I’d like to start this blog post with a [link](https://theoatmeal.com/comics/believe). Some of the things I am about to say may *at first* seem to clash with some of your core convictions regarding equity and inclusion in teaching, but I nevertheless ask you to read through completely with an open mind. Just have some trust, I promise it’s worth it. If you disagree strongly with some of the statements, have a look at the footnotes.

We scientists (staff and students) are a bit of a peculiar group. We are not only united by our common interest in science, but we are also quite intelligent [[1]](#footnote-1). And by intelligent I do not mean skilled, or able to achieve good grades, but some higher-level cognitive functioning that determines how we learn and how we solve novel problems. An individual’s intelligence is usually expressed in relation to the population mean (the IQ [[2]](#footnote-2)), and this relative position in comparison to age peers is [quite stable](https://en.wikipedia.org/wiki/Intelligence_quotient#Age) over one’s life time (at least for children from around 6 years onwards). This doesn’t mean that we were born to be scientists, though. A high cognitive potential does not automatically lead to academic success, as it also requires a favourable environment to develop talent[[3]](#footnote-3).

There is a problem with this simple statement, which doesn’t get much attention: the education system is built on *groups*, which naturally makes it difficult for those that are far away from the mean. And this includes intellectually “gifted” children and adults who are much more intelligent than the mean (typically defined by an IQ that is 2 sd above the mean2). The pre-pandemic blog post over at [Rapid Ecology](https://rapidecology.com/2020/03/03/highly-intelligent-students-staff-and-their-bright-children/) (I joint-authored it with the education scientist Vivian van Gerven) mentions some of the problems this entails, and I also can recommend the first chapter of [this](https://books.google.be/books?id=RnWY5TCJr1QC&pg=PA8&hl=de&source=gbs_toc_r&cad=4#v=onepage&q&f=false) book that describes family life with an exceptionally “gifted” child. In short, being “gifted” comes with many challenges, but very common ones are [perfectionism, social isolation, and underachievement](https://en.wikipedia.org/wiki/Intellectual_giftedness#Social_and_emotional_issues). Perfectionism results from the ability for critical thinking; social isolation ensues when there are no “like-minded” peers around; and underachievement can occur when the environment cannot provide the ressources necessary to keep up with one’s intellectual development. A sustained lack of intellectual challenges may then lead to loss of motivation and prevent building crucial self-regulation skills and learning habits, and often to drop-out from school or college. Thus, many “gifted” children or adolescents face [significant challenges](http://positivedisintegration.com/Delisle1986.pdf) in the education system, precisely because of their high intelligence[[4]](#footnote-4). This isn’t a “white privilege” problem, quite on the contrary. Highly intelligent children from minorities are particularly likely to remain undiagnosed or misdiagnosed (ADHD or oppositional defiant disorder, sometimes even bipolar disorder[[5]](#footnote-5)) and less likely to enrol in special enrichment programs or schools (particularly in the [USA](https://www.nagc.org/about-nagc/media/press-releases/reframe-problem-challenge-find-ways-expand-gifted-education-services)[[6]](#footnote-6)), so the gap between intellectual potential and provided resources is even greater.

**So, what do we scientists have to do with all that?**

As said in the beginning, scientists tend to be intelligent. We are confronted with students whose problems have formed over years of schooling (motivational issues, lack of learning skills, perfectionism), in addition to a few new challenges (e.g. [BFLPE](https://en.wikipedia.org/wiki/Big-fish%E2%80%93little-pond_effect), impostor syndrome), but we typically receive no formal education in teaching at all. This is not a good starting point to spot and help “gifted” but underachieving students[[7]](#footnote-7).

Secondly, intelligent parents tend to have intelligent children. In [one survey](http://dx.doi.org/10.1177/0016986209334962) 67% of fathers and 80% of mothers reported that their “gifted” child has been difficult to rear, compared to 40/44% of parents of more “normal” children. Add to that a competitive job environment in which voluntary work at weekends and outside office hours is the norm, and an unequal distribution of parenting duties, and we have a potentially strong incentive for parents (especially mothers) to leave STEM.

I hope I could convince you that there might be a very real problem for a sizable proportion of students and staff. Now I am calling to action: I am trying to find collaborators for some side-projects on 1) challenges of “gifted” students at universities and how we could improve our teaching; and 2) prevalence and challenges of academic parents with “gifted” children, and whether it contributes to attrition from the academic job market.

If you are interested in contributing, please get in touch with me. I explicitly would like to invite students (and in particular those in the first semesters) and marginalized groups – the more diverse the collaboration, the better. There is no need to be “gifted“ (see also imposter syndrome above), or to have “gifted” children to participate. Projects could take the form of review papers, or studies based on survey data, for example.

A bit information about me: I am a postdoc, currently at the university of Gent, and I study bet-hedging and phenotypic plasticity in insect diapause. I have three children, at least two of which are “gifted”. However, I do not consider myself “gifted” (though I might be a bit autistic), have no formal training in “gifted” education and I’m really bad with social stuff. So, you may ask, why should I of all the people start such a project? Quite frankly, because no one else does.

1. not “better” nor “worse”, just different from the population mean in one personality aspect. [↑](#footnote-ref-1)
2. The IQ has its limitations and [some groups score consistently lower](https://en.wikipedia.org/wiki/Intelligence:_Knowns_and_Unknowns) on common IQ tests (e.g. autists, PoC in the US), see also the [Wikipedia article](https://en.wikipedia.org/wiki/Intelligence_quotient) for historical abuse by eugenicists. For these reasons an IQ test is not useful as a selection criterium for access to education or jobs, let alone comparisons among “races”. These limitations do not change the fact though that it is a highly reliable and important tool in psychological and psychiatric diagnosis, provided that the professional testers are aware of potential biases. [↑](#footnote-ref-2)
3. It might be more egalitarian if intelligence were purely determined by the environment one grows up in (well…assuming a society that values equity), rather than GxE effects. But being more egalitarian [does not make an argument true](https://en.wikipedia.org/wiki/The_Mismeasure_of_Man#Criticism). And just to be very clear here: accepting the G in GxE does not imply differences among “races” (see footnote 2). [↑](#footnote-ref-3)
4. This is also the reason I put “gifted” in quotation marks throughout. Or as [one book](https://www.amazon.com/This-Gift-Can-Send-Back/dp/0615648789) (which I have not read yet) puts it: “Parents who desperately want gifted kids really want high-achieving kids, because if they truly had gifted kids with the (hmm, what descriptor shall I use?) interesting wiring, they'd be rocking under their desks, quivering like the rest of us. It ain't all sunshine and roses, folks. Some days make me want to stab a rainbow." [↑](#footnote-ref-4)
5. Further reading: “[Misdiagnosis and Dual Diagnoses of Gifted Children and Adults](https://books.google.be/books?hl=de&lr=&id=NQrtt-peg5AC&oi=fnd&pg=PR13&dq=Misdiagnosis+and+Dual+Diagnoses+of+Gifted+Children+and+Adults&ots=SjLpBVldRn&sig=ZRTyZrA5ngYN3B7Iai8U01mmOM4#v=onepage&q=Misdiagnosis%20and%20Dual%20Diagnoses%20of%20Gifted%20Children%20and%20Adults&f=false)” by Webb et al. [↑](#footnote-ref-5)
6. As I understand it gifted programs in the US often focus on career progression rather than socio-emotional well-being, and the assessment is often achievement-based, not by (fair) consideration of intelligence. But feel free to correct me if this impression is wrong [↑](#footnote-ref-6)
7. [Some countries](https://www.springer.com/gp/book/9783319129181) do offer enrichment courses, but, like in schools, selection procedures are often based on grades and past academic track record, thereby potentially increasing existing inequities. I’d find it more important to bring the concepts of gifted education into the “regular” teaching. [↑](#footnote-ref-7)