

University of Groningen

ADHD and the power of generalization

te Meerman, Sanne

DOI:
[10.33612/diss.84379221](https://doi.org/10.33612/diss.84379221)

IMPORTANT NOTE: You are advised to consult the publisher's version (publisher's PDF) if you wish to cite from it. Please check the document version below.

Document Version
Publisher's PDF, also known as Version of record

Publication date:
2019

[Link to publication in University of Groningen/UMCG research database](#)

Citation for published version (APA):
te Meerman, S. (2019). *ADHD and the power of generalization: exploring the faces of reification*. [Thesis fully internal (DIV), University of Groningen]. Rijksuniversiteit Groningen.
<https://doi.org/10.33612/diss.84379221>

Copyright

Other than for strictly personal use, it is not permitted to download or to forward/distribute the text or part of it without the consent of the author(s) and/or copyright holder(s), unless the work is under an open content license (like Creative Commons).

The publication may also be distributed here under the terms of Article 25fa of the Dutch Copyright Act, indicated by the "Taverne" license. More information can be found on the University of Groningen website: <https://www.rug.nl/library/open-access/self-archiving-pure/taverne-amendment>.

Take-down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Downloaded from the University of Groningen/UMCG research database (Pure): <http://www.rug.nl/research/portal>. For technical reasons the number of authors shown on this cover page is limited to 10 maximum.

Chapter 1

ADHD and the power of generalization

Exploring the faces of reification

General introduction

“ADHD is kind of like a cancer disease but you’re not going to die from it.” Sylvia, US, on medication, age 11 (Singh, 2012, p. 20)

Introduction

In the VOICES study (Voices On Identity, Childhood, Ethics and Stimulants; (Singh, 2012) children classified with ADHD are asked about their perception of ADHD and, amongst others, their perception of the use of psycho-stimulants. In the above-mentioned example, Sylvia’s account of ADHD is one of a physical and serious disease like cancer -although not lethal. A recent study reveals where children might pick up such a pathologizing view of unruly behavior: 10 of the most popular informational books on ADHD addressed at children in the Netherlands, mostly contain a medically-oriented view (Foget, Van Haeringen, Te Meerman, & Batstra, 2017) and many passages in those books suggest ADHD is a brain condition. However, this begs the question: where do the authors of such books base their information on? In this study we analyze academic textbooks and other sources of information that might advert a biomedical disease perspective on ADHD to (future) professionals. For our analysis, we focus on the four concepts included in the title of this dissertation: ADHD, reification, generalizations and power. We will introduce these concepts in relation to each other.

1. ADHD

ADHD is a concept that is defined, each time slightly different, in the subsequent editions of the DSM; the Diagnostic and Statistical Manual of Mental Disorders. This psychiatric handbook is currently in its fifth edition and describes around 400 disorders. The acronym ADHD stands for “Attention Deficit/Hyperactivity Disorder”. Five sets of (mostly behavioral) criteria, A through E, are listed for ADHD in the DSM 5. A1 and A2 both list nine behaviors that describe attention problems and hyperactivity/impulsivity problems. When six out of nine of these criteria are met according to those who do the assessment, a child is eligible for an ADHD classification. However, some additional criteria must be met as well: the criteria B through E describe age of onset (before 12 years), setting (behaviors should occur in 2 or more settings), level of impairment (stipulating when the behavior should be considered as impairing) and considerations with regard to other classifications and which is the best applicable one (American Psychiatric Association, 2013, p. 59-61).

It should be clear that the behavioral criteria are unspecific and open to multiple interpretations, as they all contain the word “often”, and they are context-sensitive as well. For instance, the criterion “often leaves seat in situations when remaining seated is

expected” is likely to be more annoying in a classroom setting with many as opposed to few children, and the presence of (other) children that behave unruly (Wienen, Batstra, Thoutenhoofd, Bos, & de Jonge, 2018). These ambiguous criteria reflect the “ontological vagueness that characterizes social science” (Hyde, 2008, p. 7). In the words of the authors of the DSM-IV-TR: “Nature did not choose to craft psychiatric disorders into neat little packages with clear boundaries”. More formally: “there is no assumption that each category of mental disorder is a completely discrete entity with absolute boundaries dividing it from other mental disorders or from no mental disorder” (Frances, First, & Pincus, 1995, p. 57).

2. Reification

The authors of the DSM-IV attest to the usefulness of a categorical approach provided that sufficient consideration is given to its limitations. One of the problems is the human tendency to “reify categories” (Frances et al., 1995, p. 17). The act of giving names carries an inherent risk for such reification. This is probably why reification is often explained by quoting Philosopher John Stuart Mill: “The tendency has always been strong to believe that whatever received a name must be an entity or being, having an independent existence of its own” (for instance Hyman (2010); Turner & Edgley (1980)). Batstra et al. (Batstra, Nieweg, & Hadders-Algra, 2014, p. 696) define reification as “treating more or less abstract concepts as things, existing out there in the world”. However, “just as the category bachelor does not result in a man being single, the category ADHD does not result in hyperactivity and inattention” (Batstra et al., 2014, p. 697). Both Hyman and Batstra thereby exemplify reification with what is known as the “nominal fallacy”, confusing naming and explaining which is also related to circular reasoning (Boag, 2011).

Indeed, naming and explaining often seem to be confused in relation to ADHD and it is easy to find examples of this. For instance, Biederman and Faraone (Biederman & Faraone, 2005, p. 237) state in the *Lancet*: “ADHD affects 8–12% of children worldwide, and results in inattention, impulsivity, and hyperactivity”. This is a typical example of “behaviour that becomes the cause of behaviour” (Bandura, 1999, p. 168.). We have named these behaviors as ADHD, and now ADHD allegedly *results* in these behaviors.

3. Generalization

In my view, this *nominal fallacy* (Levy & Press, 2010), is merely one possible cause of reification. I argue that one of the most powerful fallacies involved with reification is “generalization”. For instance, when studies into brain-anatomy are conducted by

comparing groups of children with an ADHD “diagnosis” with controls, small group differences are often presented as if every individual in the ADHD group is afflicted with an attribute like a smaller brain (part). This is reifying as it suggests the existence of a real physical identifiable attribute that sets those with an ADHD classification apart from “normal” people. A recent example is a study by Hoogman (Hoogman et al., 2017), the largest case-control study to date that found –on average- statistically significant smaller brains in those classified with ADHD. However, the effect size of the differences was small. The highest effect size, a Cohen’s d of .19 was found for the nucleus accumbens, associated with reward processing. However, this implies an overlap of 95% between case and control groups. The chance of guessing if an individual belongs to either the case or control group based on the size of his accumbens is about 0.54 (Coe, 2002), which is slightly more than tossing a coin (Corrigan & Whitaker, 2017). Put differently, in many classified with ADHD this brain part was larger than average while at the same time in many without the classification this brain part was smaller.

The fuzzy boundaries of the DSM categories unfortunately further complicate this. The DSM-IV guidebook acknowledges that research designs may include only the more “prototypical” persons, while in other research designs a broader, more inclusive approach may facilitate generalizability (Frances et al., 1995, p. 17). However, the common practice of using the more prototypical persons, often called “refined phenotypes” is problematic in light of the already problematic generalizations. The more rigorously screened research sample may not be a good representation of those classified with ADHD in everyday clinical practice. Suggesting that group findings in highly selected research samples apply to individuals in clinical practice thus becomes extra problematic.

4. Power

In politics, generalizations are a powerful tool to legitimate power. For instance, in his inauguration speech Donald Trump stated: “January 20th, 2017, will be remembered as the day the people became the rulers of this nation again”. Although he might have referred to many lower-income Americans who voted for him, generalizing by referring to them as “the people” was a convenient way to avoid the fact that most people in the United States actually chose Hillary Clinton, as she won the popular vote.

In politics, inflating the support base by means of generalizing can serve to legitimate power and influence. Likewise, scientists may inflate their knowledge base with similar generalizations for similar purposes. Suggesting that those with an ADHD diagnosis all share a genetic make-up that “normal” people lack and all or most have smaller brains or lower levels of certain neurotransmitters, ascribes agency to bio-medically

oriented researchers and practitioners. Generalizations and other means of reification might serve their interests, such as securing future funding of research and available resources for care. However, if such interests are sought after at the expense of other interests, such as those of the child and other orientations, this makes science more political than is ethically sound and may compromise the search for knowledge about etiology and treatment options.

Objectives of this study

There are several reasons why reification might occur. Self-interests versus broader considerations, *career over cure* (Miedema, 2014), could certainly be a motive for deliberately reifying ADHD. To a degree, such boasting might be understandable considering that positive findings tend to be published more often than studies that show that expected results are not found (Glasziou & Chalmers, 2017). However, beyond venturing into such individualistic motives, reification is ultimately a conflict-theoretical notion. Conflict-theory is a sociological paradigm that looks, for instance, at (scientific) subgroups that are in conflict over resources and influence. From this perspective reification might serve group interest. Furthermore, it is important to emphasize that reification does not have to occur intentionally but -like John Stuart Mill addressed- is inherent in the way language is used, for instance by naming difficult to define behaviors. Finally, from a philosophical, historical perspective I aim to understand our tendency to name, classify and reify as part of a process of rationalization and a quest for concreteness gone awry.

However, before we touch upon these larger issues in the final chapter, this thesis first and foremost explores *how*, and how *often*, information shared in the scientific community tends to be reifying. The main research question is: how is ADHD reified in written discourse, and how often do such mechanisms of reification occur? By quantifying some of these mechanisms, as we do in chapter 3 and 4, we hope to alert readers to the widespread occurrence of reification. Our main goal, however, is to improve the discourse on ADHD by alerting authors and the general public on ways the ADHD-construct is reified and how to avoid this (all chapters).

Outline

We answer our main research question in the following chapters:

Chapter 2 centers on the Hoogman paper, published in 2017, the largest meta-study on ADHD and brain anatomy to date. It is a prime example of *the power of generalization*.

Chapter 1

In this chapter, we discuss our response to this publication in the *Lancet Psychiatry* and the author's reply.

Chapter 3 reflects on an empirical study of discourse in academic textbooks used at Dutch universities to train future professionals. Generalizations on brain anatomy, similar to those found in the Hoogman paper, are analyzed.

Chapter 4 reflects on an empirical analysis that further explores the backgrounds of popular beliefs about the genetic origins of ADHD. The analysis of textbooks shows how future professionals are led to believe that ADHD is mainly a genetic affliction.

Chapter 5 contains a critical review on ADHD in relation to both brain anatomy and genetics but widens the scope by discussing additional vital topics that urge for caution in terms of validity and widespread use of the ADHD-construct and the prescription of psychostimulants. These issues are discussed in terms of what they mean for the power and agency of educational professionals in relation to biomedical healthcare professionals who are involved with children's behavior.

Chapter 6 contains a critical review of mechanisms that can reify ADHD. Selective writings on anatomy and genetics are included, but many more factors are identified, such as inappropriate word choice, logical fallacies, use of (deceptive) metaphors and the avoidance of information that places ADHD into perspective.

Chapter 7 contains conclusions and reflections upon the individual studies and aims to provide suggestions on how to avoid reification. Furthermore, the motives for the tendency to reify ADHD are discussed in terms of power and contemporary cultural ideals about behavior.

Theoretical and methodological considerations

This section will reflect on the use of qualitative methodology in this thesis.

Data selection

Academic textbooks are key-assets used to educate the new generation of social and medical academics. Our main source of data for this thesis is a selection of textbooks that are used in universities in the Netherlands. We have aimed to select all textbooks used in (pre) master's programs that discuss ADHD. Of these books, the sections on ADHD are singled out.

Qualitative research

"Qualitative research exhibits a variety of approaches and continuously proliferates, leading to yet more methods and approaches" (Flick, 2014, p. 532). Although some

experts in the field of qualitative research hold the position that: “too often researchers learn and embrace a handful of strategies and settle into comfortable methodological ruts” (Denzin & Lincoln, 2011, p. 595), it was difficult finding one methodological rut that matched well with the research question of this thesis. There is a plethora of approaches and different views, but unfortunately, there is often debate about what does and does not constitute a particular method.

Content analysis (qualitative/quantitative).

For example, according to some scholars, content analysis was by definition quantitative and other more qualitative approaches were mere forerunners and could not be considered as content analysis (George, 1959). According to Schreier (2012), however, quantitative content analysis was actually a forerunner of more qualitative approaches that emerged out of the perceived limitations of the quantitative approach.

This diversity in views and directions “keeps content analysis current-but also makes it difficult to standardize” (Krippendorff & Bock, 2009, p. ix). Nevertheless, it seemed that in the domain of content analysis the match with our research questions could be made. We –initially- had clear ideas about how certain information can be generalizing and used a strongly concept-driven/deductive approach which seemed to match best with this –quantitatively oriented- basic content analysis (Weber, 1990). Additionally, we focused only on manifest content features (without focusing on textual elements that were absent), which is characteristic of basic content analysis (Drisko & Maschi, 2016).

However, we soon discovered we needed to incorporate more context, so we ventured into more qualitative branches of content analysis that allowed for more flexibility to include data-driven elements (Schreier, 2012).

(Critical) Discourse Analysis

In the course of our research, we have also used elements from other approaches such as discourse analysis. One motive for doing so is that (critical) discourse analysis matches well with the ontological starting points of our study. These are strongly influenced by Berger and Luckmann who state that “language provides the fundamental superimposition of logic on the objectivated social world. The edifice of legitimations is built upon language and uses language as its principal instrumentality” (Berger & Luckmann, 1966, p. 82).

This expresses our position well. Language does not (only) describe the social world, but (also) legitimates the social world as it is and suggests that it has a certain logic of

itself. However, this logic is superimposed rather than inherent to this social world. So in short, language does not necessarily represent the (social) world but rather legitimizes the presumed logic of the status quo and even helps shape it. For example, Russel Barkley, a strong proponent of a realist view on ADHD, has a (video) presentation named: *the neuro-anatomy of ADHD and thus how to treat it* (Barkley, 2014). The title as well as the video itself suggests that there is one neuro-anatomy present in those that behave according to the behavioral criteria of the ADHD construct. We argue that this logic (questionable due to the generalization) is superimposed on the social world: it legitimizes for instance the institutionalized distribution of psycho-stimulants to alleged “patients” as Barkley names those classified with ADHD. However, there is no proof of a different neuro-anatomy (or any other brain attribute) shared by all or even many of those classified with ADHD as we will repeatedly argue in this thesis.

Discourse Analysis provides several tools to explain that (scientific) “knowledge” is less certain than some scientists make it appear. For instance, with the absence of *hedges*, words that express caution (Swales, 1990), statements can portray more certainty than the underlying empirical data allow for.

Logic

The use of Berger and Luckmann’s (1966) statements also reveals my interest in logic surrounding ADHD. By exposing that the logic is flawed I hope to demonstrate that this “edifice of legitimations”, as Berger and Luckmann call it, is not a very solid one. Generalization -central in this thesis- is one example, but there are many others. For instance, Tait (2009) who analyses fallacious reasoning in relation to ADHD, claims the “false cause fallacy” (Tait, 2009, p. 245) is a common error in discourse on ADHD. He exemplifies this with the suggestion that because inmates often have attention problems their incarceration is caused by their *disability ADHD* (Hurley & Eme, 2004). This may merely be a spurious correlation, as both the attention problems and the incarceration may be the result of adverse circumstances often seen in detainees (Hoeve et al., 2009; Jaffee, Caspi, Moffitt, Belsky, & Silva, 2001).

Finally, spurious correlations and other logical flaws such as the nominal fallacy also touch upon a larger subject this thesis aims to address. By using behavioral classifications such as ADHD and by thinking they explain behavior, it may be tempting to overlook much broader societal issues. Many adverse circumstances such as divorce, child maltreatment, poverty, insufficient funding for education and large classrooms may lead to erratic behavior or may even cause normal responses to abnormal circumstances to be seen as erratic.

