

[Attention-Deficit Hyperactivity Disorder]

# ADHD

Disease? Or Social Construct of an Inattentive, Hyperactive Person?

A Critical Analysis

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Final Project submitted in part fulfilment of the examination requirements for the award of MA  
Science & Environmental Journalism awarded by the University of Lincoln

September 2009

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**Ethical Approval Form**

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## **Acknowledgements**

I would like to thank my supervisor, Barry Turner, for his support and inspiration, and Sami Timimi for taking the time to give me a long and informative interview and for providing me with valuable sources. Thanks also to my mum, Dan and Leigh for proof-reading my work and to Kate Allison, for her patient replies to many little queries. Finally, thank you to all those who dragged me away from the dissertation frequently enough to keep me sane.

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**Abstract**

The problems underlying incorrect presentations of science in the press are well-documented. One such science topic is attention-deficit hyperactivity disorder (ADHD). Its status as a valid, biologically caused, disorder and its treatment with psychostimulants in children are much debated. The present analysis aims to establish how the British quality press covers ADHD, and how ADHD coverage is representative of science coverage in general. Literature reviews were performed to establish both the general problematic of science journalism and the scientific reality of ADHD. Subsequently, 365 newspaper articles published in *The Times* and *The Guardian* between 1990 and 2009 were analysed qualitatively and quantitatively using a category/coding system. Currently, no valid empirical evidence exists to support the idea of ADHD as a biologically determined disease. Rather, it should be viewed as a cultural construct. Its treatment with psychostimulants is shown to be risky, especially in the long-term. However, newspaper articles tended to treat ADHD as a firmly established disorder. A fifth of articles gave outright false biological explanations for ADHD aetiology, and medication was by far the most-proposed treatment. It is concluded that the British quality press, by following established journalistic routines, promulgates the social construction of ADHD as a biologically caused, chemically treatable disorder.

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## 1. Introduction

*But the world is made from language ... and we know how unreliable that is.*

- Scarlett Thomas

Language is the medium of the press and it is also precisely the entity that Berger and Luckmann (1967) posit as the central force in the social construction of reality. In their treatise, they suggest that objectively experienced, taken-for-granted everyday reality is

produced by human activity, most importantly by the externalisation of human thought and experiences through language. Once thus externalised, these subjective ideas become objects available not only to the individual who expressed them but to everyone else who hears or reads them. The subjective experience is objectivated.

Tuchman (1978) integrates Berger and Luckmann's theory into her discussion of the media. She posits 'that the act of making news is the act of making reality itself rather than a picture of reality' (Tuchman 1978: 12). She identifies journalism as one of the taken-for-granted institutions defined by Berger and Luckmann, and attributes newswriters particular power for the social construction of reality.

Science journalism is one sub-set of journalism where the social construction of reality by the media, when deviant from the scientific reality, is of particular concern. This is, firstly, because science journalism with its reports of new technologies, therapies or medications is responsible for a large part of risk-reporting. Secondly, the lay public relies on the media as their main source of science information and the media may therefore influence "informed" decision-making.

One particular example of science reporting is the issue of ADHD whose status as a valid, biologically-grounded disorder is vehemently claimed but has, as of yet, not been convincingly confirmed. ADHD is commonly treated with central nervous system stimulants, or psychostimulants, which act directly on the brain and 'whose chemical properties are virtually indistinguishable from those of the street drugs speed and cocaine' (Timimi 2005: 110). Among these stimulants are the amphetamine dexamfetamine sulphate and the amphetamine-related methylphenidate hydrochloride. The former is marketed as Dexedrine® in the UK and as Adderall® in the US. Methylphenidate is most notably sold as Ritalin® or in its modified release form Concerta®. A newer, non-stimulant, ADHD medication is atomoxetine, marketed under the brand name Strattera® (Moynihan & Cassels 2005: 65; British Medical Association & Royal Pharmaceutical Society of Great Britain 2008: 215-217; Puri 2009: 334). The use of psychostimulants for the treatment of ADHD has risen drastically in the countries that use it most, the USA and the UK, but it is also increasingly being prescribed in other countries (Kean 2009: 175).



Considering the unconfirmed status of the condition as well as the possible side and long-term effects caused by its most common treatment, an inquiry into the representation of ADHD in the British quality press – as represented by *The Times* and *The Guardian* – is of interest. It is hypothesised that said press constructs its own skewed reality of ADHD from selected truths, half-truths, and even outright falsities. The following research questions will guide the proposed enquiry:

1. What are the problems with science journalism?
2. What is scientifically known about ADHD?
3. How are the problems with science journalism reflected in the reporting of ADHD?

Seeking to answer these questions, Chapter One examines the problems with science journalism in general while Chapter Two establishes the scientific basis of ADHD against which media representations can be judged. Chapter Three, designed to tackle the hypothesis directly, analyses a sample of articles on ADHD as found in *The Times* and *The Guardian* and discusses the findings on the basis of Chapter One and Two. Lastly, Chapter Four situates the findings of the content analysis in Berger and Luckmann's theory of social constructionism.

## **2. Literature Review**

The problematic nature of science reporting and the equally problematic relationship between scientists and journalists is well documented. Hartz and Chapell (1997), in their survey of 1,400 American scientists and journalists, identified “language” as one of the key problems. That is, scientists were hard put to explain their research in lay English, while reporters struggled with the scientific jargon. This miscomprehension is indicative of wider differences between the two cultures of science and journalism. The former is slow and deliberate, the latter is fast-paced and keen on drama (Salisbury 1997 cited in Allan 2002: 85-86). A detailed examination of both the scientific and the journalistic viewpoints is given in early key texts on the topic by Friedman, Dunwoody and Rogers (1986) and Nelkin (1995). More recent accounts are provided in a literature

review by Weigold (2001), in the newly launched magazine *Science Journalism in Europe* published by and for science journalists and academics (Lehmkuhl 2008), and in a 2007 survey of European scientists and media professionals by the European Commission (2007a, 2007b).

The latter reports that scientists view a lack of specialist science reporters as the main problem. Yet a survey of 31 specialist science journalists by Hansen (1994) revealed, most prominently, that these reporters put their role as journalists before their function as specialists – indicating that science journalism is, simply, journalism (Gregory & Miller 2000: 105-106). It is subject to the same news values, as first defined by Galtung and Ruge (1965 cited in Brighton & Foy 2007: 7), as any other piece of news. Also, it is equally subject to the ultimate power of the editor (Nelkin 1995: 108-112; Hartz & Chappell 1997). Goldacre (2008: 207-208, 290-291) takes issue with this editorial power, under the premise that the majority of editors come from humanities backgrounds and tend to favour those subjects over that of science.

However, even editors have little power against the impositions of the modern corporate-ruled 24-hour news culture whose impact is described in Davies' (2008) *Flat Earth News*. Davies (2008: 51-70) exposes the strong reliance, even of quality national British newspapers, on un-checked wire copy and PR material, reporters' confinement to the newsroom, and the severe time pressures of virtually continuous deadlines, which force journalists to churn out stories with little time to verify the facts. Given the complexity of the scientific material, this time-restrained situation is particularly dire in science journalism (Nelkin 1995: 117-118; European Commission 2007b). The result is an inattentive, hyperactive press with no time to check the facts and under corporate pressure to sensationalise in order to sell the papers (Davies 2008: 60-69).

Combined with established but unsuitable journalistic practices, this inattentive hyperactivity makes even respectable newspapers construct a distinctly distorted picture of reality. Four key practices catalyse the constructive process: the trusting use of peer-reviewed journals (Greenberg 1997 cited in Allan 2002: 83; Hartz & Chappell 1997; Conrad 1999; Caulfield 2004; European Commission 2007b), the arbitrary selection of authority or expert sources (Travis 1986 cited in Weigold 2001; Nelkin 1995: 122; Conrad 1999; Gregory & Miller 2000: 124-126; Goldacre 2008: 223, 271), the

insistence on journalistic balance or fairness (Davies 2008: 112, 131), and the journalistic tendency to eliminate all uncertainty from articles (Stocking 1999: 24-27; Moynihan *et al.* 2000; Goldacre 2008: 220-221; Schwitzer 2008).

Such trusting, arbitrary and uncritical journalistic practices make it easy for scientists or scientific corporations to enforce their own goals when communicating with the media in interviews or through press releases and PR material (Russell 1986 cited in Weigold 2001; Nelkin 1995: 120-123, 135; Dunwoody 1999: 74; Gregory & Miller 2000: 124, 126; Ransohoff & Ransohoff 2001; Woloshin & Schwartz 2002; Caulfield 2004; Moynihan & Cassels 2005: 79-80).

Naturally, on an individual basis, many scientists and journalists ‘have positive experiences with each other’ (Friedman, Dunwoody & Rogers 1986: xv). Yet, the above-given generalisations exist and must not be ignored, because, ultimately, the affected party is the lay public. Once out of school, they turn to the media as their main source of science information (Nelkin 1995: 67; House of Lords 2000), particularly, with respect to health-related topics (Freimuth *et al.* 1987; Singer & Endreny 1987 both cited in Griffin 1999: 227; Nelkin 1995: 68).

One such health topic is ADHD. Historically, the first recorded description of children as exhibiting unusually restless and inattentive behaviour was made by Frederick Still in 1902 (Timimi 2005: 116), and in 1937 Charles Bradley made the chance discovery that low doses of psychostimulant medication counteract these behaviours (Brown 1998; Timimi 2005: 117). Recognising a new market, the drug industry began launching psychiatric medication for children in the 1950s and fabricated the myth of the “chemical imbalance”: psychological problems, ever wider defined, were claimed to be caused by an underlying disequilibrium of brain chemicals that could only be balanced with pills from the pharmacological industry (Timimi 2005: 110; Baughman 2006; Turner 2007).

In 1968, the American Psychiatric Association published the second edition of its Diagnostic Statistical Manual (DSM-II), which contained a condition called Hyperkinetic Reaction of Childhood (American Psychiatric Association 1966; Sandberg 1996 both cited in Timimi 2005: 117). Over the years, this condition was renamed to

attention-deficit disorder (ADD) and then attention-deficit hyperactivity disorder (ADHD), and its diagnostic criteria were revised (Timimi 2005: 118). Crucially, with each revision, a larger number of children potentially qualified for the diagnosis. DSM-IV made possible an ADHD diagnosis for the majority of school children with behavioural or learning difficulties (Baumgaertel *et al.* 1995 cited in Timimi 2005: 118).

The diagnostic criteria describe behaviours that are normal for children, like ‘often does not seem to listen when spoken to directly’ (American Psychiatric Association 2000). Assessment is based not on the presence of these behaviours, but on the abnormality of their intensity, frequency and duration (Timimi 2005: 122). Yet those entities are expressed in vague quantities such as ‘often’ and ‘excessive’. This leaves much room for subjective, culturally influenced, interpretation on the assessor’s part (Wolraich *et al.* 1990 cited in Timimi 2005: 132; Lloyd & Norris 1999; Timimi 2005: 121-122). The DSM is the diagnostic manual for America, while Europe has traditionally used the World Health Organisation’s International Classification of Diseases (ICD) (Timimi 2005: 118), which still uses the term Hyperkinetic Disorders and differs from the DSM in diagnostic criteria (Lloyd & Norris 1999).

Strangely, Britain, instead of using the nomenclature and diagnostic criteria given in the ICD, has, in the case of ADHD, adopted those of the DSM (Timimi 2005: 188-119). Timimi (2005: 118) remarks, in this context, on Britain’s ‘reputation of being America’s poodle’. Yet Britain’s whole-hearted adoption of the American concept seems indicative of a wider American-style spread: ‘Along with Coca-Cola, McDonalds and Hollywood, pseudo-medical constructs such as ADHD are becoming a part of everyday culture in other ... countries’ (Timimi 2005: 119).

The slow but persistent world-wide acceptance of ADHD as a distinct, chemically treatable condition is clearly visible in data compiled by the International Narcotics Control Board (INCB 2004 cited in Kean 2009: 175). They show a world-wide upward trend in the use of both amphetamine and methylphenidate, chiefly for treatment of ADHD, from 1999 to 2003. But the variations between countries in the defined daily doses for statistical purposes per 1000 inhabitants are drastic. In 2003, they ranged from 0.27 in South Africa to 11.44 in the US. While these differences might partly be

explained by more cautious use of psychostimulants by some countries than others, they also indicate cross differences in rates of diagnosis, or prevalence, between countries.

Such discrepancies in prevalence negate a genetic cause for ADHD, which is nevertheless purported in much of the scientific literature (for example Barkley & 78 Co-Endorsers 2002). Joseph (2000, 2009) and Furman (2008) expose these studies as fundamentally and methodologically flawed and effectively deconstruct the alleged evidence for “ADHD-genes”. Similarly, Leo and Cohen (2003, 2004) invalidate all pro-ADHD evidence gleaned from neuroimaging studies by uncovering their heavily flawed methodologies. Timimi (2005, forthcoming), Lloyd and Norris (1999) and Baldwin (2000) compile evidence to counteract the faulty but common reasoning that ADHD must be caused by biochemical mechanisms because its symptoms are alleviated by medication. Their efforts demonstrate that there is presently no valid empirical evidence to support the notion of ADHD as a clearly defined, biologically determined disorder. Rather, ADHD appears to be a cultural construct that has been imposed on a multitude of different problems whose causes lie in the environment and the social and cultural fields of the child rather than his biology (Timimi & 33 Co-Endorsers 2004; Timimi 2005; Lloyd, Stead & Cohen 2006; Timimi & Leo 2009). This is the scientific reality of ADHD.

Its reality in the press, as previously examined by Schmitz, Filippone and Edelman (2003) and Lloyd and Norris (1999, 2000), is rather different. Their content analyses of, respectively, American general magazines and British and Scottish national newspapers throughout the 1990s found, most notably, a pronounced portrayal of ADHD as biologically caused, medication as the most suggested treatment, and the use of parents as one of the main journalistic sources for ADHD-related articles.

The media are able to construct a skewed reality of ADHD because of their public and institutionalised position in society (Tuchman 1978) where, following Berger and Luckmann (1967), reality is continuously and socially being constructed through language. Language turns subjective thought and experience into objects that are then available to others. Repeated and collective objectification of thoughts, ideas and experiences through language, made durable in form of writing or traditional forms of oral transmission, builds a social stock of knowledge. This intersubjective process is, of

course, selective. Some parts of the stock of knowledge are shared by all, or at least most, members of a society. Other parts are specific to occupation, social standing or similar influences.

The reality inherent in the stock of knowledge is maintained as it is formed: through continuous human interaction, most notably through conversation. Conversation also modifies the stock of knowledge as frequently talked about items become integrated into it more firmly and those that are never mentioned eventually vanish from it. A second reality-maintaining procedure is routinisation of human activity in the form of institutionalisation: ‘Institutionalization occurs whenever there is a reciprocal typification of habitualized actions by types of actors ... The institution posits that actions of type X will be performed by actors of type X’ (Berger & Luckmann 1967: 72).

Hence, the key criteria of institutionalisation are habitual conduct, or routine, and typifications of actions as well as actors. Those who first used and developed a routine for a certain process know, of course, why and how it made the transition from “Here I go again” to “This is how these things are done”. The problem arises when the institution is passed down to the following generation who was not there at its conception. Explanations and justifications must be given as to why “This is how these things are done” in order to stabilise the institution. The process of explanation and justification is termed legitimation (Berger & Luckmann 1967: 111). As institutions are severed from their original formation and passed down to the next generation as the *status quo*, they become objectivated, more “real”. Both legitimised institutions and the common stock of knowledge increasingly lose their human-made character as they are passed down through the generations until they present themselves as facticities external to, and independent of, their human producer.

Tuchman (1978) attributes the media a particularly powerful role in this constructive process because their daily work involves placing a frame onto the world. They choose the events, facts and actors they want to include within that frame and which are then internalised as subjective reality by their audience. Nelkin (1995) takes this idea of the frame from Hall (1979) and applies it specifically to the science media: ‘Science writers ... [frame] social reality for their readers and [shape] the public consciousness about

science-related events ... Their presentation of science news lays the foundation for personal attitudes and public actions' (Nelkin 1995: 161). Similarly, Hornig Priest (1993 cited in Allan 2002: 92-93) awards the media a key role in constructing risk, or risk perceptions, as they amplify selected points of view – typically 'those of established institutional news sources' – while letting other voices go unheard. Allan (2002: 95) emphasises the necessity to recognise that the taken-for-granted common sense reality of everyday life, and of media representations of daily life, is really a social construct that is strongly influenced by the media. Indeed, society 'can be grasped theoretically, empirically, and politically only if one starts from the premise that it is always a knowledge, media and information society at the same time – or, often enough as well, a society of non-knowledge and disinformation' (Beck 2000 cited in Allan 2002: 95).

### **3. Methods**

To allow the analysis of newspaper coverage of ADHD, articles were sampled from *The Times* (including the *Sunday Times*) and *The Guardian* (including *The Observer*) as representatives of the British quality press - the rationale being that if even these high-profile papers do not exhibit responsible science coverage, the situation is likely to be even worse in the other dailies.

Articles were retrieved from the legal and news/current affairs database LexisNexis because it provides full-text versions of virtually all articles as they were published in these newspapers – except for particular free-lance articles, photographs or classifieds. This was essential as the present analysis is concerned with science coverage in the newspapers as available to the reader in paper format, rather than online.

Time periods searched for all the papers were 1 January to 31 December for the years 1990, 1995, 2000 and 2005, and 1 January to 30 June for the year 2009. Search terms used made sure to include the past nomenclature of ADHD and thus were 'Minimal Brain Damage' and its abbreviation 'MBD', 'Hyperkinetic' in lieu of 'Hyperkinetic Reaction of childhood' or 'Hyperkinetic Disorder', 'Attention-Deficit Disorder' as well

as 'Attention-Deficit Hyperactivity Disorder' and its abbreviation 'ADHD'. Initially, searches were also performed for 'HK' and 'HKD' as abbreviations for Hyperkinetic Reaction and Hyperkinetic Disorder and for 'ADD' as abbreviation for Attention-Deficit Disorder. 'HK' and 'HKD', however, did not yield any relevant hits and were therefore abandoned as search terms and 'ADD' yielded too many hits as the search engine was not case-sensitive and was bringing up every article that included the word 'add'. It was reasoned that these abbreviations would mainly occur in combination with the fully spelt-out name and were therefore negligible. No restrictions were imposed on the search engine as to which 'Industry', 'Subject' or 'Country/Region' to search in. As science stories are frequently present throughout the papers, this setting was necessary to allow detection and analysis of ADHD representations in the full range of articles.

Subsequently, it was ensured that each article would only be present once. If one article had been down-loaded from LexisNexis multiple times because it contained more than one of the search terms, all but one copy of this article was deleted. The same was done for those articles that were provided in more than one edition. None of these multiple editions differed in the critical passages and therefore the first (and longest) edition was generally kept and all further editions discarded. Next to articles, relevant letters to the editor, web-links, and Q&A articles were included in the sample because they all contribute to the discussion and information about ADHD within the examined newspapers.

The sample was then further sorted into two categories: those that only mention ADHD (or its equivalents) in passing or as a minor subplot and those that treat ADHD as their main focus. For the former group, particular trends and characteristics were recorded, but no in-depth analysis was performed.

In-depth content analysis was, however, conducted on the latter group using a combined approach. This involved a relatively rigid coding/category system designed to quantify as well as qualify specific characteristics in the press portrayal of ADHD, and a less structured text analytical approach to ensure the inclusion of noteworthy issues falling outside the category system by simple extraction and interpretation of text passages.



The codes were adopted from Schmitz, Filippone and Edelman (2003) who, in turn, retrieved them from the *Reader's Guide to Periodical Literature*. Some of these adopted codes were dropped and others were added in order to suit the research focus of the present content analysis. Final categories were Attribution Source, Alleged Cause of ADHD, Proposed Treatment, additional factors associated with medication treatment Medication+ and Other ADHD issues. These categories all included a number of codes. The Attribution Source category, for example, was split into Medical, Parent, Child, Teacher, and Other. Medication+ looked at the mention of Effectiveness of the prescription tablets, their Side-effects, Inappropriate Treatment Use, Concern/Debate about psychostimulants and so on. Aspects examined for the whole article rather than individual paragraphs concerned the mention of parent support groups, whether ADHD was presented as a scientifically valid disorder, whether research evidence was given when research studies were reported and how the various attribution sources were pitted against each other (journalistic balance). A coding sheet template is provided in Appendix-A.

As in Schmitz, Filippone and Edelman (2003), the total number of articles, and of paragraphs within those articles, was determined. Subsequently, each paragraph was examined for the presence of any of the pre-specified codes and the findings were recorded on the coding sheets. This allowed the calculation of the percentage of paragraphs asserting, say, a genetic cause for the disease, rather than a cultural or environmental one. Results are presented in two sets of graphs. Figures 2 to 5 are sorted by category to enable the tracing of the total frequency of one particular code (in both newspapers) from one year to the next. The percentage data for these graphs were obtained by dividing the combined number of times a code appeared in both papers in a particular year by the total number of paragraphs in that year. The second set of figures, A1 to A4 (Appendix-C), is sorted by year to show the total percentage of paragraphs containing a particular code as well as the respective contributions of *The Times* and *The Guardian* to that total percentage. Percentages were obtained by dividing the number of times a particular code appeared in each of the two papers in a particular year by the total number of paragraphs from both newspapers in that year.

The coding procedure provides a quantitative element to the research methodology which enables further validation and support of the qualitative findings as it offers

concrete numbers to support or refuse the research hypothesis. However, certain limitations must be acknowledged.

For instance, while Schmitz, Filippone and Edelman (2003) used two people to code the articles and a third person to check and confirm their results, coding for the present study was done by the author alone and not counter-checked and confirmed by second and third opinions. Moreover, results must be regarded as indicative rather than absolute as only those articles were coded that had ADHD as their main focus, while newspaper readers do, of course, also receive their information from those articles that only mention it in passing. Visible trends in the latter type of article were broadly summarised but not included in the coding. Also, some articles might have slipped the keyword search because ‘ADD’, ‘HK’ and ‘HKD’ proved impractical as search terms and had to be abandoned. Lastly, articles were sampled in five-year intervals and therefore do not allow any statements about coverage of ADHD in the years in-between.

On the other hand, the combined approach of coding and less structured textual analysis allows a comprehensive and close examination of the issues at hand. As Colin Robson (2002: 358) points out, one of the more general advantages of content analysis is that it allows precisely such close observation without being obtrusive. Other advantages include the permanency of the examined data which allows ‘reliability checks and replication studies’ as well as the relatively low cost even when longer time periods are being examined.

#### **4. Chapter One: Scientists and Journalists – The Trouble with Science Reporting**

##### *4.1 The Two Cultures*

I believe the intellectual life of the whole of western society is being split into two polar groups ... at one pole we have the literary intellectuals ... at the other scientists ... Between the two a gulf of mutual incomprehension – sometimes ... hostility and dislike, but most of all lack of understanding (Snow 1963: 11-12).

Grouping journalism with the humanities as Goldacre (2008: 207-208) has done, or even with the arts, as suggested by Hartz and Chappell (1997), it easily takes its place at the pole opposing the sciences. When surveyed, both journalists and scientists will frequently profess to the existence of Snow's gulf of miscomprehension (Hartz & Chappell 1997; European Commission 2007b). In some ways, this gulf is surprising, considering that the two professions traditionally share a 'devotion to discovering the truth' (Salisbury 1997 cited in Allan 2002: 85). Yet recent texts highlight an increasingly corporate mentality both in science and journalism. Coupled with the loss of journalistic scepticism arising from the constraints of modern news culture, this mentality exacerbates the already existing differences in the norms and values of the two cultures.

'When we talk about the marriage of science and journalism, our dilemma is clear. Science is slow, patient, precise, careful, conservative and complicated. Journalism is hungry for deadlines and drama, fast, short, very imprecise at times' (Kathy Sawyer 1997 cited in Hartz & Chappell 1997). Scientists are, necessarily, sticklers for detail. Objectivity – in the form gleaned from analyses that allow theoretically contrary results – is key. They see debate as a means to approach further towards the truth by working towards consensus. They consider peer review as a crucial step towards minimising errors and have developed a language of technical terms to enhance precision and clarity in their scientific discourse. Scientists operate on time scales of months or even years to complete and publish their research. So a scientific paper published a few months before will be far from old news for them (Dunwoody 1986: 12; Nelkin 1995: 165; Salisbury 1997 cited in Allan 2002: 85; Weigold 2001; Goldacre 2008: 221).

In contrast, reporters must adhere to a number of rigid deadlines every day. They must see the big picture rather than get caught up in details. Debate serves as dramatic element to their story. They are after cutting-edge exciting research findings, no matter how uncertain. While researchers will generally consider their new discovery as a tiny piece in the big puzzle of science, for journalists, this tiny piece is the whole story. Also, despite much debate about journalistic objectivity, journalism is essentially a subjective metier. In fact, some news organisations have replaced the concept of objectivity with that of "fairness". Lastly, scientific jargon, far from adding precision and clarity, makes much of the scientific material virtually incomprehensible to

journalists and to their readers (Dunwoody 1986: 12; Nelkin 1995: 119, 165; Hartz & Chappell 1997; Salisbury 1997 cited in Allan 2002: 85-86; Weigold 2001).

Indeed, few journalists ‘understand the scientific method, the dictates of peer review, the reasons for the caveats and linguistic precision scientists employ when speaking of their work’ (Hartz & Chappell 1997). Similarly, many scientists are not aware of, and definitely do not apply, the news values that are so intuitive to journalists (Dunwoody 1986: 11; European Commission 2007b).

#### *4.2 Bridging the Gap?*

To bridge the communicative gap, scientists frequently demand more specially trained science journalists, ideally with a background in science (European Commission 2007a). Problematically, the scientists appear to expect these specialist science reporters to then be equipped to have an (at least basic) understanding of any science thrown at them. This is rather naïve, if not presumptuous, considering that scientists themselves are usually highly specialised within one science. Physicists, say, might be hard put to explain certain biological phenomena and vice versa. While it is true that much science is being covered by generalist reporters (Nelkin 1995: 94), a lack of specialists might not actually be the problem. Hansen (1994), for example, interviewed 31 specialist science journalists working in the British national press. The finding that emerged most strongly from his interrogations was that even these long-term science, technology, medical, health and environmental reporters saw themselves as ‘journalists first and specialists second’.

#### *4.3 Science Journalism is Just Journalism, After All*

Science news is just one more piece of news (Gregory & Miller 2000: 105-106; European Commission 2007b). It is selected according to the same news values as any other news item, and the editor is the final ‘gatekeeper’ (Hartz & Chappell 1997). The concept of news values was first introduced by social scientists Galtung and Ruge (1965) who identified ten main criteria for news selection: relevance, timeliness,

simplification, predictability, unexpectedness, continuity, composition, élite people, élite nations and negativity (cited in Brighton & Foy 2007: 7). In a survey of European media professionals,<sup>1</sup> 65% of respondents stressed relevance to everyday life as the most important criterion, followed by novelty (equatable with Galtung and Ruge's timeliness), which was seen as crucial by 42% of respondents (European Commission 2007b). These news values are engrained in journalistic thinking and practice, and stories that do not conform to them are highly unlikely to pass the editor. Editors choose which stories will be published and which dropped. They decide on the number and type of science stories passed on to the public. They make those choices and edit those stories according to their judgements about what will "hook" the reader most (Nelkin 1995: 108; Hartz & Chappell 1997). For Goldacre (2008: 290-291), editors are a big part of the science journalistic problem. He blames them for maintaining the gulf between the two cultures, so famously coined by Snow (1963), by favouring all subjects, especially the humanities, over science as well as by favouring generalist reporters over science specialists when they do let a big science story through:

My basic hypothesis is this: the people who run the media are humanities graduates with little understanding of science, who wear their ignorance as a badge of honour ... there is an attack implicit in all media coverage of science: in their choice of stories, and in the way they cover them, the media create a parody of science (Goldacre 2008: 207-208).

But even editors are powerless against the modern challenges that have crept into their workplace and the modern journalistic system.

#### *4.4 The Journalistic Mill*

These changes were most notably and recently revealed in Nick Davies' exposé *Flat Earth News* (2008). He commissioned a unique investigation into 'a sample of the stories running through the British media' during two randomly chosen weeks (Davies 2008: 52). The results were sobering: even on the more prestigious nationals like *The Guardian*, *The Times*, the *Independent* and the *Daily Telegraph*, an average of 60% of stories relied on wire-copy and/or PR material, only 12% could be said to be generated

solely by the reporter. In 70% of wire-copy-based stories, facts were not verified before publication: ‘the most respected media outlets in the country are routinely recycling unchecked second-hand material’ but newspapers try to gloss over that fact. The researchers who analysed the story samples on Davies’ behalf reported: ‘We found many stories apparently written by one of the newspaper’s own reporters that seem to have been cut and pasted from elsewhere’ (Davies 2008: 52-53).

Reporters hardly left their computers. One young journalist’s working week consisted of 42.5 hours in the office and 3 hours outside it. Reporters do not have the time to be critical, to check, let alone go see for themselves (Davies 2008: 51-60; Hartz & Chappell 1997), because they are expected to churn out eight to ten articles a day and to have them online ideally within five minutes of the story’s breaking – journalism has turned into “churnalism” (Davies 2008: 59, 69-70). ‘Within the lifetimes of journalists not yet middle-aged, there was a period when deadlines came only twice a day ... in the newsrooms of today’s all-news channels, deadlines are virtually continuous’ (Hartz & Chappell 1997). This is the 24-hour news culture.

Time constraints become particularly acute in science reporting because of the perceived complexity of the material the journalists need to digest for their readers (Nelkin 1995: 117-118). The dire situation is neatly accentuated in the above-mentioned survey of European media professionals. More than half of respondents named ‘[unverified] or unsubstantiated information’ received from the scientific community as posing a ‘major challenge’ or at least ‘some challenge’ to their work. The survey authors summarised: ‘This is a key issue which prevents journalists from doing their job’. Surveyed journalists also complained that scientific information was not being ‘presented in a “story format”’ (European Commission 2007b). One wonders what these journalists do consider part of their job. Even writing stories seems no longer to be included – let alone verifying and substantiating claims or gathering and checking the facts – routines traditionally so integral a part of the journalist’s job. The researchers commissioned by Davies (2008: 53) summarise:

Taken together, these data portray a picture of journalism in which any meaningful independent journalistic activity by the press is the exception rather than the rule. We are not talking about investigative journalism here, but the everyday practices of news judgement, fact-checking, balance, criticising and interrogating sources, etc., that are, in theory, day-to-day journalism.

Day-to-day journalism has taken a drastic turn for the worse. The result is an inattentive, hyperactive press. Inattentive because it simply does not have the time to check on the veracity of what it prints. Hyperactive because it feels under continuous pressure to hype and sensationalise: hype is what sells, and selling is ever more important in a corporate-ruled press world (Davies 2008: 60-69).

#### *4.5 The Scientific Constructions of an Inattentive, Hyperactive Press*

In its inattentive hyperactivity, even the quality press appears to construct a scientific reality which is severely skewed from its – at least comparatively – objective original in the scientific literature. This is not done for malicious reasons. Rather it is the product of already questionable journalistic conventions further corrupted by the severe time restraints of modern news culture. Four key factors in the constructive process are: the routine use of articles from peer-reviewed journals, an arbitrary selection of “experts”, the notion of journalistic “balance” and the media’s tendency to eliminate uncertainty.

##### 4.5.1 PEER-REVIEWED JOURNALS

Greenberg (1997 cited in Allan 2002: 83) describes peer-reviewed journals as ‘the steadiest of science news sources’ and his view appears representative of the journalistic community. In the survey of European media professionals (2007b), journals turned out to be the most frequently used source for scientific information – indicated by 62% of respondents. Hartz and Chappell (1997), too, found that 62% to 70% of respondents ‘often’ or ‘sometimes’ resorted to major medical journals for stories. Apparently, journalists look to these journals as a source of uncorrupted science – as opposed to that conveyed in press releases (Dunwoody 1986: 5). Hansen’s (1994) interview with science specialists of the British national press revealed that reporters saw no need for verifying the information taken from peer-reviewed journals. Frequently, they did not even call the paper’s author, let alone other scientists, for statements. As the most-used

journals, Hansen cites: ‘*Nature*, *Science*, *New Scientist*, the *British Medical Journal*, *The Lancet*, and the *New England Journal of Medicine*’. Firstly, it must be noted that *New Scientist* is not a peer-reviewed journal. Secondly, and more generally, this apparently blind trust in the integrity of academic journals intimates a general ignorance of the dynamics of these journals and about the function that their editors ascribe to peer review. As Horton (2000), editor of *The Lancet*, puts it:

The mistake ... is to have thought that peer review was any more than a crude means of discovering the acceptability - not the validity - of a new finding. Editors and scientists alike ... portray peer review to the public as a quasi-sacred process that helps to make science our most objective truth teller. But we know that the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong.

Peer-reviewed journals are not the conveniently reliable sources journalists would have them be. Information gleaned from them must be checked lest inaccuracies in the scientific literature be spread and magnified in the popular press. Yet checking, if done at all, is accomplished by contacting authors or other scientists for quotes and information on a paper’s findings or any other item of science news. This indicates another problematic journalistic source: scientists or those who claim to be such.

#### 4.5.2 AUTHORITY FIGURES AND EXPERTS

Often, whom reporters appoint as “authority” or “expert” on a scientific matter is the result of an arbitrary process rather than an informed choice:

How do the media work around their inability to deliver scientific evidence? Often they use authority figures, the very antithesis of what science is about, as if they were priests or politicians or parent figures ... There is a danger with authority-figure coverage, in the absence of real evidence, because it leaves the field wide open for questionable authority figures to waltz in (Goldacre 2008: 223).

Always under time pressure, journalists often resort to interviewing those who are easily, and quickly, available to them. These may not always be the most expert sources, and often turn out to be the mavericks of the science world. In this manner, the media offer a platform to ‘[amateur] and unorthodox scientists ... and even conventional



scientists who have been unsuccessful in publishing their work in the peer-reviewed literature' (Gregory & Miller 2000: 124). The public, vulnerable to maverick assertions because their opinions are shaped also by 'fear, superstition and gut reaction' (Dearing 1995 cited in Gregory & Miller 2000: 126), will judge by the big publicity given to those minority views and take them for the consensus. Hansen (1994) stresses that the science reporters he interviewed all had many contacts, with whom they had – over long periods of time – built up a relationship of trust. Here, at least, they can be relatively certain of the sources' credentials and expertise. But even these long-known and trustworthy sources 'do not necessarily represent the spectrum of opinion' (Nelkin 1995: 122). Yet once an expert has been cited in the press, he is likely to be used repeatedly, and to speak on any number of topics that are at best tangential to his specialism. Frequently, such authority figures are scientific administrators rather than active researchers (Dunwoody 1986: 7; Conrad 1999). Both Travis (1986 cited in Weigold 2001) and Goldacre (2008) bemoan the dangerous arbitrariness of the system: They think '[you] can pick a result from anywhere you like, and if it suits your agenda, then that's that: ... it just depends on who you ask, nothing really means anything' (Goldacre 2008: 271).

#### 4.5.3 BALANCE

The issue of arbitrary "experts" and "authorities" is intricately linked with the journalistic notion of "balance". Balance is created by pitching one scientist's opinion against another's, but without situating them in relation to the wider scientific context (Goldacre 2008: 223). Journalists defend this practice as crucial to fairness and journalistic "objectivity", arguing that they need to give "both sides of the story" (Davies 2008: 131). Yet in reality, fairness is abandoned when they pitch a scientist speaking on behalf of the scientific consensus view against a maverick as like and like (Crisp 1986; Dearing 1995 both cited in Gregory & Miller 2000: 126; Nelkin 1995: 88; Weigold 2001). Davies (2008: 112) heavily criticises this practice:

In reality, what [media managers] generally promote is not objectivity at all. It's neutrality, which is a very different kind of beast. Neutrality requires the journalist to become invisible, to refrain deliberately (under threat of discipline) from expressing the judgements which are essential for journalism.

Davies (2008: 131-132) terms this practice ‘the safety net rule’, denoting the thus generated “balance” as a farce intended solely to shield the reporter from any kind of accusation of taking sides – whether or not taking sides and being critical is appropriate in that case.<sup>ii</sup> Curiously, four of the six examples Davies gives to illustrate this conventional yet cowardly journalistic behaviour are science stories.

#### 4.5.4 ELIMINATION OF UNCERTAINTY

The compulsion to pitch voice against voice stands in paradoxical contrast to another journalistic urge: the elimination of all uncertainty from articles (Weiss & Singer 1988; Fahnestock 1986 both cited in Stocking 1999: 24-25). Journalists, especially editors (Nelkin 1995:109), minimise ambiguities by not mentioning caveats, using only a single source, providing little context information about previous similar or contrary research, and by stressing the scientific product over the process (Stocking 1999: 24-27). All these strategies simplify the story. Study draw-backs and limitations fall under the news desk. A single voice is given all authority. Scientific discoveries become isolated events without precursors or follow-ups. The product is extolled without mention of the complicated long-term process taken to arrive at it. Most dangerously, all scientific evidence is eliminated. Instead, the reader is presented only with the researchers’ – possibly overenthusiastic – conclusions which he has to take at face value (Goldacre 2008: 220-221). These strategies serve not only to dumb down the science (Goldacre 2008: 220) but, importantly, they also save the reporter a lot of time. Even more crucially, they are the tools for exaggeration and hype. In extolling results while failing to say that the study was done on only a tiny sample, in turning a scientist’s ‘may be’ into a confident ‘is’, in neglecting to refer back to another story last week that said exactly the opposite, the media unabashedly proclaim a strongly distorted version of the truth (also see Stocking 1999: 24-27). Ironically, as Goldacre (2008: 220-221) notes:

Nobody dumbs down the finance pages. I can barely understand most of the sports section. In the literature pull-out there are five-page-long essays which I find completely impenetrable, where the more Russian novelists you can rope in, the cleverer everyone thinks you are. I do not complain about this: I envy it.

It is interesting that science, of all subject areas, would be the one to be so stripped of its essence. The elimination of context from science articles has particular implications when it comes to health stories about new treatments, tests and products. The US web site project HealthNewsReview.org assesses and marks health news coverage, alerting reporters to their marks. About two years and 500 articles into the project, continuous themes include a failure to critically evaluate and report costs, the quality of the research evidence, possible alternatives as well as the complete scale of potential harms or benefits (Schwitzer 2008). Similarly, Moynihan *et al.* (2000) analysed the coverage of benefits and risks of medications in 180 newspaper articles and 27 television programmes in the US over the course of four years. They found that if benefits were at all quantitatively reported, they were mostly given only as relative benefits – which look a lot more impressive than absolute ones. Less than half indicated potential harm to patients. Ties of study authors to manufacturers of the researched drug, revealed in half of the academic papers, were mentioned in only 39% of newspapers stories on these papers. Such practices, enhanced by the constant manic race against time, leave the door wide open for scientists and corporations keen to realise their own professional and commercial goals.

#### *4.6 The Scientific Agenda*

Culpability lies not alone with the media. Scientists may very well be pursuing their own agendas when communicating with the press – a venture that is easier than ever before if Davies' (2008) findings are anything to go by. The media have become vulnerable, especially to potentially doubtful material conveyed by wire copy and PR material. This is no different for science stories (Nelkin 1995: 120-123). It might even be particularly true for specialist areas like science. As the health editor of *The Times*, Nigel Hawkes (cited in Davies 2008: 59) noted:

Almost everything is recycled from another source ... Specialist writing is much easier, because the work is done by agencies and/or writers of press releases. Actually knowing enough to identify the stories is no longer important. The work has been deskilled.

This is exactly what the surveyed European reporters were asking for. The work is being done for them – as long as they don't care about accuracy or conflicts of interest. It seems any scientist, whether mainstream or maverick, wanting to make publicity for his research or even himself need only ask his press office to write something up and send it out to the various media (Russell 1986 cited in Weigold 2001; Gregory & Miller 2000: 124).

Woloshin and Schwartz (2002) examined press releases issued by nine high-profile academic journals over the course of six months. They found that seven of the journals routinely sent out press releases, following the same basic pattern: 'the journal editor or press office selects articles on the basis of perceived newsworthiness, and releases are written by press officers typically trained in communications'. Journal guidelines for the officers proscribed the length of the release but did not give instructions to point up study limitations or on how to present data. The examined press releases 'frequently presented data in exaggerated formats and failed to highlight study limitations or conflicts of interest'. Here, sensationalism begins before reporters even get their hands on the topic. Indeed, in some cases scientists may profit from sensationalist treatment of their research (Ransohoff & Ransohoff 2001). Publicity in the mainstream press has been shown to also increase citations of their work in the scientific literature (Phillips *et al.* 1991 cited in Ransohoff & Ransohoff 2001) and public visibility is also commonly linked with a heightened chance of receiving research funding (Dunwoody & Scott 1982 cited in Dunwoody 1999: 74).

The media's vulnerability to such less-than-altruistic ploys from the scientific lines is amplified by the enormous trust that journalists place in the scientific community. In Hartz and Chappell's (1997) survey, 51% of journalists professed 'a great deal of confidence in scientists,' more so than in practitioners of the journalistic community. In Weiss and Singer's (1988 cited in Stocking 1999: 25) analysis this trust went so far that a scientist's comment on his finding was usually accepted without question. Only rarely was a second opinion from another scientist sought. This kind of trust – which seems to make all double-checking unnecessary - also saves reporters the time needed to locate and interview other sources. Concurrently, it leaves scientists free to manipulate the journalistic community and highlights journalistic dependence on scientists (Gregory & Miller 2000: 126). Science-related corporations are left free to exploit this dependency

and trust by letting (well-paid) scientists do the work for them. Under the mantle of respectable science, they can then send their questionable press releases to media outlets, taking the process full-circle (Nelkin 1995: 135; Moynihan & Cassels 2005: 79-80).

#### *4.7 Why It Matters*

Sadly, one cannot just leave scientists and journalists to muddle it out among themselves, because, ultimately, the affected party is the public. Once people leave school, the mass media become their main source of science information (Nelkin 1995: 67; House of Lords 2000) and in its most practical form, this information should enable them to confidently navigate the world they live in and to make informed decisions (Eagly & Chaiken 1993 cited in Griffin 1999: 226). Lay members of the public consciously turn to the media where risks are concerned (Allan 2002: 91), especially health risks (Freimuth *et al.* 1987; Singer & Endreny 1987 both cited in Griffin 1999: 227; Nelkin 1995: 68).<sup>iii</sup> This places on the media the responsibility of ‘[sorting] empirical fact from junk science’ when presenting their audience with different health-linked options (Freimuth *et al.* 1987; Singer & Endreny 1987 both cited in Griffin 1999: 227).

Before this background, the present analysis is concerned with one particular media item – ADHD. More specifically, it is concerned with the relationship of ADHD’s “objective” scientific reality, as gleaned from the scientific literature, with its media reality in the British quality press. It aims to determine whether, in this particular case, society stands knowledgeable and informed or, to talk with Beck (2000 cited in Allan 2002: 95), non-knowledgeable and disinformed. For this purpose, the scientific reality of ADHD must first be established.

**Table-1.** A Quick History of ADHD

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<b>1902</b>	Frederick Still is the first to record observations of children as unusually restless, fidgety and inattentive. He reasons that these children must be lacking in volitional inhibition and recommends good discipline as the remedy (Timimi 2005: 116).
<b>Early 20<sup>th</sup> Century</b>	The psychiatric community embraces the idea of Minimal Brain Damage (MBD), which assumes, as the underlying symptomatic cause, the presence of cerebral injuries too small to be identifiable with the methods of the day and which links over-activity with inattentiveness (Timimi 2005: 117).
<b>1937</b>	Charles Bradley stumbles upon the discovery that low doses of psychostimulant medication alleviate symptoms of over-activity and inattentiveness (Brown 1998; Timimi 2005: 117).
<b>1940s</b>	The hypothesis that organic brain lesions might be the underlying reason for hyperactivity in children is promulgated, particularly by Alfred A. Strauss. He goes so far as to state that hyperactivity could be considered a definite symptom of brain damage if family history does not indicate other deficits as possible causes of the hyperactivity (Strauss & Lethinen 1947 cited in Timimi 2005: 117).
<b>1950s</b>	<p>The pharmacological industry identifies a gap in the market and launches psychiatric medications targeted specifically at children. Alongside these medications, they fabricate the phenomenon of “chemical imbalance”: psychological problems, ever wider defined, are now claimed to be caused by an underlying disequilibrium of brain chemicals, or neurotransmitters, which can only be rectified by chemical balancers, <i>alias</i> pills (Timimi 2005: 110; Baughman 2006; Turner 2007).</p> <p>Empirical evidence for such chemical imbalances does, to this day, not exist (Baldwin 2000; Timimi 2005; Baughman 2006). In fact, it cannot exist because there is no fixed and verifiable value for the <i>status quo</i> of those chemicals. It varies from person to person and from one life situation to another. Yet, the notion, once proposed, firmly took root.</p>
<b>1952</b>	The American Psychiatric Association publishes the first edition of the Diagnostic Statistical Manual (DSM) (American Psychiatric Association 2000: xxv). No mention is made of any ADHD-like condition (Lloyd & Norris 2000).
<b>1960s</b>	The concept of MBD is abandoned in favour of a behavioural definition of the condition, but the belief in an underlying specific and verifiable physical cause for hyperactivity and inattentiveness remains (Timimi 2005: 117).
<b>1968</b>	The second edition of the DSM (DSM-II) is published, containing a condition termed ‘Hyperkinetic reaction of childhood’ (HKD) (American Psychiatric Association 1966; Sandberg 1996 both cited in Timimi 2005: 117).
<b>1980</b>	DSM-III succeeds DSM-II and the ‘Hyperkinetic reaction’ is substituted by Attention-Deficit Disorder (ADD). ADD can be ‘diagnosed with or without hyperactivity and [is] defined using three dimensions (three separate lists of symptoms): one for attention deficits, one for impulsivity and one for hyperactivity’ (Timimi 2005: 117-118).
<b>1987</b>	The three diagnostic lists are compiled into a single dimension in the revised version of DSM-III (DSM-III-R). ADD becomes Attention-Deficit Hyperactivity Disorder (ADHD) with inattentiveness, excessive activeness and impulsivity now un-differentially considered as parts of the same disorder (Timimi 2005: 118).
<b>1994</b>	This set-up is revised yet again with the publication of the DSM-IV which lists two diagnostic dimensions for ADHD: attention-deficit and hyperactivity-impulsivity (Timimi 2005: 118).

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## 5. Chapter Two: The Scientific Reality of ADHD

### 5.1. History, the DSM and the Spread of ADHD

Ethereal as it might be, the concept of ADHD has, of course, not sprung from thin air. It is worth taking a brief excursion into its history because there, already, the fickleness of its character is visible. Table-1 presents a timeline tracing ADHD from its initial conception to its integration into what Turner (2007) has described as the *Malleus Maleficarum* of American psychiatry, the Diagnostic Statistical Manual (DSM), and beyond to its constant re-definitions in the DSM. Notably, each DSM revision of the ADHD concept qualified a larger group of children for diagnosis:

For example, changing from DSM-III to DSM-III-R more than doubled the number of children from the same population diagnosed with the disorder (Lindgren *et al.* 1994 cited in Timimi 2005: 118). Changing from DSM-III-R to DSM-IV increased the prevalence by a further two thirds, with the criteria now having the potential of diagnosing the vast majority of children with academic or behavioural problems in a school setting (Baumgaertel *et al.* 1995 cited in Timimi 2005: 118).

The constant redefinition does not, as one might assume, indicate a continually improving understanding of the “disorder”.<sup>iv</sup> Rather, it exemplifies the confusion, arbitrariness and subjectivity surrounding what is now commonly termed ADHD. In fact, the subjectivity of the DSM-IV diagnostic criteria has received much vehement criticism. Diagnoses have generally proven so useful in medicine because they point to distinctive aetiological processes. Yet the majority of psychiatric diagnoses, including that of ADHD, lack precisely these processes because none have been identified empirically (Timimi 2005: 125). Instead, diagnosis of ADHD is achieved via ‘identification of a cluster of behaviours, subjectively assessed’ (Lloyd & Norris 1999). It ‘is based on an assessment of what is felt to be developmentally inappropriate *intensity, frequency and duration* of the behaviours, rather than mere *presence*’ (Timimi 2005: 122; emphasis added). In ADHD rating questionnaires, frequency and intensity are expressed in vague words such as ‘often’ and ‘excessive’, which make unambiguous definitions difficult and the diagnostic activity very subjective.

The DSM criteria (Table-2) leave much room for interpretation on the assessor's part (Wolraich *et al.* 1990 cited in Timimi 2005: 132),<sup>v</sup> as is visible in ADHD's suspiciously high rates of co-morbidity (Timimi 2005: 122; Furman 2008).<sup>vi</sup> Interpretation of criteria underlies strong cultural influences, beliefs and perceptions (Timimi 2005: 121-122),<sup>vii</sup> as does their initial generation within the DSM, which 'reflects the views of those who construct it, as well as reflecting changes in social attitudes over the years' (Lloyd & Norris 1999).<sup>viii</sup> Intriguingly, of the 21 creators of ADHD diagnostic criteria in the DSM-IV, 13 had 'financial ties to manufacturers of ADHD medications' (Cosgrove *et al.* 2006; Okie 2006 both cited in Furman 2008). Yet, instead of alarm bells ringing to announce the less than integer nature of both the DSM and its makers, "the system" works to integrate the manual into its machinery, fully validating it in the process:

Managed healthcare has meant an economic system has come to be built around DSM-IV diagnoses. In order to obtain a legitimate ticket to a service, you need a DSM-IV diagnosis. Thus DSM-IV has become more than a mental health diagnostic manual; it is a legal, financial and ideological document, driving thinking about all sorts of emotions and behaviours, including those of our children to ever more pathologization (Timimi 2005: 131).

The DSM is the diagnostic manual for America, while European countries have traditionally used the International Classification for Diseases (ICD) issued by the World Health Organisation, WHO (Timimi 2005: 118). A comparison of the two manuals underlines, once more, the subjectivity of the diagnostic criteria for ADHD. As Lloyd and Norris (1999) point out: 'There are still key differences between the identification rules for ADHD in the DSM-IV and those for HKD in the International Classification for Diseases'. Britain's whole-hearted adoption of the DSM version of ADHD and the associated but uneven spread of the American ADHD concept throughout the world, have been outlined above. Considering that many ADHD proponents claim the condition to be of genetic origin, the stark discrepancies in ADHD prevalence between countries should give cause for hesitation. Surely, the underlying genetics are the same in all of these countries. Surely, therefore, prevalence rates should be similar between countries and also over time. This warrants a closer look at the supposed empirical evidence for ADHD genes and for the other biological aetiological mechanisms claimed to underlie the condition.





**TABLE-2.** Diagnostic Criteria for Attention-Deficit Hyperactivity Disorder

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A. Either (1) or (2):

- (1) six (or more) of the following symptoms of **inattention** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

*Inattention*

- a. often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- b. often has difficulty sustaining attention in tasks or play activities
- c. often does not seem to listen when spoken to directly
- d. often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behaviour or failure to understand instructions)
- e. often has difficulties organizing tasks and activities
- f. often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)
- g. often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- h. is often easily distracted by extraneous stimuli
- i. is often forgetful in daily activities

- (2) six (or more) of the following symptoms of **hyperactivity-impulsivity** have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

*Hyperactivity*

- a. often fidgets with hands or feet or squirms in seat
- b. often leaves seat in classroom or in other situations in which remaining seated is expected
- c. often runs about or climbs excessively in situations in which it is inappropriate (in adolescents or adults, may be limited to subjective feelings of restlessness)
- d. often has difficulty playing or engaging in leisure activities quietly
- e. is often “on the go” or often acts “as if driven by a motor”
- f. often talks excessively

*Impulsivity*

- a. often blurts out answers before questions have been completed
- b. often has difficulty awaiting turn
- c. often interrupts or intrudes on others (e.g., butts into conversations or games)

- B. Some hyperactive-impulsive or inattentive symptoms that caused impairment were present before age 7 years.
  - C. Some impairment from the symptoms is present in two or more settings (e.g., at school [or work] and at home).
  - D. There must be clear evidence of clinically significant impairment in social, academic, or occupational functioning.
  - E. The symptoms do not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and are not better accounted for by another mental disorder (e.g., Mood Disorder, Anxiety Disorder, Dissociative Disorder, or a Personality Disorder).
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Taken from: American Psychiatric Association (2000: 92-93).

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## 5.2 *The Evidence Against a Biological Aetiology of ADHD*

### 5.2.1 GENETIC STUDIES

Proponents of ADHD as a genetically determined disorder have sought to support their assertion with quantitative findings from familial, twin and adoption studies on one hand and with molecular studies on the other, repeatedly asserting that these analyses are yielding ever stronger positive evidence.<sup>ix</sup> For instance, the Royal College of Psychiatrists (2006b) website states in its section on genetic evidence for ADHD:

Family studies have consistently demonstrated a significantly increased risk for ADHD in both siblings and parents of affected probands ... This is supported by evidence from an increasing number of twin studies and several adoption studies that have demonstrated that genetic factors make a substantial contribution to the variance in hyperactivity.

The paragraph concludes: ‘Together these data provide strong evidence to suggest that deficient parenting and family adversity do not cause ADHD, but arise secondary to the condition’. Yet strangely, as is even admitted in the DSM-IV-TR, no test based on the identification of genetic markers exists (American Psychiatric Association 2000: 88-89), and closer scrutiny of these genetic studies belies such claims.

Joseph (2000), for example, convincingly deconstructs the validity of the alleged evidence gained from familial, twin and adoption studies. He elucidates that family studies cannot, on their own, prove that a disorder is genetic. Until all potential environmental causes for the disorder in question have been ruled out, family studies can only hint at the possibility of a genetic origin.

The validity of ADHD twin studies is also questionable (Joseph 2000). Twin studies are based on the Equal Environments Assumption (EEA), which posits that the environment of identical twins is the same as that of fraternal twins. Following this assumption, any differences observed between the different twin pairs can then be attributed to their genetic make-up. Yet there is sufficient evidence that overthrows this assumption by showing that the environments of fraternal and identical twins are, indeed, quite different (Wilson 1934; Smith 1965; Kringlen 1967 all cited in Joseph

2000). Accordingly, the validity of ADHD twin studies – all of which are based on the EEA – is declared null.

Thirdly, ADHD adoption studies are severely flawed by the facts that diagnoses were not made blindly and that researchers had no information at all on the biological families of the adopted ADHD children they studied. Rather they compared the prevalence of the condition in families into which the ADHD child had been adopted with that in a separate set of families in which the ADHD child lived with its biological parents:

Examining the legal parents of adopted hyperactive children could help decide the issue, for if a similar excess of “personality disorder” were found in the adopting parents, an environmental hypothesis for the transmission of behavior disorder could be sustained. However, if it were found that parents (and their extended families) who have adopted hyperactive children showed no such high prevalence of psychiatric illness, the argument for the genetic transmission of hyperactivity would be strengthened (Morrison & Stewart 1973: 888 cited in Joseph 2000).

This rationale, however, fails to realise that adoptive parents undergo screening for mental health when they enter the adoption procedure. They form, therefore, a sub-population which necessarily has a lower prevalence of psychiatric illnesses than the general population. This situation presents a further confounding factor undermining the validity of ADHD adoption studies, as does the fact that many adopted children have lived through traumatic or emotionally disturbing experiences. Taken together, these grave methodological flaws invalidate the evidence from the third and last method for the quantitative study of ADHD genetics, leading Joseph (2000) to conclude that ‘a role for genetic factors is not supported’.

Evidence from molecular genetic research is similarly corrupted. Furman (2008) states that the outcomes of genome-wide scans have been distinctly negative and that results from candidate gene studies, too, are far from definitive.

The notion of a genetic cause of ADHD is closely interlinked with the idea of a chemical imbalance of neurotransmitters so ardently promoted by the pharmacological industry (Timimi 2005: 110; Furman 2008; Joseph 2009: 74). Consequently, candidate

gene studies have centred primarily on the neurotransmitter genes that are modulated by ADHD medication, such as receptor and transporter genes for both dopamine and serotonin. Problematically, these studies are ‘largely inaccessible to those not schooled in epidemiologic analysis of molecular genetic studies, creating reliance on reviews that are excessively enthusiastic and frankly misleading’ (Furman 2008). One such review claims that gene study results have ‘produced substantial evidence implicating several genes in the etiology [of ADHD]’ (Faraone & Khan 2006 cited in Furman 2008) and several other studies, too, insinuate wrongly that a number of ADHD genes have already been discovered (for example, see Asherson *et al.* 2005; Barkley 2003; Faraone 2004, 2005; Goldstein & Schwabach 2005; Kuntsi *et al.* 2006; Pauls 2005 all cited in Joseph 2009: 75).

Furman (2008) begins her counter-argument by quoting from a methodological white paper on gene-disease associations. The paper cautions that the majority of those genetic variants that have so far been found to play a role in determining the susceptibility to common illnesses are associated only with a low absolute and even low relative risk. It asserts that it is therefore essential to eliminate non-causal reasons for association, which, as Furman (2008) points out, has not been done in any of the relevant ADHD research. Timimi, too, warns that the ADHD literature too often fails to distinguish between association and cause (Cannon, McKenzie & Sims 2004).

Candidate gene studies conducted so far are proving difficult to replicate, yielding positive as well as negative results for each candidate gene – not least due to the evident cutback of small sample sizes which have only low statistical power (Waldman & Gizer 2006 cited in Furman 2008). Candidate gene studies have also tended to neglect the influence of individual traits, including gender, age, age of onset and gene-environment interactions, all of which have been shown to exert an effect on diagnosis rates of ADHD (Furman 2008). Attempts to strengthen the results from individual studies via meta-analyses have also yielded only ambivalent results. Moreover, the soundness of this methodology is questionable, considering that the studies it pools in the analysis process may differ widely in design as well as subject ascertainment and exclusion (Waldman & Gizer 2006 cited in Furman 2008; Joseph 2009: 75). Furman (2008) concedes that sample pooling is a more appropriate method than meta-analysis but shows that the odds ratios from those studies are hardly significant or, with respect to

case-control studies, are easily confounded by the influence of population stratification (Faraone & Khan 2006 cited in Furman 2008).

Another approach to the genetics of ADHD is the search for a so-called endophenotype, or biological marker, which has been defined as ‘any neurobiological measure related to the underlying molecular genetics of the illness, including biochemical, endocrinological, neurophysiological, neuroanatomical or neuropsychological markers’ (Egan *et al.* 2003: 277 cited in Joseph 2009: 75). Again, this search has been without success. No objective mechanism or way of quantifying ADHD has been identified because, firstly, any potential marker gene is unlikely to act in isolation from the influences of other genes and, secondly, it is near impossible ‘to link candidate genes to specific measurable qualities of ADHD’ (Furman 2008).

Swanson *et al.* (2007 cited in Furman 2008) declare the ADHD genetics studies to date sub-standard, criticising their lack of attention to the influence of both gene-gene and gene-environment interactions and their use of too-small sample sizes to obtain suitable and valid sets of data. Timimi (2005) argues that if the genetic analyses have been finding anything at all, it is that the behavioural patterns now classified as ADHD are likely inherited in just the way that other personality traits are inherited. He notes, ‘whether these behaviours come to be perceived as a problem is mediated by social factors’ (Timimi 2005: 126). The genetic issue is caustically wrapped up by Rose (1998 cited in Timimi 2005: 129):

This sudden emergence of a genetic disorder is puzzling. The result of mass mutations? Scarcely likely ... All part of the medicalization of daily life. Naughty and disruptive children have doubtless always existed. In the past their unruly behaviour might have been ascribed to poor parenting, poverty, impoverished schools or unsympathetic teachers ... Now we blame the victim instead; there is original sin in them there genes.

#### 5.2.2 “RITALIN® WORKS”

Another popular argument brought in favour of the chemical imbalance assertion, which leaves the question of genes to one side, is the “Ritalin® works” argument, which has

its roots in Bradley's (1937) chance discovery that low doses of psychostimulants can counteract hyperactivity and inattention (Table-1). The reasoning being that since the drug exerts an effect, there must be an underlying physical cause for the disease which it is countering (Timimi 2005: 133).

Proponents have strategically stressed the drug's effectiveness in children with an ADHD diagnosis, as opposed to those without such a diagnosis. But results from a number of studies efficiently undermine this logic. Psychostimulants have been shown to exert 'the same cognitive and behavioural effects on otherwise normal children (Rapoport *et al.* 1978, 1980; Donnelly & Rapoport 1985; Garber *et al.* 1996), aggressive children regardless of diagnosis (Campbell *et al.* 1982; Spencer *et al.* 1996) and children with co-morbid conduct disorder (Taylor *et al.* 1987; Spencer *et al.* 1996)' (Timimi 2005: 132-133). They even have the same effect on adults, regardless of ADHD status (Reason 1997 cited in Lloyd & Norris 1999).

That the drug does exert an effect, such as reducing motor activity and defiance in numerous children who present as inattentive and hyperactive, is without question (Schachar & Tannock 1997; Greenhill 1998 both cited in Timimi 2005). The nature and longevity of that effect, however, is often presented in a skewed manner by proponents of medication treatment. Emphasis is generally placed on short-term effectiveness of the drug (Timimi 2005: 133) but those studies have been strongly criticised for their flawed methodologies, including small sample sizes, insufficient description of randomisation or blinding, neglect to explain withdrawals or drop-outs of study subjects and publication bias, just to name a few (Joughin & Zwi 1999; Zwi *et al.* 2000; Schachter *et al.* 2001 all cited in Timimi 2005: 133). Severe conflicts of interest arise from the fact that many researchers receive their funding from precisely those pharmaceutical manufacturers whose drugs they are testing (Furman 2008). Their results, and especially their conclusions, must therefore always be considered with the utmost caution.

Even if the positive results of those short-term studies are found to be positive, they remain exactly that: positive *short-term* results. The small number of investigations that have been done on the drug's medium- and long-term effectiveness, consistently report neither behavioural nor academic improvement over the long run (Weis *et al.* 1975; Rie *et al.* 1976; Charles & Schain 1981; Gadow 1983; Hetchman *et al.* 1984; Klein &

Mannuzza 1991; Huyuh *et al.* 1999 all cited in Timimi 2005: 133; Baldwin 2000). In contrast, animal studies suggest that continuing medication with the drug may have negative effects on brain development and function (Sprague & Sleater 1977; Solanto & Wender 1989 ; Moll *et al.* 2001; Sproson *et al.* 2001; Breggin 2002 all cited in Cannon, McKenzie & Sims 2004; Breggin 1999, 2001a; Robinson & Kolb 2001; all cited in Timimi 2005: 135-136).

A study that has received much attention is the Multimodal Treatment Study of ADHD (MTA), a big multicentre trial in the USA. It tested the effectiveness of methylphenidate by monitoring the improvements of children with ADHD-diagnoses in four different treatment groups who received: solely medication, intensive behavioural therapy, a combination of behavioural treatment and medication, and standard community care. While still able to twist the fourteen months findings to portray medication and combined treatments as the most effective (MTA 1999a, 1999c both cited in Timimi 2005: 133-134), the recently published three-year outcomes of the same study forced members of the study's steering committee to concede not only worse outcome in the medication groups – as opposed to the behavioural treatment group – but also significantly slowed physical development in medicated children, who were on average over 3kg lighter and over 4 cm shorter than non-medicated children (Jensen *et al.* 2007; Mytas 2009 both cited in Timimi: forthcoming).

One can only hope that these findings will impact on current prescription practices, in which Ritalin® is commonly prescribed over periods of seven or more years, frequently to children as young as two although the manufacturer's licence clearly indicates no prescriptions to children younger than six (Baldwin & Cooper 2000; Zito *et al.* 2000 both cited in Timimi 2005: 133).

Alongside negative long-term effects, there are also the immediate and considerable side-effects of stimulants. In the rare cases that children's opinions are asked, between 12.7% and 18.8% say that stimulants make them feel worse, not improved (Klimkeit *et al.* 2006 cited in Furman 2008). Interestingly, these negative effects are only rarely studied prospectively (Barbaresi *et al.* 2006 cited in Furman 2008) yet the lists of side and adverse effects run long. For methylphenidate hydrochloride alone the British



National Formulary (BNF)<sup>x</sup> (British Medical Association & Royal Pharmaceutical Society of Great Britain 2008: 216) catalogues:

Abdominal pain, nausea, vomiting, dyspepsia<sup>xi</sup>, dry mouth, anorexia, reduced weight gain; tachycardia<sup>xii</sup> palpitation, arrhythmias, changes in blood pressure; cough, nasopharyngitis<sup>xiii</sup>; tics (*very rarely* Tourette Syndrome), insomnia, nervousness, asthenia<sup>xiv</sup>, depression, irritability, aggression, headache, drowsiness, dizziness, movement disorders; fever; arthralgia<sup>xv</sup>; rash, pruritus<sup>xvi</sup>, alopecia; *less commonly* diarrhoea, dyspnoea<sup>xvii</sup>, abnormal dreams, confusion, suicidal ideation, urinary frequency, haematuria<sup>xviii</sup>, muscle cramps, epistaxis<sup>xix</sup>; *rarely* angina<sup>xx</sup>, growth restriction, visual disturbances; *very rarely* hepatic dysfunction, myocardial infarction, cerebral arteritis, psychosis, neuroleptic malignant syndrome, tolerance and dependence,<sup>xxi</sup> blood disorders including leucopenia and thrombocytopenia, angle-closure glaucoma<sup>xxii</sup>, exfoliative dermatitis, erythema multiforme<sup>xxiii</sup>.

Baldwin (2000) makes the intriguing point that, '[p]aradoxically, the supposedly desirable behavioural effects (including passivity, attention, reduced spontaneity) are *the primary toxic effects of psychostimulants*' (original emphasis). Despite these strong negative associations, medication is, increasingly, the treatment of choice although viable alternative, non-toxic, solutions exist:

There are at least 230 non-drug interventions for children and teenagers, including (but not limited to): counselling, behaviour therapy, family therapy, contingency management, applied behaviour analysis and behaviour modification. Each of these interventions has a scientific pedigree in the field of clinical child therapy. Applied behaviour analysis and behaviour modification in particular have both been highly successful with child and teenage clients diagnosed with hyperactivity or hyperarousal problems (Baldwin 1999a cited in Baldwin 2000) ... Stein (1999a, 1999b cited in Baldwin 2000) in the USA has recently reported excellent treatment outcomes from a psychosocial treatment alternative to [methylphenidate] (Baldwin 2000).

Even *if* ADHD was a valid disease with a known biological aetiology whose symptoms could be effectively treated with psychostimulants, one would think that the existence of effective non-toxic treatments was reason enough not to administer such potent medication to children.

A last set of studies from the biodeterministic camp uses neuroimaging techniques to determine a neuroanatomical or neurofunctional cause for ADHD. The website of the Royal College of Psychiatrists (2006a) also offers a section on this branch of ADHD research:

[S]everal groups, most notably that led by Judy Rapoport and Xavier Castellanos at the child psychiatry branch of the NIMH, have conducted a series of studies that have demonstrated a range of abnormalities in brain development associated with ADHD. In summary, the most robust findings are;

1. Smaller total brain size (4%) especially the prefrontal cortex (8%);
2. Smaller basal ganglia (~6%);
3. Smaller cerebellum (12%). Especially the posterior inferior vermis (15%).

These volumetric differences appear early and are not secondary to stimulant medication.

This website was accessed on 27 June 2009, almost six years after the publication of Leo and Cohen's (2003) exhaustive and highly critical review which effectively invalidated all 35 neuroimaging studies published until then by pointing up severe blunders in their study design. Thirty-three of these failed to ensure that their ADHD subjects had never received any kind of brain-altering medication, such as psychostimulants and other psychotropic medications. Consequently, any identified differences in brain anatomy or function between ADHD children and controls were seriously confounded (Leo & Cohen 2003). Four of the studies had no control group at all, and often scans revealed other neurological problems such as cysts or enlarged ventricles that were not further discussed in the study. The thirty-fourth study initially recognised the importance of selecting un-medicated ADHD children but then medicated them during the course of the study, which again confounded results (Leo & Cohen 2003).

The thirty-fifth study, by Castellanos *et al.* (2002 cited in Leo & Cohen 2003), is one of those referred to by the Institute of Psychiatry. It claimed to have found smaller brain

sizes in ADHD children than in controls. Yet, the ADHD children were, on average, two years younger, shorter and lighter than controls (Leo & Cohen 2003). Thus while Castellanos' (2002 cited in Leo & Cohen 2003) study was the first to ensure that one group of ADHD subjects had never before received medication capable of altering their brain structure and could therefore rightfully claim that the observed 'volumetric differences ... are not secondary to stimulant medication', it neglected to take into consideration that these volumetric differences could easily be explained solely on the basis of the weight difference, which has been shown to be correlated with brain size (Leo & Cohen 2003). A follow-up review (Leo & Cohen 2004) criticised three novel neuroimaging studies for essentially the same mistakes in design and execution. It can thus be concluded that none of these neuroimaging studies have yielded any valid evidence that could support the assertion of a neuroanatomical or neurofunctional aetiology for ADHD.

Usually, such inability to identify a cause leads to the categorising of a disorder as idiopathic, 'meaning without apparent cause' (Timimi 2005: 127). Not so with ADHD which has become a snake biting its own tail (Lloyd & Norris 1999; Timimi 2005: 131). 'Children have it because they show the behaviours which define it. They show the behaviours because they have ADHD' (Lloyd & Norris 1999), an underlying aetiology has thus become almost redundant.

### *5.3 ADHD as Cultural Construct*

There is presently no viable data to support the idea of underlying biological mechanisms for ADHD. On the current evidence base, ADHD must be regarded as a cultural construct that has been imposed on a host of different problems which all present as hyperactivity and/or inattentiveness in the child (see Timimi 2005; Timimi 2009; Timimi & Leo 2009). It is suggested that the causes for these problems are environmental, social and cultural, rather than merely biological. Ford *et al.* (1999, 2000 cited in Timimi 2005: 142), for example, observed that psychosocial factors such as experience of trauma and abuse may trigger ADHD-like behaviours. In other cases, the child has recognised that he can manipulate others with his problematic behaviour

(Speltz 1990 cited in Timimi 2005: 143). A post-modern approach posits a mother-blaming culture at the heart of the issue, arguing that the diagnosis of ADHD as a recognised medical condition frees mothers from the blame of having failed in bringing up their children (Law 1997 cited in Timimi 2005: 143).

Other approaches propose the role of fast-paced, non-verbal, visually stimulating electronic media such as TV and computer games in making it difficult for children to find satisfaction in slower, more linguistic less visually stimulating activities such as sustained conversation or reading (Healy 1998; De Grandpre 1999 both cited in Timimi 2005: 143). The increased use of said media also has the effect of reducing the amount of unstructured outdoors play, which has been shown in animal studies to be beneficial to ‘brain maturation and reduces levels of hyperactivity and impulsiveness in later life’ (Panksepp *et al.* 2003; Gordon *et al.* 2003 both cited in Timimi 2005: 144). Lastly, there is some evidence that an unhealthy diet – high in sugar and salts, low in protein, essential vitamins and unprocessed ingredients – may cause ADHD-like behaviour in children (Stein & Samaritano 1984; Greenblatt 1999; Jacobson & Schardt 1999 all cited in Timimi 2005).<sup>xxiv</sup>

The problem arises when medical professionals stop looking for such possible socio-environmental causes for children’s behaviours and choose instead to merely tick off a list of diagnostic criteria and prescribe the recommended medication. Timimi (2005: 119-120) summarises:

So what is the evidence for the existence of this disorder? Is there a medical test that will diagnose it? No. Are there any specific cognitive, metabolic or neurological markers for ADHD? No. ADHD is a cultural construct diagnosed on the basis of clinical opinion and faithful belief of the practitioner and often presented as if it were a biological fact.

Bearing the thus established scientific reality, or rather lack thereof, of ADHD in mind, the following chapter examines how the *The Times* and *The Guardian* portray ADHD, and whether they acknowledge the vehement discussion and lack of valid empirical evidence surrounding and underlying the concept of ADHD.

## 6. Chapter Three: Content Analysis – Results and Discussion

The search for ADHD and related terms in *The Times* and *The Guardian* as described under Methods yielded a total of 356 articles after multiple copies and/or editions of one and the same newspaper articles had been eliminated. Please see Table-3 for stratification of the results by year and publication. Both Table-3 and Figure-1 show a distinct increase, over the years analysed, in the total number of newspaper articles on ADHD, indicative of the gradual adoption, acceptance and integration of the originally American concept into the British consciousness. This trend is visible in the number of articles fully devoted to the subject of ADHD as well as in the number of articles including ADHD-related issues as a minor part of the story or simply using the term casually. Also note that this latter group accounts for the main bulk of articles found. In fact, five times as many articles only touch on ADHD as actually focus on it. The data from 2009 were not included in Figure-1 because they only account for six months, rather than the twelve-months periods sampled for the other years and are therefore not directly comparable.

**TABLE-3.** Numbers of Newspaper Articles Found

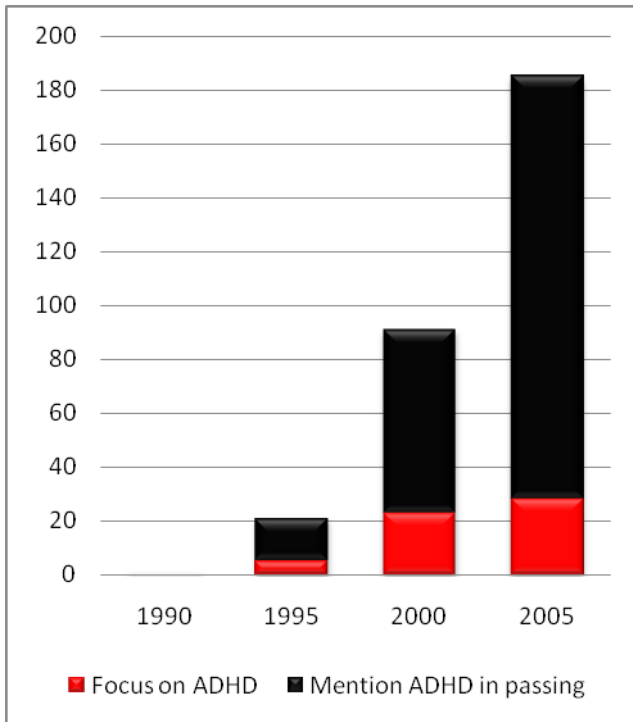
	1990	1995	2000	2005	2009	Total	Total Number per Paper
<i>The Times</i>	0 1	2 6	13 29	21 103	2 30	38 169	207
<i>The Guardian</i>	0 0	3 10	10 39	7 54	1 25	21 128	149
<b>Total on ADHD</b>	<b>0</b>	<b>5</b>	<b>23</b>	<b>28</b>	<b>3</b>	<b>59</b>	
Total only mentioning ADHD	1	16	68	157	55	297	
Total Number per Year	1	21	91	185	(58) <sup>xv</sup>		356

- Number of articles actually on ADHD
- Number of articles that only mention ADHD in passing

### 6.1 Articles that only Touch on ADHD

Although those articles that only touch on ADHD, be it the subject or the word, are not relevant enough to be included in the main part of the content analysis, they are

nevertheless revealing in that they show how embedded the phenomenon of ADHD has become in the concerns, the language and the thought-processes of the British quality press. Still described as ‘the newly recognised condition Attention Deficit Disorder (ADD)’ in 1995, it has since been ever-present in the two newspapers, extending its reach far beyond the Science pages to Sports, Fashion, Reviews, Quizzes and even to the Business section. In fact, the majority of ADHD articles appeared not as science stories but on generalist or other specialist pages, congruent with Goldacre’s (2008)



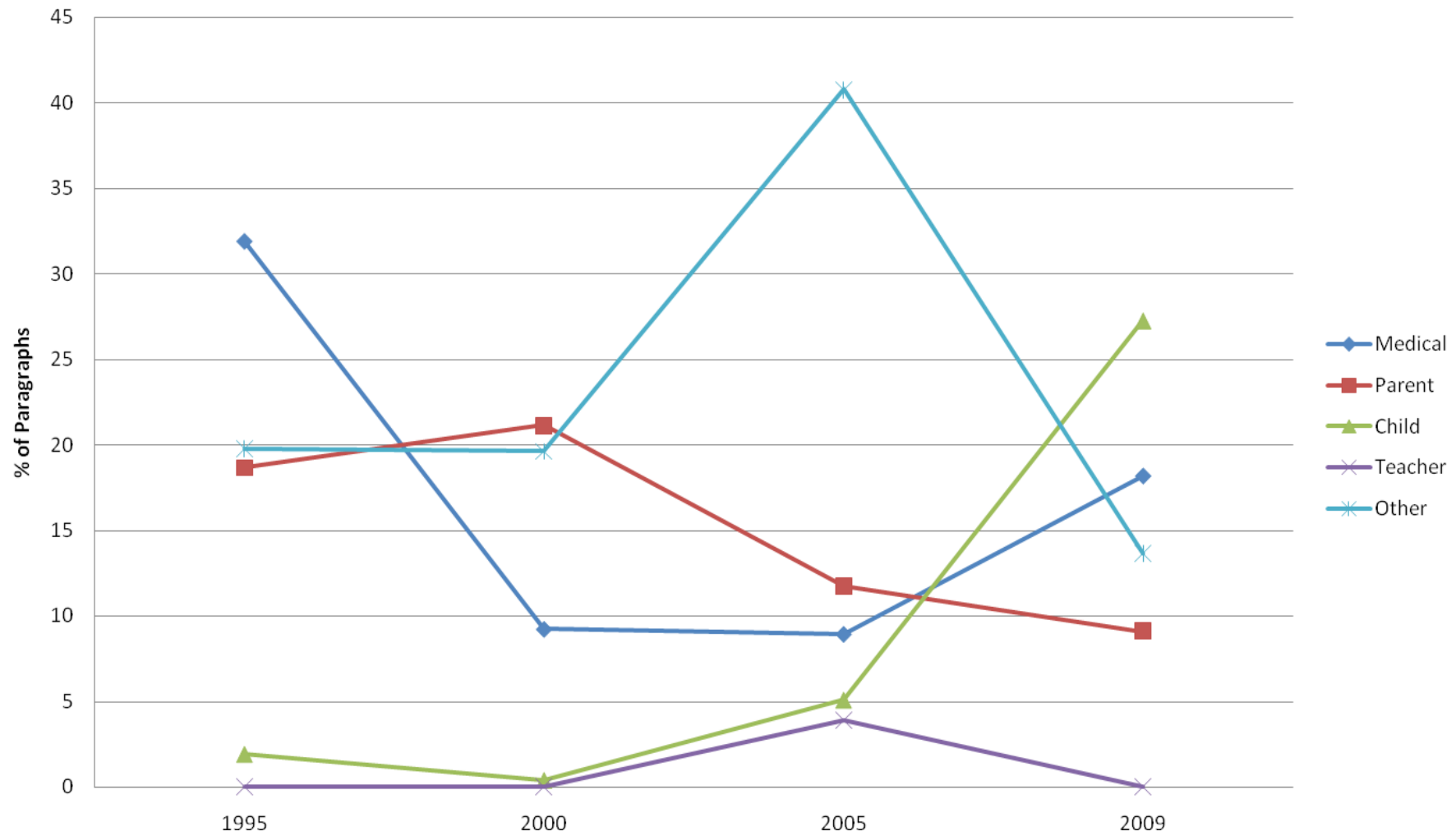
**FIGURE-1.** Total number of ADHD-related articles found in *The Times* and *The Guardian* for each year.

impression that generalist reporters are frequently chosen over science specialist journalists to cover essentially scientific topics.

From its omnipresence throughout the newspaper, ADHD emerges as a sort of fashion-statement. ADHD, its hyperactivity and inattentiveness, are continuously used to describe the population and culture of the modern English-speaking West. Appendix-B provides a detailed description of this phenomenon.

## 6.2 In-Depth Analysis

The results of the article coding are presented in Figures 2 to 5 which are sorted by category to enable the tracing of the total frequency of one particular code (in both newspapers) from one year to the next. Another set of figures, A1 to A4, can be found in Appendix-C. They are sorted by year to show the total percentage of paragraphs containing a particular code as well as the respective contributions of *The Times* and *The Guardian* to that total percentage.



**FIGURE-2.** Variation in the Use of Attribution Sources Over the Years Analysed. Percentages were derived by dividing the number of times a code appeared in a particular year by the total number of paragraphs in that year. Note that for 2009 articles were only available for the first half of the year. Compared with the other three years, the 22 paragraphs from only three ADHD articles published between 1 January and 30 June 2009 are very few. This very small sample calls for caution in its interpretation. On the other hand, it can confidently be stated that those articles that did indeed appear in the first half of 2009 do show these trends and, notably, do contain those particular codes, regardless of their magnitude.

When regarding these figures it must also be stressed that there were only 3 articles containing a total of 22 paragraphs in 2009 and that these were only from the first half of that year, as it is only July 2009 at the time of writing. This relatively small sample therefore calls for caution about reliance on the 2009 results.

#### 6.2.1 ATTRIBUTION SOURCES

Trends in the use of particular attribution sources are presented in Figure-2. Children and teachers are hardly given a voice at all. But parents and medical professionals such as psychiatrists and paediatricians are regular sources and so are others like psychologists, scientists or representatives from the pharmacological industry. The dearth of children's voices is not surprising as children are rarely used as media sources generally. The lack of quotes from teachers, on the other hand, is interesting in so far as the DSM-IV criteria assign both parents and teachers a key role in the diagnostic process.

Although parents are quoted consistently over the years, it must be noted that a considerable number of these quotes come from a small group of the same parents who are referred to repeatedly in several articles and in both papers (Table-4). This is especially visible in the year 2000 where, incidentally, attributions to parents account for the highest percentage of paragraphs. But they also re-appear in other years. Notably, of the five frequently-cited parents, four are associated with ADHD parent support groups, if not their founders.

Several medical sources, too, are used repeatedly (Table-4), especially in 1995 – coinciding with the peak in medical sources in that year – and in 2000. A compilation of article extracts containing the quotes and opinions of these frequently-cited sources can be found in Appendix-D.

The above observations are consistent with Dunwoody's (1986: 7) point that sources, once they have appeared in the press, are likely to be used over and over. The problem with the practice of frequently citing the same interviewees is that readers will think these sources' standpoints to be wide-spread. Firstly because readers of both papers will encounter them and secondly because the articles that cite them are published with



several months in-between – long enough for the reader to forget the specifics and take them for yet another mother or yet another doctor making the same point.



**TABLE-4.** Frequently-Used Attribution Sources

<b>Name &amp; Role</b>	<b>Standpoint</b>	<b>Occurrences</b>
<b>Dr Geoffrey Kewley</b> Consultant Paediatrician (Haywards Heath)	Pro-ADHD Diagnosis Pro-Medication	Kingston (1995b) Mihill (1995) Stuttaford (2000b)
<b>Eric Taylor</b> Professor in Developmental Neuropsychiatry at the Institute of Psychiatry (London)	Pro-ADHD Diagnosis Pro-Medication	Kingston (1995b) Mihill (1995) Robertson (1995) Browne (2000a) Quarmby (2005)
<b>Dr Steve Baldwin</b> Clinical Psychologist, Director of the Clinical and Counselling Training Units (CACTUS) at the University of Teesside	Warns of Misdiagnosis Anti-Medication	Tracy (2000) Bee (2000a) Beck (2000)
<b>Andrea Bilbow</b> Mother of ADHD child, Founder of ADHD Information Services (ADDISS)	Pro-Medication	Kingston (1995a) Wark (2009)
<b>Gill Mead</b> Mother of ADHD child, Founder of ADHD Support for Families	Pro-Medication	Browne (2000a) Hinsliff (2000) Bee (2000b)
<b>Janice Hill</b> Mother of ADHD child, Set up the Overload Network	Anti-Medication Pro-Diet	Browne (2000a) Tracy (2000) Bee (2000a) Charter (2000)
<b>Donna Millar</b> Mother of ADHD child, Member of Overload	Anti-Medication	Browne (2000a) Scott (2000a) Charter (2000)
<b>Liz Thomson</b> Mother of ADHD child	Anti-Medication Pro-Diet	Bee (2000a) Bee (2000b)

Please refer to Appendix-D for a compilation of article extracts containing the quotes and opinions of these frequently cited sources.

Moreover, as the cited parents' own experiences do of course not change, some articles contain not only the same source but virtually the same story. Mother Donna Millar's story, for example, forms part of a long article by *The Guardian's* Anthony Browne on 4 April 2000, but stands as an article on its own on 1 November of the same year, again in *The Guardian* and with the by-line Kirsty Scott. The impression is of a story recycled from old notes to provide a human interest story to go with the newly-released NICE

(National Institute for Health and Clinical Excellence) guidelines on the use of Ritalin® – hot topic on 1 November 2000 in both newspapers. The same applies to mother Liz Thomson’s story to be found in *The Times* on 9 April 2000 as part of a long article by Peta Bee and again on 1 November 2000 in an article that pitches Ms Thomson as anti-medication mother against Gillian Mead, who is strongly in favour of drug-treatment for ADHD. This latter article, too, is written by Bee, even strengthening the impression that notes and stories are being recycled to avoid wasting time on new research, because time – as seen in Chapter One – is precious in the modern news world.

Bee’s second article is also representative of another, connected, problem. Attribution sources within one article are frequently chosen from opposing camps – such as those for or against medication to treat ADHD – and pitted against each other. The result is two-fold. Firstly, this set-up creates debate and possibly even drama – both considered important elements of journalism (Salisbury 1997 cited in Allan 2002: 85-86). It allows journalists to hype the situation of, say, outraged parent against powerful drug magnate, with headlines like ‘Ritalin made my son a demon’ (Browne 2000a) or ‘ADHD drug may pose suicide risk’ (The Times 2005i) – and hype is what sells the papers. Secondly, and almost paradoxically, this set-up creates what Nick Davies calls neutrality.

Another article published in *The Times* on 1 November (Charter 2000) exemplifies this neatly. It, too, is occasioned by the newly released NICE guidance on Ritalin® use. The reader is told quite early on that ‘Andrew Dillon, chief executive of Nice, said: “The institute’s guidance is based on very careful consideration of the evidence presented to the appraisal committee”’ – the perfect opportunity to examine more closely these guidelines and how they were developed. But the reader is not told what this evidence was, who provided it and who sat on the committee to judge. More crucially, the reader is not being told that there is no evidence to date that ADHD is a biologically based disorder and that treatment of children with psychotropic medication is therefore more than questionable to begin with. Instead, the article cites parents opposed to methylphenidate, the NICE chief executive, the NICE guidelines, a spokesman for the Department of Health, the anti-medication mothers Janice Hill and Donna Millar, the pro-medication mother Caroline Hensby and a spokesperson for Novartis, the Ritalin® manufacturer. It pitches those voices against each other until each party has had its say

and the reader is non-the-wiser – unless he chooses to trust the reassuring words from the Novartis representative strategically placed at the very end of the article.

Note also that the three sources speaking about the safety and usage of the medication are not those who developed or tested the medication but the NICE chief executive, a spokesperson for the Department of Health and the Novartis representative – confirming the observation that sources frequently are scientific administrators rather than active researchers (Dunwoody 1986: 7).

If a pro or contra stance can be extracted at all from this text, and many others, then because more space is given to voices from one camp than from another – rarely because of active critical and evaluative work on the journalist’s part. Everyone is given their say but no conclusions are drawn. Never mind the fact that – if the journalist had done his research properly – he should be giving no voice at all to those who proclaim a biological condition for which there is no viable evidence and who declare a drug harmless that has else-where been shown to be anything other than risk-free. Yet just such “experts” belong with the most frequently cited attribution sources listed in Table-4. Consultant paediatrician Dr Geoffrey Kewley, for example, is often quoted or paraphrased along the following lines:

Dr Kewley says people should remember that ADHD is caused by a brain dysfunction – and that there is no evidence of Ritalin being addictive. “Although an amphetamine-like substance, it is not an amphetamine and, because of this misunderstanding, many children are denied medication for ADHD where it would be appropriate” (Mihill 1995).

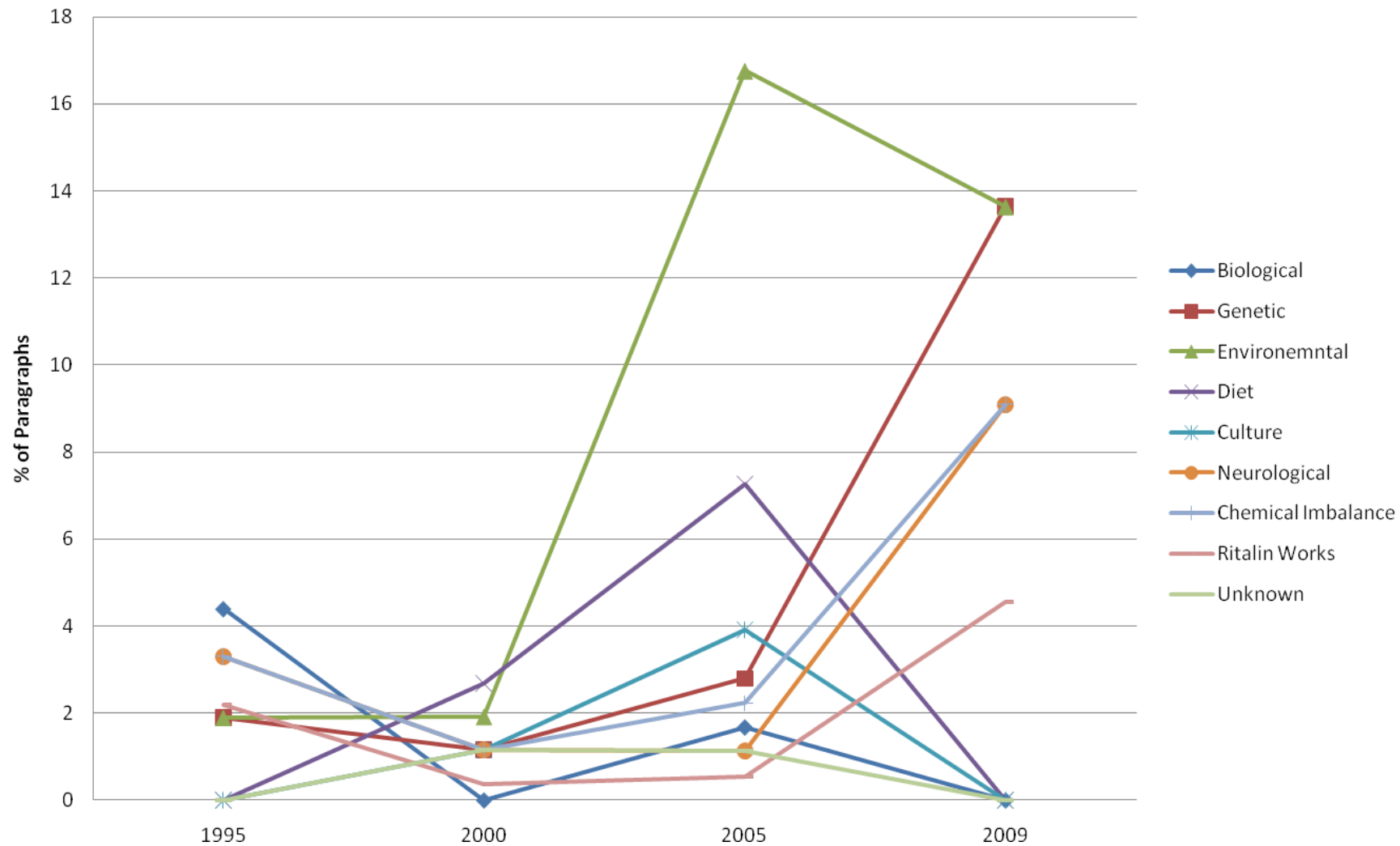
Professor Eric Taylor of the London Institute of Psychiatry is frequently cited similarly:

The theory is that some children’s brains do not transmit or produce chemicals called neurotransmitters, which are vital to concentration. Drug treatment to stimulate the production and transmission of these substances dates back to the 1930s ... Professor Taylor sees a need

for greater recognition of ADD in the UK and of drug treatment (Kingston 1995b).

The issue with the use of experts and the danger of giving mavericks a disproportionate voice is particularly tricky in the case of ADHD reporting. After careful examination of the scientific literature, it is clear that the maverick view is to assert the existence of ADHD as a clearly defined, biologically caused disorder (rather than a cultural construct imposed on a multitude of distinct problems and conditions). Strangely this precise view has also long been the consensus (Barkley & 78 Co-Endorsers 2002), with the critical, more scientifically responsible voices in the minority, and only recently becoming stronger in the scientific literature (Joseph 2000; Leo & Cohen 2003, 2004; Timimi & 33 Co-Endorsers 2004; Timimi 2005; Lloyd, Stead & Cohen 2006; Furman 2008; Joseph 2009; Timimi & Leo 2009).

A careful perusal of the scientific literature by journalists is therefore necessary to get to the bottom of the ADHD phenomenon. It is already obvious, from the reliance on sources as discussed above, that such critical research into ADHD is not generally being done. Of the 59 articles, 13 were based solely on newly released research. All simply report the study findings and the researchers' conclusions. In a few cases they additionally include a quote from one of the main authors. None of them critically question the findings they report, or even include a critical voice from an outside researcher, indicating either the strong trust they place in peer-reviewed literature (Hansen 1994; Greenberg 1997 cited in Allan 2002: 83) or their lack of time to dig any deeper. Although some of the articles give the study sample size, methodology or individual numerical evidence is not reported. Only one article at least identifies the trial it reports on as having been randomised and double-blind (Lawrence 2005a). Such reporting is neatly representative of the journalistic practices of simplification and elimination of uncertainty identified by Goldacre (2008: 220) and Stocking (1999: 24-7) in Chapter One.



**FIGURE-3.** Variation in the Percentage of Paragraphs Giving a Certain Alleged Cause for ADHD. Percentages were derived by dividing the number of times a code appeared in a particular year by the total number of paragraphs in that year. Note that for 2009 articles were only available for the first half of the year. Compared with the other three years, the 22 paragraphs from only three ADHD articles published between 1 January and 30 June 2009 are very few. This very small sample calls for caution in its interpretation. On the other hand, it can confidently be stated that those articles that did indeed appear in the first half of 2009 do show these trends and, notably, do contain those particular codes, regardless of their magnitude.

### 6.2.2 ALLEGED CAUSES

Figure-3 shows that precisely those alleged causes for ADHD for which there is no valid scientific evidence (biological, genetic, neurological) and those that are not even aetiologies but can only be called unscientific ways of argumentation (chemical imbalance, Ritalin® works) are present throughout the years. Consequently, skewed and outright false explanations for the basis of ADHD are consistently being published in the British quality press and the here posed hypothesis is thus shown to be true.

It must be positively noted that the categories for which valid evidence does exist (diet, environment and culture), though hardly mentioned in 1995, received a lot of attention in 2000 and 2005. The peak in diet in 2000 is partly explicable by the repeated citation of the same pro-diet mothers such as Liz Thomson and Janice Hill in that year. Although these mothers are against medication treatment, they still accept the notion of ADHD as a valid disorder. This representation is again misleading. While an unhealthy diet may cause hyperactive behaviour in children as outlined in Chapter Two, it may do so in any child and is no proof for the existence of a disorder. The peak in environmental causes in 2005 is explicable mainly with three articles that suggested, respectively, a decline in the use of playpens (Merriott 2005), sleep deprivation (Thomas 2005), or smoking during pregnancy (Lister 2005b) as possible environmental triggers.

When looking at the articles as a whole rather than dissolving their boundaries in the total of paragraphs, the incorrect reporting of ADHD becomes even more apparent. The assertion that ADHD has a biological or, more specifically, a genetic or neurological basis is, though without valid empirical evidence, at least theoretically possible. In contrast, the assertion of a chemical imbalance underlying the condition or that “Ritalin® works” are not even valid scientific arguments. It is therefore of particular interest to see how often these outright false arguments are brought up and who is behind them (Table-5). Of the 59 articles analysed in total, nine assert a chemical imbalance underlying ADHD, two argue that Ritalin® works and two contain both assertions. Thus, over 20% of the articles analysed offer a false explanation. It must be noted, however, that one of them only mentions the chemical imbalance theory to then say more attention should be paid to possible psychological reasons for the condition



**TABLE-5.** Articles Containing Outright False Assertions: Chemical Imbalance and Ritalin® Works

Reference	Source	Quote	Assertion
Robertson (1995)	Ian Robertson (Journalist) <i>The Times</i>	Chemical messengers in the brain known as catecholamines are also important in maintaining concentration, and Ritalin may boost catecholamine activity.	<b>CHEMICAL IMBALANCE</b>
Kingston (1995b)	Eric Taylor (Professor of Psychiatry) <i>The Guardian</i>	The theory is that some children’s brains do not transmit or produce chemicals called neurotransmitters, which are vital to concentration.	
Midgley (2000)	Carol Midgley (Journalist) <i>The Times</i>	Taylor suffers from attention deficit hyperactivity disorder, a chemical imbalance in the brain that causes sufferers to be constantly restless.	
Bee (2000a)	Peta Bee (Journalist) <i>The Times</i>	Precisely what causes ADHD is unknown but it ... is thought to arise because of a deficiency of dopamine.	
Beck (2000)	Peter Wilson (Director of Young Minds) <i>The Times</i>	Some people are saying that children’s hyperactive, difficult or non-compliant behaviour is genetic or biochemical ... I would always initially take the view that if a child is behaving in a particularly forceful manner, it should be taken as a communication and an expression of feeling.	
		NOTE: Wilson mentions chemical imbalance as a possible reason but does not attach much value to it.	
Tomlinson (2005)	Heather Tomlinson (Journalist) <i>The Guardian</i>	Patients with ADHD suffer from low levels of dopamine in the brain, where the neurotransmitter plays a role in motivation and concentration.	
Crompton (2005)	Simon Crompton (Journalist) <i>The Times</i>	... support groups, drug manufacturers and many doctors believe the disorder is caused by a specific chemical imbalance in the part of the brain controlling attention, concentration and impulsive behaviour.	
Collins (2005)	Dr Jane Collins (Chief Executive and Honorary Consultant Paediatrician at Great Ormond Street Hospital; acts as journalist in answering readers’ questions) <i>The Times</i>	... the current view about ADHD is that the symptoms are produced by changes in the activity of dopamine and norepinephrine, both neurochemicals, in the brain.	
Wark (2009)	Information Box (Journalist) <i>The Times</i>	... research has suggested that people with ADHD may have imbalances in the levels of noradrenaline and dopamine.	

**TABLE-5.** Articles Containing Outright False Assertions: Chemical Imbalance and Ritalin® Works (continued)

Reference	Source	Quote	Assertion
Mihill (1995)	Chris Mihill (Journalist) <i>The Guardian</i>	57 If a child has a neurological problem and a drug can relieve the symptoms, surely it should be given. Most reasonable people would agree that if the medicine works, there is no argument	<b>WORKS</b>

(Beck 2000). Frequently, journalists themselves make the assertion rather than quoting an “expert” (Table-5). Also, three of the journalists carry the title ‘Dr’ in front of their name which automatically refers authority on their statements about medical issues. Notably, the two examples that contain both invalid argumentations are given by journalists from that group: Dr Thomas Stuttaford, writing for *The Times*, and Dr John Briffa of *The Guardian*. They inform the reader thus:

The fact that amphetamines which produce excitement in adults can calm the hyperkinetic child is offered as evidence that the syndrome may have a physical basis related to a neurotransmitter abnormality (Stuttaford 1995).

Scientists have suggested that dopamine depletion is a factor in ADHD, indirect evidence for which comes from the knowledge that Ritalin ... boosts dopamine levels in the brain (Briffa 2005a).

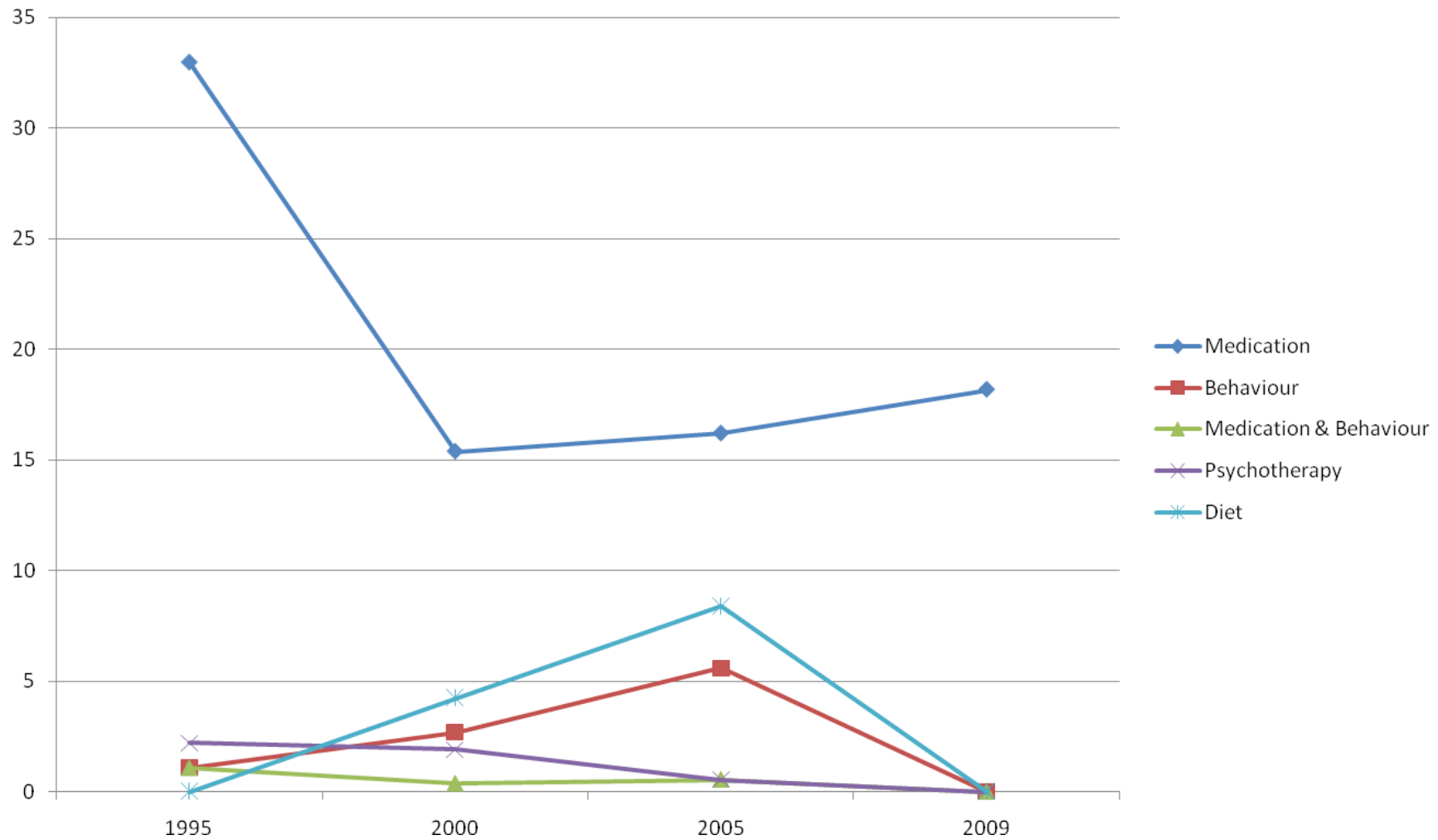
The presence of such statements in newspaper articles shows that their authors have not checked the science behind the supposed disorder they are reporting on, that they have been inattentive.

The best article by far from the sample at hand appeared in *The Guardian* on 4 December 2005 and was written by Oliver James. This journalist has read Joseph’s (2000, 2009) deconstruction of the genetic “evidence” for ADHD as well as Timimi’s (2005) *Naughty Boys* and manages to report these two sensible voices without pitching a Taylor or Kewley against them for neutrality’s sake. Sadly, critical articles are rare. Of the 59 articles, only six, including the Oliver James article, convey the message that ADHD is not a scientifically valid disorder (Beck 2000, Knight 2000, MacIntyre 2000a, Hill 2005a, Thomas 2005). In one of these, the article is well-written and gives Timimi space to explain the cultural rather than biological nature of ADHD. However, the information box provided with this article completely ignores the latter’s content and again states biological aetiologies for the condition. This is either negligence on the journalist’s part or, possibly, a nice example of a non-specialist editor or sub-editor quickly fishing some extra-information from the internet. Either way, it presents another example of the press’s inattentiveness when reporting on ADHD.

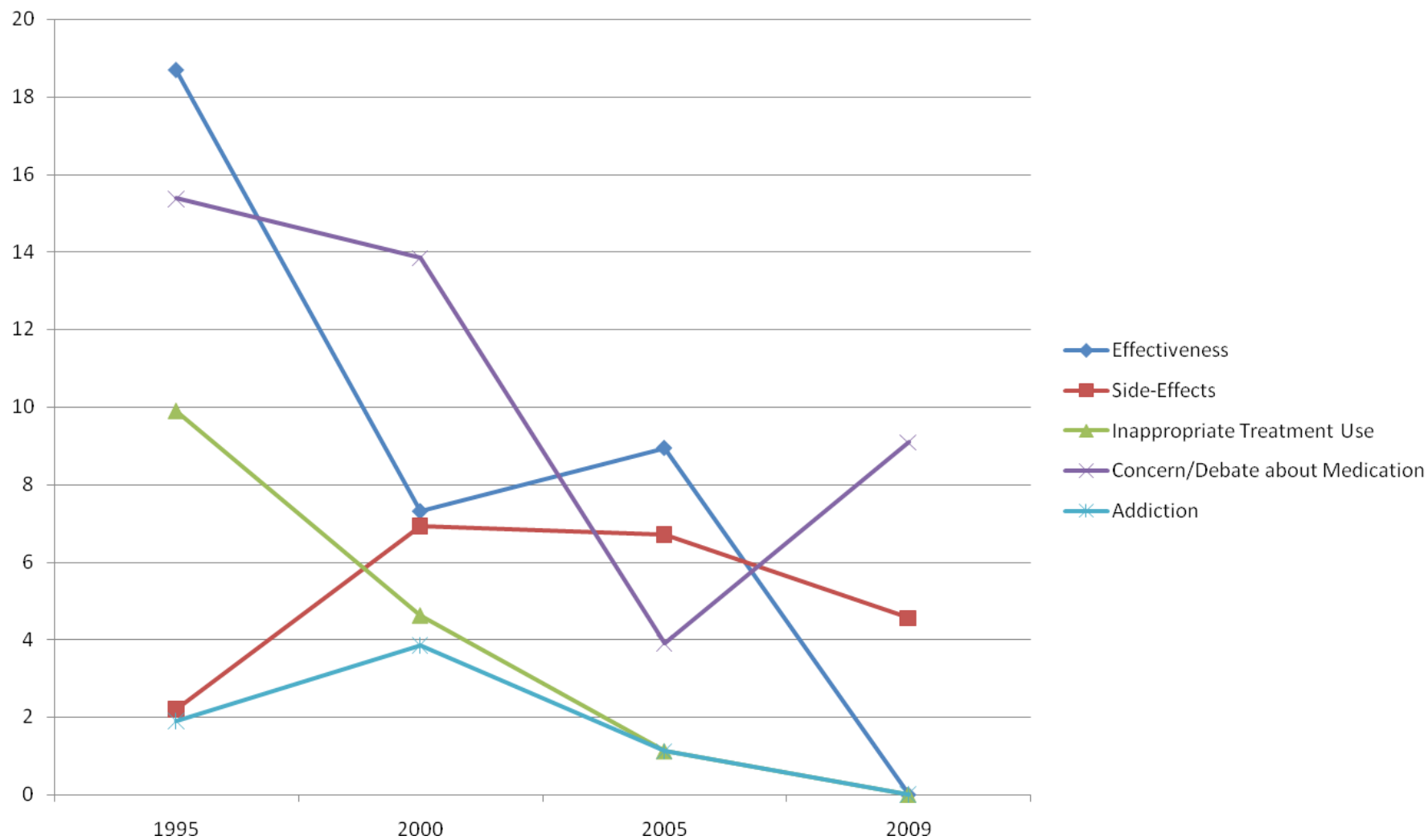
Five other articles acknowledge the controversy around the condition but then go on to report it as valid disease. Another 44 either specifically state a biological origin for the condition or do not question its validity at all which creates the impression of ADHD already being an established condition. That leaves 49 articles out of 59 that report ADHD as if it was an established disorder, neatly exemplifying the journalistic tendency to eliminate uncertainty from articles and to simplify situations as discussed by Stocking (1999: 24-27).

### 6.2.3 TREATMENTS

Similar problems exist in the reporting of possible treatments for ADHD-like behaviour. Figure-4 demonstrates clearly that medication is by far the most-proposed treatment throughout the years. Even in 2000 and 2005, with diet and behavioural therapy gaining increasingly more dominance, medication remains the most-suggested treatment. The significance of the peak in dietary treatment in 2005 is further compromised by the fact



**FIGURE-4.** Variation in the Percentage of Paragraphs Proposing a Certain Treatment for ADHD. Percentages were derived by dividing the number of times a code appeared in a particular year by the total number of paragraphs in that year. Note that for 2009 articles were only available for the first half of the year. Compared with the other three years, the 22 paragraphs from only three ADHD articles published between 1 January and 30 June 2009 are very few. This very small sample calls for caution in its interpretation. On the other hand, it can confidently be stated that those articles that did indeed appear in the first half of 2009 do show these trends and, notably, do contain those particular codes, regardless of their magnitude.



**FIGURE-5.** Variation in the Percentage of Paragraphs Including a Certain Medication Issue. Percentages were derived by dividing the number of times a code appeared in a particular year by the total number of paragraphs in that year. Note that for 2009 articles were only available for the first half of the year. Compared with the other three years, the 22 paragraphs from only three ADHD articles published between 1 January and 30 June 2009 are very few. This very small sample calls for caution in its interpretation. On the other hand, it can confidently be stated that those articles that did indeed appear in the first half of 2009 do show these trends and, notably, do contain those particular codes, regardless of their magnitude.

that its occurrences are solely in *The Guardian*, with the majority coming from a single article. The predominance of psychostimulant medication as proposed treatment for children is shocking considering the risks associated with the drug-treatment.

Another noteworthy aspect in this context is the indirect proposal of drug treatment by the press via the mention – or even recommendation – of certain ADHD parent support groups, either within the body of the article or in connected information boxes. Fourteen of the 59 articles contain a total of 20 mentions of parent support groups. The actual number of different support groups contained in those mentions is seven. Their name, founders and orientations concerning drug treatment are listed in Table-6. Many of these founders are the frequently-cited parents discussed above. Of the 20 mentions, twelve are of pro- medication groups (60%) and 8 of anti-medication groups (40%). Only in one article are these orientations clearly stated together with the contact details (Bee 2000b). The practice of providing (contact) information about parent support groups in favour of medication amplifies any influence the press itself might have since those groups, when contacted for support and advice by readers, are likely to recommend drug treatment to the newcomers.

#### 6.2.4 OTHER MEDICATION ISSUES

Correlated with the high prevalence of medication within the analysed paragraphs is the statement of that medication's effectiveness as visible in Figure-5. Its drop in 2000 coincides with the peaks in mentions of the debate around the drug treatment (itself consistently present in the analysed paragraphs and over the years), the drug's adverse side-effects and its addictiveness. These trends are explicable again with the reporting rush around the release of the NICE guidance on Ritalin® use in 2000 as well as with the publication of a study in JAMA which reported the drastic increase in prescriptions of psychiatric drugs such as Prozac® and Ritalin® for two- to four-year-old children. In fact, 12 of the 13 articles published in *The Times* in 2000 and having ADHD as their central focus are concerned with the medication debate surrounding the topic.

This is not surprising as, again, debate enables hype and hype sells newspapers. Indeed, the fixation on the medication debate sometimes becomes so strong that the question

**TABLE-6. ADHD Parent Support Groups**

<b>Group</b>	<b>Founder</b>	<b>Orientation</b>	<b>Mentions</b>	<b>Details Provided</b>
LADDER (National Learning and Attention Deficit Disorders Association)	Stan Mould	Pro-Medication	Mihill (1995) Robertson (1995)	Address & Phone Number Address
ADDISS (ADHD Information Services)	Andrea Bilbow	Pro-Medication	Crompton (2005) Collins (2005) Wark (2009) Kingston (1995a)	Web-Address & Phone Number Web-Address & Phone Number None. Only Mentioned in article. None. Only mentioned in article.
ADHD Family Support Group	Gill Mead	Pro-Medication	Browne (2000a) Hinsliff (2000) Charter (2000) Bee (2000b)	Address None. Only mentioned in article. Phone Number Address & Information on Orientation.
Adders	Caroline Hensby	Pro-Medication	Browne (2000a)	Web-Address.
ADHD in Suffolk	Linda Sheppard	Pro-Medication	Quarmby (2005)	None. Only mentioned in article.
Overload	Janice Hill	Anti-Medication	Browne (2000a) Tracy (2000) Bee (2000a) Beck (2000)  Charter (2000)	Address None. Only mentioned in article. Address. Address & Phone Number & Web-Address Phone Number
Hyperactive Children's Support Group		Anti-Medication	Browne (2000a) Bee (2000a) Bee (2000b)	Web-Address Address Address & Information on Orientation

about the validity of the disorder no longer comes into play at all – although a clear statement of its non-biological nature coupled with the successes in psychotherapy and behavioural treatments should invalidate any psychotropic drug use for hyperactive and inattentive behaviour in children on the spot.

### *6.3 Wrapping Up*

In sum, the present content analysis shows a clear tendency within articles from both *The Times* and *The Guardian* to present a reality of what is commonly termed ADHD that is distinctly skewed from its scientific reality as outlined in Chapter Two. The content analysis moreover demonstrates that much of this distorted portrayal of the debatable condition arises from journalistic practices that have been identified in Chapter One as problematic for science reporting generally.

The following chapter will situate the present findings in the context of social constructionist theory by first outlining the various actors involved in the ADHD debate and then examining the role of the media in constructing a skewed reality of ADHD by framing these actors and their debate.

## **7. Chapter Four: The Social Construction of ADHD**

### *7.1 The Actors*

Two opposing camps lead the ADHD debate: One claiming a biological aetiology for the condition and promoting its drug treatment, the other viewing ADHD as a cultural construct that obscures a multitude of child behavioural or psychological problems. While both camps include parents, teachers and medical professionals, the former also features the pharmacological industry and is distinctly more apt at manipulating the media.

The drug industry is the driving force behind promoting ADHD as an inheritable chemical imbalance<sup>xxvi</sup> – only such an aetiology allows them to sell a chemical remedy (Moynihan & Cassels 2005: 64, 73; Timimi 2005: 110). It uses ‘a multitude of marketing tactics’ (Moynihan & Cassels 2005: 64), most notably, employing marketing professionals who specialise in “branding” medical conditions (Moynihan & Cassels 2005: 71), which can then be promoted by using medical associations to pass on messages to the media (Moynihan & Cassels 79-80), through collaboration with patient



organisations (Moynihan & Cassels 2005: 64), via “educational websites” and toll-free “ask-the-experts” hotlines (Phillips 2006), through personal visits to medical professionals (Timimi 2005: 114) who are issued “educational” leaflets for further distribution to parents and teachers (Timimi 2005: 110), and through sponsorship of medico-scientific conferences (Timimi 2005: 114).

Thus bombarded by the drug industry, it can be difficult for medical practitioners not to succumb to the message of a biologically-founded, chemically-treatable ADHD (Timimi 2005: 110-111, 114). Many psychiatrists seem to pay little attention to context when diagnosing children with ADHD (Timimi 2005: 114), preferring instead to tick off diagnostic criteria and prescribe medication – often without comprehensively informing parents of the medication risks (Baldwin & Cooper 2000 cited in Timimi 2005: 137). Although inappropriate in the practice of child psychiatry, the straightforwardness of this procedure has its allure: ‘Doctors can earn three times more by 15-minute medication review follow-ups than a 45-minute visit with the child’s family’ (Timimi 2005: 131).

“Converted” medical practitioners then pass on the concept to the parents who consult them (Timimi 2005: 131). The effect is amplified when parents join support groups or organisations (Timimi 2005: 114) rallying for wider recognition of the condition and its treatment with medication.<sup>xxvii</sup> Often, these pro-medication parent groups are also financially supported by the drug industry (Moynihan & Cassels 2005: 61-62; Phillips 2006). They help to spread the pharmacologically branded concept (Moynihan & Cassels 2005: 63-65) by passing it on to the parents who seek help with them, through organising seminars for teachers (Phillips 2006), and, crucially, by providing parents to the media for human interest stories (Moynihan & Cassels 2005: 73).

Lastly, teachers and the school environment, though strangely under-represented in the press, play an important role in the ADHD discussion. Increasing class sizes, understaffed schools, labour-intensive educational methods, highly stimulating and colourful learning environments, a pressure on teachers to demonstrate high academic achievements in their pupils, and ever fewer means for teachers to behaviourally control pupils, all may promote ADHD-like behaviours in an ever wider number of children (Moynihan & Cassels 2005: 77; Timimi 2005: 113-114). More importantly, teachers

may act as ‘disease spotters’ (Phillips 2006), the DSM-IV criteria assign them an official role in the diagnostic process, and they often administer ADHD medication during the school hours (Phillips 2006).

## *7.2 ADHD: Social Construct of an Inattentive Hyperactive Press*

The place where all these voices come together, and are made available to each other and to the public, is the press. Yet, the way they are brought together, and the reality that emerges as a consequence, is highly constructed. As such, it can be situated in Berger and Luckmann’s (1967) theory of the social construction of reality.

The key points of Berger and Luckmann’s argument relevant to the present discussion are as follows: reality is socially constructed. It is made and maintained, essentially, by language and by legitimated institutions. This situation places journalism at a pivotal and powerful position for the social construction of reality (Tuchman 1978: 208). For journalism is an institution,<sup>xxviii</sup> and its main vehicle, besides the use of pictures, is language (Tuchman 1978: 4-5, 208). While the man in the street shares, or objectivates the occurrences of his life, with a relatively small circle of individuals, the newsworker has the power to decide which otherwise unavailable occurrences and voices he will make publicly available (Laswell 1948 cited in Tuchman 1978: 3-4). To speak with Berger and Luckmann, news stories objectivate these voices and occurrences and thus make them publicly available for integration into the social stock of knowledge which is the basis for every-day reality and from where they are available for subjective internalization by all readers. Since the process of inclusion of such information is necessarily selective, Tuchman (1978: 1) argues, newswork can be regarded as the activity of framing: ‘News is a window on the world ... the news aims to tell us what we want to know, need to know, and should know. But, like any frame that delineates a world, the news frame may be considered problematic’. That is, frames may generate meaning as well as restrict it, depending on the parameters and the placing of the frame as well as on the position of the observer relative to that frame (Tuchman 1978: 1, 209).

The news frame works to structure reality and is, simultaneously, a part of that reality (Tuchman 1978: 193). Reporters, as the placers of these frames, are continuously

working to capture and assign meaning by including certain pieces of information in their stories and leaving out others (Tuchman 1978: 188). In this way, ‘news is perpetually defining and redefining, constituting and reconstituting social phenomena’ (Tuchman 1978: 184) and news organisations can be said to both disseminate and shape knowledge (Tuchman 1978: 2):

It seems trite to observe that knowledge is power. Yet that rationalist dictum is both a tenet of our society and a ruling premise of newswork. For power may be realized through the dissemination of some knowledge and the suppression of other ideas. And it may be reinforced by the way knowledge is framed as a resource for social action. News, I have argued, is a social resource whose construction limits an analytic understanding of contemporary life (Tuchman 1978: 215).

The press becomes a reality-defining source especially when an individual has no prior knowledge of a certain topic (Nelkin 1995: 68-69). Tuchman (1978: 2) cites research that found how Seattle residents understood possible explanations provided by the media for a rash of pockmarks in automobile windshields as a comprehensive list of “causes”. Consequently, it can be argued that the British quality press explanations for aetiologies underlying ADHD, which are frequently unfounded or outright false, will be taken as just such an exhaustive catalogue of causes. The list of possible treatments provided by the *The Times* and *The Guardian*, and notably headed by psychostimulant medication, may be similarly accepted by readers. Prozac®, for instance, was, like Ritalin®, reported on as both “wonder drug” and “monster drug”. The publicity alone – no matter whether good or bad – seemed to increase the public’s demand for the medication. Both the pockmark and the Prozac® example give reason for the assertion that the skewed press reality of ADHD aetiology and treatment is internalised as subjective reality by the newspaper audience. The degree to which this occurs, however, is dependent on readers’ selective interest and previous experiences:

In areas ... where readers have little direct information or preexisting knowledge to guide an independent evaluation ... the press, as the major source of information, defines the reality of the situation for them. But where readers already have an established set of biases, science reporting tends to justify and reinforce these biases. And when the reader has had personal experience ... or long-term exposure to media coverage, the effect of media images is tempered by prior attitudes about the issue (Nelkin 1995: 69).

Thus, even though the public may use information from the press to direct the most private of their decisions, they tend to do so only when this information is consistent with their existing beliefs and tendencies (Nelkin 1995: 72). This corresponds to Berger and Luckmann's assertion that one's subjective reality requires constant affirmation, preferably through language. Two aspects are pointed up as important in this context. Firstly, the frequency of conversation and, secondly, the relative importance and impact of possible conversation partners. To use Berger and Luckmann's (1967: 169) example, one is usually more likely to believe a statement when made by one's best friend than the same statement made by one's barber. Yet, the same statement made by ten casual acquaintances might outweigh an opposite opinion uttered by one's best friend.

If such statements by relative strangers are quotes in a newspaper, it follows that a frequent mention of ADHD will make it more present, more "real" in readers' minds. This throws particular light on the repeated use of the same parent and "expert" sources as discussed in the content analysis. As their appearances are spread out, temporally and spatially, over various ADHD articles, the reader will experience them as a bigger number of different people saying the same thing – increasing the number of relative strangers imparting information on ADHD and thus affirming more strongly this particular subjective reality of ADHD in the reader. Related research shows that, although no causal relationship was identified, news consumers tend to name those 'topics given the most coverage by the news media ... as the most pressing issues of the day' (Tuchman 1978: 2; see also Nelkin 1995: 69).

Tuchman's (1978: 5) ranks news with 'other stories and assumes that stories are the product of cultural resources and active negotiations'. Thus classified, news stories become part of the common stock of knowledge as described by Berger and Luckmann and, as such, part of the intersubjective and taken-for-granted everyday reality. Hence, whereas the man in the street might mistrust the accuracy of a news story on a certain occurrence, he does not question 'the existence of the occurrence itself' (Tuchman 1978: 187). In the present case, he will not doubt the existence of ADHD itself. In fact, as visible in the sample of articles that only touched on ADHD but applied the concept to all areas of life, the existence of the condition appears no longer to be the question. It has firmly been established in the cultural consciousness (also see Appendix-B).

This acceptance of news as a truthful, if not always accurate, account of the day's interesting and important occurrences, argues Tuchman (1978: 207), 'reaffirms and reproduces the role of news as a social institution disseminating veridical accounts'. In this sense, news organisations are legitimating and legitimated institutions – complete with the routinised procedures necessary to ensure their functioning. The first journalists' "Here we go again" has long been hardened into "This is how these things are done", that is, into established journalistic practices. These 'institutional and organizational rules and procedures ... may be evoked as resources to justify actions,' that is, they may act to define and justify the way that facts and sources are selected and framed journalistically (Tuchman 1978: 195-196).

As newswork is structured by deadlines, journalistic facts must be identified swiftly. Yet the observation of an occurrence, let alone any less direct acquisition of information, cannot in itself generate facts, only *supposed* facts. Fortification of the factual status is achieved by the accumulation of a mass of supposed facts which, in their totality, serve to validate each other. Tuchman sees this as the creation of a 'web of facticity'. Facts are, moreover, questioned by 'going to the source', particularly in cases in which they cannot be otherwise validated – at least not in time for deadlines (Tuchman 1978: 82-86, 90). This establishes an inextricable linkage of fact and source and, effectually, shows the accumulation of facts in the web of facticity to be an accumulation of sources. The reporter's distance from the story is greatest if sources' truth-claims are contained in quotation marks signalling "This statement does not express the journalist's opinion" (Tuchman 1978: 97).

In the present case, a web of sources and facts is created by amassing voices in favour of the ADHD diagnosis and its drug treatment with those that identify ADHD as a mere cultural construct or at least oppose its medication. In this way, journalists construct and manage debate as news while simultaneously protecting themselves from any accusation of bias: 'Like doctors who offer a service by telling patients the probable success of different medical options, reporters absolve themselves of responsibility by structuring the alternatives' (Tuchman 1978: 90-91) or, to speak with Davies (2008), by practicing neutrality.

Also notable in this context is the way in which sources are identified as suitable for the provision of facts, or not. Tuchman (1978: 93) recognises three journalistic generalisations:

1. Most individuals, as news sources, have an axe to grind. To be believed, an individual must prove his or her reliability as a news source.
2. Some individuals, such as committee heads, are in a position to know more than other people in an organization. Although they may have an axe to grind, their information is probably more “accurate” because they have more facts at their disposal.
3. Institutions and organizations have procedures designed to protect both the institution and the people who come into contact with it. The significance of either a statement or a “no comment” must be assessed according to the newsworker’s knowledge of institutional procedures.

She elaborates that generalisation one will give preference to ‘sources met through institutionalized beats’, while the second generalisation is built on the supposition that amassed supposed facts validate each other: ‘The more facts one has access to, the better one’s chance of knowing what is going on’. Generalisation three draws on the preceding two and supposes ‘the inherent rectitude of legitimated organizations’ (Tuchman 1978: 93). Consequently, sources will preferably be from legitimated institutions or at least from a unanimous *group* of people: ‘The symbolic “man [or woman] on the street” contributes his or her opinion as a representation of others, not as a representative of others. Representativeness is thought to rest in either legitimated institutions or amassed quantities of supporters’ (Tuchman 1978: 212).

This was also visible in the present analysis. Sources were mainly from the institutions of science and medicine, they were government officials, or spokespersons for the pharmacological industry. Even the majority of parents cited in the articles were associated with parent support organisations, that is, with unanimous groups if not institutions. Notably, the founders of parent organisations were more frequently cited

than mere members – corresponding to the media generalisation that the ‘heads’ are expected to have the most ‘facts’ at their disposal.

By its practice of preferring institutionalised sources, including PR and press offices, news at once builds on such institutionalised structures and reaffirms them as the proper sites for the provision of information. ‘Through naive empiricism, that information is transformed into objective facts – facts as a normal, natural, taken-for-granted description and constitution of a state of affairs’ (Tuchman 1978: 210-211).

Such ‘naive’ transformation of essentially subjective information into objective fact is made possible by the institutional character of news itself. Newswriters are able to view inherently subjective sources, as well as the “facts” they provide, as objective because they obtain these facts by following certain objectivated, or institutionalised, rules and procedures that have lost their man-made character for them. These rules and procedures are precisely those discussed above: facts are mutually self-validating, facts are questioned by going to the source, and sources should be part of legitimised institutions, or at least publicly representative groups. As long as these rules are followed, so the justification, news stories will be objective (Tuchman 1978: 209).

This is not to imply, as Tuchman (1978: 213) stresses, ‘either that one person’s fact is another’s bias or that facticity is relative and unobjective. Rather, [it means] that methods of identifying facts, including methods of identifying appropriate sources, objectify social life’. Such legitimised processes act both as resource and as limitation. On the one hand, they ease the process of making news, on the other they hinder the inclusion of anything into the news frame that cannot be obtained via these legitimised procedures (Tuchman 1978: 215). In either case, journalists are bound to their routines:

To do otherwise, news professionals would have to question the very premises of the news net and their own routine practices. They would have to see the ways their affirmation of professionalism serves to legitimate both news as an account and social institutions as the source of news. They would have to recognize the inherent limitations of the narrative forms associated with the web of facticity. And they would have to come to terms with news as ... a resource for social action in their own lives, in the lives of news consumers, and in the lives of the socially, politically, and economically powerful (Tuchman 1978: 215).

They would have to give up the notion of journalism as a quest for the truth (Tuchman 1978: 100). These are the premises the news world works on. And these are, therefore, the premises that science journalism needs to work on, too. The problems inherent in this *status quo* are discussed in detail in Chapter One and it has, hopefully, become clear that the reporting of ADHD, as a specific example of science reporting, is no exception.

## **8. Conclusion**

Science journalism is the meeting point of two very different cultures. Although both scientists and journalists traditionally work towards the same goal, namely that of discovering the truth, they do so using very different practices and holding very different values. While science is deliberate, precise and reflective, journalism is fast, sometimes imprecise and keen on drama. These traditional dissimilarities are exacerbated by the increasingly corporate nature of both cultures, which gears them towards the pursuit of money rather than truth.

In journalism, money is most efficiently made by speeding up the writing process, at the expense of accuracy and veracity, to produce more stories, and by hyping those stories to lure in a bigger, sensation-hungry readership. That is, money is most efficiently made by an inattentive, hyperactive press.

Ambitious scientists and medico-scientific corporations, whether mainstream or maverick, can easily exploit this fast-paced, news-world to further their own goals. For example, the pharmacological industry can employ marketing professionals to “brand” disorders like ADHD and then spread the new concept, and information about its already existing chemical cure, via the media. Whether they package their manipulated or enhanced research in press releases and PR material, or convey it through a spokesperson or a pro-medication parent in interviews, the press – with little time to verify the facts – is likely to faithfully and unquestioningly reproduce it for its readers.



If journalists had the time to dig deeper, they would find that there is indeed no viable empirical evidence to support the notion of a biologically-caused, chemically treatable ADHD. They would have to recognise ADHD as a cultural construct that has been imposed on a host of very different problems which just happen to present as hyperactiveness and inattention in the child.

Yet the British quality press – as represented by *The Times* and *The Guardian* – is so far touching only tentatively on the possibility of ADHD as a mere cultural construct. Instead, it contributes to the cultural constructive process by its frequent and varied application of the ADHD concept to all areas of life. It leaves little doubt about the existence of ADHD as a circumscribed condition, however unclear the underlying mechanisms, and firmly establishes it in the cultural consciousness of the English-speaking West. The vast majority of articles in the present sample present ADHD as a valid disorder and over a fifth of the articles offer an outright false explanation for its aetiology. They focus not on the debate about its existence but on that about its treatment with psychostimulants. But even the considerable space given to the medication debate, does not outweigh the emphasis laid on medication as most common treatment. Consequently, the present hypothesis confirmed: the British quality press constructs its own skewed reality of ADHD from selected truths, half-truths and outright falsities.

The social constructive process works on two levels. Firstly, Berger and Luckmann's theory of the social construction of reality allows the identification of journalism as an institution with legitimated routines. Secondly, this socially constructed institutionalisation places newswriters in a privileged, particularly powerful, position to construct reality in their turn. All the practices critiqued in the context of this analysis can be justified with one or another of these legitimated procedures simply by saying "this is how these things are done" in journalism. Thus journalists' inattentiveness, or neglect to properly check the facts, is excused with time-constraining deadlines, and hyperactivity, or hype, is necessary journalistic practice to grab readers' attention and to make them buy the newspaper.

Empowered by the legitimation of their routines, journalists are left free to apply their own frame to the world and to choose the events, the facts and actors they want to

include within that frame. In the case at hand, this means inclusion in articles of either opinions from the biodeterminist pro-medication camp alone or a pitting of these voices against those that regard ADHD as a social construct and the medication as harmful. Rarely are these latter explanations framed to stand, powerfully, on their own. In this way, the media constructs a reality of ADHD that is skewed towards a biological basis of the condition, treatable with medication – a reality that is thus internalised by the lay public whose main source of science information are the media and who turn to the media especially where health risks are concerned.

Drawing on all that has gone before, it is concluded that ADHD is not, as commonly perceived, a scientifically valid disease, but a social construct promulgated by an – itself socially constructed – inattentive, hyperactive press.

## **Appendices**



- Addiction (A) ooo
  - Drug traffic (T) ooo
  - Education (E) ooo
  - Peer Relations (P) ooo
  - Race (R) ooo
  - Gender and Age
    - Boy ooo
    - Girl ooo
    - Man ooo
    - Woman ooo
- O Mention of parent support group? O No. O Yes.

ADHD as Valid Disease?

- Yes
- No
- Controversy acknowledged

Research Evidence Given?

- Yes
- No
- N.A.

Journalistic Balance? (describe)

Other Notes:

## Appendix-B

From its omnipresence throughout the newspaper, ADHD emerges as a sort of fashion-statement. ADHD, its hyperactivity and inattentiveness, are continuously used to describe the modern population and culture of the English-speaking West.

Thus public figures from all areas speak of their ADHD. There is Michael Phelps, for example, who began swimming to wean himself off his ADHD medication (Walsh 2009) and Olympic swimmer Gary Hall (Nichols 2000), decathlon athlete Dan O'Brien (Bierley 1995; Mackay 1995), Olympic sprint champion Justin Gatlin (Powell 2005), rugby league player Willie Mason (Irvine 2005) and Josh Goodall, currently Britain's No. 2 tennis player (Harman 2005). There is Green Day's front man Billie Joe Armstrong (Cairns 2009), Daniel Bedingfield (Sullivan 2005, MacLean 2005), Ozzy Osbourne (Appleyard 2005) and his son Jack (Mellor 2005). There is US beauty guru Bobbie Brown (Scott 2009), former president George W. Bush (MacIntyre 2000b) and, last but not least, Winnie the Pooh (MacIntyre 2005).

Those that have not been formally diagnosed with ADHD, do so casually: cricket player Graeme Swann, for instance, is quoted as saying: 'I've basically got the patience of a three-year-old with attention deficit disorder' (Wilde 2009), former Blue member Lee Ryan tells *The Guardian* that Daniel Bedingfield thinks he, Ryan, has ADHD (McLean 2005), the *Sunday Times* describes Anthony Burgess as conveying 'the impression of adult attention-deficit disorder with hyperactive component' (Cornwell 2005) and Chris Evans, at the outset of his career, as 'this giant, fidgety child with the attention deficit disorder' (Rayment 2005).

Reading these newspapers, one would think everybody and everything aspiring to be anybody or anything is now hyperactive and inattentive. This is 'the ADHD-generation' (Brown 2005; Flett 2009) living 'in the age of ... attention-deficit disorder' (McClellan 1995). 'Grazing is also attention-deficit disorder by another name' (Watson 2005), so not surprisingly 'tapas is the perfect food' (Brown 2005). There is 'fashion attention-deficit disorder ... otherwise known as Fadd' (Rickey 2000), 'Infomania is a kind of attention deficit disorder for the communications age' (Harkin 2005) and Big Brother is

labelled 'The House of Attention Deficit Disorders' (Betts 2005). 'To accommodate deficit disorders, we've now invented speed-dating' (Stubbs, Birchall & MS 2005). Lele's music is described as 'ramshackle, ADHD-like trolley dash through the genres of techno, rap, metal and ska' (Cairns & Heany 2009) and media audiences are repeatedly assumed to be afflicted by hyperactivity and attention deficits (Flett 2000; Sabbagh 2000; Chater 2005; Howlett 2005; Sinclair 2005). Even a GP, writing for *The Times*, uses the term lightly when complaining that patients come to him with their own agendas and don't pay much attention to his explanations and advice: 'you patients tend to develop attention deficit disorder half-way through the consultation' (Copperfield 2005).

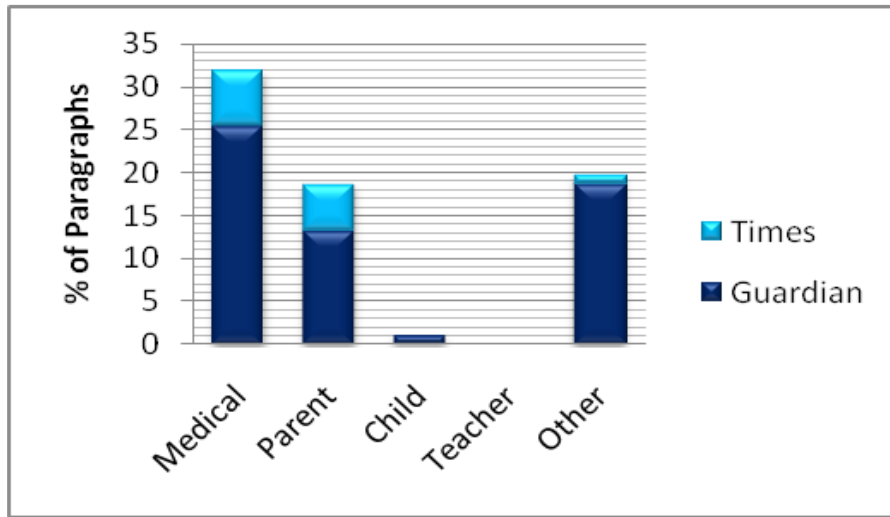
In less estranged mentions of the subject, book, film and documentary reviews as well as web-links refer the reader on to "educate" himself further about ADHD or even to 'find out here if you have an attention deficit disorder' (The Times 2000), leading to a positive reinforcement between the different media of the concept and its perceived importance.

ADHD also appears regularly in relation to crime (Stuttaford 2000c) and court reports. Thus it is reported, for example, that a 'pupil, who suffers from Attention Deficit Hyperactivity Disorder, admitted smacking a teaching assistant on the bottom with a ruler in class' (Blair 2005). An 18-year-old who had, together with a 17-year-old, severely assaulted another 18-year-old, was excused by his solicitor: 'He was suffering from attention deficit hyperactivity disorder which made him prone to lose his temper' (Duce 2000). Similarly, a man who carried a loaded gun in his flight hand luggage was subsequently cleared of all charges because he 'told the jury that he had attention deficit disorder, which impaired his memory' (The Times 2005a). And indeed, as stated in yet another article: 'Evidence concerning pre-menstrual tension, hyperactivity, attention deficit disorder and urban survival syndrome were all admissible' as mitigating circumstances in court (Boseley 1995), indicating that ADHD has been firmly established within British culture, and not alone in its quality press.

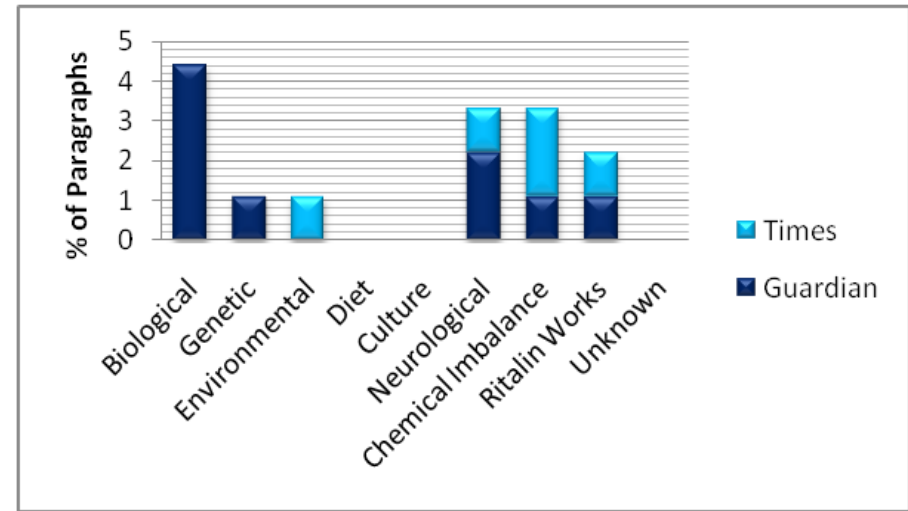
Lastly, ADHD is often mentioned as part of articles about other psychiatric or behavioural conditions in children or in connection with healthy diets for children. The latter recurrently revolve around the alleged beneficial effects of omega-3 and other

fatty acids in fish-oil or even hemp and cannabis (Karmel 2005; Hill 2005b; Lawrence 2005b; O'Reilly 2005a; O'Reilly 2005b; Purvis 2005; Rowlands 2005; Stuttaford 2005b; Stuttaford 2005a; Turner 2005; Weinberg 2005) or around the detrimental effects of high-sugar fizzy drinks (Purvis 2005; The Observer 2005) or food additives (Clarke 2000; Knight 2005; Lawrence 2005c; Purvis 2005; The Observer 2005). Possible misdiagnosis of ADHD due to the hyperactive behaviours apparently caused by severe lack of sleep is also a popular theme (Browne 2000b; Roberts 2000; Parry 2005; Thomas 2005; Naish 2009).

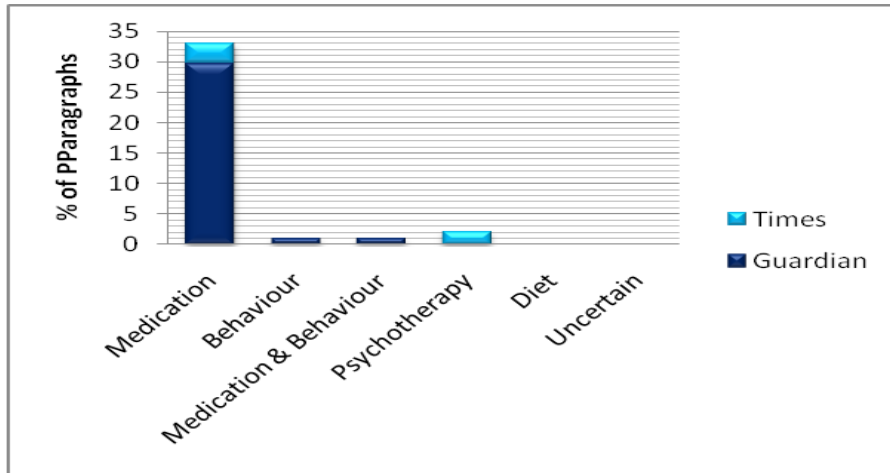




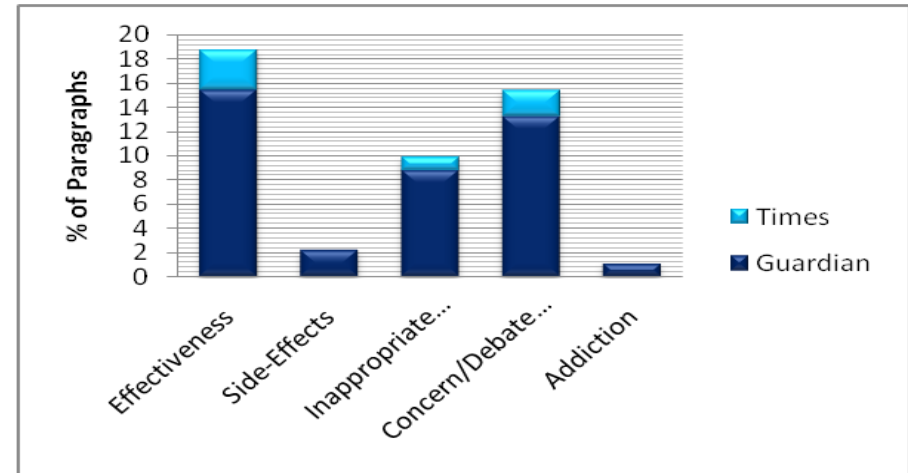
a. Attribution Sources 1995.



b. Alleged Causes of ADHD 1995.

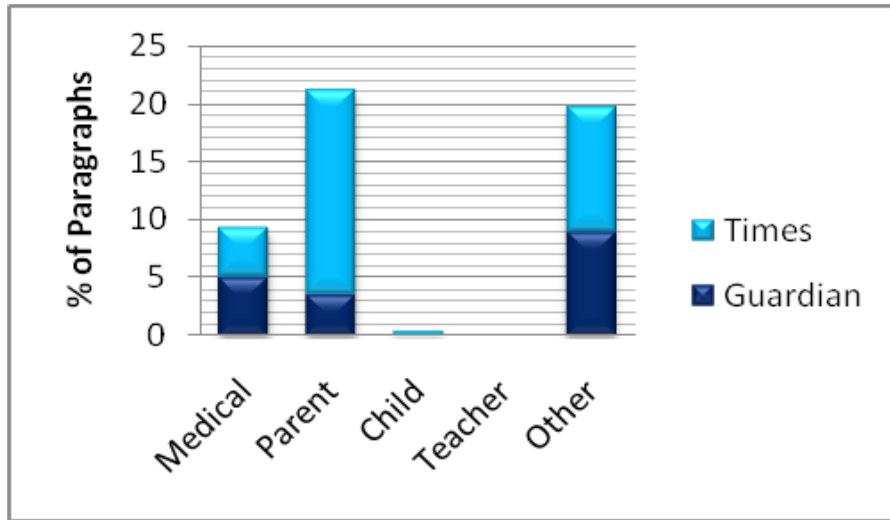


c. Proposed Treatments for ADHD 1995.

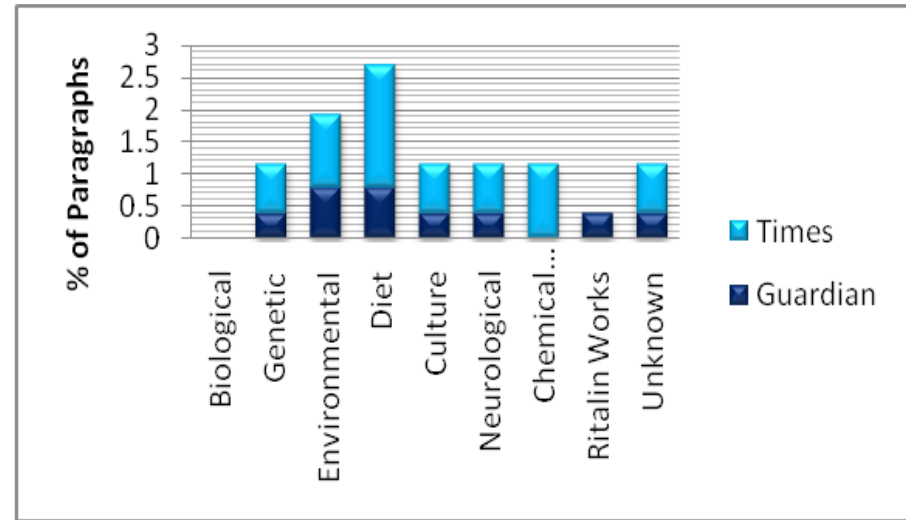


d. Other Medication Issues 1995.

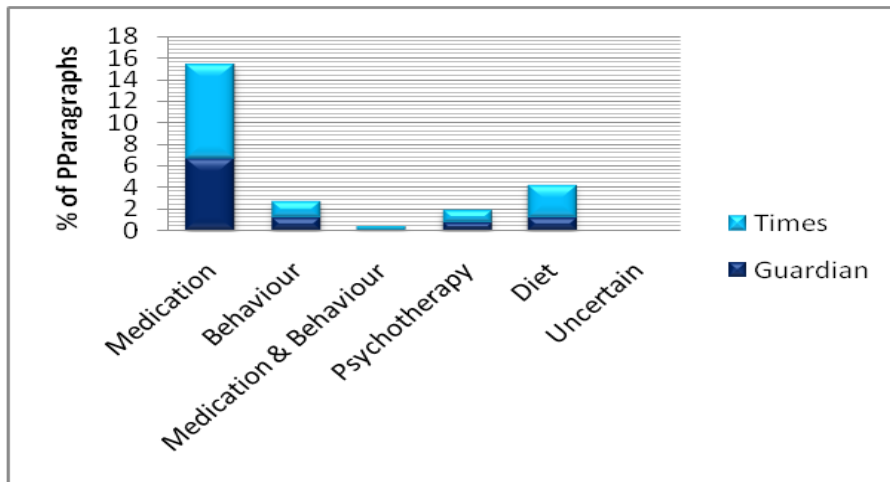
**FIGURE-A1.** Percentage of Paragraphs Containing a Particular Code in 1995. Percentages were determined by dividing the number of times a particular code appeared in each paper in 1995 by the total number of paragraphs from both newspapers in 1995. There were a total of 91 paragraphs in 1995. Twenty-four of those were from *The Times* and 67 from *The Guardian*. This almost three-fold difference accounts, in part, for the mostly higher frequencies in *The Guardian* as compared to *The Times*. This only as an aside, however, as the purpose of this analysis is to look at the British quality press as a



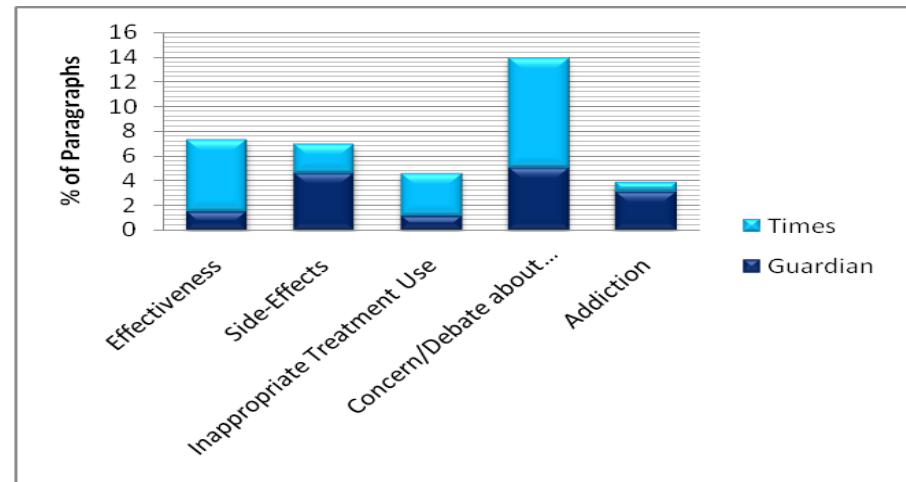
a. Attribution Sources 2000.



b. Alleged Causes of ADHD 2000.

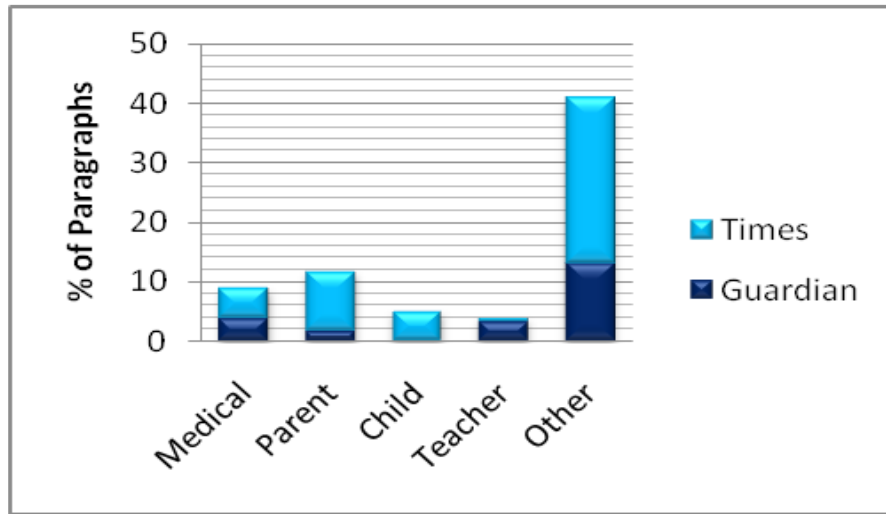


c. Proposed Treatments for ADHD 2000.

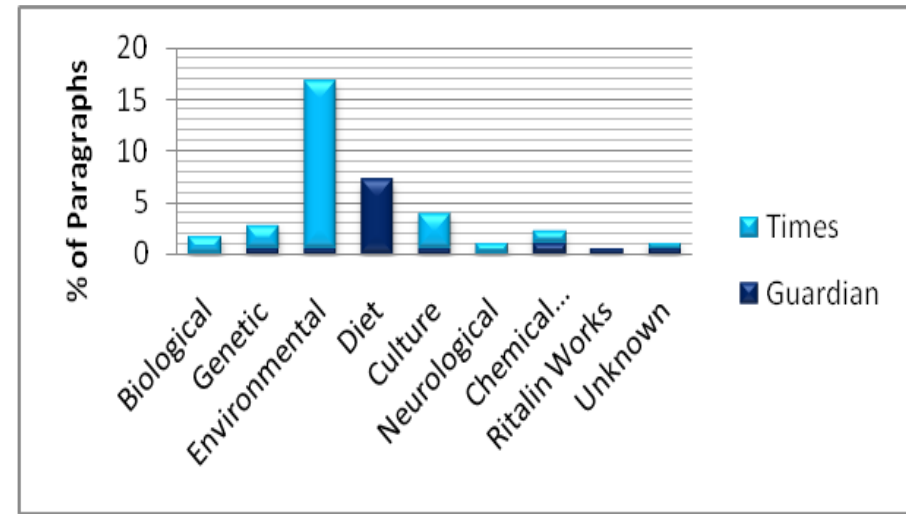


d. Other Medication Issues 2000.

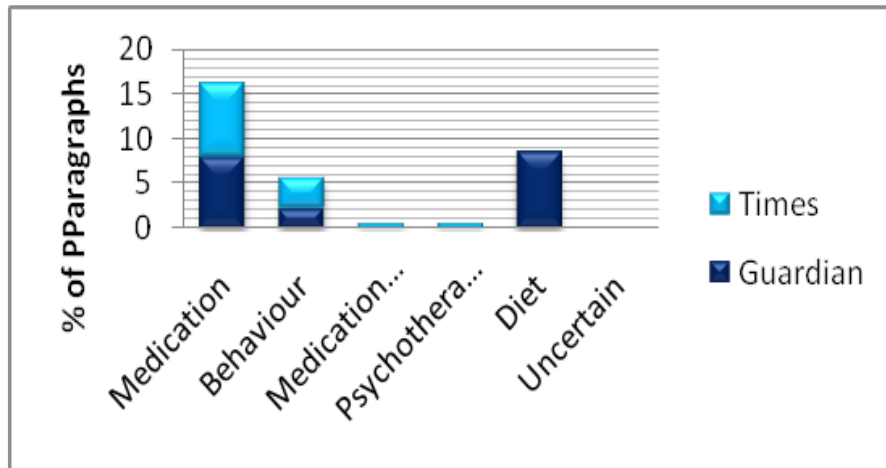
FIGURE-A2. Percentage of Paragraphs Containing a Particular Code in 2000. Percentages were determined by dividing the number of times a particular code appeared in each paper in 2000 by the total number of paragraphs from both newspapers in 2000. There were a total of 260 paragraphs in 2000. One-hundred-and-sixty-five of those were from *The Times* and 95 from *The Guardian*. This discrepancy accounts, in part, for the often higher frequencies in *The Times* as compared to *The Guardian*. This only as an aside, however, as the purpose of this analysis is to look at the British quality press as a whole.



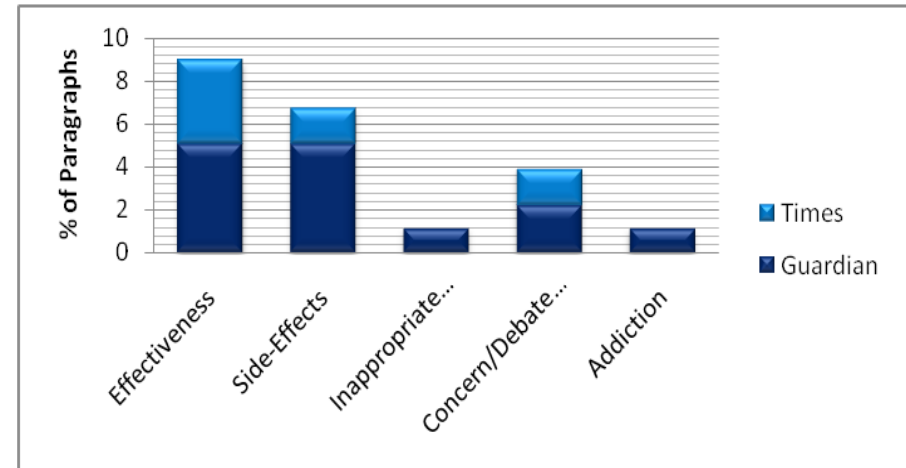
a. Attribution Sources 2005.



b. Alleged Causes of ADHD 2005.

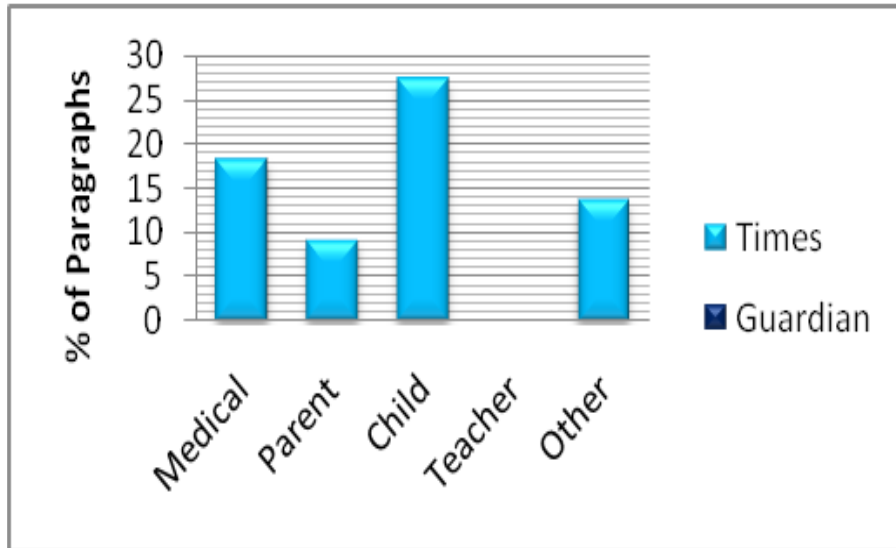


c. Proposed Treatments for ADHD 2005.

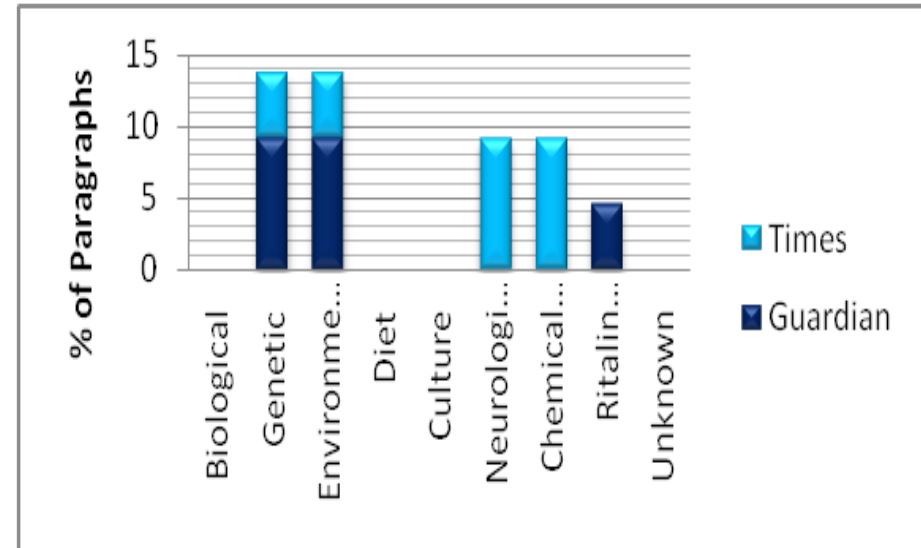


d. Other Medication Issues 2005.

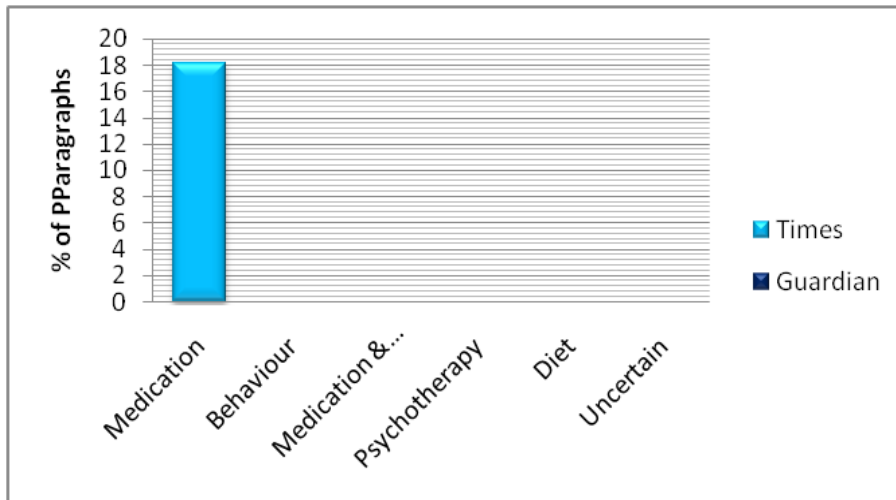
FIGURE-A3. Percentage of Paragraphs Containing a Particular Code in 2005. Percentages were determined by dividing the number of times a particular code appeared in each paper in 2005 by the total number of paragraphs from both newspapers in 2005. There were a total of 179 paragraphs in 2005. One-hundred-and-seven of those were from *The Times* and 72 from *The Guardian*. It might also be of interest to note that nine of the 28 articles in 2005 were only one paragraph long.



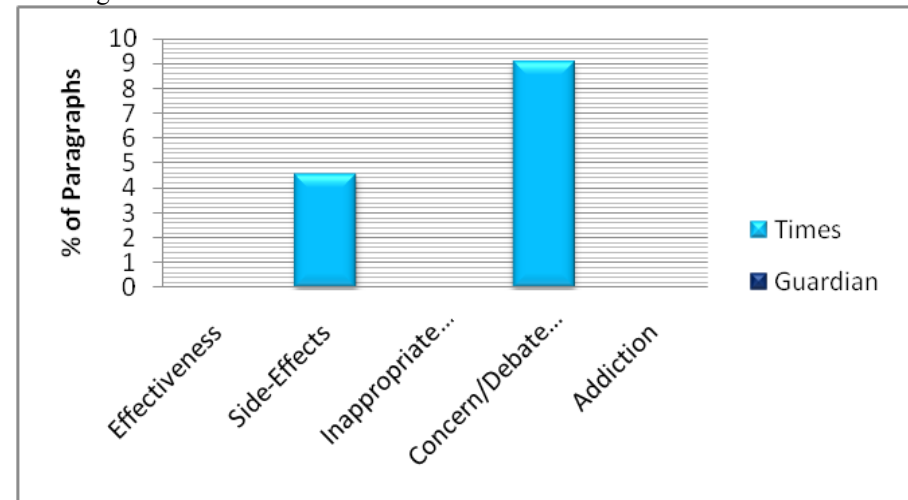
a. Attribution Sources 2009.



b. Alleged Causes of ADHD 2009.



c. Proposed Treatments for ADHD 2009.



d. Other Medication Issues 2009.

**FIGURE-A4.** Percentage of Paragraphs Containing a Particular Code in 2009. Percentages were determined by dividing the number of times a particular code appeared in each paper in 2009 by the total number of paragraphs from both newspapers in 2009. In 2009, there were only three articles with ADHD as their central focus. These contained a total of 22 paragraphs. Twenty of those were from *The Times* and 2 from *The Guardian*. Compared with the other three years, the 22 paragraphs from only three ADHD articles published between 1 January and 30 June 2009 are very few. This very small sample calls for caution in its interpretation. On the other hand, it can confidently be stated that those articles that did indeed appear in the first half of 2009 do show these trends and, notably, do contain those particular codes, regardless of their magnitude.

## **Appendix-D**

### Dr Geoffrey Kewley

*Consultant paediatrician who runs the private Learning Assessment Centre attached to the Ashdown Hospital in Haywards Heath.*

*The Guardian 1995:*

‘The most trenchant defence of Ritalin has come from Dr Geoffrey Kewley’ (Mihill 1995).

‘Dr Kewley says that the incidence of ADHD in the UK is similar to that in the US, yet methods of diagnosing and treating it are very different’ (Mihill 1995).

‘Dr Kewley says his centre does employ educational and psychological strategies but often uses medication’ (Mihill 1995).

‘Dr Kewley says people should remember that ADHD is caused by a brain dysfunction – and that there is no evidence of Ritalin being addictive. “Although an amphetamine-like substance, it is not an amphetamine and, because of this misunderstanding, many children are denied medication for ADHD where it would be appropriate. In Australia 1 per cent of school children are on medication and between 2 and 3 per cent in North America; in the UK only one per 3,000 are on similar medication”’ (Mihill 1995).

‘Dr Kewley believes it is imperative that when educational psychologists, child psychiatrists, paediatricians and other professionals see a child with significant behavioural and learning difficulties, they consider a diagnosis of ADHD – rather than, as so frequently happens, blaming the difficulties on bad parenting’ (Mihill 1995).

Kewley is a 'leading proponent for recognising ADD/ADHD and treating them with drugs, among a package of therapies ... he will call for much wider British acceptance of ADD' (Kingston 1995b).

Kewley: "Far from being some American yuppy thing, there's a solid base of research in Australia and the US to show that medication, where appropriately combined with educational and behavioural strategies, can be effective in up to 90 per cent of cases" (Kingston 1995b).

*The Times* 2000:

'Kewley ... maintains that in 26 years of treating children with Ritalin he has never seen a child who craved the next dose. The problem is to persuade them to remember to take their medication, which seems to have a different effect on the psyche of a child than on that of an adult' (Stuttaford 2000b).

Eric Taylor

*Professor in developmental  
neuropsychiatry at the Institute of  
Psychiatry in London.*

*The Guardian* 1995:

'Professor Erik [sic] Taylor ... has pointed out that ADD has different causes, but certainly one of them is a biological problem' (Mihill 1995).

Taylor: "Ritalin is a moderately useful therapy. It isn't as good as its big advocates say, and it isn't the poison its antagonist [sic] say it is" (Mihill 1995).

'Professor Taylor adds: "I wouldn't want to be without the treatment, but I do feel it is rather too widely used in the States and in Australia. Having said that, I think we use it

too little in this country. Parents have been very frightened by some of the publicity about it, and some paediatricians and psychiatrists are uncomfortable about using it. Using drugs as an agent of social control is not a proper thing to do, and I think that in areas of high prescribing such in the States [sic] they are given like that. But the issue doesn't really arise in most British practice because essentially it is being given to a child to overcome a handicap. It isn't a control issue – it is a treatment of a deficiency” (Mihill 1995).

“Most practitioners in this country think the Americans are casting the net too wide,” [Taylor] said.” They are treating more children with stimulants, a rare thing to do over here.” Professor Taylor places himself midway between the two extremes in the controversy. He recognises that there are categories of EBD children who suffer a biologically based problem, which may be inherited and which compromises their control over attention and action. The problem has been known since the 1920s, he said. The theory is that some children's brains do not transmit or produce chemicals called neurotransmitters, which are vital to concentration. Drug treatment to stimulate the production and transmission of these substances dates back to the 1930s and was the first of the “modern psychopharmacology revolutions” – using medication to control behaviour and mental state. Professor Taylor sees a need for greater recognition of ADD in the UK and of drug treatment, but his surveys and research have led him to suspect that in the US, for instance, the condition is too frequently diagnosed’ (Kingston 1995b).

*The Times* 1995:

‘Professor Eric Taylor ... is adamant that ADHD is a description and not an explanation of behaviour’ (Robertson 1995).

‘Professor Taylor believes ADHD is increasingly being recognised in Britain’ (Robertson 1995).

‘Professor Taylor believes that drugs like Ritalin should be given only to children who are truly hyperactive, for whom concentration and attention is a disabling problem, and

where psychological treatments have been tried first. This cautious approach is wise, given our scant knowledge of the long-term effects of the drug' (Robertson 1995).

*The Guardian 2000:*

'Eric Taylor ... was initially sceptical about Ritalin but eventually became converted. He said: "If a child's social and family relationships and school learning are disrupted by the ADHD problem, then to control these symptoms long enough for normal development to proceed can be of very great benefit"' (Browne 2000a).

*The Guardian 2005:*

'Eric Taylor ... says: "I feel that essentially the drugs are for serious cases that can't be managed any other ways, but there is a lot that can be done without drugs. I think that some children are being placed on medication unnecessarily, at least in America, and others are failing to receive the medication they need"' (Quarmby 2005).

Dr Steve Baldwin

*Clinical psychologist and director of  
Clinical and Counselling Training Units  
(CACTUS) at the University of Teesside.  
CACTUS is one of the first clinics to  
offer non-medical and non-drug  
treatments for young ADHD sufferers.*

*The Times 2000:*

Baldwin: "It is a public health scandal that children as young as three are being prescribed amphetamine-type treatments ... These are class A drugs that are very addictive and can cause problems for adults, so goodness knows what they might do to a child" (Bee 2000a).



Baldwin: "I am not against the drugs. But I am against them being used in the wrong way ... The last thing these youngsters need is toxins in their bodies" (Bee 2000a).

'[Baldwin] emphasises that withdrawal should be done only under supervision and that the process can take anything from two to six months to complete, but says that withdrawal alone is often enough to make a difference. "Remarkably, their behaviour sometimes improves simply because they have stopped taking the drugs," he says. The next phase is psychotherapy and the teaching of selfcontrol. "Sufferers must be taught how to behave and act in social settings, to learn the skills, or relearn those they may have forgotten ... It is basic psychology, spending time with them so they don't revert to their old ways"' (Bee 2000a).

'Professor Steve Baldwin ... is so concerned by the number of children being drugged unnecessarily that he has set up Cactus ... a clinic to wean them off drugs. He says: "It's inconceivable that in 1994 there were 4,000 children diagnosed with ADHD and drugged. Suddenly, in 1999 the figure went up to 131,000 children. That figure is the number of prescriptions filled at pharmacies and does not include prescriptions from private practice or hospitals. If ADHD exists [sic], the figures would remain stable"' (Beck 2000).

Baldwin: "Some so-called clinicians are not even bothering to see these children. It's a scandal that they are getting away with it" (Beck 2000).

Baldwin: "The most common situation is where the parent says 'at home he's fine' and the teacher says 'in class he's a nightmare'. This happens time after time. What we have is a paradigm case where a child is fine in one environment but their behaviour deteriorates in another. What's happening is situationally determined and environmentally caused. If it was a brain disorder it would show in both places. It could be any number of things, but it's not a brain disorder that needs drugs" (Beck 2000).

*The Guardian* 2000:

Baldwin 'uses behavioural self-control training (BSCT) to cure ADHD-style behaviour. "If the drug is withdrawn too suddenly, you can get 'rebound'. The carer imagines that this spiking of behaviour is the ADHD resurfacing, when in fact the child is showing normal drug withdrawal symptoms"' (Tracy 2000).

'Eleven-year old Mark, for instance, was given medication for ADHD. Initially, he improved, but after a few weeks, he started to relapse, fighting with his younger sister and displaying aggression which Baldwin recognised as a common side-effect of amphetamine-style drugs prescribed for ADHD. "Before medication, Mark had developmental, growing-up type problems. One teacher reported he couldn't concentrate, the other said he was one of the best in class. He was moved to the front of the class, and his behaviour returned to normal. There was no reason to medicate him"' (Tracy 2000).

'One of Baldwin's concerns is to make a correct assessment. "Children can be misdiagnosed with ADHD because it suits the needs of busy professionals, when in fact the children may have a developmental problem or a specific learning disability. Some have epilepsy. Others have poor eyesight or bad hearing. If you give them stimulants, you can create a new problem." Baldwin has seen many children think, on one hand, that they need the drug to control their behaviour and yet to blame the drug for the way they act. "They say, 'It's not me, it's the drug.' That makes it harder for them to take responsibility"' (Tracy 2000).

Andrea Bilbow

*Mother of Joe.*

*Founder of ADISS.*

*Pro-medication.*

*The Guardian 1995:*

‘While her son’s behaviour in reception class worsened, [Bilbow] remained unhappy with the explanations being offered. “While the other children were conforming, Joe was completely unaware that he was doing anything wrong. I was told it was my fault. The school’s presumption was that there was no discipline at home’ (Kingston 1995a) .

‘It was another year before Mrs Bilbow made what she feels was the big breakthrough. An American psychologist was addressing a conference in Roehampton. “He got on to medication and it was like a light switching on because I knew that it was the answer to my son’s problems.” She marvelled at Ritalin’s subsequent effect on Joe’ (Kingston 1995a).

‘Joe marvelled, too. “He said: ‘Mum, when I take the drug I hear you talk. When I don’t I can’t hear you, just lots of other noises’”’ (Kingston 1995a).

‘Mrs Bilbow gives short shrift to those professionals who are as yet agnostic about ADD and the drugs treatment. Nobody knows better than parents who have seen every other approach fail, she said’ (Kingston 1995a).

‘Mrs Bilbow scorns the fears raised about the medication and any side-effects. “It has to be fine-tuned. If your child becomes like a zombie, you lower the dose.” Drug treatment was entirely for the optimum benefit of the child, she said. “I have to weigh up my son’s quality of life against any possible side-effects. Quite honestly, without medication, he hasn’t got a life”’ (Kingston 1995a).

*The Times* 2009:

‘In her experience the key to helping children is to find an activity they enjoy and that they’re good at. “What they need is an interest, a goal – no matter how [sic] small – something they can focus on that involves discipline and structure and that has an outcome where they can experience success,” she says. “If they haven’t got the motivation, it isn’t going to work. They also need parents who are going to support them, believe in them. Then it has a really positive effect”’ (Wark 2009).

Gill Mead

*Mother of Lee.*

*Founder of ADHD Support for Families.*

*Pro-medication.*

*The Guardian* 2000:

‘Gill Mead became a convert to Ritalin ... after it transformed her daughter [Lee] ... “She regained the ability to learn, to stop, to sit around the dinner table. It was wonderful. Ritalin works, it keeps families in love with each other”’ (Browne 2000a).

‘Mead now says she resents Lee’s “wasted childhood” and asks: “How are these people in prisons, in detention centres, with no career, no job, going to feel when they learn what they had as children was treatable. They will be very angry, very aggrieved”’ (Browne 2000a).

‘Gill Mead ... said parents of younger children would be “disappointed” if they were refused medication. “Most parents start coming to us when their children first enter social situations – nursery school. The touch-paper is ignited, the minute you put them into situations that trigger anxiety,” she said’ (Hinsliff 2000).

‘Mead firmly believes that Ritalin works, “not only for the child but for the parents, who are given enough of a breathing space from troubled behaviour to assist the family to maintain the love for that child”’ (Hinsliff 2000).

*The Times* 2000:

‘Gillian Mead’s daughter, Lee, is 25 and has been taking Ritalin for almost nine years. It has changed their lives for the better, as Gillian explains: “ ... When she was 16, Lee was sectioned and sent to an adult mental institution. At around that time a friend lent me an American book on ADHD, something that had never been mentioned to me over the years. Suddenly everything made sense and I realised that there was a medical treatment for the condition that had wreaked havoc in our lives all those years ... Our GP agreed to prescribe Ritalin for Lee and within 20 minutes she said: ‘Anything I can do for you, Mum?’ ... Although she still has anxiety problems, she has normal relationships and is getting married next year. What’s more, as a family we have rediscovered love – and we have Ritalin to thank for that”’ (Bee 2000b).

Janice Hill

*Set up and runs the Overload Network.  
Anti-medication, pro-diet.*

*The Times* 2000:

Hill: “There is mounting conclusive evidence that diet can help in the treatment of hyperactive children ... The B vitamins, copper, iron and folic acid, for instance, are all needed for the production of mood and sleep-regulating chemicals in the brain” (Bee 2000a).

Hill: “Very often the diet needs to be completely overhauled so that they switch to eating nutrient-dense foods rather than fast foods, fizzy drinks and items containing low levels of essential vitamins and minerals” (Bee 2000a).

Hill: “Each child needs to be assessed before an individual dietary profile can be worked out ... No one approach will work for all” (Bee 2000a).

'Janice Hill ... believes that the drug should not be used at all. "They are dumping chemical into children's heads and they don't know what the long-term effect is," she said' (Charter 2000).

*The Guardian 2000:*

'Hill says hyperactive children should be helped through changing their diets, rather than drugs. "We think it's totally unacceptable to give class A drugs to children," said Hill. She is helping a group of 34 parents who have now got legal aid for their children to sue the psychiatrist and paediatricians who put them on Ritalin and other such drugs' (Browne 2000a).

'A decade ago, Janice Hill's toddler was attacking her sister and throwing herself over the banister to see if she could fly ... But Janice did not want her child on stimulant medication. Her eldest son's lactose intolerance had made her aware of the role of nutrition in controlling difficult behaviour. So she set about monitoring her daughter's diet' (Tracy 2000).

'It was an uphill struggle but Janice cured her daughter. She did it defiantly, because she resented the doctors who labelled without looking into causes. "No one ever examined her or asked about her medical history ..." She also learned better parenting skills: to be more patient through the difficult times. Janice now runs ... Overload, which is suing various NHS trusts on behalf of 34 parents whose children suffered adverse side-effects on psychotropic medication' (Tracy 2000).

Donna Millar

*Mother of Lee.*

*Member of Overload.*

*Anti-medication.*

*The Guardian 2000:*

‘Ritalin had a powerful effect on Lee. “He was like something out of The Exorcist or Damian in The Omen. He stabbed his brother in the foot with scissors. I was frightened to go to sleep sometimes,” recalled his mother. “He used to demand the pills and was definitely addicted. I find it incredible they are giving a class A drug to a five-year-old.” In desperation, Millar took Lee off Ritalin and he suffered severe withdrawal symptoms before settling down’ (Browne 2000a).

‘Lee, then five, was diagnosed with ADHD ... and prescribed Ritalin’ (Scott 2000).

“It was like he was possessed, like the Exorcist ... [attacks on his brother] ... He was nothing. He was dead” (Scott 2000).

“They told me at the beginning that it was non-addictive but the withdrawal symptoms were terrible” (Scott 2000).

‘She would like him to have some kind of behavioural therapy, but since she refused Ritalin, she says the family has been ignored’ (Scott 2000).

*The Times 2000:*

‘Donna Millar ... said her son Lee was turned into “Damien from the Omen” when he was given Ritalin at the age of five. “He became very violent and tore his bedroom to shreds. There was no emotion – he would not kiss or cuddle any more. I would not touch it even if every other avenue has been exhausted”’ (Charter 2000).

Liz Thomson

*Mother of Anthony.*

*Pro-diet.*

*The Times 2000:*

‘These are early days for Anthony Thomson, who has been taking a cocktail of nutrients for only a few months. But already his mother believes that he is making progress. “The past four years have been like a roller-coaster ride for all of us, with Anthony being prescribed drug after drug along with the Ritalin he was taking ... Ritalin caused him to lose 2st in weight because his appetite disappeared and there were no signs of any improvement, with his tempers sometimes getting worse. So far things are looking good. But we have been told that it could take months for the nutrients to work fully. It will be worth the wait. All we want is for him to have a chance in life”’ (Bee 2000a).

“Eventually he was prescribed a couple of different medications before doctors put him on Ritalin. I thought it would be a godsend because they told me it has a high success rate. Yet I noticed no signs of improvement in his behaviour – if anything, his tempers were getting worse. Most worrying, though, were the side-effects. Over the ten months that he was taking the drugs, his weight dropped by two stone because it diminished his appetite. In the end I contacted a support group and was put in touch with Dr Steve Baldwin ... special diet and psychotherapy to teach the children self-control ... Now, eight months after the switch from drugs, we are starting to see vast improvements. I still can’t believe that I put my faith in the medical profession which allowed my son to continue taking class A drugs when they were obviously of no benefit to him. It was the first mistake I made and I would warn other parents to seek a second a third opinion before doing the same” (Bee 2000b).



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## **Endnotes**

i

The survey did not state the size of the sample of media professionals. Several enquiries to the European Commission have not yet been answered at the time of submission for binding.

<sup>ii</sup> Davies (2008:133) explains further: ‘The idea of balanced reporting has its roots in the most honourable of journalistic traditions. The convention grew from an era when hack journalists were willing to sell their editorial soul, to write partisan and distorted stories for the greater good of their wallets. In that context, it was a brave and necessary step for honest journalists to declare that they would show no favour, that they would be willing to tell the truth from all sides. Now, however, that context has changed, and the demand for balance has become a gateway through which spokesmen for the consensus are invited to enter our stories with their comments, regardless of whether or not they are false, distorted or propaganda. The honourable convention aimed at unearthing the facts has become a coward’s compromise aimed at dispatching quick copy with which nobody will quarrel’.

<sup>iii</sup> Nelkin (1995: 68), in particular, illustrates this reliance on health information in the media well. She writes: ‘A National Cancer Institute Survey of how people become informed about ways to prevent cancer found that 63.3 percent get their information from magazines, 60 percent from newspapers, and 58.3 percent from television. Only 13 to 15 percent had talked to physicians about cancer prevention’.

<sup>iv</sup> Disorder is here set in inverted commas because a disorder is ‘a disturbance of function, structure, or both’ (Stedman 1990 cited in Baughman 2006). ADHD can therefore not technically be classed with disorders, because no such structural or functional disturbances have been empirically verified (Baughman 2006).

<sup>v</sup> Wolraich *et al.* (1990 cited in Timimi 2005: 132), for example, demonstrated that only 30 per cent of all the children in their study that had previously been diagnosed as having ADHD, fulfilled the DSM-IV criteria in both the teacher and the parent assessments. Moreover, the rating tests developed using the DSM criteria are themselves heavily flawed and, technically, invalid (Lahel *et al.* 1987; Mitsis *et al.* 2000; Leslie *et al.* 2004; Snyder *et al.* 2006; Tripp *et al.* 2006 all cited in Furman 2008).

<sup>vi</sup> ‘Co-morbidity is so prevalent that at least three quarters of ADHD-diagnosed children will have at least one other diagnosable child psychiatric condition’ (Hazell 1997 cited in Timimi 2005: 122). Please see Timimi (2005: 122-123) for a more detailed discussion of this phenomenon.

<sup>vii</sup> This is neatly demonstrated in the studies of Shen *et al.* (1985 cited in Timimi 2005: 121) and Luk and Leung (1989 cited in Timimi 2005: 121) who reported high rates of hyperactivity in children in China and Hong Kong. However, closer scrutiny of these results indicated that English assessors considered these ‘hyperactive’ Chinese children to be distinctly less active than English ‘hyperactive’ children and would consequently not have rated them hyperactive. These discrepancies in rating can be explained by a much lower tolerance of unruly conduct in Chinese culture (Taylor 1994 cited in Timimi: 121).

<sup>viii</sup> Homosexuality, for example, used to be listed within the diagnostic manual but was taken out when it became socially acceptable (Prior 1997 cited in Lloyd & Norris 2000).

<sup>ix</sup> For a comprehensive and well-written review of ADHD genetic studies please refer to Joseph (2009).

<sup>x</sup> The British National Formulary (BNF) is published jointly by the British Medical Association and the Royal Pharmaceutical Society of Britain. It is released twice a year and is targeted at all health professionals engaged in the processes of prescribing, monitoring, providing and administering medications.

<sup>xi</sup> ‘Impaired digestion or “upset stomach” due to some disorder of the stomach’ (McDonough 1994).

<sup>xii</sup> ‘[R]apid beating of the heart’ (McDonough 1994).

<sup>xiii</sup> ‘[I]nflammation of the mucous membrane of the posterior [nostrils] and of the upper part of the pharynx’ (McDonough 1994).

<sup>xiv</sup> ‘Weakness or debility’ (McDonough 1994).

<sup>xv</sup> ‘[S]evere pain in a joint, especially one not inflammatory in character’ (McDonough 1994).

<sup>xvi</sup> ‘[I]tching’ (McDonough 1994).

<sup>xvii</sup> ‘[S]hortness of breath, a subjective difficulty or distress in breathing’ (McDonough 1994).

<sup>xviii</sup> The presence of blood in the urine.

<sup>xix</sup> ‘[N]osebleed; profuse bleeding from the nose’ (McDonough 1994).

<sup>xx</sup> ‘[S]ore throat’ (McDonough 1994).

<sup>xxi</sup> Timimi (2005: 136) writes: ‘We often forget that stimulants are powerful amphetamine-like drugs with potentially addictive properties. Children become tolerant to its [sic] effect resulting in gradually increasing doses being given to children as years on a stimulant clock up. The potential for tolerance and addiction is further demonstrated by withdrawal states (known as the rebound effect, which manifests in increased excitability, activity, talkativeness, irritability and insomnia) seen when the last dose of the day is wearing off or when the drug is withdrawn suddenly (Zahn *et al.* 1980). Stories of adults becoming addicted to prescribed stimulants are becoming more prevalent by the day (e.g. Wurtzel 2002)’.

<sup>xxii</sup> ‘[D]isease of the eye characterized by increased intraocular pressure, excavation and atrophy of the optic nerve; it produces defects in the field of vision’ (McDonough 1994).

<sup>xxiii</sup> ‘[I]nflammatory redness of the skin’ (McDonough 1994).

<sup>xxiv</sup> For a longer list of possible dietary influences on children's behaviours please see Timimi (2005: 144). For the role of fatty acids and food additives please see Puri (2009).

<sup>xxv</sup> Please note that 2009 was only searched from 1 January to 30 June as it is still summer 2009 at the time of writing.

<sup>xxvi</sup> Leo and Lacasse (2009) compiled several examples of "educational material" from drug manufacturer websites. Here is just one item from their list: 'Studies show that the brains of children with ADHD may function differently than those of other children. These children may have an imbalance of chemicals in the brain that help to regulate behavior' (Ritalinla.com 2008 cited in Leo & Lacasse 2009: 291). Just how wrong such statements are has been discussed in detail in Chapter Two.

<sup>xxvii</sup> In Italy, for instance, lobbying activities of parent groups and paediatricians in 2000 brought the discussion about ADHD into the Italian health and politics spheres where it had previously been virtually ignored (Bonati 2006: 131-134). Similarly, Moynihan and Cassels (2005: 61-81) describe the enormous influence of the American ADHD support organisation CHADD (Children and Adults with ADHD) in their chapter 'Partnering with Patients'.

<sup>xxviii</sup> Tuchman (1978: 4-5) discusses this in detail: 'Because news imparts a public character to occurrences, news is first and foremost a social institution. First, news is an institutional method of making information available to consumers ... Second, news is an ally of legitimated institutions. The secretary of state can float an idea in the news media. The "average" man or woman does not have such access to the media. Nor does an average citizen have the same power, held by legitimated politicians and bureaucrats, to convert his or her reaction to the news into public policies and programs. Third, news is located, gathered, and disseminated by professionals working in organizations. Thus it is inevitably a product of newswriters drawing upon institutional processes and conforming to institutional practices. Those practices necessarily include association with institution whose news is routinely reported. Accordingly, news is the product of a social institution, and it is embedded in relationships with other institutions. It is a product of professionalism and it claims the right to interpret everyday occurrences to citizens and other professionals alike'.