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Disease mongering, overdiagnosis, and media practices: a critical discourse analysis of sluggish cognitive tempo (SCT) and the motivational deficiency disorder (MoDeD) spoof

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Abstract: This paper explores ways in which the strategic use of discursive and generic conventions has the potential to create a non-existent pathology and mislead the public. This case study compares and examines datasets of different genres (newspaper issue reports, online videos, and Wikipedia pages) dealing with a condition considered as an actual illness (Sluggish Cognitive Tempo, SCT), and another (Motivational Deficiency Disorder, MoDeD), invented as a spoof to raise awareness about disease mongering, overdiagnosis, and medicalization. We evince common language strategies that, irrespective of the genre, can be employed in media discourse, both in the name of genuine medical information and in pursuit of more ethically questionable ends. The methodological tools provided by Critical Discourse Analysis are applied to both the authentic and the hoax texts in order to investigate the media representations of SCT and MoDeD, juxtaposing the ways in which both are framed conceptually, defined linguistically, and popularized to lay audiences. The findings indicate the existence of a common repertoire of lexical-phraseological, rhetorical and discursive patterns that typify the popularization of medicalized statuses and combine to increase the persuasiveness and authority of overdiagnosis, ultimately advancing the case for medicalization with the public at large.

Keywords: disease mongering; medicalization discourse; overdiagnosis; critical discourse analysis; media practices

While both authors are jointly responsible for the general design of this study, Dermot Heaney has authored sections §1, §2, §3, and §4.2, Giorgia Riboni has authored sections §4.1, §4.3, and §5.

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1 Introduction

Recent decades have seen mounting concern about the advance of the phenomena of disease mongering, overdiagnosis, and medicalization. This has led to a lively debate in academic circles, which has also spilled over into the media. Thus far the most authoritative voices on the topic have come from within the medical and sociology fields (cf. Conrad and Schneider 1980), while this issue has not generated a substantial body of work within the linguistic community. The aim of this article is to start redressing this imbalance, particularly given the importance of language within these processes.

Of particular interest to linguists is the fact that these medical trends involve a social construction of reality (Berger and Luckmann 1966), in which discourse and discursive categories assign ordered meanings to collective human experience. According to this view, an illness is not an objective category but is discursively constructed: "[t]he high degree of consensus on what "objectively" is a disease" may induce people to forget that the latter totally depends on a collective agreement" (Conrad and Schneider 1980: 31). Starting from this acknowledgment, we examine the media's role within this process and argue that the language utilised in order to popularise a new condition whose harmfulness is not under discussion may not (significantly) differ from those adopted in cases of possible disease mongering (and of their parodies): behavioural or psychological states depicted as problematic can be pathologised and discursively constructed as a disease – language and discourse being "the depository of institutionalized collective "sedimentations"" (Conrad and Schneider 1980: 21). Similarly, the strategic use of discursive and generic conventions can both create a non-existent illness and mislead the public.

In light of this, we pose the question of precisely which discursive and generic conventions are utilised to provide information about problematic conditions that may be pathologised. We arrive at an answer through the analysis of two comparable states characterised by hypoactivity, Sluggish Cognitive Tempo (SCT) and Motivational Deficiency Disorder (MoDeD), the latter of which is a hoax invented by a medical scholar. In particular, the research focuses on the discursive representations of SCT and MoDeD with the aim of tracing the ways in which they are framed conceptually, defined linguistically and popularised to lay audiences. Our purpose is to identify similarities between the linguistic means employed to construe a problematic condition and those involved in the construction of a bogus ailment. The analysis of the cases under scrutiny may help shed more light on the connection between language and the practices of disease mongering and overdiagnosis.

The article begins by presenting background to the issue (§1.1) and then offers a survey of relevant literature (§2). The comparison between authentic medical

discourse and the hoax is carried out by means of a discourse-analytical framework grounded in a constructionist view of language (§3); this methodology is applied to a very small data set of different popularising texts covering SCT and MoDeD (§3). A qualitative analysis is carried out on the corpus to evince common linguistic (§4.1), rhetorical (§4.2), and discursive strategies (§4.3) pursued to represent the two conditions. This is followed by a discussion of the issues raised by the media practices involved in disease mongering and overdiagnosis (§5).

1.1 Background

A few years after Canadian health policy researcher Alan Cassels had introduced a fake disease ("Adolescent Motivational Deficiency Disorder" or AMDD) in a Canadian Broadcasting Corporation (CBC) radio documentary (Cassels 2008), Australian academic and journalist Ray Moynihan created his version of the spoof, which involved fake textual artefacts of different kinds.[1] It started out as an April Fool's prank, an article published in the British Medical Journal ("Scientists find new disease: Motivational deficiency disorder", Moynihan 2006), which was followed by a hoax video ("A New Epidemic?", Burne 2006).

Although the name of the scholar responsible for identifying MoDeD (Dr. "Leth Argos") and of the drug used for its treatment ("Indolebant") were clearly fictitious and humorous, and although Moynihan himself revealed that the *BMJ* post was an April Fool's prank a few hours after its publication, the spoof generated a lot of interest as major media outlets reported the news of the "discovery" of the disease, often missing the joke (Mirsky 2006). A comment on the spoof article ("MoDeD – not new but re-discovered") was immediately sent to the *BMJ* (Head 2006) to confute the assumption that Dr. Argos was the first to research the illness, and the link to Moynihan's prank was shared online by users who thought it was a genuine scientific communication. It is conceivable that, in spite of its author's attempts to signal that MoDeD was not a real ailment, his adherence to the conventions of popularising genres made his text credible for most readers.

The success of the spoof (which still generates feedback such as the video tribute "Motivational Deficiency Disorder", posted on YouTube by comedian John Lawrenson in 2021 (Lawrenson 2021), i.e., 15 years after the appearance of the *BMJ* article) arguably has to do not only with its believability and humour, but also with the relevance of the topic it addresses. The MoDeD hoax was devised within the medical

1 Cassels and Moynihan published a book together on the dangers of disease mongering (*Selling Sickness. How Drug Companies are Turning Us All into Patients*) in 2005, one year before the MoDeD April Fool's joke.

community with the intent of raising awareness on the increasing practice of "disease mongering", a pejorative term designating the pathologisation of statuses once only described as "problematic".

2 Literature review

The rapidly growing medicalization of society, a process through which life problems receive "medical diagnoses and are subject to medical treatment, despite dubious evidence of their medical nature" (Conrad 2007: 3), has come under scrutiny from major institutions. Examples identified by Sosa-Iudicissa and Tejedor Del Real (2012) in their in-depth analysis for the Europarliament include the "diseasing" of risk factors like high blood pressure and cholesterol (cf. González-Moreno and Teira 2015), the medicalisation of menopause (cf. Bell 1987), the treatment of "precancerous" breasts and the overselling of mammography (cf. Sala et al. 2023). Their study also refers to the emergence of psychiatric "disorders", ranging from insomnia and anxiety to "overactive kids" (Sosa-Iudicissa and Tejedor Del Real 2012: 7). In these cases, as in others, such as Gulf War related illnesses (cf. Dew et al. 2016) and Chronic Fatigue Syndrome (cf. Hydén and Sachs 1998), the role of the media has been significant.

Prospective patients are not the only stakeholders in this process. The pharmaceutical industry, as well as insurance companies, medical equipment manufacturers, doctors and even patient groups now lobby so that more and more conditions are treated as pathological and cured with drug therapies (cf. Sosa-Iudicissa and Tejedor Del Real 2012). More recently, there are signs that recreational behaviour like video gaming is a likely candidate for the medicalized status of "gaming disorder" (cf. WHO 2020). The debate about medicalization and disease mongering has also been fuelled by the MoDeD hoax itself. In 2008, Consumers International revived Moynihan's campaign to draw further attention to the dangers of these practices, and international conferences were organised both in Australia (Moynihan et al. 2008) and in other countries (cf., among others, the Too Much Medicine Symposium, held in Helsinki, Finland, in August 2018). A special theme issue of *Plos Medicine* (Moynihan and Henry 2006) (eds) was also devoted to the subject.

The scholarly discussion on disease mongering and medicalization has steadily progressed and it has led to the introduction of a specialised term to describe this kind of phenomenon in the Medical Subject Headings (MeSh) vocabulary of the US National Library of Medicine (Woloshin and Kramer 2021). The expression "overdiagnosis" indicates "[t]he labeling of a person with a disease or abnormal condition that would not have caused the person harm if left undiscovered,

creating new diagnoses by medicalizing ordinary life experiences, or expanding existing diagnoses by lowering thresholds or widening criteria without evidence of improved outcomes" (MeSh 2022). Interestingly, the definition goes on to specify that "[i]ndividuals derive no clinical benefit from overdiagnosis although they may experience physical, psychological or financial harm" (MeSh 2022).

Sluggish Cognitive Tempo (SCT) presents similar "symptoms" to MoDeD and may represent an instance of overdiagnosis and medicalization. First introduced in medical literature at the end of the 1980s (Lahey et al. 1988), it came to the attention of the medical community only after 2001, giving rise to a lively debate on its status, i.e., whether it represents a "real" disease and, if this is the case, whether it should be considered a subtype of Attention Deficit Hyperactivity Disorder (ADHD) or a distinct disorder. In 2014, the scholarly discussion on SCT gained momentum. Indeed it was the object of most of the research published in the January issue of the *Journal of Abnormal Child Psychology 2014. 42(1).* Over the last few years, SCT has enjoyed increased media coverage.

At the moment, SCT is formally defined as a "symptom cluster".[2] SCT's main proponent is Dr. Russell Barkley (Barkley 2014), an ADHD expert who publishes extensively and gives numerous talks on SCT, but refuses interviews. His popularising activity is surrounded by a certain degree of controversy, as it may involve a potential conflict of interest: the global pharmaceutical company Eli Lilly (which funds research on SCT and produces the only drug available for it) has reportedly paid Dr. Barkley for consulting and speaking engagements (cf. ProPublica Project 2017; Dollars for Docs 2019). The very definition of SCT as a pathology entails additional levels of controversy and ethics. There are many interests at stake: this condition's pathologisation may benefit its advocates (not only economically, but academically as well), possible patients and their families (because it legitimises deviant conduct and removes the stigma attached to it), pharmaceutical companies, society as a whole (because it promises the elimination of a non-desirable behaviour), not to mention the media, which finds in it a ready source of newsworthy product.

In sum, the controversies generated by the MoDeD prank about disease mongering and by the labelling of Sluggish Cognitive Tempo as a disorder are far from resolved. One consideration that may be made at this stage is that the spoof, which was meant to foreground the debate about the merits and demerits of the medicalization of what was previously thought to be ordinary human behaviour, only partially met its objective: whereas the MoDeD *BMJ* article dates back to 2006,

2 SCT is variously defined by Barkley himself as "a syndrome", "a set of symptoms", and a "disorder". The fact that the scholar uses them interchangeably may indicate an awkwardness in establishing the precise medical status of SCT.

Sluggish Cognitive Tempo received significant media attention after 2014, as if to suggest that, in spite of occasional efforts aimed at increasing public awareness of the possible risks involved in medicalization, the process still goes relatively undetected and uncontested in the media.

3 Data and methodology

The texts selected for this study all belong to popularising media genres. The dataset comprises one article from *The Guardian* ("Sluggish cognitive tempo: The ADHD-like disorder that explains daydreaming?", Benedictus 2014), the fake article from the *BMJ* (Moynihan 2006) and the comment posted as a "rapid response" to it (Head 2006), the MoDeD and the SCT *Wikipedia* pages,[3] and the spoof video "A New Epidemic? (Burne 2006)".[4]

The coverage of MoDeD was not enormous; it might have gone on for longer, had not the organisers declared it as a spoof immediately after the publication of the *BMJ* article. The available sample of texts about MoDeD was therefore rather small. In the absence of authentic scientific texts for MoDeD, it was decided to build a comparably-sized sub-dataset for SCT and to only collect popularising texts. The corpus is therefore very circumscribed, which makes a statistically relevant study impossible at the present stage.

This qualitative study is carried out using a Critical Discourse Analysis approach (cf., among others, Stubbs 1983; Yule and Brown 1983; Blommaert 2005). More specifically, Fairclough's three-dimensional model for the examination of communicative events (1992) is relied upon, as it affords an exploration of the textual, rhetorical and discursive levels of any language act. The model attaches comparable importance to micro-, meso- and macro-structures and is arguably suitable for popularising texts (both real and fake) because it explores the interrelation between linguistic and social practices.

As regards the first, narrower tier of Fairclough's (1992) model (i.e., the examination of "vocabulary, grammar, cohesion and text structure" (p. 75)), the main notions featured in studies on Languages for Special Purposes and Popularization (cf. Halliday and Martin 1993; Gotti 2003; Calsamiglia and van Dijk 2004; Garzone 2006, 2020) were adopted to identify the micro-communicative strategies of both the "authentic" products

3 It is important to stress that the SCT Wikipedia page has been repeatedly edited by Dr. Russell Barkley himself throughout the years.

4 Only the script of the hoax footage is taken into account in this study; while the authors acknowledge the importance of the other semiotic resources and modalities employed in the video, they only focus on its verbal component (in the same way as they do with the other materials collected).

and the parody. The intermediate level of analysis concerns the generic features and the textual organisation of the data (cf. Fairclough 1992: 78). This was investigated by means of Swales's (1990) and Bhatia's (1993) models, as they allow for the investigation of the rhetorical structure (including moves and steps). Finally, the discursive dimension of popularising texts, that is the institutional and organisational contexts within which overdiagnosis and medicalization discourses are created and either maintained or challenged, is studied drawing upon the methodological contribution of Critical Discourse Analysis (cf., among others, Fairclough 1989, 1992, 1995; Van Dijk 1993; Wodak and Meyer 2001), which interprets texts in the light of the social context they are produced and circulated in. The examination of these three levels will reveal how they combine and interweave to construct the special language intended to persuade the public of the medical "credentials" of a new or emerging "condition" (genuine or otherwise).

4 Data analysis

4.1 Linguistic and communicative strategies

The dataset analysed here reveals a significant repertoire of linguistic features that accompany the popularisation of specialised knowledge. These can be divided into surface techniques and those that work on a cognitive level (Garzone 2020: 162–165). The former perform an explanatory function, making specialised terminology more widely comprehensible by employing more familiar lexis from the general word stock, principally in definitions, and by substituting dense specialised phraseology, usually with reformulations of varying length and greater syntactic simplicity.

New medical disorders are regularly announced by technical terms and a preference for information-packed pre- and post-modified noun phrases as opposed to verbal structures. Additionally, definitions are frequently formed by incorporating words derived from the classical languages. The present data is no exception. Thus, we find in the *Wikipedia* text:

(1) Individuals with SCT symptoms may show a qualitatively different kind of attention *deficit* that is more typical of a true information processing problem…[5] (*Wikipedia, SCT page*)

This tendency is parodied in the Moynihan article:

5 Unless specified otherwise, the emphasis in the examples is added by the authors.

(2) … the disorder, which can be diagnosed using a combination of *positron emission tomography* and low scores on a motivation rating scale. (*BMJ,* 2006)

The authentic journalist is less inclined to indulge in this kind of usage, opting, instead, for a mixture of inserted and direct citation of Dr. Barkley:

(3) *According to* Dr. Russell Barkley, a leading proponent of the SCT theory – he calls the condition *"the second attention disorder"* – between a third of all those diagnosed with the inattentive subtype of ADHD are, in fact, suffering from SCT. (*The Guardian,* 2014)

Every new disorder worthy of the name is heralded with its relevant initialism or acronym, which are at the same time characteristic of the opacity of specialised discourse for the layman. It is also in evidence here. Scholars have accounted for this convention by referring to the extreme compression favoured by specialised discourse, in which the priority is to cram as much factual information into peer-to-peer-specialised communication. As Garzone (2020: 52) has noted, initialisms "contribute to realising the ideal economy and concision that is typical of specialised communication." These densely packed denominations have to be unpacked for the lay reader by definitions in the appropriate register. The first line of the SCT *Wikipedia* entry provides a textbook example:

(4) Sluggish cognitive tempo (SCT) is *the term for a syndrome that may comprise a novel and distinct attention disorder from ADHD.* (*Wikipedia, SCT page*)

The Moynihan spoof imitates this technique of tagging the abbreviation on to the full designation:

(5) Extreme laziness may have a medical basis, say a group of high profile scientists, describing *a new condition called* motivational deficiency disorder (MoDeD). (*BMJ*, 2006)

In this case the denomination takes place through an acronym, itself a form of word play that mocks the very disorder it names. "Moded" is a slang word, defined by the *Urban Dictionary* (2022) as "being most properly used when someone has vehemently defended a position and been proven wrong".

The practice of defining the abbreviation is replicated in the "straight" news article in *The Guardian*:

(6) Sluggish cognitive tempo (SCT), *as the condition has been called*, was the big story in the January issue of the Journal of Abnormal Child Psychology. (*The Guardian,* 2014)

In the context of popularisation such segments often require some form of explanation. Example 7 illustrates one of the ways in which this is done:

(7) Individuals with SCT symptoms may show a qualitatively different kind of attention deficit that is more typical of a true information processing problem *such as* poor focusing of attention on details or the capacity to distinguish important from unimportant information rapidly. (*Wikipedia, SCT page*)

This is an instance of exemplification, typically, though, not always, signalled by markers like "such as", "for example", "for instance". The technique works by illustrating a general proposition with specific concrete examples that are nearer widely shared experience. This technique is absent from the spoof. This is likely because the author intends the unexplained pseudoscientific-technical language to ridicule and criticise the tendency of medicalisation proponents to use language to "shock and awe" the lay public into submission and acceptance of their theories. However, a related strategy is present in the text of the news video, where we learn from Leth Argos:

(8) The condition varies from very mild (*there are people who perhaps notice a slight reluctance to get out of bed on Monday morning at the mild end of the spectrum*) through to the most severe disease which is potentially fatal. *These are people who find themselves at times in an acute attack unmotivated to breathe and these people will die*. (hoax video)

Here the expert speaker provides concrete examples of what the more abstract and general terms mean. Paradoxically, as one would expect from parody and satire, the explanation is patently absurd, though the intention is to ridicule the categorical pronouncements made by proponents of highly debatable theories and discoveries. *The Guardian* journalist also provides concrete examples in more familiar language to illustrate the meaning of a more opaque, technical statement:

(9) *Certainly these children struggle to listen to teachers or focus on their schoolwork*, and their performance suffers, but they are not the ones racing round the classroom knocking over pencil pots. (*The Guardian,* 2014)

Exemplification may also entail quantification of the disorder.

(10) For instance, ADHD, the genetic contribution to individual differences in ADHD traits typically averages *between 75% and 80%* and may even be *as high as 90%* in some studies. That for SCT may be *50%.* (*Wikipedia, SCT page*)

While this kind of exemplification is absent in the spoof or the newspaper article (unless quoting directly from Barkley), it is particularly prominent in the *Wikipedia* SCT page, which is most closely associated with the proponent.

Some of these features are not without implications as regards ethical aspects of medicalisation. In the process of popularisation, not all specialised terminology, lexis and syntax is jettisoned. There is a considerable residue that is made accessible by all or some of the above techniques. Specialised terminology and the preponderance of noun phrases, things rather than actions, embodies the priority given to fact in specialised discourse. Redeployed like this in popularising discourse, they convey the impression that a disorder like SCT, for example, is an established and ascertained reality. This impression is consolidated by the presence of abbreviations – initialisms only becoming accepted usage within a community of specialised discourse once the full designation is sufficiently known and established to be regularly substituted by the abbreviated form. Their presence implies agreement rather than debate. It is a seal of approval, so to speak, or, as Woods (2006: 129) puts it:

> the naming and labelling of objects, events or people … frequently leads to the establishment of assumptions and expectations about the character and nature of what has been named. This is evidenced in medical discourse.

This type of denomination is the very one used by the original proponent, lampooned by a serious critic of medicalization, and replicated by the journalist.

The consolidated "factuality" of the discourse of medicalization is further extended by the tendency to quantitative exemplification, a feature that will be returned to in Section 4.2. It is to be noted that the explanatory strategies used are preponderantly the surface ones as defined by Garzone (2020). Techniques that work on the cognitive plane, typically analogy in the form of simile or metaphor, are only minimally present, specifically in the *Wikipedia* text:

(11) They feel *like* they are *"in the fog"* and *seem "out of it*". (*Wikipedia*)

Explanation is the least used strategy in the SCT sub-dataset; conceivably, this points to an underlying concern with foregrounding the substantive aspect of the topic when proposing a new disorder.

4.2 The rhetoric of disease mongering, overdiagnosis, and medicalization

The analysis of the rhetorical strategies, carried out by means of a close reading of the texts, highlights how consistent the sub-datasets are at the meso-level of Fairclough's (1992) model, too. Only one strategy, the use of impossible claims, occurs exclusively in the spoof (cf. examples 8 and 12).

(12) [T]he disorder […] can be diagnosed using a combination of positron emission tomography and low scores on a motivation rating scale, previously validated in elite athletes. (*BMJ*, 2006)

Further rhetorical devices are shared by both sub-datasets, corroborating the hypothesis that the spoof and the "genuine" scientific texts rely on a comparable construction. For instance, *The Guardian* article, *Wikipedia* entries on SCT, the hoax video and *BMJ* feature about MoDeD establish the significance of the condition they describe in quantitative terms.[6]

(13) According to the British Medical Journal *one in five people* are said to suffer from Motivational Deficiency Disorder -or MoDed- and most don't even know they have it. (hoax video)

(14) The condition is claimed to affect *up to one in five Australians* and is characterized by overwhelming and debilitating apathy. (*BMJ*, 2006)

(15) Now a group of researchers think that *millions of them* […] are living with something else instead. (*The Guardian*, 2014)

The emphasis on the absurdly high number of people affected by MoDeD (5 million in Australia at the time of writing) parodies the tendency to make claims for the pervasiveness of the condition, something which occurs in the example of straight journalism (14). However, this recurrent trait contributes to ensuring the article achieves "threshold" news value (Galtung and Ruge 1970), according to which only phenomena and events that involve large groups are "newsworthy", i.e., these can be turned into news items and appear in media outlets. A related rhetorical strategy, deployed both by the authors of the spoof and by the scientific journalists covering SCT, is to emphasise the risks involved in underestimating the condition, that is, by failing to appreciate its quantitative importance:

6 Stating the quantitative relevance of the conditions could also be seen as a phase in the establishment of a research niche, which Swales (1990) identifies as the second move in the introduction to research papers (cf. Swales 1990; Swales and Freak 2008). Conceivably, this adds to the academic or scientific basis of the studies.

(16) This disorder *is poorly understood* […] it is *underdiagnosed and undertreated*. (*BMJ*, 2006)

(17) These children are not the ones giving adults much trouble, so they're *easy to miss*. (*The Guardian*, 2014).

(18) [O]ne in five people are said to suffer from Motivational Deficiency Disorder -or MoDed- *and most don't even know they have it.* (hoax video)

A typical trait of popularising texts is personalization, that is the mention of the names of the scholars who made the discovery. So that the latter's credibility can be enhanced, their position in their institutions is often underscored (details on previous academic work are not frequent, differently from the conventions of research articles; Hyland 2010). The personalization feature is present in both sub-datasets, where authoritative 'coiners' of the condition are identified and described on the basis of their (prestigious) roles:

(19) Dr. Russell Barkley, *a leading proponent of the SCT theory* … (*The Guardian*, 2014)

(20) Neurologist Leth Argos *is part of the team that has identified the disorder*…. (*BMJ*, 2006).

However, worries about researchers' connections with drug companies are also expressed, a characteristic press strategy that allows journalists to appear unbiased towards the content they are producing and aware of its possible critical implications:

(21) Dr. Argos: *"There's a lot of scurrilous material that's been circulating about my relationship with Health Tech. I want to refute that completely. I have a perfectly ethical relationship with the company. I find that the company is motivated purely by an interest in improving the well-being of people in the community and I think suggestions to the contrary are simply outrageous."* (hoax video)

(22) Adding to the controversy are *potential conflicts of interest among the condition's proponents, including the funding of prominent SCT researchers' work by the global pharmaceutical company Eli Lilly* and, in the case of Dr. Russell Barkley, a leader in the burgeoning SCT research field, *direct financial ties to that company* (Dr. Barkley has received $118,000 from 2009 to 2012 for consulting and speaking engagements from Eli Lilly). (*Wikipedia, SCT page)*

In example (21), the existence of possible conflict of interest between Dr. Argos and Health Tech is rebutted by the scientist himself in a section of the video. The inclusion of his actual words in the form of direct speech makes it possible for the footage creator not to take responsibility for either the mention or the confutation of the doctor's involvement with the pharmaceutical company.

Counter-arguments denying the illness status of MoDeD and SCT are also present in the sub-datasets and are embedded in reported speech, another conventional element of scientific journalism. The statements of other scholars, i.e., other medical authorities, about the practice of attributing disease qualities to undesirable conditions are reproduced in the texts analysed. This practice appears as a "matter of concern" in both examples (23) and (24).

(23) David Henry […] is concerned that *ordinary laziness is being medicalized.* (*BMJ*, 2006)

(24) Dr. Allen Frances […] describes SCT as a *"fad in evolution"*. He is concerned about possible *overdiagnosis* of ADHD. (*The Guardian*, 2014).

The tendency to medicalize and overdiagnose is worrying as it is construed as linked to possible "disease mongering".

(25) There are also familiar murmurs about *"disease-mongering"* … (*The Guardian*, 2014).

(26) Professor Henry has organized a conference at Newcastle University to highlight what he describes as *"disease mongering"*. (*BMJ*, 2006)

As already noted, the presence of counter-arguments, perplexities about possible conflicts of interest, and the fear of "disease mongering" introduce an element of balance and objectivity into the popularising mission of the media.

4.3 Discursive strategies

The third and final level of analysis traces three main, interrelated discursive strategies underpinning this particular case of medicalization discourse. In each type the strategy hinges on a series of related contrasts between entrenched ways of interpreting and defining human behaviour and a more scientific approach that sees it as a symptom of an underlying medical problem.[7]

7 For an extended investigation of contrast as a rhetorical/discursive strategy, see Sarangi and Clarke (2002).

It is difficult to say which of the sub-strategies is the most prominent because they are often intertwined in the same segment of text; so they will be dealt with in the order they occur in the *Wikipedia* webpage, which has been, as previously pointed out, mainly curated by the proponent of SCT.

The first of this set of contrasts is that of the old with the new, or between once and now. Its importance is suggested by the cluster found at the very beginning of the text:

(27) SCT has been a subject of controversy *for decades* and debate about its nature *still continues*. But it is clear *now* that this set of symptoms is important because it significantly adds to impairment in ADHD and independently predicts a low quality of life. (*Wikipedia, SCT page*)

(28) *Originally*, SCT was thought to occur only in about 1/3 of the inattentive subtype of ADHD and being incompatible with hyperactivity. But *new studies* found it also in some people with the other two ADHD subtypes … (*Wikipedia, SCT page)*

Each of these examples consolidates the impression that scientific knowledge is intrinsically an improvement on the understanding that preceded it. Thus in example (27), "past uncertainty", "controversy" and "debate" are to be contrasted with present "certainty", in which things have become "clear". Similarly, example (28) foregrounds the limitations of previous understanding and stresses the way in which contemporary investigation fills in important gaps in existing knowledge.

Similar juxtapositions of old and new, then and now, are found in the video and in the newspaper article.

(29) *All my life* people have called me lazy but *now* we know I was sick and there's lots of people out there who probably think of themselves as lazy but may be suffering from Motivational Deficiency Disorder. (hoax video)

(30) They are the ones that *used to be called* daydreamers and their work doesn't get done just the same. (*The Guardian*, 2014)

For all its humour, based on the incongruity between laziness and the rather grand scientific definition, as well as the paradoxical relief of discovering that one is actually ill, the text parodies the way the then-now pattern is used in medicalization discourse. Here, too, we see the past, "all my life", a collocation often used with negative connotations of suffering or frustration, contrasted with a "now" that offers greater understanding. The next example takes this comparison even further:

(31) *More than a century after* it was first described, there are *still* plenty of people who wonder whether children who can't concentrate at school are really suffering from attention deficit hyperactivity disorder (ADHD). *Now* a group of researchers think that millions of them are not, but they are living with something else instead. (*The Guardian*, 2014)

In this case, the persistence of people in questioning the existence of a disease that has been established for over a century is framed as retrograde and perhaps wrong-headed while, true to its mission, research has now identified the real source of the problem. In each of these examples SCT is framed as the product of enlightenment and a testimony to the way in which science redresses the neglect of the past.

The next related group of contrasts emphasises the difference between illusion and reality, thus between a state of deception, misinterpretation and misunderstanding, on the one hand, and penetration and comprehension, on the other:

(32) Most consistent across studies was a pattern of reticence and social withdrawal. Their typically shy nature and slow response time has often been *misinterpreted* as aloofness or disinterest by others. (*Wikipedia, SCT page*)

(33) According to Dr. Russell Barkley […] between a third and a half of all those diagnosed with the inattentive subtype of ADHD are, *in fact,* suffering from SCT… (*The Guardian*, 2014).

(34) "This disorder is *poorly understood,*" Professor Argos told the BMJ. *(BMJ,* 2006)

Each of the above extracts stresses the way in which, before the research in question, everyone (including the medical world) had been labouring under a misapprehension. The prevalent socially constructed reality (embodied by folk definitions like "aloofness", "disinterest" or, more comically, "laziness") is presented as a deceptive appearance by the new reality resulting from scientific investigation, which confidently asserts a new actuality ("in fact") that contrasts with former misconceptions.

The final strand in these interconnected contrasts involves the association of what were formerly personality traits with pathologies.

(35) Symptoms of it include *dreaminess, mental fogginess,* hypoactivity, *sluggishness, staring frequently, inconsistent alertness* and a *slow working speed.* (*Wikipedia, SCT page*)

(36) The tough-minded call it *naughtiness*. Some parents blame dull teaching. More than a century after it was first described, there are still plenty of people who wonder whether children who can't concentrate at school are really suffering from attention deficit hyperactivity disorder (ADHD). (*The Guardian,* 2014)

(37) "*Extreme laziness"* may have a medical basis. (*BMJ,* 2006)

It is notable that in each case vaguely defined behaviour like "dreaminess", "mental fogginess", "slow working speed", "naughtiness", "laziness", characterised in day-to-day life and assessments by many gradations and degrees of intensity and protractedness, are crystallised into unambiguous, circumscribed terms by this strategy of juxtaposing: "symptoms", "disorder", "medical basis".

All three orders of contrast analysed here, often within the space of a single sentence or clause, are concerned with transforming perception: old, limited knowledge is replaced with new, clear understanding; deceptive appearances give way to reliable factuality; fuzziness comes into sharp focus. This repertoire is used to alter readers' perception of the condition under discussion. Moreover, the very 'symptoms' that are transformed in this medical account are aspects of what were once seen not merely as character traits but as instances of moral deviations like the "deadly sin of sloth" ("laziness", "dreaminess", "slow working speed"). Besides the persuasiveness implied in the contrast between the clarity of medical science with the obscurantism of traditional religion, there is also the attraction of release from the judgements and condemnations associated with the latter.

5 Discussion and conclusion

The analysis has shown that a significant number of language strategies typically investigated in popularisation discourse are also relied on in the media coverage of SCT, a condition currently undergoing medicalization, and MoDeD. The spoof aims at making these strategies apparent so as to criticise their adoption as a tool of disease mongering.

Despite the humour of Moynihan's article in the *BMJ* and the related spoof video news bulletin, the parody confronts a serious issue centred on the attempt to standardise human behaviour by casting a spectrum of attitudes and responses as pathologies; the dubiousness of this enterprise is compounded by suggestions of the economic advantage for certain stakeholders. The paradoxical nature of this argument is summed up by 'patients' who express relief at discovering they are actually affected by an illness rather than a mere character trait.

Ultimately, each level of analysis identified a common set of lexical-phraseological, rhetorical, and discursive patterns in the data. These are used for presenting information both about genuinely harmful and problematic conditions (like those recently adopted in the popularization of COVID-19, for example) and in the medicalization of states with a much more dubious status, like SCT. It is hardly surprising, therefore, that these conventions are singled out for the purposes of parodying this process.

The difference in the publication dates of the hoax taken from the *British Medical Journal* (2006) and the newspaper article about SCT (2014) also invites a series of broader reflections on the role of the press, its recourse to tried and trusted reporting techniques, and its apparent imperviousness to a more critical attitude to its own role in the process of popularization, particularly when it risks involvement in the process of disease mongering. For reasons of newsworthiness (Galtung and Ruge 1970), coverage can be expected to foreground aspects of medicalization like the newness of the previously unknown disorder (which ties in with the fundamental revelatory mission of the media), the scale of the condition, and the threat it represents, especially if untreated. These rate highly on the scale of newsability (Galtung and Ruge 1970). Considering the newsworthiness of this topic from the perspective of the way in which scientific or specialized information is relayed and actually distributed within the article, it is to be noted that references to the extent of the condition and the danger of neglecting it are found in prominent positions within the inverted pyramid structure, which is also typical of scientific news articles. Conversely, the strategies that can be grouped under the heading 'reservations' or 'counterarguments', while contributing to the impression of press objectivity and, consequently, reliability, are relegated to the bottom of the inverted pyramid, where they are less likely to receive full attention or exert as much influence as the more newsworthy content.

Such coverage exemplifies the synergy between expertise and journalism that lies at the heart of much popularizing discourse. The expert, be it Dr. Barkley or Dr. Leth Argos, has much to gain from the process. On the one hand, the proponent is granted greater exposure and wider public awareness of the issue which is, in the long run, likely to increase the chances of financial support for the initiative from other potentially interested parties (cf. Gregory and Miller 2000: 110); on the other, personalization also benefits journalists and the news outlets they work for, because it increases their own prestige and authority by demonstrating their access to scientists, doctors and other experts, held to be at the top of the information chain in our culture. Thus, media outlets are themselves interested parties in these news events, and this may account for their readiness to seize on potential news and to allow its construction to take priority over counter-arguments, for example.

Medicalization may not have received sustained interest either in the media or among branches of scholarly disciplines like linguistics, possibly because it is a relatively sporadic phenomenon which, in the intervals it occurs in, may not build up enough momentum to attract protracted debate and analysis. However, it is hoped that more academic initiatives such as the MoDeD spoof will be realized to counteract the increasing tendencies of disease mongering, overdiagnosis, and medicalization. Despite its narrow focus, the present study aims to also contribute to the critical mass being generated around this issue.

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