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ADHD and the power of generalization

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Summary

ADHD and the power of generalization
Exploring the faces of reification

ADHD and reification

This thesis starts with a quote from eleven-year-old Sylvia, who thinks ADHD “is like a cancer (...) but you’re not going to die from it”. ADHD is no disease like cancer, but a concept from the Diagnostic and Statistical Manual of Mental Disorders (DSM), currently in its fifth edition. The DSM-5 defines ADHD with -partly overlapping- behavioral criteria such as “often has trouble waiting his/her turn” and “often interrupts or intrudes on others”. Thinking that the definitions in the DSM are concrete illnesses, such as Sylvia does, is acknowledged as a problematic phenomenon called *reification*. The most well-known mechanism of reification is called the “nominal fallacy”: naming behaviors carries the risk of thinking we have thereby explained them. In fact, constructs like ADHD only name these behaviors. However, confusing naming and explaining is just one of the mechanisms of reification. This thesis aims to answer the questions: *how is ADHD reified in written discourse, and how often do these identified mechanisms of reification occur?*

Generalization and other mechanisms of reification

Besides confusing naming and explaining, generalizations can also lead to reification; particularly group-to-individual generalization. For instance, the authors of a large meta-analysis of brain-anatomy compared groups classified with ADHD with groups of “normal” individuals. They stated in their paper in 2017: “*We confirm, with high-powered analysis, that patients with ADHD have altered brains; therefore ADHD is a disorder of the brain. This message is clear for clinicians to convey to parents and patients*”. The findings were in fact mere averages, and the case and control groups largely overlap. The authors wrongly suggest that all those classified with ADHD have different (smaller) brain parts. In fact, many with an ADHD classification have larger than average brain parts while many without an ADHD classification have brain parts that are smaller than average.

There are many other reifying mechanisms. For instance, when reporting about case-control studies of neurophysiology and neurochemistry, researchers often select brain-images of the extremes from both samples. These images are then often presented as allegedly representative of the brain activity and neurochemistry of a whole population of those classified with ADHD. In reality, case and control groups again show much overlap. Furthermore, brain activity differs strongly across people, regardless of an ADHD classification. Also within persons neurochemistry and physiology are not consistent through time.

Medical jargon, for instance words like “symptom”, can also reify ADHD as the term implies that behaviors like interrupting others are the result of a disease or disorder. Speaking of criteria for ADHD is a more appropriate term, as this word refers to a standard on which a decision may be based, and the word does not suggest the behaviors are caused by an innate problem.

Similarly, by using metaphors, such as comparing ADHD to a meat-cleaver that splits the brains of those with ADHD, agency is ascribed to the ADHD-concept as a real entity that does damage to the human brain. This reifies ADHD and such a metaphor may also create fear and stigma.

Another reifying mechanism is the suggestion of causality when only correlation is empirically proven. It is often suggested that ADHD can cause academic failure and maladaptation to the point of delinquency. However, as for instance child maltreatment can cause problems of inattention and restless behaviors –for which the ADHD-concept merely provides a name- both ADHD and delinquency can be confounded by adverse circumstances.

ADHD can also be reified by “textual silence”: omitting important information that shows the construct does not represent a steady and reliable disorder. For instance: birth-month studies reveal that normal, age-related behaviors tend to be “diagnosed” with ADHD and medically treated. Not mentioning this important information can leave the perception of ADHD as a concrete entity intact.

How often do these reifying mechanisms occur?

Using a sample of 43 academic textbooks used at universities in the Netherlands, this thesis aims to quantify the occurrence of reifying mechanisms such as textual silence in relation to genetics. For instance, roughly half of the textbooks mention 60-80% heritability estimates of twin/family and adoption studies that compare behaviors of relatives to estimate the influence of genetics. At the same time, these textbooks omit that the more precise molecular genetic studies reveal a low direct influence of genes of about 5%. Only a quarter of the textbooks mention the contrasting findings, which reveal that twin/family and adoption studies cannot separate genetic from environmental influences very well. A quarter of the textbooks do contrast the high outcome of twin/family/adoption studies and the limited effects according to molecular studies. This “missing heritability problem”, as it is known, is not mentioned explicitly as such.

Generalizations are also a common mechanism of reification. Of 36 textbooks that discuss brain anatomy in relation to ADHD, 21 (58%) do not mention that empirical outcomes are mere average findings that have little bearing on individuals classified as having ADHD. Fifteen chapters on ADHD did place such findings in perspective, by referring, for instance, to the fact that such findings are mere group outcomes. Only 3 of those, however, clearly mentioned that those with ADHD do not necessarily have different brains, or that “normal” controls can also have different/smaller brains. Only one chapter on ADHD mentioned both: no single deficit is necessary or sufficient to explain all cases of ADHD. Additionally, none of the chapters mentioned sampling bias due to the use of “supernormal” controls on the one hand and “refined phenotypes”, rigorously screened ADHD cases, on the other.

Background of reification

Reification is a concept from scholars filed under the sociological school of “Conflict Theory” that sees the quest for power as a foundation of social relationships. Framing ADHD as a hardwired genetic and brain-based illness can privilege medical professionals. When described by the catch-all concept that ADHD is at risk of becoming, everyday behaviors like interrupting others are framed as medical problems and not as a normal part of socialization. As a result, non-medical professionals, like teachers, may feel inept.

Conflict Theory also addresses the monetary basis at the heart of the production of knowledge. Differences in the availability of monetary resources (e.g. from pharmaceutical companies) might further tilt the power balance, such as by financing dedicated companies that help to prepare presentations, write scientific papers (ghost writing) and recruit opinion leaders. However, a conflict theoretical perspective seems limited to explain the passion of some of those who believe strongly in the biological approach. Financial incentives might not necessarily have preceded this enthusiasm, and many researchers do not receive industry funding.

Philosophers such as Trudy Dehue and Charles Taylor bring an additional, more “functional” perspective to explain our contemporary eagerness to reify concepts such as ADHD. Dehue, for instance, states that as biological explanations of behavior, concepts like ADHD are functional by providing an excuse for the person one is, particularly if one fails to meet the neo-liberal norm of being self-reliant and successful. Taylor traced one of the roots of this neo-liberal ideology, which he calls “disengaged reason” all the way back to the likes of Plato and Descartes. Disengaged reason means that humans can find true beliefs about the world when being disengaged from it and being disengaged from one’s emotions. This ideal is represented well by Descartes’ “I think therefore I am”.

The success of science, partly founded on this notion of disengaged reason, eroded the influence of the church. The influence of the normative framework that the church provided eroded as well and created a void that, from a functional perspective, needed to be filled. Psychiatry rose to the occasion to help fill this void with its’ own psychiatric bible –as the DSM is often called. Perhaps unsurprisingly, psychiatry, as the new science-based norm-setting institution, is engrained with this ideal of disengaged reason.

ADHD and the ideal of disengaged reason

I argue that the rationalistic norms strongly surface in the ADHD-concept. We expect children to control their impulses, be silent in their play and await their turn. Also in the way we study human behavior and “diagnose” children as having a neurodevelopmental disorder - based on splicing their behaviors and counting “symptoms”, we lean towards

disengaged reason. A diagnosis does not require asking for a child's motives for his/her behavior. So, both the norms we bestow upon children via the ADHD-concept, and the norms we bestow upon ourselves by the way we try to classify them without the need to involve children themselves to give meaning to their behaviour, reflect the dominance of this disengaged reason in my view.

Implications

So, possibly we reify and fail to be objective to the disappointing outcomes of empirical studies with the ADHD construct due to our own narrow (institutional) interests. Or, possibly we have historically embedded high hopes for the success of psychiatry's normative framework. Either way, such interests or high hopes do not necessarily overlap with the interests of the child, which should be our primary concern. So finally, some political and practical implications are offered to safeguard the child's best interest.

Future studies based on this thesis could estimate the prevalence of reifying mechanisms and could also include different domains of discourse besides textbooks. Additionally, institutional dependency on constructs from the DSM should be examined critically. For instance, scientific funding agencies should consider the pros and many limitations of the study into the highly reified classifications and consider alternative classifications, such as using Research Domain Criteria. Another possible approach to research and providing care is using a more tentative, back-and-forth, normalizing approach such as stepped diagnosis and stepped care. From a political point of view the high interdependence of science and commercially vested interest calls for reconsideration of how we can use financial resources. One longstanding idea is to concentrate these resources in a fund with representatives from different branches of industry, science and government.

Finally, medically framing children's restlessness that is associated with a plethora of problems -such as the contemporary schooling system, divorce, poverty, trauma and loss- makes it easy to forget such larger issues. To avoid this, we should seek refuge in the institute that aims to protect the child's autonomy, agency and safety in the face of the many individual and collective challenges that our children are confronted with: The Convention on the Rights of the Child. This institution should also safeguard that our current healthcare system with its classifications is part of the solution and not part of the problem.

