that into consideration and extend this line of thought to the biomedical discourse around ADHD, then we can see how in these discourses, the "blame" or responsibility of ADHD behaviour is taken away from the agency of the ADHD individual, and is placed it outside of their control into the realm of neurology (and the domain of medical and psychological specialists). Now thinking back to Youdell's educational triage and the allocation of resources, I reason that the concept of ADHD serves to locate (educational) failure outside of the responsibility of the individual, and into the "locus" of their own identity. Diagnosing a child with ADHD could thus be seen as a serve as a way to lift an individual away from the status of "undeserving" of the tools and opportunities that are offered to them by society into a status of "deserving intervention"; in a sense ADHD diagnosis and subsequent management can be considered an offered opportunity to an at-risk group in a (neoliberal) Knowledge Economy. These "opportunities" will take the shape of specialist intervention in the child, to combat "their" failure through medico-psychological regimes of therapy and medication.

Failing boys

If ADHD diagnosis and medication can be considered an offered opportunity to at-risk groups in a (neoliberal) Knowledge Economy, it is important to consider to *whom* this opportunity is granted exactly. As was discussed in chapter 2 of this thesis, boys are diagnosed more so than girls, and the discourse around and of ADHD itself is gendered. So it is boys to whom this opportunity is granted; and it is boys who are the at-risk group in a Knowledge Economy.

Worries about boys being "at risk", the "failing boys" discourse is not new, and not limited to the Netherlands. Many scholars before me have written extensively about this discourse- either to disprove it (Bügel, Alberts, & Zwitser, 2011; E. Smith, 2003), criticize it (Delamont, 1999; Griffiths, 2006), corroborate it (Claessen, 2013), or to trouble and complicate it (Francis, 2006; Froese-Germain, 2006; Mills, 2003; Moreau, 2011).

That the "failing boys" discourse is prevalent in the Netherlands can be determined in various ways- one of which is a 2004 report on the "feminisation of primary education" (Driessen & Doesborgh, 2004). This study was commissioned by the ministry of Education, Culture and Science due to signs from both the public and professionals in the field of education that "feminisation" is a problem in education, that it is detrimental to the quality of education and that boys have less and less access to "vital" male role models (Driessen & Doesborgh, 2004, p. v). That the study concluded that there were no effects found of teacher's genders on educational outcomes for boys, girls, ethnic minorities, ethnic majorities, from lower or higher socio-economic backgrounds (Driessen & Doesborgh, 2004, p. 5) might have taken

the heat off of female teachers, but it did not soothe worries about "failing boys". The ministry of Education, Culture and Science commissioned another report on the causes of gender-differences in educational outcome in 2015, this time focusing on higher education. This report concluded that higher education requires competencies that sometimes have not yet fully developed in adolescents- executive functions (Belfi et al., 2015, p. 129) such as motivation, planning and prioritizing (see also chapter 1) which "to a large extent determine educational success" (idem). The report concludes that these executive functions generally develop later in boys than in girls, but also emphasizes that in-group differences are larger than between-group differences. It also mentions that women might perform better in education, but that that difference has not yet affected women's position in the labour market (Belfi et al., 2015, p. 138).

The slower- or underdevelopment of executive functions that is emphasized in the 2015 report serves, similarly to ADHD diagnosis, to place the individual as the locus of failure vis-à-vis the one *responsible* for failure. It serves to remove responsibility for "failure" from boys, just like ADHD diagnosis, but differently from (just) ADHD diagnosis it also places the responsibility for boys' failure on a schooling system that is designed to work against them, and, unspokenly, *in favour of girls*. ADHD diagnosis implies that certain executive functions will remain permanently underdeveloped which removes blame from the individual but *also* from the system these individuals falter within. The implied solution is for people with ADHD diagnosis to a) take medication to make them more compatible with institutional practices and b) learn coping mechanisms to make up for their deficits. Supposed[19] slower development of executive functions for boys when compared to girls however is temporary-

[19] I say "supposed" here, because the dichotomy "boys versus girls" is still used even when research shows that in-group differences in (neuro) biological development are bigger than between-group differences.

it is assumed that boys will "catch up" once adulthood is reached. On the one hand, then, boys are freed from the blame and responsibility of their own "failure", as would the ADHD child, but on the other hand as abnormal or *deficit* in any way (as "slower development" is considered a "natural" feature of "the boy". In the "boys will be boys" narrative the problem lies not with them, as they are not "wrong" or "abnormal", but rather with a system that demands from them things that they are "naturally" not yet equipped to do. In this reading of boy's underachievement however, girls are said to benefit from that same system; supposedly it plays to their strengths (as girls as a homogenous group are expected to have fully/well developed executive functions). This biopolitical preoccupation with executive functions and their development on the one hand serves to absolve boys (as a uniform group) from the responsibility of failure, while it at the same time undermines girls' agency in their own success.

Failing girls

If we have established that on the one hand, those people/children who have "less" or "slower" developed executive functions are disparaged in a Knowledge Economy, and on the other hand that boys as a homogenous group are discursively considered to have slower development of executive functions, then what is happening to girls?

We know that by constructing "boys" as being slower in development of executive functions, girls (as their binary opposite) are correspondingly constructed as "on track" or "ahead" in the development of executive functions, which we now know are essential in a Knowledge Economy. Undoubtably this both plays a role in, and is reinforced by, the discrepancy in

ADHD diagnosis for boys and girls that was discussed in chapter 2, but first I want to focus on what is by many referred to as the "successful girls discourse".

As I discussed in chapter 2, in the Kohnstamm and APS reports girls were consistently referred to as "successful learners". Moreover, although all students in the Netherlands perform better now than in the past; girls are positioned as "doing better" than boys, "leaving them behind" (Bügel, Alberts, & Zwitser, 2011). Narratives such as the one provided by Crott in "Jongens zijn 't" which I discussed in chapter 2 are based on the assumption that boys are forced to navigate a society that is oriented towards the feminine, which for many people implies that it is suited to the strengths of girls. In *Didactief*, a Dutch magazine for opinions and research on education we see headlines such as "Girls start off ahead" (unknown, 2015), "Head start girls will not be stopped" (Hustinx, 2005) and "Boys do worse" (Niemantsverdriet, 2011). One frustrated academic (a professor of Pedagogy at the Dutch Open University) sent in a letter to a regional newspaper explaining that boys do not in fact "do worse" in primary education as is frequently proclaimed in the media (Claessen, 2017). In the letter Claessen expresses his frustration on unsubstantiated claims[20] that boy's disadvantages are caused by the '*feminisation of primary education with a dominant, feminine culture in which boys are not interested; there are no male rolemodels, female teachers have lower expectations from boys, education has become too much language focussed, etc'* (Claessen, 2017).

What are the effects of discourses such as these? Are girls successful, and what happens to those girls that are not?

[20] made by media and wider society I presume, though either way by whom does not become clear in the letter.

One of them is that girls with ADHD[21], at least according to a Dutch study on twins (Derks et al., 2007), have similar profiles of psychiatric comorbidity and similar levels of school impairment to boys with ADHD, but are far less likely to receive treatment than boys with ADHD. Only 6% of the girls with ADHD in this study were prescribed medication, and 8% received counselling, compared to 47% and 38% in boys. These data indicate that ADHD is under treated in girls relative to boys. It was also found that while teachers often agreed with mothers' observation of problematic behaviour in boys, they are much less likely to agree with mothers on the severity of problem behaviour in girls (which affects treatment and possibly diagnosis). The authors also highlighted that women and girls who had been diagnosed with ADHD but not treated in the past sufferer from increased risk of psychiatric disorders later in life.

Jones and Myhill (2004)'s study into teacher's perception of school children's gender identity and school achievement in the United Kingdom showed that "*the underachieving boy and the high-achieving girl were seen to conform to gender expectations; the high-achieving boys were seen to challenge gender norms; and the underachieving girl emerges as largely overlooked. The perceived characteristics of the high-achieving girl are presented as describing all girls. There appears to be a tendency to associate boys with underachievement and girls with high achievement*" (p. 547). According to Jones and Myhill, these associations are influenced by teachers perceptions about gender and success, which in turn are influenced by (public) debate positioning gendered achievement as a problem for boys, not girls (the "failing boys" debate) (p. 549). These associations seem not to be reserved for the United Kingdom alone; in the previous chapter I discussed two Dutch studies in which teachers

[21] "with" or "without" ADHD was determined by psychiatric assessment using the DSM-IV and double blind checking by a research assistant.

consistently discursively constructed girls as successful learners also. The effects of the girl-child being constructed as "successful" has various effects. Jones and Myhill (2004) show that gender stereotypes of learning and achievement influence teachers classroom perception to such an extent that girls' disruptive behaviour, which they show to be present on a similar level as boys', is simply not recognized as disruptive (because this disruptive behaviour is so strongly linked to a normative expectation of disruptiveness as masculine and compliancy as feminine). Because gendered expectations of classroom behaviour prevent the recognition of disruptive behaviour in girls, they are not seen as a problematic learner and there is no reason to diagnose them. This may mean that girls who struggle in living up to their supposedly superior executive functioning do not receive help until later in life, at which point they have often developed problems such as anxiety, depression and substance abuse (Becker, McBurnett, Hinshaw, & Pfiffner, 2013; Derks et al., 2007; Elkins et al., 2011; Lahey et al., 2007; Mikami & Lorenzi, 2011) Girls also suffer under the pressure of having to live up to gendered expectations (Jones & Myhill, 2004); Dutch girls report experiencing more pressure at school than boys (Bogt, Dorsselaer, & Vollebergh, 2003; Heemskerk et al., 2012) and also report more mental health issues such as depression and anxiety than boys (Centraal Bureau voor de Statistiek, 2018). The focus on "boys' underachievement" and girls' success may also mean that resources are spent mainly on "boys' issues" and not on the wellbeing of all students (as girls are supposedly without problems) (Dray, Campbell, & Gilmore, 2006). I have however not been able to find any Dutch sources that confirm or deny this theory.

Conclusion

In the Netherlands, as in other countries all over the world, the is a widespread worry about the "underachievement" of boys in school (which is often argued to take place in the context of "feminisation" of education and society). As was shown in the analysis of various studies commissioned by the Dutch government, these discourses go hand in hand with essentialist and binary conceptualizations of what boys and girls "are like" and how they think and develop (chapter 2). There is at the same time upheaval about the rapid rise in ADHD diagnoses which became clear through not only international academic works, but through reports and roundtables requested by the Dutch parliament.

In this thesis, I set to find out how these two seemingly separate discourses are related, and how they in turn relate to the Netherlands as a Knowledge Economy with a biopolitical regime. The questions I tried to answer were; What does ADHD diagnosis/do ADHD characteristics suggest about the production and regulation of the ideal worker (and its constitutive other) in the knowledge society? How is the ADHD subject portrayed in a gendered way/how are discourses on ADHD gendered? And what do the answers to these questions suggest about gendered implications of a biopolitical regime in a neoliberal society?

For the first question, I looked at ADHD characteristics as found in the DSM-V, together with Dutch guidelines on ADHD diagnosis meant for (mental) health professionals. Putting these together with OECD reports on essential skills for a Knowledge Economy, I concluded that the ideal worker is produced and regulated in education, and that ADHD diagnosis serves as a disciplining practice to "normalize" those subjectivities that stray (too) far away from the

ideal learner subjectivity. Moreover, I found that ADHD diagnosis is argued not to only be a descriptive label for behaviour, but that many healthcare professionals argue it consists of an underlying neurological disorder. This "naturalization" of difference, what Rose (2007) refers to as the "molecularization of psychiatric diagnosis" is part of a wider effort to govern and optimize subjects not only in their behaviour and identification, but up to a molecular level. And while discourses on the "essential biological differences" between sexes/gender are not new, in my analysis on gendered learner identities in chapter 2 this molecularization seemed to show itself as well in the essentialist discourses on the way "boy's" and "girl's" brains supposedly develop differently, in the same way that the "ADHD brain" and the "normal" brain develop differently. In chapter 2 I found that the diagnostic prerequisites of ADHD are gendered in such a way that they recall the image of a masculine boy; the ADHD subject is by definition a "masculine" subject. In chapter 3 I argued that the implications of the gendered nature of ADHD in a Knowledge Economy are widespread. I have argued that those supposedly "masculine" or "boyish" traits that "prevent boys from getting ahead" in education are no longer/not useful in an efficient Knowledge Economy, and do not comply with the ideal rational and self-governing subject. The marketization of knowledge (production) and understandings of a "good" subject/knowledge worker in a Knowledge Economy comes with proverbial "winners" and "losers", and for now it seems that the "winners" here are those that can "do" a particular kind of scholastic femininity. This has sadly translated into a discourse of "feminisation of education" and sometimes even of society; based on the thought that women benefit from these forms of marketization. The "losers" in the Knowledge Economy, those with characteristics that are considered incompatible with the Knowledge Economy, are othered and diagnosed in order to become eligible sites for intervention. Through the binary construction of "feminine" versus

"masculine" learner traits in Dutch education, "boyish traits" are considered nearly incompatible with skills for the Knowledge Economy (though not fully). For me this has provided an explanation for the striking similarities between "boyish learner traits" and symptoms of ADHD, and the subsequent (over)diagnosis of boys with ADHD. Due to the biopolitical sphere the Netherlands finds itself in, and the process of "becoming neurochemical selves" that the Netherlands too is swept up in, once a child becomes diagnosed with ADHD they quickly are managed, subdued and often medicated. The sources I have discussed in chapter 2 also show that disruptive students, with characteristics that are in non-compliance with the Knowledge Economy, become associated with ADHD by schools and other institutions. This association almost automatically makes them "available" for medico-pharmalogical intervention, regardless of whether they have an ADHD diagnosis.

In chapter 3 I have shown that the from the connections between ADHD, gender and the Knowledge Economy have various implications. One of these implications is that these discourses entrench the idea of "natural" differences between boys and girls, and thus that "boys" and "girls" are distinctive, (neuro-)biological categories. The idea of strong biological differences on the one hand supports the idea that "boys and girls learn differently" and that the (neoliberal) educational system the Netherlands upholds now is beneficial to the (educational) success and wellbeing of girls, and detrimental to the (educational) success and wellbeing of boys. Another implication is that, due to the primacy of medical intervention in these biomedical discourses, (educational) performance becomes further individualized; when the child's problem is chemical imbalance, and the answer to chemical imbalance is medication, then there is little need to reorganize structural systems in place that may be harmful to various groups or individuals.

My overall contribution to the field has been to show that that several seemingly separate narratives around the performance and wellbeing of schoolchildren are in fact all part of a larger narrative of biopower, "becoming neurochemical selves", and the Knowledge Economy.

Further research might include more connections to Rogers' notion of the "attention economy"; a concept that 'though vaguely defined, (…) is quite precise in its function: it invents a new game of truth devised for the effective technological production of a new stock of human capital' (Rogers, 2016, p. 200). The new stock of human capital in this quotation referring to attention, of course. Rogers book "attention complex: media, archeology, method" thoroughly explores the connections between attention economy, neurobiology and ADHD diagnosis, and engagement with his thoughts would offer an enrichment to the study of ADHD, Knowledge Economy and Gender. Similarly, while my reading of both the data analysed as well as of background studies in this field has been shaped by various theories in the realm of disability studies, insights from this field are indispensable to dig even deeper into the connections between ADHD, knowledge economy and gender.

Appendix A

Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder

Diagnostic Criteria

A. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):

1. **Inattention:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

   Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.

   a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g., overlooks or misses details, work is inaccurate).
   b. Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading).
   c. Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).
   d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and is easily sidetracked).
   e. Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).
   f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers).
   g. Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
   h. Is often easily distracted by extraneous stimuli (for older adolescents and adults, may include unrelated thoughts).
   i. Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).

2. **Hyperactivity and impulsivity:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:
   Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or a failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.
   a. Often fidgets with or taps hands or feet or squirms in seat.
   b. Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place).
   c. Often runs about or climbs in situations where it is inappropriate. (**Note:** In adolescents or adults, may be limited to feeling restless.)
   d. Often unable to play or engage in leisure activities quietly.
   e. Is often "on the go," acting as if "driven by a motor" (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).
   f. Often talks excessively.
   g. Often blurts out an answer before a question has been completed (e.g., completes people's sentences; cannot wait for turn in conversation).
   h. Often has difficulty waiting his or her turn (e.g., while waiting in line).
   i. Often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

B. Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.

C. Several inattentive or hyperactive-impulsive symptoms are present in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities).

D. There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning.

E. The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal).

Specify whether:

314.01 (F90.2) Combined presentation: If both Criterion A1 (inattention) and Criterion A2 (hyperactivity-impulsivity) are met for the past 6 months.

314.00 (F90.0) Predominantly inattentive presentation: If Criterion A1 (inattention) is met but Criterion A2 (hyperactivity-impulsivity) is not met for the past 6 months.

314.01 (F90.1) Predominantly hyperactive/impulsive presentation: If Criterion A2 (hyperactivity-impulsivity) is met and Criterion A1 (inattention) is not met for the past 6 months.

Specify if:

In partial remission: When full criteria were previously met, fewer than the full criteria have been met for the past 6 months, and the symptoms still result in impairment in social, academic, or occupational functioning.

Specify current severity:

Mild: Few, if any, symptoms in excess of those required to make the diagnosis are present, and symptoms result in no more than minor impairments in social or occupational functioning.

Moderate: Symptoms or functional impairment between "mild" and "severe" are present.

Severe: Many symptoms in excess of those required to make the diagnosis, or several symptoms that are particularly severe, are present, or the symptoms result in marked impairment in social or occupational functioning.

Diagnostic Features

The essential feature of attention-deficit/hyperactivity disorder (ADHD) is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. *Inattention* manifests behaviorally in ADHD as wandering off task, lacking persistence, having difficulty sustaining focus, and being disorganized and is not due to defiance or lack of comprehension. *Hyperactivity* refers to excessive motor activity (such as a child running about) when it is not appropriate, or excessive fidgeting, tapping, or talkativeness. In adults, hyperactivity may manifest as extreme restlessness or wearing others out with their activity. *Impulsivity* refers to hasty actions that occur in the moment without forethought and that have high potential for harm to the individual (e.g., darting into the street without looking). Impulsivity may reflect a desire for immediate rewards or an inability to delay gratification. Impulsive behaviors may manifest as social intrusiveness (e.g., interrupting others excessively) and/or as making important decisions without consideration of long-term consequences (e.g., taking a job without adequate information).

ADHD begins in childhood. The requirement that several symptoms be present before age 12 years conveys the importance of a substantial clinical presentation during childhood. At the same time, an earlier age at onset is not specified because of difficulties in establishing precise childhood onset retrospectively. Adult recall of childhood symptoms tends to be unreliable, and it is beneficial to obtain ancillary information.

Manifestations of the disorder must be present in more than one setting (e.g., home and school, work). Confirmation of substantial symptoms across settings typically cannot be done accurately without consulting informants who have seen the individual in those settings. Typically, symptoms vary depending on context within a given setting. Signs of the disorder may be minimal or absent when the individual is receiving frequent rewards for appropriate behavior, is under close supervision, is in a novel setting, is engaged in especially interesting activities, has consistent external stimulation (e.g., via electronic screens), or is interacting in one-on-one situations (e.g., the clinician's office).

Associated Features Supporting Diagnosis

Mild delays in language, motor, or social development are not specific to ADHD but often cooccur. Associated features may include low frustration tolerance, irritability, or mood lability. Even in the absence of a specific learning disorder, academic or work performance is often impaired. Inattentive behavior is associated with various underlying cognitive processes, and individuals with ADHD may exhibit cognitive problems on tests of attention, executive function, or memory, although these tests are not sufficiently sensitive or specific to serve as diagnostic indices. By early adulthood, ADHD is associated with an increased risk of suicide attempt, primarily when comorbid with mood, conduct, or substance use disorders.

No biological marker is diagnostic for ADHD. As a group, compared with peers, children with ADHD display increased slow wave electroencephalograms, reduced total brain volume on magnetic resonance imaging, and possibly a delay in posterior to anterior cortical maturation, but these findings are not diagnostic. In the uncommon cases where there is a known genetic cause (e.g., Fragile X syndrome, 22q11 deletion syndrome), the ADHD presentation should still be diagnosed.

Prevalence

Population surveys suggest that ADHD occurs in most cultures in about 5% of children and about 2.5% of adults.

Development and Course

Many parents first observe excessive motor activity when the child is a toddler, but symptoms are difficult to distinguish from highly variable normative behaviors before age 4 years. ADHD is most often identified during elementary school years, and inattention becomes more prominent and impairing. The disorder is relatively stable through early adolescence, but some individuals have a worsened course with development of antisocial behaviors. In most individuals with ADHD, symptoms of motoric hyperactivity become less obvious in adolescence and adulthood, but difficulties with restlessness, inattention, poor planning, and impulsivity persist. A substantial proportion of children with ADHD remain relatively impaired into adulthood.

In preschool, the main manifestation is hyperactivity. Inattention becomes more prominent during elementary school. During adolescence, signs of hyperactivity (e.g., running and climbing) are less common and may be confined to fidgetiness or an inner feeling of jitteriness, restlessness, or impatience. In adulthood, along with inattention and restlessness, impulsivity may remain problematic even when hyperactivity has diminished.

Risk and Prognostic Factors

Temperamental. ADHD is associated with reduced behavioral inhibition, effortful control, or constraint; negative emotionality; and/or elevated novelty seeking. These traits may predispose some children to ADHD but are not specific to the disorder.

Environmental. Very low birth weight (less than 1,500 grams) conveys a two- to threefold risk for ADHD, but most children with low birth weight do not develop ADHD. Although ADHD is correlated with smoking during pregnancy, some of this association reflects common genetic risk. A minority of cases may be related to reactions to aspects of diet. There may be a history of child abuse, neglect, multiple foster placements, neurotoxin exposure (e.g., lead), infections (e.g., encephalitis), or alcohol exposure in utero. Exposure to environmental toxicants has been correlated with subsequent ADHD, but it is not known whether these associations are causal.

Genetic and physiological. ADHD is elevated in the first-degree biological relatives of individuals with ADHD. The heritability of ADHD is substantial. While specific genes have been correlated with ADHD, they are neither necessary nor sufficient causal factors. Visual and hearing impairments, metabolic abnormalities, sleep disorders, nutritional deficiencies, and epilepsy should be considered as possible influences on ADHD symptoms.

ADHD is not associated with specific physical features, although rates of minor physical anomalies (e.g., hypertelorism, highly arched palate, low-set ears) may be relatively elevated. Subtle motor delays and other neurological soft signs may occur. (Note that marked co-occurring clumsiness and motor delays should be coded separately [e.g., developmental coordination disorder].)

Course modifiers. Family interaction patterns in early childhood are unlikely to cause ADHD but may influence its course or contribute to secondary development of conduct problems.

Culture-Related Diagnostic Issues

Differences in ADHD prevalence rates across regions appear attributable mainly to different diagnostic and methodological practices. However, there also may be cultural variation in attitudes toward or interpretations of children's behaviors. Clinical identification rates in the United States for African American and Latino populations tend to be lower than for Caucasian populations. Informant symptom ratings may be influenced by cultural group of the child and the informant, suggesting that culturally appropriate practices are relevant in assessing ADHD.

Gender-Related Diagnostic Issues

ADHD is more frequent in males than in females in the general population, with a ratio of approximately 2:1 in children and 1.6:1 in adults. Females are more likely than males to present primarily with inattentive features.

Functional Consequences of Attention-Deficit/Hyperactivity Disorder

ADHD is associated with reduced school performance and academic attainment, social rejection, and, in adults, poorer occupational performance, attainment, attendance, and higher probability of unemployment as well as elevated interpersonal conflict. Children with ADHD are significantly more likely than their peers without ADHD to develop conduct disorder in adolescence and antisocial personality disorder in adulthood, consequently increasing the likelihood for substance use disorders and incarceration. The risk of subsequent substance use disorders is elevated, especially when conduct disorder or antisocial personality disorder develops. Individuals with ADHD are more likely than peers to be injured. Traffic accidents and violations are more frequent in drivers with ADHD. There may be an elevated likelihood of obesity among individuals with ADHD.

Inadequate or variable self-application to tasks that require sustained effort is often interpreted by others as laziness, irresponsibility, or failure to cooperate. Family relationships may be characterized by discord and negative interactions. Peer relationships are often disrupted by peer rejection, neglect, or teasing of the individual with ADHD. On average, individuals with ADHD obtain less schooling, have poorer vocational achievement, and have reduced intellectual scores than their peers, although there is great variability. In its severe form, the disorder is markedly impairing, affecting social, familial, and scholastic/occupational adjustment.

Academic deficits, school-related problems, and peer neglect tend to be most associated with elevated symptoms of inattention, whereas peer rejection and, to a lesser extent, accidental injury are most salient with marked symptoms of hyperactivity or impulsivity.

Differential Diagnosis

Oppositional defiant disorder. Individuals with oppositional defiant disorder may resist work or school tasks that require self-application because they resist conforming to others' demands. Their behavior is characterized by negativity, hostility, and defiance. These symptoms must be differentiated from aversion to school or mentally demanding tasks due to difficulty in sustaining mental effort, forgetting instructions, and impulsivity in individuals with ADHD. Complicating the differential diagnosis is the fact that some individuals with ADHD may develop secondary oppositional attitudes toward such tasks and devalue their importance.

Intermittent explosive disorder. ADHD and intermittent explosive disorder share high levels of impulsive behavior. However, individuals with intermittent explosive disorder show serious aggression toward others, which is not characteristic of ADHD, and they do not experience problems with sustaining attention as seen in ADHD. In addition, intermittent explosive disorder is rare in childhood. Intermittent explosive disorder may be diagnosed in the presence of ADHD.

Other neurodevelopmental disorders. The increased motoric activity that may occur in ADHD must be distinguished from the repetitive motor behavior that characterizes stereotypic movement disorder and some cases of autism spectrum disorder. In stereotypic movement disorder, the motoric behavior is generally fixed and repetitive (e.g., body rocking, self-biting), whereas the fidgetiness and restlessness in ADHD are typically generalized and not characterized by repetitive stereotypic movements. In Tourette's disorder,

frequent multiple ties can be mistaken for the generalized fidgetiness of ADHD. Prolonged observation may be needed to differentiate fidgetiness from bouts of multiple tics.

Specific learning disorder. Children with specific learning disorder may appear inattentive because of frustration, lack of interest, or limited ability. However, inattention in individuals with a specific learning disorder who do not have ADHD is not impairing outside of academic work.

Intellectual disability (intellectual developmental disorder). Symptoms of ADHD are common among children placed in academic settings that are inappropriate to their intellectual ability. In such cases, the symptoms are not evident during non-academic tasks. A diagnosis of ADHD in intellectual disability requires that inattention or hyperactivity be excessive for mental age.

Autism spectrum disorder. Individuals with ADHD and those with autism spectrum disorder exhibit inattention, social dysfunction, and difficult-to-manage behavior. The social dysfunction and peer rejection seen in individuals with ADHD must be distinguished from the social disengagement, isolation, and indifference to facial and tonal communication cues seen in individuals with autism spectrum disorder. Children with autism spectrum disorder may display tantrums because of an inability to tolerate a change from their expected course of events. In contrast, children with ADHD may misbehave or have a tantrum during a major transition because of impulsivity or poor self-control.

Reactive attachment disorder. Children with reactive attachment disorder may show social disinhibition, but not the full ADHD symptom cluster, and display other features such as a lack of enduring relationships that are not characteristic of ADHD.

Anxiety disorders. ADHD shares symptoms of inattention with anxiety disorders. Individuals with ADHD are inattentive because of their attraction to external stimuli, new activities, or preoccupation with enjoyable activities. This is distinguished from the inattention due to worry and rumination seen in anxiety disorders. Restlessness might be seen in anxiety disorders. However, in ADHD, the symptom is not associated with worry and rumination.

Depressive disorders. Individuals with depressive disorders may present with inability to concentrate. However, poor concentration in mood disorders becomes prominent only during a depressive episode.

Bipolar disorder. Individuals with bipolar disorder may have increased activity, poor concentration, and increased impulsivity, but these features are episodic, occurring several days at a time. In bipolar disorder, increased impulsivity or inattention is accompanied by elevated mood, grandiosity, and other specific bipolar features. Children with ADHD may show significant changes in mood within the same day; such lability is distinct from a manic episode, which must last 4 or more days to be a clinical indicator of bipolar disorder, even in children. Bipolar disorder is rare in preadolescents, even when severe irritability and anger are prominent, whereas ADHD is common among children and adolescents who display excessive anger and irritability.

Disruptive mood dysregulation disorder. Disruptive mood dysregulation disorder is characterized by pervasive irritability, and intolerance of frustration, but impulsiveness and disorganized attention are not essential features. However, most children and adolescents with the disorder have symptoms that also meet criteria for ADHD, which is diagnosed separately.

Substance use disorders. Differentiating ADHD from substance use disorders may be problematic if the first presentation of ADHD symptoms follows the onset of abuse or frequent use. Clear evidence of ADHD before substance misuse from informants or previous records may be essential for differential diagnosis.

Personality disorders. In adolescents and adults, it may be difficult to distinguish ADHD from borderline, narcissistic, and other personality disorders. All these disorders tend to share the features of disorganization, social intrusiveness, emotional dysregulation, and cognitive dysregulation. However, ADHD is not characterized by fear of abandonment, self-injury, extreme ambivalence, or other features of personality disorder. It may take extended clinical observation, informant interview, or detailed history to distinguish impulsive, socially intrusive, or inappropriate behavior from narcissistic, aggressive, or domineering behavior to make this differential diagnosis.

Psychotic disorders. ADHD is not diagnosed if the symptoms of inattention and hyperactivity occur exclusively during the course of a psychotic disorder.

Medication-induced symptoms of ADHD. Symptoms of inattention, hyperactivity, or impulsivity attributable to the use of medication (e.g., bronchodilators, isoniazid, neuroleptics [resulting in akathisia], thyroid replacement medication) are diagnosed as other specified or unspecified other (or unknown) substance–related disorders.

Neurocognitive disorders. Early major neurocognitive disorder (dementia) and/or mild neurocognitive disorder are not known to be associated with ADHD but may present with similar clinical features. These conditions are distinguished from ADHD by their late onset.

Comorbidity

In clinical settings, comorbid disorders are frequent in individuals whose symptoms meet criteria for ADHD. In the general population, oppositional defiant disorder co-occurs with ADHD in approximately half of children with the combined presentation and about a quarter with the predominantly inattentive presentation. Conduct disorder co-occurs in about a quarter of children or adolescents with the combined presentation, depending on age and setting. Most children and adolescents with disruptive mood dysregulation disorder have symptoms that also meet criteria for ADHD; a lesser percentage of children with ADHD have symptoms that meet criteria for disruptive mood dysregulation disorder. Specific learning disorder commonly co-occurs with ADHD. Anxiety disorders and major depressive disorder occur in a minority of individuals with ADHD but more often than in the general population. Intermittent explosive disorder occurs in a minority of adults with ADHD, but at rates above population levels. Although substance use disorders are relatively more frequent among adults with ADHD in the general population, the disorders are present in only a minority of adults with ADHD. In adults, antisocial and other personality disorders may co-occur with ADHD. Other disorders that may co-occur with ADHD include obsessive-compulsive disorder, tic disorders, and autism spectrum disorder.

Other Specified Attention-Deficit/ Hyperactivity Disorder

314.01 (F90.8)

This category applies to presentations in which symptoms characteristic of attention-deficit/hyperactivity disorder that cause clinically significant distress or impairment in social, occupational or other important areas of functioning predominate but do not meet the full criteria for attention-deficit/hyperactivity disorder or any of the disorders in the neurodevelopmental disorders diagnostic class. The other specified attention-deficit/hyperactivity disorder category is used in situations in which the clinician chooses to communicate

the specific reason that the presentation does not meet the criteria for attention-deficit/hyperactivity disorder or any specific neurodevelopmental disorder. This is done by recording "other specified attention-deficit/hyperactivity disorder" followed by the specific reason (e.g., "with insufficient inattention symptoms").

Unspecified Attention-Deficit/Hyperactivity Disorder

314.01 (F90.9)

This category applies to presentations in which symptoms characteristic of attention-deficit/hyperactivity disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for attention-deficit/hyperactivity disorder or any of the disorders in the neurodevelopmental disorders diagnostic class. The unspecified attention-deficit/hyperactivity disorder category is used in situations in which the clinician chooses *not* to specify the reason that the criteria are not met for attention-deficit/hyperactivity disorder or for a specific neurodevelopmental disorder, and includes presentations in which there is insufficient information to make a more specific diagnosis.

Figure 4: ADHD diagnostic criteria reproduced from American Psychiatric Association. (2013). Diagnostic and Statistical Manual of Mental Disorders, 5th Edition: DSM-5 (5th ed.) pp. 59-66.

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