

ADHD, enhancement and medicalization in mental global health: an interview with Ilina Singh (Part 2)

Luís Henrique Sacchi dos Santos^(a)
Claudia Rodrigues de Freitas^(b)

<https://spectrumnews.org/author/ilinasingh/>



Here is the second in a series of three interviews with Ilina Singh that, as a whole, explore aspects of her wide academic production on Attention deficit hyperactivity disorder (ADHD). In the first part (v. 20, n. 59, 2016), we highlighted some of the dislocations carried out along her research trajectory, the movements and contingencies that led her to undertake certain types of research, such as the importance of considering ADHD in a biosocial way. In this second part, we explore some questions about the possibilities of using psychostimulants (such as Ritalin) for enhancement purposes and place the issue of ADHD in the context of globalization or “global mental health”. The third part will consider some discussions that enables us to think in terms of a political, ethical, medical, social and educational agenda to deal with ADHD.

^(a) Programa de Pós-Graduação em Educação, Departamento de Ensino e Currículo, Faculdade de Educação, Universidade Federal do Rio Grande do Sul (UFRGS). Prédio 12201, av. Paulo Gama, s/n, Campus Central, sala 807. Porto Alegre, RS, Brasil. 90046-900. luishss2009@gmail.com

^(b) Departamento de Estudos Básicos, Faculdade de Educação, UFRGS. Porto Alegre, RS, Brasil. freitascrd@gmail.com

LH (Luís Henrique): Still in “Biology and context...”¹ you said that, in terms of a philosophical debate, Ritalin would be seen “as a technology that sits in the borderline between treatment of disorder and enhancement of the person” (p.365). The idea of enhancement is something that you explore since the beginning, but will explore fully detailed in “Neuroenhancement and young people...”². Would you think this ‘between’ of Ritalin would be taken as an empirical evidence of a kind of enhancement in schools, at least in behavioural and disciplinary terms? How important is the role of authenticity (the idea that stimulant drugs would restrict children freedom) here, for example, discussed in “Clinical implications of ethical concepts...”³?

IS (Irina Singh): I came to enhancement not because I had any interest in enhancement but because I studied Ritalin. People started asking me questions about enhancement. The first thing I said was “I do not know anything about enhancement because I do not feel I have evidence of enhancement”. I talk to children and families in a therapeutic context, and I would not want to presume that any of these kids are being enhanced. Moreover, what does ‘enhancement’ even mean?

I had two ideas about enhancement. First, I thought that there was a need to think through a scenario that allowed families to request ADHD drugs for the purposes of enhancement. To me it seemed that, if we truly think that a lot of families are already asking for ADHD drugs for enhancement, it was necessary to consider the ethical dimensions. Second, I thought that someone should do a study to understand what is meant by enhancement, and how young people themselves are choosing to use these drugs (or not) for enhancement. At the time, our UK newspapers were full of claims about huge numbers of students turning to cognitive enhancers. There was no evidence of this outside of journalism. It was relatively easy to set up a survey of cognitive enhancement in the university setting and we showed that far fewer students were taking ADHD drugs for cognitive enhancement, on a consistent basis, than the papers were claiming. Of course, that has not stopped the UK media from making their hyperbolic claims.

The first problem was more difficult. I wanted to bring a clinical perspective to “what could be done to help minimise the potential harms of using ADHD prescription drugs for enhancement purposes⁽⁴⁾?” It seemed appropriate to try to think through what would happen if these were clinically available and you could go to your doctor and say “my son has a test next week, can I please have some Ritalin?”. With my American paediatrician colleague, Kelly Kelleher, we wrote a set of guidelines² that considered in a systematic way what would need to be in place for such requests to be handled responsibly, in part because we know that there are some clinicians in the States who are not being careful at all about who they’re giving these drugs to. Anyway, people generally now cite that article to show how wrong we are! I think that is fair: we wanted to stimulate debate. Soon after the American Academy of Neurology came out with a statement that pediatric neuroenhancement using ADHD drugs was unacceptable.

The other part of your question is about authenticity and the restriction of freedom that might come with ADHD drugs. What I tried to show in the article you reference is that authenticity is not a concept to which we should assign a *priori* positive or negative connotations. If a child feels that they are authentically bad, in a developmental stage when identity is still consolidating, then we will probably not want to preserve that sense of personal authenticity, although we

⁽⁴⁾ Recently, Professor Irina published two texts that amplify the discussion presented here: “Cognitive enhancement in healthy children will not close the achievement gap in education”. The American Journal of Bioethics. 2016, 16(6):39-59, with Sebastian Sattler; e “Can guidelines help reduce the medicalization early childhood?” Journal of Pediatrics. 2016, 166:1344-6), with William D. Graf.

also may not want to impinge on the freedom for someone to decide who they authentically are. Obviously, this conflict needs more thought and analysis.

Your question also relates to a larger issue of the extent to which education, at this moment in time, fosters children's freedom – or, perhaps it is more appropriate to use the term 'flourishing', which combines the notion of freedom with a sense of self-cultivation through institutional practices.

I think that schools in the UK are not oriented sufficiently anymore to the question: How do you help a child to flourish? Instead, they ask "how do you help a child do well on exams?" These narrow conditions and expectations do seem to encourage the turn to cognitive enhancement. But, of course, this is an old problem in education; it's just that old solutions, such as extra tutoring or exam preparation, have given way to the possibility of psychotropic drugs. So what is the difference? Why is extra tutoring (which raises concerns about equity between those who can afford it, and those who can't^(d)) better than ADHD drugs? Some would say that at least tutoring requires effort from the child, while drugs do not. However, I think that view ascribes too much power to these drugs. They do not 'do the work' for a child – not by any means. This is why I make the claim that children taking ADHD drugs are 'not robots'⁴.

On the other hand, I do believe that ADHD drugs support children's capacity to fit into the boxes that the schools need them to fit into. I do not think those boxes necessarily support a child's flourishing, and that is, to me, the central problem. Until we as a society are willing to change the structure of the box, we will not be able to do better than we are doing now. Why is there no flexibility in those boxes? Why are we afraid to make radical changes to how we educate young people? We cannot say, well, the box is inflexible because we know it works to deliver a flourishing child in the end; we know that for many children that is not true. We recently had a survey in the UK, which showed that our children are the unhappiest children in Europe. I suppose I link the problem of the turn to Ritalin-type drugs to a lack of flexibility and acknowledgment of cognitive differences within schools. In addition, there is just a basic issue of a lack of skilled resources to support a broader range of teaching and support.

LH: In "Biology in context..."¹ you said that there were three mysteries that presented an opportunity for the integration of biomedical and sociocultural approaches, and you found particularly interesting: a) the chronicity of ADHD; b) the fact that children with ADHD tend to be better behaved for their fathers than for their mothers; c) and the gender bias (towards the prevalence of boys) in ADHD diagnoses and methylphenidate treatment (p. 365). Would you say the same today?

IS: How interesting to look back on that! On the chronicity of ADHD – an interesting social dynamic happened over the last ten years. I was at a talk last week^(e), where one of the people who helped set up the first adult ADHD clinic in the UK said very happily, 'five years ago there were three clinics and today there are 66 adult ADHD clinics!' From a medical perspective, this 'mystery' of chronicity seems to have been solved: ADHD is a chronic disorder, it is no longer considered a disorder that resolves after childhood. Of course, for us, thinking sociologically, it is still problematic particularly because this entity 'ADHD' does not look the same across the lifecourse. It doesn't look the same even when you move from middle childhood to adolescence, and then when you move from adolescence into early adulthood, ADHD as a phenotype (if I can use that word)

^(d) Interviewer's note: Renato Janine Ribeiro, in the text "Novas fronteiras entre natureza e cultura" (In: NOVAES, Adauto (Org.). O homem-máquina: a ciência manipula o corpo. São Paulo, Companhia das Letras, 2003. p.15-36), makes an interesting discussion about this aspect.

^(e) The interviewee refers to the second week of December 2014.

shift again with maturity and context. It is interesting to compare this trajectory with a disorder that has been considered chronic for much longer: autism. At this point, it is more common to say about autism that its manifestation changes across the lifespan and that it changes with environments across the lifespan. People tend to think of autism as a very dynamic disorder – it is vital, it changes with age and where you are and other factors in your life, whereas ADHD was thought of as a dichotomous, time-limited thing. So we can be productively disruptive, I think, and ask: if ADHD is chronic, does that mean it stays the same across the life course? Alternatively, does it shift in its manifestations, as we know autism to do?

The gender bias is shifting. I think it used to be 4:1 boys in most Anglo-European settings, and it is now moving towards 3:1. I would not say this is a mystery so much – perhaps it never was. In my view, the gender difference is largely down to social dynamics, although the relative cognitive immaturity of boys as compared to girls likely contributes. Different countries think differently about ADHD and girls, although the overall ratios are similar. In the UK, we tend not to identify and diagnose inattentive type ADHD; and that happens to be a diagnosis that you see more often in girls (probably in part because ADD at a descriptive level is itself bound up in gender norms). I am sure the gender dynamics are both similar and different around the world. Again, this is not a dynamic that can be explained purely biologically or purely socially. Therefore, if there is work to be done around the mysteries of ADHD from a biosocial perspective, I think these are still rich areas to work through.

LH: You mentioned Thomas Szasz (1974), In “Biology in Context...”¹, which suggested that a mental disease would be interpreted as a metaphor for behaviours, feelings and thoughts culturally disapproved (see p. 362). Do you think that this statement would help to explain the “French case” about ADHD – where very few cases of ADHD are reported, simply because “they” think that children are doing what children must do? In other words, what do you think about the idea that ADHD would be interpreted as a cultural construction that affects as differently as we conceive it?

IS: Well, I do not know that the one description of the French case can be taken as wholly accurate. There are different opinions. On the other hand, I get quite irritated when people say there’s a worldwide ADHD prevalence of 5% - there are many measurement and definitional issues buried in that calculation. There is so much valuable work still to be done to properly understand the local dynamics of ADHD in different contexts. When the global prevalence estimate first appeared in 2007 it was interpreted to demonstrate definitively that ADHD is not a cultural issue (see Singh et al, Globalisation and ADHD paper). But, of course, it doesn’t do away with any of the problematics of culture. When you do a big epidemiological study, it hides the complexity in the statistics.

In general, I think a strong constructionist argument is one that I can’t give credence to because I think it doesn’t account for the role of the biological or the physical; and the same is true for the strong biological reductionist argument. We looked at this wonderful work by Ian Hacking⁽¹⁾. I’m very taken with that work, and I think particularly in the 2011⁶ paper I’m trying to say something similar, but I use this rather awful metaphor of channels, and I would take that back if I could because I don’t think it conveyed what I meant. I

⁽¹⁾ Professor Ilina makes reference to the text *The social construction of what?* (Cambridge, MA: Harvard UP, 1999).

increasingly start with the premise that the biological and the social are intertwined from the start; so to try to pull them apart actually is not terribly useful. As I said before, in certain disciplines one has to do that separation heuristically, but in sociology and in bioethics, I do not believe we do. Where we sit, at the interface of sociology, biology and ethics we have an obligation to think in more complex ways, and to come up with complex and dynamic models.

Of course, social dynamics shape children's behaviour, and our interpretation of their behaviour. Just to give you a concrete example, it's why I keep talking about the playground setting because it's where you can see these dynamics and their effects on children's capacity for self-control clearly.

Let's say you have a child who has self-control problems. Let us say they are mild and most of the time he or she can manage and does not need medicine. Then the child moves to a new school, where there is a daily interaction with a bully at lunchtime. Suddenly the child's behaviour begins to deteriorate, and the school or the parents think that medication might be needed. But, as I said before, in my view the first attempt to resolve the problem should include changing the playground culture so that bullying no longer happens. Ritalin is not going to help a child who continues to have these experiences in the playground.

I think the social constructionist position helps us keep the social dynamics in view. Schools have to be much more aware of the ways in which the various environments in a child's day help or hinder a child to behave the way that the school thinks is right and appropriate. On top of that, we need to have a discussion within schools to ask: what kind of behaviour do we value in children? Are these the right values?

Both of those conversations I think need to be happening at the same time. One is a political and an ethical discussion about values and childhood and flourishing. The other is a much more concrete discussion that says if you are a teacher who shouts 25-minutes out of a 40-minute class and you have a child who struggles with self-control, you need to know that that child is being fired up physically by your approach. That is so easy to change – just lower your voice. It will probably help all the students in the class focus.

LH: In some of your first texts here considered (from 2002 to 2007)^{1, 3, 7-12}, you make a recurrent allusion/statement that in the USA there was a correlation between the use of Ritalin for children's schools problems and the fact that their mothers took or were taking anti-depressives (at least in the past). For what reasons do you think this analyses is not extensive to UK or other contexts? Our question here also would be presented in a broader way, thinking in terms of medicalisation: do you think that the fact that we learned to take medicines all over the 20th Century, and believed and tracked their results, contributed to the emergence of ADHD as a medical syndrome in recent decades? Sure, we also cannot forget the advances in terms of neurosciences and use of images to colonize the supposed "silence of the brain" to problematise this topic.

IS: Absolutely! There is no question when you look historically. It was clear that the beginning of the advertising for tranquilisers for children's problems in the US context was linked directly to the advertising of tranquilisers for the mother's depressant symptoms. Therefore, there is this very clear connection, particularly in that mother-child dynamic. I would stand by my claim that there is a strong preoccupation with mothers and mothering in ADHD diagnosis, and that the relationship between mothers and sons can be a motivation to start the path to diagnosis. The question is whether the emphasis on sons in particular is still as strong, given that the gender dynamics in ADHD are shifting.

We certainly see a more therapized culture all over the world and a normalisation of drugs of all kinds. An increase in brain images as 'evidence' of things happening likely also contributes to medicalization. There is a general fascination with the brain. On the other hand, I do not believe that individuals go around thinking of themselves in terms of the brain; I think neuroscience has less impact, at least on identity, than is sometimes argued. That is what I wrote about in my article on children's 'Brain Talk'¹³. In general, I would say that currently neuroscience 'evidence' is more a rhetorical device

to produce a particular form of argument. It does not necessarily mean that people believe that: "I am my brain."

Cultural sensibilities around psychotropic drug consumption do matter, of course. UK psychiatrists sometimes talk about why the rates of the use of Ritalin are lower here, and they will say, well, we are not a drug-taking culture. I do think that in Britain there is a different sensibility about psychotropic drugs, a very British sensibility – they are a crutch, we should not use or need them, chin up, you can make it through, and so forth. The problem is that this attitude also leads to under-treatment and under-recognition of mental illness, and to stigma around mental health treatments. I do think that in the UK we have a proportion of people who need mental health services who do not access them for these sorts of reasons.

Yesterday^(g) I think there was an article in one of our newspapers that says the UK has become a pill-popping culture and the biggest pill-popping was antidepressants, statins for heart and one other. I was shocked to see the antidepressant numbers as high as they were, but they are still relatively lower than the percentage of people taking antidepressants, for example, in America.

I think formulating some nice research questions that really demonstrate this drug culture and the ways in which it iterates in how we treat our children when they have problems. This would be a nice study, and I have not seen it done in Brazil yet, with the exception of work by Dominique Behague^(h). Of course, there are many different regions in Brazil, so there would need to be a series of cases, and then some comparisons. Next year, a group of us, including the great sociologist Peter Conrad⁽ⁱ⁾, will publish a book on the global dimensions of ADHD, from a sociological perspective. We have managed to include 16 countries in our analyses, and we hope these will inspire more^(j).

LH: I think it is a kind of authority that plays a huge part in this decision, and also there is one division in Brazil that is between the universal public health and the supplemental health plan (private one). The people that go to the private system they usually are much more involved in these medical perspectives and see themselves like medical creatures and with diseases explained in medical terms, like "I am depressed now and it explains why I was doing that". This is a very normal conversation among people with this kind of perspective.

IS: It is an interesting situation in public health systems and then to look at rates of prescribing in those different health systems I think is often revealing. One thing we haven't talked about that is interesting, also as a research question: what about the number of people who get lots of different kinds of psychotropic drugs prescribed, because Ritalin type drugs tend to bring you up, so sometimes children need something to help them sleep; sometimes they're even given antidepressants to make them sleep. We hear about people going to different doctors for different medications, and not revealing everything they are taking.

When you have a society that normalises the taking of drugs, very often you get children who are taking more drugs than one or cycle very quickly off one drug to try a new one – you see that a lot in America. Kids will say they have been on six/seven different drugs and they are 13 years old, and it is just because a new drug keeps coming up and the doctor says why don't you try it? So they become kind of drug experts and you can understand then why, as drug experts in their youth, they might just go on to recapitulate that kind of behaviour later

^(g) Again, the interviewee refers to a text published in December 2014.

^(h) See, for example, some of the papers of this researcher in the Brazilian scope at the following electronic address: [https://kclpure.kcl.ac.uk/portal/en/persons/dominique-behague\(9a782d7a-4351-46bd-8b7c-3ca8748866f0\)/publications.html](https://kclpure.kcl.ac.uk/portal/en/persons/dominique-behague(9a782d7a-4351-46bd-8b7c-3ca8748866f0)/publications.html).

⁽ⁱ⁾ One of Peter Conrad's best-known recent works is the book *The medicalization of society – on the transformation of human conditions on treatable disorders* (Baltimore: The Johns Hopkins University Press, 2007).

^(j) This is the book *Global Perspectives on ADHD: The Social Dimensions of Diagnosis and Treatment in 16 Countries* (coedited with Meredith Bergey, Angela Filipe, and Iliana Singh). Baltimore: Johns Hopkins University Press. In Press.

on. This does not happen under socialised medicine, because socialised medicine cannot afford to pay for all these drugs. In the UK, for example, we have only four drug treatments for ADHD available on the National Health Service. I wonder how many are available on Brazil's National Health Service?

LH: Reading your texts, published between 2002 and 2007^{1,3,7-12}, we observed a special concern in exploring analytically the historical context of production of what we call ADHD today. It seems a very important period, but few or almost nothing was said about it before (at least in Brazil). You also analysed a huge amount of documents, starting with the organization of Bradley Home, by Charles Bradley, where a variety of theoretical and practical perspectives subjected children to a variety of different treatment strategies (including Benzodiazepines). In the same period we observed a special care of your analyses in the discussion over family (prioritizing the mother-child/boy relationship) and also the analyses of the facts produced by the drug's advertisements (especially in "Not just naughty..."¹¹). What do you keep of this period and findings in your research today? Alternatively, how they are articulated in your research today?

IS: I really enjoyed that phase of my work. I spent hours in the library reading old texts to understand the historical production of the 'problem child' both in popular culture and in psychiatry. It was such fun, and I am a bit sad that today this is probably all on-line and that researchers will not be able to leaf through the pages of dusty old journals and magazines, smelling that unique smell of old paper. However, on the positive side, the on-line material is probably searchable, so it will take a lot less time! But during my PhD I had the luxury of time.

As I said before, I think as a researcher one goes through phases and some of those phases are influenced by funders and some of them are influenced by the particular kinds of problematics that become interesting at a particular time. ADHD is a topic we could spend a lifetime on. I have just received an investigator award from the Wellcome Trust, for a new project, which allows me to use different theoretical and conceptual stances to look at the question of a child's moral development, through the lenses of neuroscience and psychiatry^(k). Therefore, this will allow me to bring back sociological concerns about gender, specifically about mothers and mothering. There will be a piece of work involving children diagnosed with ADHD and their moral attitudes to early intervention. We will complement the bioethics work with biographical interviews, so that we can place expressed moral attitudes in the context of personal biography. This will nicely relate the normative and the empirical, I hope. I am drawing from moral anthropology in this approach; for example, Didier Fassin an anthropologist working in Paris, has asked: what is the background story to the articulations that we see around children? What are their personal biographies and how do they related to the more performative elements of children's positions and roles in socio-political and global discourses?

In the Voices project^(l) we could not do very much of that broader framing in a systematic way, but we still have a lot of that data. We walked around neighbourhoods, we met families, and we interviewed kids at home sometimes. Therefore, we have very rich data on children's lives, the materiality of their lives that we can now begin to read back into this rather more individualised way in which I have presented these children to date in my work. That will move me personally from a focus on authenticity and personal responsibility

^(k) This new project, called "Becoming Good: Early Intervention and Moral Development in Child", can be accessed through the website <http://www.begoodeie.com>.

^(l) VOICES (Voices on identity, childhood, ethics and stimulants: children join the debate, financed by Wellcome Trust). For more information, access the first part of this interview (<http://interface.org.br/edicoes/v-20-n-59-out-dez-2016>) or the project's own site (<http://www.adhdvoices.com/>).

and agency as bioethics concepts, to placing these concepts, and how they are perceived and experienced, within a broader frame. I have certainly tried to use a more ecological approach than a lot of the bioethics literature, but some of that analysis still feels quite individualised as compared to what I was doing earlier.

You ask what of that former work is still with me: it is there with me; I am grateful for my depth of understanding of the phenomenon, at least in the US context where I did that early work. I hope it will inspire other scholars to conduct similarly deep historical and ecological analyses of how ADHD has come to be in their countries. There is a story there, an important narrative that helps to frame an argument about how and why this diagnosis rises up in global societies, how it gains its legitimacy and value. We need this perspective in addition to those anonymous large-scale epidemiological studies because without that deeper and richer understanding, we have no proper context for the statistics.

LH: In “A framework for understanding trends...”¹⁰ (Singh, 2006) and also in “ADHD, culture and education”¹⁴ you said, comparing with the context of USA, that the lack of an integrated agenda (school, clinic, government policy and psychiatry understanding of children development) would be one speculative factor that would explain the late acceptance of ADHD diagnoses and drug treatment in UK. Do you think this context changed from that time to nowadays-in UK? In addition, would say what do you know in this respect in terms of other countries?

IS: In the UK have observed that there is still a sense among the psychiatrists that there is a real problem of recognition of ADHD in the schools. I think that is for a number of reasons. I think many teachers are sceptical of the diagnosis. I think that many schools are not equipped to pick up any kind of mental health issues with kids and there’s more work now being done to bring early identification and preventive services into schools. We hope that that is for the good of children.

Probably some children will be identified in those processes that should not be identified and that the reasons why they may be identified could have to do with the fact that they are poor or ethnic minorities. This happens in the US context, and we have data showing that in poor communities in the UK there is more likelihood of ADHD diagnosis.

The other problematic area that I have observed in the UK is that some of the education of teachers around conditions like ADHD is being conducted by the pharmaceutical industry. The industry invites teachers to its conferences and produces special materials for them. It is very difficult not to have a cynical view. But pharma^(m) is also filling a gap; they are providing education to teachers, so it could be a positive thing if one teacher then helps a student who actually needs help. There is no empirical work to investigate if, after teachers go off on these two day trainings, the number of diagnoses or referrals in schools increases. I would hypothesise that probably there is some relationship. Nevertheless, without data we have no way to evaluate this, so we are left with just scepticism and a bit of cynicism.

^(m) In the sense of everything that involves the pharmaceutical industry.

One thing I would say – and maybe this is relevant for Brazil as well – what we need is a better strategy for mental health services in schools. We need to educate teachers about mental health and the needs of their students, and we need to ensure that students who need help can access it. We should also carefully evaluate what happens once teachers have knowledge, whether they begin to see/filter their observations through the lens of diagnosis. We would also need to understand the extent to which diagnosis benefits the child, or not.

We don't have that kind of follow through and I think if we're going to make real claims about the benefits or harms of early identification and preventive programmes in schools, then we have to have the research programmes set up around them that show us whether or not they're doing what we want them to be doing. Otherwise, we are just guessing.

It is always a matter of money – who is going to fund a longitudinal project of that sort? What often happens is that the funder will say X number of children were identified and that that is considered the benefit of the early intervention service, but we know that that is not necessarily a benefit if the children were wrongly identified or did not receive the services that they needed after they were identified. Therefore, we need good post-intervention evaluation data.

References

1. Singh I. Biology in context: social and cultural perspectives on ADHD. *Child Soc.* 2002; (16):360-7.
2. Singh I, Kelleher KJ. Neuroenhancement in young people: proposal for research, policy and clinical management. *AJOB Neurosci.* 2010; 1(1):3-16.
3. Singh I. Clinical implications of ethical concepts: moral self-understandings in children taking methylphenidate for ADHD. *Clin Child Psychol Psychiatry.* 2007; 12(2):167-82.
4. Singh I. Not robots: children's perspectives on authenticity, moral agency and stimulant drug treatments. *J Med Ethics.* 2013; 39(6):359-66.
5. Singh I, Filipe AM, Bard I, Bergey M, Baker L. Globalization and cognitive enhancement: emerging social and ethical challenges for ADHD clinicians. *Curr Psychiatry Rep.* 2013; 15(9):385.
6. Singh I. A disorder of anger and aggression: children's perspectives on attention deficit/hyperactivity in the UK. *Soc Sci Med.* 2011; 73(6):889-96.
7. Singh I. Bad boys, good mothers, and the "miracle" of Ritalin. *Sci Context.* 2002; 15(4):577-603.
8. Singh I. Doing their jobs: mothering with Ritalin in a culture of mother-blame. *Soc Sci Med.* 2004; 59(6):1193-205.
9. Singh I. Will the "real boy" please behave: dosing dilemmas for parents of boys with ADHD. *Am J Bioeth.* 2005; 5(3):34-47.
10. Singh I. A framework for understanding trends in ADHD diagnoses and stimulant drug treatment: schools and schooling as a case study. *Biosociet.* 2006; (1):439-52.
11. Singh I. Stimulants – not just naughty: 50 years of stimulant drug advertising. In: Tone A, Watkins ES, editors. *Medicating modern America – prescription drugs in history.* New York: New York University Press; 2007.
12. Singh I. Capacity and competence in children as research participants. *EMBO Rep.* 2007; 8 Supl 1:35-9.
13. Singh I. Brain talk: power and negotiation in children's discourse about self, brain and behavior. *Sociol Health Illn.* 2013; 35(6):813-27.
14. Singh I. ADHD, culture and education. *Early Child Dev Care.* 2008; 178(4):347-61.

Keywords: ADHD. Ritalin. Medicalization. Enhancement.

Submitted in 20/03/17. Approved in 12/04/17.

