

The medicalization of education: ADHD, human enhancement and academic performance

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Abstract: This article discusses the medicalization of education and its principal characteristics, arguing that medicalization can no longer be understood as being strictly connected to medical imperialism. Other “drivers” of medicalization have become increasingly influential: consumers, economic forces, biotechnology and managed care. The article investigates the close connection between medicalization human enhancement, where human enhancement is understood as the use of biomedical technology to improve performance on a human being who are not in need of a cure. The article focuses on these themes within the context of education. In particular in relation to the increase instances of ADHD amongst students. The epidemic of ADHD in the US school is a dramatic phenomenon: millions of kids are treated with pharmaceuticals that can have dangerous side-effects. In competitive US universities strategic use of ADHD diagnosis can be witnessed: students use psychostimulants in order to improve their academic performance. The article argues that ADHD should be understood as a sign that a student is having trouble integrating in the classroom rather than a symptom of a brain disease.

Keywords: Medicalization, Sociology of education, ADHD, Human enhancement.

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Introduction

An article with the title “Harvard Student’s Suicide as a Case Study” published in the *New York Times* on April 30th, 2013 and written by Alan Schwartz, tells the story of a father who sued Harvard University because his son, Johnny Edwards, a freshman at Harvard, took his life. The father blamed Harvard for the suicide. Johnny had received an ADHD diagnosis from the health center at Harvard. According to his father, Johnny did not suffer from ADHD.

ADHD, that is Attention Deficit / Hyperactivity Disorder, is regarded as a brain dysfunction due to reduced metabolism and inhibition in regions of the brain associated with attention and motor activity, or to a dopamine deficiency (Abraham, 2010). In the US, ADHD is diagnosed using a checklist, that is checking if some symptoms are present or not (Horwitz & Wakefield, 2009). The symptoms of ADHD fall under three categories: inattention, hyperactivity and impulsivity. Six out of nine criteria need to be present in order to justify the diagnosis. For instance, difficulty paying attention to details; easily distracted by irrelevant stimuli; procrastination; disorganized work habits; forgetfulness in daily activity; failure to complete tasks such as homework; getting up frequently; often talking excessively and others behavioral manifestations of this kind.

The details of this article provide us with a picture of the tragic entanglement of mental disorder, high demanding academic environments and the laxity with which mental disorders are diagnosed, often leading to serious consequences, are provided.

Johnny Edwards, who had just finished his freshman year, received his diagnosis in June 2007 and was prescribed Adderall after a single examination at Harvard University Health Services. Mr. Edwards killed himself six months later after he was also prescribed antidepressant medications at the clinic. Mr. Edwards’s father, John, contends, among other accusations, that his son had never had A.D.H.D. and that Harvard’s original diagnostic procedure, and subsequent prescriptions for Adderall, did not meet medical standards. (...) In pretrial testimony, Marianne Cannon, the clinical nurse specialist who initially evaluated Mr. Edwards, detailed why she made the diagnosis and prescribed Adderall, both legal under Massachusetts law. (Some states require doctors to perform those roles.) Ms. Cannon said Mr. Edwards visited the student health center in June 2007 and claimed to have trouble concentrating — telling her, she recalled, “I can’t study like I would like to, as much as my friends”.

During her hour with Mr. Edwards, Ms. Cannon said, she noted that beyond his general

inability to focus and need for frequent study breaks, he had received two minor traffic citations, further suggesting impulsiveness and a poor attention span. She said Mr. Edwards's taste for the energy drink Red Bull indicated a need for help concentrating. She said he asserted that his father "may have had" A.D.H.D., which Ms. Cannon took as another sign because, she testified, "80 percent of the time, the previous generation will have it."

In the prestigious universities of North America competition is very high. Students are expected to excel. Not getting high grades can have detrimental consequences on their future careers. In order to increase their academic performance many students take psycho stimulants. At university, there are students who buy pills on the black market and others who are diagnosed with ADHD or other learning disabilities and therefore have legal access to medicines. And then there are students who overstate their symptoms in order to receive a desired diagnosis. In all three cases the students use pharmaceuticals in order to succeed in reaching socially defined results. However, as the article describes, pills can have devastating effects.

The number of ADHD-diagnoses has risen steadily over the last twenty years, but there are big concerns about their reliability (Jutel, 2009). The diagnosis is based on the narrative of the patient and is therefore constructed on a set of symptoms (Horwitz and Wakefield, 2009). These symptoms are strictly related to the functioning of the student in the academic setting or in the classroom (Nind, 2008; Oliver and Barnes, 2010).

On this basis, many scholars define this trend as the medicalization of education or the medicalization of performance (Conrad, 2007). Others prefer to consider it a form of human enhancement (Savulescu and Bostrom, 2008), *i.e.* the use of pharmaceuticals to improve normalcy rather than as a treatment of a pathology (Maturro, 2012a). According to these authors, many of them belonging to movement of transhumanism, it is hypocritical to consider medical interventions as treatments alone. Instead, medicine should explicitly help people to function more effectively in response to the demands of contemporary society (Savulescu and Bostrom, 2008; Cipolla, 2010). It is also true that students, making strategic use of pharmaceuticals, make up an increasingly large "psyculture" (Levinson and McKinley, 2013), one of the main features of the pharmacologization of society (Coveney, Gabe and Coveney, 2009).

The ADHD diagnosis in US schools

In the US, the diagnosis of ADHD, Attention Deficit and Hyperactivity Disorder, has become increasingly common over the last twenty years. Clarke (2011) - on the basis of data from the Center for Disease Control and Prevention in 2010 - shows that the incidence of ADD/ADHD has increased over the years: in 2007, 5.4 million or 9.5% of children in the USA between the ages of 4-17 had been diagnosed with ADD/ADHD. Moreover, she adds that between 3% and 7% of all school aged children in the United States suffer from undiagnosed ADHD. There was also an increase in the diagnosis of ADHD of about 3% per year from 1997-2006 (Clarke, 2011).

In Michigan, in 1997, the prescribing rate for stimulant medication (dextroamphetamine, amphetamine, methamphetamine) was very high among children 10-14 years old (380 prescriptions per 10.000), followed by children 5-9 years old (253 prescriptions per 10.000). Over the period 1990-1997, the rate with which amphetamines were prescribed increased significantly, ranging from 380% for children 2-4 years to 817% for teenagers older than 14 years. In one county the rate was 1648 per 10,000 children 5-14 years old (Lin, Crawford and Lurvey, 2005, p. 617). Also outside the US, the number ADHD diagnoses is increasing: for instance in Great Britain, prescriptions for Ritalin grew from 3.500 to 161.800 between 1993 and 2002 as a treatment for ADHD (Abraham, 2010). On the contrary, in Italy, there are some restrictions with regard to the medicalization of education. In Italy there are 125 Centers (of which only 75 are active) that are certified to diagnose ADHD and these are spread out among the different Italian regions (these are the only places where Ritalin and Strattera can be prescribed). A child neuro-psychiatrist and a clinical psychologist must be present in these Centers in order to make the diagnosis. Also it is recommended that a psycho-pedagogist or a professional educator be present. Generally, the child has previously been to his/her assigned public psychologist or child neuro-psychiatrist, and from there, if there is suspicion of ADHD, he/she is sent to the Regional Center accountable for the official diagnosis. These Centers are also the only ones which provide psycho-behavioral therapies.

In the US, the text which provides the guidelines for the diagnosis is the DSM, *Diagnostic and Statistical Manual of Mental Disorders* edited by the

American Psychiatric Association. While the first two editions of the DSM were characterized by a strong psychoanalytical and theoretical stance, the following editions were increasingly less scientifically grounded. Mental disorders are recognizable through symptoms and the diagnosis is constructed by asking a set of questions about empirical events which have occurred or not occurred to the patient (Maturò, 2009a). Therefore, in mental health, the “clinical gaze” switches its focus from the discovery of the root-causes of the mental pathology to the observation of a set of symptoms. A disorder defined by its symptoms is tautologically defined “syndrome”. Virtually anything can be defined as a syndrome, as a matter of fact we have the Monday morning blues and the Post-holiday syndrome. Horwitz e Wakefield (2009) have demonstrated how changes to the definition of depression in the DSM-III and in the DSM-IV paved the way to the medicalization of unhappiness, i.e. the feeling of mild discomfort and dissatisfaction we all have sometimes experienced. The new edition of the DSM, edited in 2013, does not mitigate this trend.

The aim of this branch of medicine shifts to reducing the symptoms rather than intervening at the level of the causes of the pathology. If the disorders are easily recognizable they automatically become an easy target for prescribing a treatment. And when the task of psychiatry is to remove the symptoms then pharmacological treatments are the most convenient ones. It is cheap (compared to the years of a psychoanalytic treatment); they have a quick effect on the patient; and can be provided in a relatively standardized way.

The main effect of this “diagnostic psychiatry” (Horwitz and Wakefield, 2009) is that the criteria for a diagnosis of ADHD are widened: “making it virtually impossible to disentangle increased identification of ADHD sufferers from increased medicalization, and leading to concern that the threshold between normal behavior and ADHD has been set too low” (Abraham, 2010, p. 292). The easiness by which we can fill a test and checklists in order to identify if we are suffering from a mental disease has fueled the idea of the surveillance of medicine and the need for continuous screening (Rose, 2007). In the United States, this process is not only promoted by physicians and consumers but also by economic forces: “To deal with the enormous perceived amount of unidentified mental illness, the screening movement has developed short screening scales for administration in school classrooms that ask students whether they have

experienced a variety of distressing symptoms of sadness, anxiety, problems with substances abuse and the like. (...) Pharmaceutical companies have sponsored the development of many screening measures, which promise to open previously untapped markets of potential drug users” (Horwitz, 2010, p. 98).

In the ADHD case, we are dealing with a condition that makes individuals dysfunctional within a certain social organization. In other words, a person, usually a child or a teen-ager, if not able to fit in in a specific social organization, is labelled as sick. Overly lively and boisterous children, not being able to keep up in school, are candidates for a diagnosis of ADHD. Moreover, these children disturb and make reduce the overall performance of the classroom. This is a serious problem in competitive and expensive US high schools. The ADHD problem brings to mind Talcott Parsons’ sick role theory (1951). According to Parsons (1951) the sick person could be considered a deviant because he/she was unable to perform his/her productive role in the society. Therefore, the task of medicine was to bring the person back to health, *i.e.* to his/her productive role in society. But according to Parsons the reason why the patients were sick was not the fact they were unable to work (this was the effect): the cause of the disease was seen as physiological. This is even more true today. Only biological causes can justify the undertaking of amphetamines by children. According to neuroscience ADHD derives from genetics and/or chemical imbalances in the brain (Rose, 2007).

Yet, in the case of ADHD “the brain-imagining studies have lacked replicability and suffered from problems of small sample size and experimental rigor in matching the ages of the children in control and test group” (Abraham, 2011, p. 291). Drugs are used to lessen the strength of symptoms and therefore to help people to have different feelings in certain situations and to behave in a socially accepted way in a specific context. It cannot be said that amphetamines treat the “real” cause of ADHD (if it can be stated that ADHD has a real and unique cause).

ADHD and the medicalization of everyday life

ADHD is probably the most common example used to illustrate the phenomenon of the medicalization of life. Medicalization can be defined as

the process by which some aspects of human life come to be considered as medical problems, whereas before they were not considered pathological (Conrad, 1975; Maturo, 2007). The scholar who popularized this concept is Ivan Illich. Illich in the Seventies in his book *Medical Nemesis* (1973) claimed that the health complex instead of promoting health caused illness. Capitalism was making society sick, and society in turn, made individuals sick. Illich described the process of medicalization with his concept of iatrogenesis. The word iatrogenesis comes from the ancient Greek and means “originating from a physician/treatment”. Radical and paradoxical positions were not new to Illich: in his book *Deschooling Society* he claimed that education in contemporary society produced ignorance.

In the same period, Foucault proposed the concept of indefinite medicalization. According to him, the multiplication of the social spheres controlled by the clinical gaze (*regard médicale*) increased the surveillance-power of medicine on the population. In the US, Zola (1972) was analyzing the relationship between medical power and the construction of disability; Freidson (1970) was proposing the concept of medical dominance over the other health professions and Abbott (1988) described how physicians created their own “jurisdiction” in the health system.

According to Conrad (2007) and Furedi (2006), nowadays medicalization is not promoted only by the medical class. At the very least, we should mention four other drivers of medicalization: economic forces, technology, consumers, managed care.

Economic forces, *i.e.* pharmaceutical corporations (Light, 2010) promote medicalization by pathologization human life. In the United States, the only country along with New Zealand where Direct-to-Consumers advertising for prescription drugs are allowed, a huge number of ads invite people to cope with the epidemic of erectile dysfunction and social phobia. Moreover, the ads promote the medicalization of prevention (Murray, 2009). For example, the ads try to convince you that in order to lower your cholesterol levels a pill can replace physical activity. With regard to cholesterol, it should be noted that the level of cholesterol above which one is defined “at risk” was lowered by a commission (Angell, As a consequence overnight one million people become patients and as such consumers of pills. The increase in advertising has also strongly stimulated disease mongering, which is the “invention of illnesses” (Moynihan and Cassels, 2005).

Technology promotes medicalization through the multiplication of the rate of diagnosis. Sophisticated screening tools and devices make it virtually impossible to make tests without finding some aspects of our health conditions that could be treated. If no pathologies are discovered then risks can be treated, as mentioned through the example of cholesterol levels.

Because health has become a commodity, consumers are now a factor in medicalization (Turner, 2004). People are increasingly using medical terminology in order to analyze their own health, influenced from watching TV and browsing the internet (Barker, 2008). Self-care is increasing (Agnoletti, 2011). New social representations of health and illness are emerging. For instance, the representations of idealized beauty and the parallel “treatments” of cosmetic surgery. The body is increasingly considered as a “text” through which people may transmit signals and information (Bauman, 1995).

One of the most worrying features of medicalization is the transformation of social problems into medical disorders (Maturio, 2012b). If we define ADHD as a brain disease separated from social factors like competition in the classroom, or that depression has nothing to do with unemployment, divorces or deprived neighborhoods, then the State is relieved from expensive and complex social policy actions. Moreover, in a health-care system that is a cost-containment regime putting people on Prozac is less expensive than covering long-lasting psychotherapy (Maturio, 2010).

Other scholars, like Barker (2008), have shown how also in the lay discourse the medical discourse can play a pivotal role. The separation between the *Lebenswelt* and the System is not so wide (Habermas, 1981).

Indeed, Rose portrays individuals as people who think “scientifically”, with biology as a main source of linguistic inspiration: “we human beings have become somatic individuals, people who increasingly come to understand ourselves, speak about ourselves, and act about ourselves – and others – as beings shaped by our biology” (Rose, 2007, p. 188). Rose underlines the shift from a psychological to a biological conception of the self in the knowledge practices of professional medicine: “While our desires, moods, and discontents might previously have mapped onto a psychological space, they are now mapped upon the body itself, or one particular organ of the body – the brain. And this brain itself is understood in a particular register. In a significant way, I suggest, we have become ‘neurochemical selves’” (Rose, 2007, p. 188). In the analysis carried out by Bröer and Heerings

(2013) on the role of neurobiology in the public and private discourse of adults with ADHD on Dutch media they found that “Neurobiological definitions of ADHD dominate the Dutch public discourse on ADHD. Different arguments, psychological and sociological, spiritual arguments and arguments about the advantages of ADHD are present but they are always related to neurobiology.” (Bröer and Heerings, 2013, p. 60). Also Clarke in analyzing the US magazine portrayal of ADHD found that “Whenever there is a discussion of cause, however, it generally authoritatively focuses on biology and genetics” (Clarke, 2011, p. 628).

The medicalization of education and cognitive enhancement

In US colleges, the consumption of psychostimulants is increasing (Loe and Cuttino, 2012). Epidemiological research based on reliable samples show that more than 8% of students regularly use psychostimulants to improve their academic performance. A study conducted in a big university in the Midwest found that 39% of the students had used psychostimulants at least once in order to get more concentrated (Peralta and Steele, 2010).

These pharmaceuticals, as said, are used for the optimization of performance. Some scholars like Abraham (2010) have proposed using more specific concepts instead of medicalization to describe this phenomenon, such as the concept of pharmacologization. Instead of the treatment of pathology we are talking about the enhancement of normalcy. The pharmacologization of cognition describes the optimization of intellectual performances (Coveney, Gabe and Williams, 2012).

There are students who buy psychostimulants on the black market and other students who have been diagnosed and can therefore obtain them legally. Then there are students who strategically get themselves diagnosed, by exaggerating their symptoms. Even if these three situations are quite distinct from one another, in all three situations the students use pharmaceuticals in order to achieve some socially defined results. Moreover, all these consumption practices show that the borders between treatment, cure, and enhancement are gray. What is seen today as a normality that can be optimized, tomorrow might be seen as a pathology that must be cured.

As for many mental disorders, it is very difficult to individuate the

physiological causes of ADHD. ADHD impedes people from reaching certain socially defined results in a specific social context. Therefore we are dealing with a condition highly dependent on social context (Peters, 2010; Riddel *et al.*, 2001; Rogers, 2007). In other situations, like sport or artistic settings, the symptoms of ADHD would not be noticed or could even be regarded as an advantage. Perhaps it would be more appropriate to describe those affected by ADHD as individuals, not who suffer from a brain disease, but rather exhibit behavior that is considered dysfunctional in an educational context. Therefore, using the lexicon of the sociology of health we can consider it more of a sickness than a disease. The triad disease, illness, sickness was popularized by Twaddle (1979). *Disease* can be considered as the bio-medical definition of a pathology. *Illness* coincides with subjective feelings of pain or anxiety and on the subjective interpretation of the pathological state. Sickness as the way by which society interprets a personal condition (Maturro, 2007).

Loe and Cuttino (2012) discovered the high level of self-consciousness which characterizes the use of pharmaceuticals among college students with ADHD. They found “that many ADHD-diagnosed students taking psychostimulants are ambivalent users, who actively construct how they are shaped by the behavioral effects of medicine. Pharmaceutical enhancement may be perceived by students as necessary in the context of a competitive academic ethic.” (Loe and Cuttino, 2012, p. 105).

According to some prominent scientists, cognitive enhancement should not be forbidden. In the scientific journal *Nature* they “call for a presumption that mentally competent adults should be able to engage in cognitive enhancement ?drug use?” (Greely *et al.*, 2008, p. 703). According to them if the main side-effects of the drugs could be minimized, legalization of non-medical-use pharmaceuticals should be granted. If safety, freedom (that is freedom from coercion to enhance) and equity (that is equal access to these drugs) were guaranteed, competent adults should be allowed to use cognitive enhancers.

In a nutshell, the main pros connected to the liberalization of cognitive enhancers are the following:

- more productive individuals;
- possibility of arriving at discoveries which will be useful for everyone;
- cognitive enhancement could turn out to be easy to distribute equally;

- reduction of social inequality (minimizing the effect of a person's socioeconomic background on their university success);
- numerous substances enhance our mood and cognitive capabilities and they are not prohibited (chocolate, moderate use of alcohol, tea, coffee);
- cognitive enhancers can be used for philosophical reflection, and artistic and meditative aims.

The main downsides and the negative consequences of a liberalization of the use of psychostimulants are the following:

- risk of dependence;
- absolutization of the "productive" aspect of life;
- excuse for not confronting social problems (depoliticization of social problems);
- social pressure to use enhancers (otherwise you would fall behind);
- over time those who do not improve will become a minority and will be considered "abnormal";
- usually innovations spread easily among the better off (increase in social inequality).

From a social justice perspective - in Maturò (2012c) on the basis of the theory proposed by Segall (2010) and Daniels (2008) - I questioned whether the State should be responsible for covering the cost of cognitive enhancement drugs like it did with pharmaceuticals used to treat diseases. Claiming that cognitive enhancement could not be equated to a medical need nor could an "augmented" productivity be considered as a social right I concluded, no.

Moreover, the idea of reducing the social differences between students through the use of cognitive enhancers is a temporary solution. If social inequalities influence scholastic performance it is these very inequalities which must be addressed. An atomistic vision of society depoliticizes the problem of poverty and the consequences connected with it.

Conclusions

From a sociological perspective, the increase in instances of ADHD in the US can be partially explained by two trends. The first one is the medicalization of life: the diagnosis based on symptoms in the realm of

mental health are relatively easy to obtain. The second partial explanation is the strategic use of pharmaceuticals in order to enhance academic performance. Students seem to be part of a psychoculture (Levinson and McKinley, 2013). Together, these two phenomena result in what can be defined as the medicalization of education.

Human enhancement opens a new scenario for education. The pharmaceuticals, in this case, are used to improve one's academic performance instead of treating a disease. Yet, presently, medicine cannot explicitly legitimize this phenomenon and therefore it pathologizes the conditions that have to undergo improvement. In noneducational contexts, like artistic contexts, the symptoms of ADHD would not be considered those of a pathology. In any case, the borders between enhancement and treatment; normalcy and pathology; disease, illness and sickness are blurred and clear-cut distinctions are not always possible (Maturro, 2012c). This feature makes the process of medicalization easier.

In some respects, it could be stated that the therapeutic culture of students is becoming more "refined". Students strategically seek diagnosis and use pills so that the therapy/enhancement coincides with exams. Unfortunately, the collateral effects can be devastating as we read at the beginning of the *New York Times* article, It is not by chance that the ancient Greek word *phàrmacon* had two meanings: therapy, but also poison.

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