

David Gillborn  
Professor of Critical Race Studies in Education  
Institute of Education  
University of London  
20 Bedford Way  
London WC1H 0AL  
United Kingdom

[d.gillborn@ioe.ac.uk](mailto:d.gillborn@ioe.ac.uk)

David Gillborn is Professor of Critical Race Studies in Education at the Institute of Education, London. His work focuses on the production of social inequality in education. His previous studies include the books *Rationing Education* (with Deborah Youdell) and *Racism and Education: coincidence or conspiracy?*, both of which won the best book award from the Society for Educational Studies. He is also founding editor of the journal *Race Ethnicity & Education*.

## **The Colour of Numbers**

### ***surveys, statistics and deficit thinking about race and class***

#### **Abstract**

Drawing on the traditions of critical race theory the paper is presented as a chronicle – a narrative – featuring two invented characters with different histories and expertise. Together they explore the strengths and weaknesses of quantitative approaches to race equality in education. In societies that are structured in racial domination, such as the US and UK, quantitative approaches often encode particular assumptions about the nature of social processes and the generation of educational inequality that reflect a generally superficial understanding of racism. Statistical methods can obscure the material reality of racism and the more that statisticians manipulate their data, the more it is likely that majoritarian assumptions will be introduced as part of the fabric of the calculations themselves and the conclusions that are drawn. Focusing on the case of recent national data on the secondary education of minoritized children in England, the paper challenges statisticians’ ability to define what counts as a ‘real’ inequality without public challenge or scrutiny; reflects on the dangers of statistical ‘explanations’ in the realm of public debate and policy outcomes; and questions quantitative assumptions about the intersectional relationships between different axes of oppression, including gender, class and race.

#### **INTRODUCTION**

Everything that can be counted does not necessarily count;  
everything that counts cannot necessarily be counted.

*Albert Einstein*<sup>[1]</sup>

In their book *'The Cult of Statistical Significance'*, Stephen T. Ziliak and Deirdre N. McCloskey document how tests of statistical significance have become distorted over time in such a way that they have taken on wholly unwarranted influence, often close down debate and suppress vital research findings (Ziliak & McCloskey 2008). It is significant that one of the authors first encountered the problem in relation to data on *race* inequality:

... while working in cooperation with the U.S. Department of Labor as a labor market analyst ... When Ziliak pointed out to the chief of his division that black teenage unemployment rates were being concealed from public view he encountered puzzling resistance. Given the small sample sizes, the chief said, the unemployment rates did not reach an arbitrary level of statistical significance. But the Department of Labor, which authorizes the distribution of official labor market statistics, appeared to be saying that an average 30 or 40 percent rate of unemployment was not discussable ... Ziliak was embarrassed to return to the telephone to deliver the news to the citizen whose call had started the inquiry. 'Sorry, sir. We do not have any quantitative information about black teenage unemployment in the cities.' (Ziliak & McCloskey 2008, xx-xxi)

This example illustrates the underlying issues that are addressed in this article. Statistics are often treated as a special form of research (viewed as complex, objective and factual) that can reveal hidden realities about the world. However, the truth is that quantitative methods are no less open to false interpretations and misleading arguments than any other approach. Furthermore, statistical methods themselves encode particular assumptions which, in societies that are structured in racial domination, often carry biases that are likely to further discriminate against particular minoritized groups.<sup>[2]</sup>

My analysis draws on a critical race perspective and, in keeping with a strong tradition within critical race theory (CRT), the article takes the form of a *chronicle*, a counter-story, constructed using imaginary characters to explore real situations and throw new light on old assumptions (see Bell 1985; Delgado 1989, 1995; Delgado & Stefancic 2001; Matsuda et al 1993; Solórzano & Yosso 2002). When this approach

first came to prominence in US legal scholarship, in the 1980s and 1990s, there was heated debate about its legitimacy. Daniel Farber and Suzanna Sherry, for example, called for a clearer analytic dimension and greater attention to ensuring that counter-stories are ‘accurate and typical’ (1993, 312). In response Richard Delgado (1993), one of the most accomplished CRT storytellers, noted that the critique of ‘outsider scholarship’ rested on an attempt to assert mainstream assumptions that are fundamentally at odds with critical approaches. Delgado also pointed to the diversity of styles adopted by critical scholars using storytelling and other narrative approaches that are unfamiliar to mainstream readers. He noted, for example, that in an exhaustive review of CRT scholarship the vast majority of narrative writing included a great deal of the usual marshalling of evidence: it is not that CRT chronicles lack evidence, rather they present the evidence in a novel form that challenges common assumptions and makes the work more accessible to people outside academe. Similarly, Gloria Ladson-Billings, one of the foremost critical race theorists in education, notes:

...CRT scholars are not making up stories – they are constructing narratives out of the historical, socio-cultural and political realities of their lives and those of people of color. The job of the chronicle is to give readers a context for understanding the way inequality manifests in policy, practice, and people’s experiences. (Ladson-Billings 2006, xi).

Chronicles deal in real issues and are often filled with footnotes that point readers to the scholarly and other sources that back up the analysis. Among the advantages of this format is that it sometimes makes critical scholarship accessible to readers who might not otherwise work through the dry, often boring, tone of traditional academic writing. For those of us concerned with bridging the gulf between critical scholarship and anti-oppressive activism this is a significant issue, although it requires concessions from academic journals, e.g. by allowing footnotes which do not interrupt the flow of the narrative with numerous bibliographic references.<sup>[3]</sup> Fortunately, educational scholarship is increasingly embracing new ways of writing, for example, including imagined dialogues (Delamont 2001 & 2003) and ethno-dramas (Petersen 2009).

The present article features two characters that I have used before; a 50-something White academic ('the professor') and his younger Black activist friend Stephen Freeman.<sup>[4]</sup> As the chronicle unfolds they explore society's attitude towards numbers; statisticians' ability to redefine an inequality as an advantage (without public challenge or scrutiny); and the dangers of statistical 'explanations' in the realm of public debate and policy outcomes. The article ends with a warning about the inherent limits of statistical research on race inequality.

### **PART ONE: QUALITY, QUANTITY AND 'REAL' EVIDENCE**

Thump! The professor's bulky leather bag hit the floor of his room with unusual force as he dropped into his chair. A long day of seemingly endless appointments with students lay ahead, punctuated only by tedious but important staff meetings discussing the latest bureaucratic announcements to hit his department. He'd been in higher education long enough to know that the most innocuous-looking memos often carried the greatest threat. Warily he switched on his computer and scanned for any new e-mails relevant to today's meetings: a favourite management tactic being to circulate information as close to the meeting as possible, making it harder for opposition to digest and counter new proposals. The professor's relief at the absence of any last-minute updates from the university administration turned to surprise as he saw a message from his friend, and former mentee, Steve Freeman.

#### **Numbers = science, objectivity and truth?**

Steve and the professor had been firm friends for years. They had met when the older man addressed a rally as part of an antiracist campaign that Steve was organizing. Now studying law part-time, Steve's day job at a national trades union meant he had little time for a social life but the two would meet occasionally to catch up, especially when one needed the other's advice or support. The professor glanced at the date/time stamp on the email and realized that it had been sent the previous evening, when he had been teaching a late class.

*From: Stephen Freeman [bikobrother@googlemail.com]*

*Subject: How's it feel to be proved right?*

Hi Prof!

Wondered whether you'd seen this? I know you don't always see the papers and I thought this would cheer you up. It seems you were right all along – as if we didn't know - racism in schools leads to Black kids being less likely to be entered for the high status exams > so it's *literally* impossible for them to get the top grades no matter how well they perform.<sup>[5]</sup>

I know you wrote a whole book about that a few years ago but now it's been proven!  
By a statistician!

We both know how politicians love stats! Maybe they'll listen this time???

Take a look:

<http://www.guardian.co.uk/education/2008/sep/05/raceineducation.raceinschools>

Cheers

Steve

The professor smiled: Steve knew that he used his time commuting on the train to catch up with paperwork and so he rarely saw a daily paper. Intrigued by Steve's description of the story he clicked on the link. A new window opened on screen:

*Education: Black Caribbean children held back by institutional racism in schools, says study*

Black Caribbean pupils are being subjected to institutional racism in English schools which can dramatically undermine their chances of academic success, according to a new study.

Researchers have uncovered evidence that teachers are routinely under-estimating the abilities of some black pupils, suggesting that assumptions about behavioural problems are overshadowing their academic talents.

The findings, based on a survey which tracked 15,000 pupils through their education, add weight to the theory that low achievement among some black students is made worse because teachers don't expect them to succeed.[<sup>6</sup>]

Skipping ahead, the professor saw that the report referenced an ongoing study and was timed to coincide with a conference presentation the report's author was making that week:

Dr Steve Strand from Warwick University, the author of the study, said:  
"After accounting for all measured factors, the under-representation is specific to this one ethnic group and indicates that, all other things being equal, for every three white British pupils entered for the higher [examination] tiers, only two black Caribbean pupils are entered."

He concludes that "institutional racism" and low expectations by teachers explain the missing black Caribbean students from top-tier exams.

"By 'institutional racism' I mean organisational arrangements that may have disproportionately negative impacts on some ethnic groups," he said. [<sup>7</sup>]

The Professor glanced at his watch, he had time for a brief reply before his first appointment.

*From: Head of Department [HoD@edu-university.ac.uk]*

*Subject: Don't get too excited*

Dear Steve,

Many thanks for the link. The story is very interesting (though I wish you would use normal punctuation: the university's spam filter might read your excessive exclamation marks as a reason to block you - seriously).

You're right that this new research confirms patterns that we already know about: teachers enter a disproportionate number of Black kids for exams where the highest grades are simply not available. The teachers' lower expectations are placing an impenetrable ceiling on the attainments of Black kids.

It's interesting that a quantitative study gets so much press coverage. As you say, numbers carry a special weight. We've known about the problem for the best part of a decade – it's even been documented in government-funded research.<sup>[8]</sup> But now that a statistician confirms it, suddenly it's a news story because numbers are seen as 'objective' and 'scientific' whereas years of qualitative research observing school life can be dismissed as 'subjective' and 'anecdotal'.

The professor broke off from typing and lent back in his chair. He remembered a paper by Paul Connolly encouraging critical race theorists to engage critically *and* constructively with quantitative research rather than instinctively rejecting such work.<sup>[9]</sup> He crossed the room to retrieve a file from a shelf and flicked through a succession of articles until he found the one he wanted. Removing the chosen article, he folded it to reveal a table that set out the contrasting discourses on qualitative and quantitative approaches (see table 1).

**[Insert Table 1 About Here]**

He dropped the paper on the small crowded coffee table in the middle of the room, hoping that its presence there would remind him later to add it to the readings for his next class in critical race theory. Quickly he returned to the computer and tried to finish his message before the interruption that was due any moment.

It's possible that the extra evidence will be helpful, especially as the new report goes so far as to say that the processes constitute 'institutional racism'. However, I don't have to tell you about the state's record when it comes to evidence of institutional racism. Ten years ago the Stephen Lawrence Inquiry highlighted IR across the police, education and health services: the law was changed to look more radical but it just wasn't enforced.<sup>[10]</sup> And of course there's the saga of The Wanless Report – an

official 'priority review' that looked at all the evidence on why black kids are more likely to be expelled from school: it concluded that the reason was overwhelmingly about institutional racism – I think they described the evidence as 'compelling'.<sup>[11]</sup> What happened? The govt shelved the report until they were embarrassed into publishing it after a leak to the press.

A knock on the door signalled that the professor had run out of time. He looked up to see Beth, a third year doctoral student peering around the door: 'Am I early?' she asked diplomatically, knowing full well that she was right on time.

'No, that's fine.' The professor said, 'Come in and take a seat. I just need to finish this email'. Quickly he turned back to his computer and, while Beth took her note pad and books from her bag, did his best to finish the note to Steve.

Sorry to go on. I've got to run but there's actually another problem with the statistical research, a really serious weakness that's fundamental to these kinds of quantitative approaches.

Must dash -

### **Numbers are powerful but no match for racism**

'Okay, thanks. I'll see you in class on Friday', Beth smiled as she closed the door behind her. Beth's project was shaping up well and the professor suspected she would have a brilliant future ahead of her, assuming that universities could be persuaded to recruit new blood rather than look to reduce staff size as was the current trend. Pleased with the tutorial's achievements he switched on the battered kettle that sat by the window to his room, a modernist rectangle of concrete and plasterboard: forty years ago the building was hailed as an architectural achievement but it had not stood the test of time well.

As he waited for the kettle to boil, the professor glanced at his computer screen and was surprised to see another note from Steve, who usually couldn't get away to check his personal email during the day.

*From: Stephen Freeman [bikobrother@googlemail.com]*

*Subject: Stats and the r-word*

Hi Prof,

thanks for the pessimistic reply! I bring you the news that a statistician has confirmed a decade of qualitative research and you tell me it's not as good as it seems. Typical CRT pessimism!

The professor laughed out loud, knowing that he and Steve had both to constantly defend critical race theory from the misguided accusation that it is a philosophy of despair. He had lost count of the number of times he had explained that recognizing the scale of racism is a necessary step in resisting it, not a reason to give up hope.<sup>[12]</sup>

Mind you, it didn't take long for the detractors to get their teeth into the story. There's a reaction piece on the paper's website today called '*Racism is not the problem*'<sup>[13]</sup> Worse still, it's written by a Black man – of course, there's a nice picture of him alongside the article - so White readers and politicians can feel safe rejecting the original research because a Black expert told them to, and if *he* said so, then it *can't* be racism, can it!

Take a look:

<http://www.guardian.co.uk/commentisfree/2008/sep/05/raceinschools.raceineducation>

Seems that even nationally representative surveys and statistical methods aren't enough to protect you if you dare to use the r-word.

BTW you said the research had "a really serious weakness that's fundamental to these kinds of quantitative approaches"

You can't leave it at that! Tell me more!

By the way, BTW means 'by the way' ;)

Steve

The professor lent over and switched off the boiling kettle. He clicked on the hyper-link in Steve's email and shook his head remembering an earlier conversation with Steve where they lamented the disproportionate attention that the media give to isolated Black voices who deny the significance of racism and echo majoritarian deficit analyses that blame Black students, parents and/or communities for their problems.<sup>[14]</sup> More than fifteen years earlier the leading African American legal scholar Derrick Bell had set out the processes, with brilliant clarity, as a series of 'rules' dictating how people are viewed when they speak about racism, depending on their message and their own racialized identities. Bell's 'first rule' states that 'No matter their experience or expertise, blacks' statements involving race are deemed "special pleading" and thus not entitled to serious consideration'.<sup>[15]</sup> The exception to this rule is 'the black person who publicly disparages or criticizes other blacks ... Instantly, such statements are granted "enhanced standing" even when the speaker has no special expertise or experience in the subject he or she is criticizing'.<sup>[16]</sup>

The professor read the opening sentence of the article and thought how prophetic Bell's words remained:

***Racism is not the problem***

The average black Caribbean child today may well attend the most lavish of new academies, where the average spent per pupil is more than many private schools. He or she will also have a host of central and local government initiatives which persuade, encourage and sometimes bribe them to achieve. Yet, in terms of behaviour and academic results, they still remain bottom of the class.<sup>[17]</sup>

Notwithstanding the fact that Black students are not the lowest achieving minoritized group,<sup>[18]</sup> the bravado and inaccuracy of the opening sentence was breathtaking. The professor had recently been at a meeting with senior education civil servants and seen an official analysis revealing that 'in 2007, black boys were almost twice as likely as boys from other ethnic backgrounds to be in a school which missed the GCSE floor target of 30% 5A\*-C including English and Mathematics'.<sup>[19]</sup> Far from enjoying 'the most lavish' schools where resources outstrip 'many private schools', therefore, Black

students are actually most likely to attend the lowest performing state schools. He read on:

The Warwick University research is irresponsible. It not only undermines hard-working teachers but it makes our students articulate victims. Liberal researchers have positioned black pupils as being on the spectrum of child abuse, in a world where adults can never be trusted.<sup>[20]</sup>

And so, at a stroke, research that dared to name institutional racism was confidently rejected as mere teacher-bashing that supported a victim-mentality among Black students. The professor was surprised at the ferocity of the article; because of the ‘scientific’ aura of quantitative research he would not have predicted such a dismissive attack in so short a time scale. He clicked the reply button on Steve’s message and typed as quickly as he could:

*From: Head of Department [HoD@edu-university.ac.uk]*

*Subject: Race and the rules of methodological standing*

Steve. Thanks for the note. Looks like there’s another rule of racial standing that we can add to Derrick Bell’s list:

Statistical work will be automatically privileged above qualitative research *unless* it dares to name racism, in which case it will be subject to the same dismissive attacks as any other antiracist scholarship.

Sorry to rush away (again) I’ll try to write about the problems with statistics and race later. I have a new laptop (not as fancy as yours but ok) so I can get some writing done on the train home. I’ll be in touch.

The professor looked at his watch and realised he was already late for his meeting with the university hierarchy. He jumped to his feet, grabbed his bag and headed for the door.

**‘Controlling’ away all but the most extreme inequity**

A tall Black man in his early thirties, Steve picked his way carefully between the ranks of lightweight plastic chairs that littered the now empty dining area of the student union. His law school enjoyed an excellent reputation but the university's student facilities were far from luxurious. The plain dining area closed down after late afternoon but, in a feat of architectural stupidity that had to be seen to be believed, the area presented an obstacle course that had to be negotiated by anyone wanting to visit the more welcoming bar area on the other side of the building. As he entered the bar Steve was pleased to see that the evening rush had not yet started. A couple of undergraduates played a game of pool in one corner and a group of mature students were engaged in a loud argument underneath the large TV screen that dominated the opposite wall. Oblivious to the endless sports reports that competed with them to be heard, the group debated the merits of Trotsky and Lenin as organic intellectuals. Steve headed for his favourite spot, a relatively quiet alcove where the seating still retained some traces of its original stitching. Without sitting down he pulled his laptop from his bag and switched it on. As the machine went through its opening routine and found the local internet connection, Steve greeted the barman (a fellow law student making some extra cash) and bought his usual pint of Guinness.

As he sat down Steve clicked on the link to open his email account and was pleased to see that the professor had sent him the promised reply. Although the professor was well intentioned, Steve knew that he often became overwhelmed with deadlines and a simple email response could take days, even weeks to materialize.

Judging by its byte size the email looked quite long but then Steve noticed that it included a large attached file, labelled '*Minority pupils in the LSYPE*'. Steve frowned, he hadn't heard of the 'LSYPE' and wondered what it meant. Then he noticed the 'subject' of the email: 'How stats erase race inequality'. *Erase?* He thought this report was all about *exposing* race inequality. Puzzled, he opened the message.

*From: Head of Department [HoD@edu-university.ac.uk]*

*Subject: How stats erase race inequality*

Dear Steve,

Sorry for the cryptic and rushed emails earlier today: too many meetings (as usual). Anyway, I'm attaching the full report that lies behind the news story you sent me. It's based on the 'Longitudinal Study of Young People in England'.

Steve smiled, at least he now knew what LSYPE meant, but surely they could have thought of a catchier acronym?

It's a panel study, meaning that the same group of students and their parents/carers are followed as the kids move through the final years of their secondary schooling and beyond. They started in 2004 with a sample of around fifteen thousand 13- and 14-year-olds.<sup>[21]</sup> They collect data on how the kids progress through school and compare it with information they gather each year through interviews with the sample. The interviews generate a lot of information on the family. This is then used as material for a whole series of statistical manipulations which are meant to isolate the separate 'impact' of various different factors.

Steve savoured the taste of his Guinness as he clicked on the attachment icon and opened the file. Quickly he scanned the contents and jumped to the 'Executive Summary'. Under the heading 'methodology' he read:

The findings reported here are based on analysis of a wide range of quantitative data about pupils, their families and their school and neighbourhood contexts. These analyses identify the unique (net) contribution of particular factors to variations in pupil outcomes, while other background factors are controlled. This is important because research shows that much of the difference in attainment associated with ethnicity may be attributable to the impact of other socio-economic and demographic factors (for example family social class, maternal education, pupil attitudes, homework completion). The report adopts a hierarchal approach to building multiple regression models by sequentially entering blocks of variables.<sup>[22]</sup>

Steve was just contemplating the idea of separating out the 'unique (net) contribution of particular factors' when he heard a voice cutting through the background noise in the bar. He looked up from his screen.

‘Are these seats taken?’ the voice belonged to a young South Asian woman. Behind her, two friends watched on, waiting to see if they could take a seat in the alcove. Steve looked around and was shocked at how quickly the bar had begun to fill up.

‘No. Yes. Well –’ Steve tried to explain, ‘I’m supposed to be meeting some people here but they’re late’.

‘Oh OK. No problem’. The woman smiled and turned to her friends shaking her head. They looked at Steve with irritation. He smiled apologetically then returned to his computer. Quickly he opened a new internet window and searched for ‘multiple regression models’. Recognizing one of the references he clicked on the link:

Multiple regression model: a regression technique where a number of predictor variables (for example, prior attainment and background characteristics) are used to predict an outcome variable (for example, a GCSE score).[<sup>23</sup>]

Steve returned to the professor’s message, still puzzling that a report which spoke of institutional racism could be accused of ‘erasing’ race inequality. What did his friend mean?

The conclusion that received all the attention was the one about Black Caribbean kids:

“... the conclusion of the current report that a focus on in-school factors is necessary to account for the under-representation of Black Caribbean pupils in the higher test tiers and for the significantly poorer progress of Black Caribbean pupils relative to White British pupils...”[<sup>24</sup>]

But what people have missed is that the statistical manipulations have erased all but the most extreme inequalities. Kids in several other minoritized groups were also under-represented in the high tier but they don’t feature in any of the conclusions (or the press reports) because *their* inequality has been erased from sight – ‘controlled’ out of existence.

Have a look at the table on page 87 of the report: focus on the rows for Pakistani, Bangladeshi, Black Caribbean and Black African kids.

Without taking his eyes from the screen Steve raised his glass and was disappointed to find that it was empty: unwilling to leave the professor's analysis, he placed the glass on the table and clicked back to the main report. Having found the relevant table (see table 2) Steve scratched his head: the page seemed to have a bewildering array of information, none of which made much sense to him. For once he was glad that the professor's emails tended to be on the long side; hopefully he was about to explain this maze of numbers.

You'll see that the report starts out with what they call the 'base model' which compares kids' actual chances of getting into the top tier for mathematics. It presents their chances as 'Odds Ratios' (OR) which show the degree of over- or under-representation compared to the White British group. So, a score of 1.0 or more means that the group have the same or better chance of entry. You'll see that kids in several groups have *less* chance than White kids.

Black Caribbean (0.44), Pakistani (0.55), Black African (0.62) and Bangladeshi (0.65) are all less likely to be entered in the higher tier than their White peers.

But then the report does a new calculation which uses as an 'explanatory variable' the kids' scores in maths earlier in their school careers, when they were ten or eleven.<sup>[25]</sup> Put simply, the manipulation tries to build in, or 'model', a relationship between 'prior attainment' and where kids are placed later in their school career. *Suddenly all but one of the under-representations have vanished.* In fact, the Black African kids are now deemed to be 'substantially over-represented in the higher tiers...'<sup>[26]</sup>

Next, another set of calculations use 'family background'<sup>[27]</sup> and even more of the inequality disappears. The statistics treat a set of factors (like your mum's education, whether you get free school meals or live in rented accommodation) and run a set of calculations based on how those factors have related to the outcome measures in the past.

And now magically another two groups (Bangladeshi and Pakistani) are deemed to be *over-represented*.

**[Insert Table 2 about here]**

Steve switched to the report again and skimmed over the relevant paragraphs. It was true: each application of the statistical ‘model’ rendered more and more race inequalities invisible. Indeed, the unequal access suffered by Black African, Bangladeshi and Pakistani students was not simply erased, it had been transformed into an ‘over-representation’, as if these groups were now somehow being privileged. Just one race inequality survived the statistical manipulations: ‘Black Caribbean pupils remain the only group to be substantially under-represented in the higher tiers...’<sup>[28]</sup> Steve shook his head in disbelief and returned to the professor’s email:

I don’t need to tell you what’s wrong here. A set of calculations have wiped away all but the most extreme inequalities.

The fact is that Black African, Bangladeshi and Pakistani kids are less likely to get into the high exam groups but that’s been explained away by some calculations based on a model that claims to identify the ‘unique’ contribution of different factors. *But these other factors are tainted by racism too:* I mean, social class status, prior attainment – these things aren’t independent of race/racism. It’s crazy!

Steve became aware of eyes focused on him. He looked up from his computer and saw that not only was the bar now seething with people, but his alcove was populated by four of his friends from class. They laughed as he blinked in recognition, as if waking from a trance.

The friend nearest to Steve lent over theatrically, as if trying to see his computer screen: ‘Find something interesting on line?’ she teased.

‘Long story – all about statistics’, Steve replied as he shut his computer and reached for his newly refilled pint. His friends exchanged glances and, as one, repeated in disbelief: ‘*Statistics?*’

Steve laughed as he slipped his laptop into his bag. He'd contact the professor tomorrow. There was more to explore here. He was shocked by the professor's revelations but he also knew that the professor was missing something.

## **PART TWO: PICTURES AT AN EXHIBITION**

The professor winced as he looked up at the imposing silhouette of St. Paul's Cathedral, all detail lost against the bright London sky. He looked at his watch and wondered why Steve had asked to meet him *here*. With growing impatience he took out his phone and checked for messages. Nothing. He was considering the lure of a nearby bar when he spotted Steve weaving through the crowds of tourists.

'What time do you call this?' he joked.

'Sorry prof!', Steve exclaimed as the men greeted each other with a handshake that turned into a hug. 'I promise it'll be worth the wait'.

'I doubt that', joked the professor. 'I've never been very big on cathedrals myself'.

'No problem', Steve replied, and with a knowing smile he turned and led his friend away from the crowds, leaving St. Paul's behind.

### **Wiping the slate clean: how past inequalities become contemporary deficits**

The two friends dodged between traffic and found themselves on a wide paved area, which descended in large steps down toward the River Thames. Tourists and office workers mingled uneasily as they snacked on fast food from street vendors or caught their breath between sightseeing tours.

'Good thing I didn't buy tickets for St. Pauls then', the professor joked.

'No need to worry', Steve smiled, 'I've already got the tickets.'

‘Tickets? Really?’ the professor was puzzled. ‘Where are we going?’

‘It’s a long story’, Steve explained. ‘There’s something I want to show you and it’s easier to let you see it for yourself: describing it won’t do it justice’.

As they emerged onto the river bank the men stopped and looked at the sight ahead; before them lay the strikingly modern aluminum and steel Millennium Bridge, its deck and angled suspension cables glinting in the midday sun. The professor looked quizzically at his friend. ‘All will be revealed’, Steve joked and began walking.

‘And what does a wobbly bridge have to do with race and statistics?’ the professor asked. ‘Is it further proof that numbers can’t predict everything? You know, they spent millions constructing a new bridge – using lots of computer models - and then had to close it after a few days because it vibrated so much that people feel sick and thought it was going to collapse’.<sup>[29]</sup>

The two men laughed remembering the furore surrounding the bridge’s initial opening. ‘Nice idea but much too subtle’, Steve confessed. ‘I didn’t bring you here for the bridge, but for where it takes us’. He pointed directly ahead, to the brick shell of what was once a disused post-war power station, now home to the world’s most successful museum of modern art.<sup>[30]</sup> ‘I was really shocked by your email about the hidden race inequalities in that statistical report.’ He explained. ‘I wanted to discuss it with you properly and the more I thought about it, the more I wanted to show you something that I think is relevant. It’s not really a defence of statistics but it points to the other side of the coin’.

‘Surely you’re not going to excuse the way that report takes race inequality for three minoritized groups and – having run the figures through a computer –announces that a real inequality in access is nothing to worry about? In fact, it’s worse than that; in the real world Bangladeshi, Pakistani and Black African kids are *less* likely to be entered for the top exams but the statisticians tell us that they’re *over*-represented!’

The professor's raised voice drew surprised looks from passers-by and Steve tried to reassure him. 'Don't worry, I haven't been taken in by the "scientific" lure of statistics', he laughed. 'In fact, when I read that bit it made me think of *The Bell Curve*<sup>[31]</sup> and how, once they'd "controlled" for IQ, Herrnstein and Murray argued that the gross race inequalities in the US were actually not nearly as harsh as they *ought* to be.'

The professor shook his head and recalled the argument: 'That's right. They take IQ scores – which are historically proven to disadvantage Black people – and use them as a basis for asserting the proportion of Black and White men who *should* be present in different occupations "if selection by cognitive ability scores were strictly race blind".<sup>[32]</sup> They quote Linda Gottfredson<sup>[33]</sup> and argue that Black men are over-represented in most occupations and "most of all" in "high-status occupations like medicine, engineering, and teaching".'

Steve nodded, 'The example that sticks in my mind is in relation to medicine. They said that according to IQ scores White male doctors should outnumber their Black peers by 20 to one; the actual rate was around 20 to *six*, so hey – no problem.'<sup>[34]</sup>

'It's remarkable', the professor observed. 'In the real world African Americans are much more likely to be unemployed but just one calculation allows the IQists to switch reality on its head and argue that Black folk are actually much better off than they should be: as if the system is somehow privileging the very group it excludes the most. Which', he continued, 'is very similar to the LSYPE's conclusion about Bangladeshi, Pakistani and Black African kids in the higher exam tier. The fact is they are *under*-represented but once the statisticians "control" for various factors, they confidently proclaim, no, they're *over*-represented! And that conclusion is never once challenged in any of the media coverage, which merely echoes the official conclusion that there's only a problem for one group, Black Caribbeans.'

'*Excuse me*. Would you mind?'

Steve and the professor turned to see that they were being addressed by a middle aged man, holding out a camera and pointing to his family, dutifully lined up against the railing with the Thames and Bankside behind them.

‘No problem’, Steve took the camera and turned it in his hands, identifying the correct button, before lining up the family in the digital display.

‘Say “*cheese*”.’

The family duly smiled, with the exception of its teenage member who struck a pose of studied disdain.

As he returned the camera Steve saw that the professor was now crouched by the opposite railing, searching in his bag. ‘I knew we shouldn’t have stopped’, he joked.

The professor pulled a battered copy of a report from his bag and stood up. ‘Sorry. I just wanted to show you some key quotes. It’s not simply that the statistics erase inequality, what’s worse is that they do it by treating racism as if it’s a weakness in the kids’ themselves’.

Steve lent against the rail and looked out over the Thames, ‘*Blame the victim*. It’s the oldest trick in the book.’

‘I’m sure they don’t do it on purpose’, the professor clarified. ‘In fact, I doubt many statisticians have given it a second thought. I’ve some quantitative researchers who simply do not understand education as a *social* process. The various statistical manipulations are done with the intention of comparing like-with-like, trying to take account of each relevant factor’.

Steve nodded, ‘Yes, I read the report and can’t forget that bit about identifying “the unique (net) contribution of particular factors.”<sup>[35]</sup> As if they could separate out different elements of a cocktail.’

‘That’s right’, the professor continued. ‘I’ve been at policymaking seminars where government statisticians have talked about *the forensic use of statistics*. They see themselves like pathologists in TV dramas, unearthing what’s wrong with education by carving up their data into smaller and smaller pieces.’

‘When they put it like that it sounds very plausible’, Steve observed.

‘Except’, the professor noted, ‘that their tools are too blunt and racism infects lots of their neat little categories.’

‘Prior attainment being the classic example?’ Steve prompted.

‘Absolutely. The most common control variable in a lot of educational research is “prior attainment;” how the kids performed in earlier assessments. The statisticians use this as the first way of trying to compare like-with-like; trying to see how similarly “able” kids from different backgrounds are treated in the system’.

‘But’, Steve interrupted, ‘*who* does the measuring? And *what* counts as ability?’

‘Precisely’, the professor replied. ‘Decades of research in the US and the UK show that White teachers tend to have systematically lower expectations of Black students. They’re more likely to place them in low ranked teaching groups where they cover less of the curriculum and achieve less well.’<sup>[36]</sup>

‘My sister’s son is *six*’, Steve explained. ‘His classroom is split into five tables and guess which table most of the Black kids sit on?’ He didn’t wait for his friend to hazard a guess, they both knew the answer. ‘Of course, they don’t call it the “bottom” table – the teachers use code words – but every kid in the class knows which is the bottom and which is the top.’<sup>[37]</sup>

‘And you can bet your life that each table has different work sheets and covers less of the curriculum the further down the hierarchy you go’, the professor said shaking his head. ‘And after six years of primary education, and more and more sorting and

selection that closes down their chances,<sup>[38]</sup> the kids are assessed. And it's those test results which are used in the LSYPE's calculations of prior attainment'.

'So the racism that the kids experience on a daily basis translates into lower scores', Steve took up the logic of the analysis. 'But those scores are then used to gauge "ability" and "prior attainment", which wipes out most of the later inequalities when the statisticians run their calculations'.

'Yes', the professor stated emphatically, 'but the racism disappears from sight and the differences in prior attainment are treated as if they were deficits in the students themselves and nothing to do with their schools.' He thumbed through the report, skipping from page to page, each marked with a succession of sticky labels and highlighted text. 'This is the shorter version of the report – meant to help disseminate the findings more widely.<sup>[39]</sup> Look at this.' He pointed to a highlighted section and handed the report to Steve.

"Much of the difference between ethnic groups at age 14 can be accounted for by prior attainment at the end of KS2 (age 11)."<sup>[40]</sup>

'So you see', the professor concluded, 'at each stage of the system, by controlling for "prior attainment" the statisticians effectively wipe the slate clean: any racist processes that shaped the kids' attainment up to that point disappear from sight, it's a problem with the kids – they're "low attainers" – nothing to do with the system they've endured for years.' He pointed to another highlighted section of text:

'Statistical control for social class, maternal education, family poverty as indicated by entitlement to a Free School Meal (FSM), home ownership and family composition (single parent households), substantially reduced the attainment gaps for minority ethnic pupils, relative to White British pupils.'<sup>[41]</sup>

Steve read the quotation and handed the report back to his friend. 'Looks like all kinds of disadvantages get wrapped up and treated like a problem with the pupil not the system'.

The professor nodded. ‘What’s really dangerous is that non-statisticians are intimidated by the numbers. They don’t have the confidence or expertise to challenge the conclusions or the methods that generated them. So the press and politicians start behaving as if those inequalities simply don’t exist any longer’.

Steve looked concerned, ‘So when the report says “statistical control ... substantially reduced the attainment gaps”<sup>[42]</sup> it’s as if the gaps have actually shrunk!’

‘There are even some writers who argue that we shouldn’t talk about “underachievement” *until* we’ve done these kinds of statistical manipulation. They want to reserve the term for cases where a group doesn’t do as predicted by things like prior attainment, family background, free school meals and the like’.<sup>[43]</sup>

‘So even if a group – Black boys for instance – do consistently less well than White boys’, Steve spoke slowly, deliberately, and with mounting anger, ‘we’re not allowed to call it underachievement until we’ve satisfied the statisticians first? Unbelievable.’

### **Naturalizing Inequality: from association to causation**

Steve motioned towards the building on the other side of the bridge and started walking as he reflected on what he’d heard so far. ‘I’m no expert on statistics’, he confessed, ‘but surely there are safeguards against those kinds of sloppy conclusions. I mean, even *I’ve* heard the warning that an *association* between two things doesn’t prove that one *caused* the other. It’s one of the first things they tell you in class.’

The professor nodded as the two men joined the bottleneck of people queuing to leave the footbridge and head towards the Tate’s main entrance. ‘That’s right. The example I use with students is that when police cars are involved in accidents, more often than not they have their lights and sirens switched on. But that doesn’t mean there’s a *causal* link between having the siren on and having a crash; there’s another aspect to the situation which is more important. The siren is on to warn people that the police car is speeding and probably not following the usual rules of the road, *that’s* the more likely cause of the accident – the erratic and fast driving.’

‘You’re not suggesting that these researchers have forgotten one of the basic rules of statistics are you?’, Steve looked surprised.

‘Not *exactly*’, the professor smiled. ‘I’m suggesting that there’s a slippage between what the statisticians think they’re showing and what the rest of the world takes from their work. Do you have the tickets?’ the professor broke off from his stream of thought as they reached the entrance. ‘Don’t need ’em yet’, Steve answered, ‘most of the galleries are free, but there’s a particular exhibition I want you to see and *that’s* paid admission’.

The two men entered the Tate Modern and came to a stand still, awed by the sheer scale of the space ahead of them. The floor sloped away towards the far wall, several hundred feet away. To their right the wall rose high above them, grey squares and blocked lights framed by huge black-painted steel girders. To their left, the balconies of several exhibition floors were visible, housing a bookshop at ground level and different galleries above. Light flooded the area from large skylights in the centre of the roof.

‘This is the Turbine Hall’, Steve explained. ‘When this was a power station, this whole area was devoted to the turbine that lit this part of the city.’

‘I’m not *totally* ignorant’, the professor turned to his friend laughing. ‘I *have* been here before you know. In fact, I bet you didn’t know that the man who designed this power station also designed the famous red British telephone boxes.’<sup>[44]</sup>

Steve looked genuinely surprised. ‘Sorry, it’s just that I’ve heard you talk about your working class roots and how alienating high culture is made to feel. I love these places but I had to get over that feeling of being an unwelcome intruder.’

‘I know what you mean’, the professor confessed. ‘I’ve only been here *once* before. Not long after it opened there was an education seminar about attempts to subvert the White middle class nature of most museums and galleries. There were some really powerful pieces. I swore I’d come back but somehow never got ’round to it.’

‘So you were saying?’ Steve brought the conversation back to statistics.

‘I was saying that when statisticians say they’ve *explained* something, they mean they’ve identified a variable that is strongly associated with it, but when non-experts hear the word “explain” they think it’s the *fault* of that variable itself, rather than processes that relate to it.’

As they headed down the slope and towards the reception area the two men picked their way between groups of people. Several visitors stared intently at a jagged line on the floor: *Shibboleth* (more popularly referred to as ‘the crack’) had been a striking installation by Colombian artist Doris Salcedo. More than 500 feet long and up to three feet deep, the fissure represented ‘borders, the experience of immigrants, the experience of segregation, the experience of racial hatred.’<sup>[45]</sup> The crack had been filled in at the end of the exhibition period but, even now, the effect of the contrasting shape and texture across the floor remained potent.

As Steve picked up the necessary guides the older man dug into his bag for another report, with numerous florescent markers jutting from between its pages. Steve looked at the document with suspicion.

‘This is an extension report that’s meant to develop further the one I sent you as an attachment’, the professor explained. ‘I’ve marked all the times it talks about stats *explaining* something’. He handed the report to Steve who flicked between the marked pages, reading the highlighted sections:

Therefore, a large part of the low attainment of White British pupils from low SEC homes can be *explained* through the particularly low educational aspirations of these pupils and parents.<sup>[46]</sup>

Prior attainment is a very powerful predictor of later attainment (the correlation between KS2 test marks and KS4 total points score is 0.69), indicating that KS2 test marks can *explain* 50% of the variance in KS4 total points score.<sup>[47]</sup>

High academic self-concept, high effort (as indicated by amount of homework) and high educational aspirations play a large part in the differential performance among pupils from low SEC homes, *explaining* the better progress of ethnic minority pupils in this SEC group.<sup>[48]</sup>

‘I see what you mean’, Steve noted. ‘The report makes it sound as if certain things, like high aspirations, *cause* achievement. So the fault for underachievement lies with the kids and their parents for having low expectations.’

‘Precisely’, the professor took the report back and indicated another section. ‘But the text doesn’t mean that these things actually *cause* achievement, just that they are *associated* with it for some groups – but not all. Look at this bit.’ The professor read aloud:

‘These factors could *statistically explain* the poor progress of White British pupils from low SEC homes. However the same factors revealed that Black Caribbean, Black African and Bangladeshi boys from high SES homes made *less* than expected progress. These pupils completed the same or greater amounts of homework as their White British peers and had academic self concept and high educational aspirations but their progress did not reflect this.’<sup>[49]</sup>

‘So there’s nothing magical about aspirations’ the professor continued. ‘The same factor isn’t associated with success for Black and Bangladeshi boys from better off homes. But these kinds of subtleties are lost on the media and policymakers.’ He stuffed the report back into his bag as the two men climbed the stairs toward the exhibition that Steve had chosen. They stopped at the entrance and the professor read the title with obvious relish: ‘Street & Studio: an urban history of photography.’<sup>[50]</sup>

Steve handed the tickets to the museum employee at the door and they entered the exhibition’s first room, a selection of early works dating back to the nineteenth century. The friends found themselves looking at a selection of photos, many of them

depicting homeless people, some obviously posed in the manner of family portraits, others attempting more naturalism.

‘You know,’ said Steve. ‘This talk about cause and effect reminds me of a section in the government’s new Single Equalities Bill.’ The professor looked puzzled. ‘I was with a parents group the other week,’ Steve explained, ‘trying to find out what the new proposals would mean for race equality. There’s very little detail at the moment but one section of the Bill talks about inequality “*coming from*” things like race, gender and class.<sup>[51]</sup> It’s very vague but I got the distinct impression that whoever wrote the Bill thinks that race, gender and class identities themselves *generate* inequality rather than the *schools* where race, gender and class are taken as markers of deficit and threat.’<sup>[52]</sup>

The professor nodded as Steve continued, ‘I know you’re really busy prof, but it would be great if you could write some sort of briefing note on these things. Whenever I’m trying to mobilize parents around racism in schools, local authority officials and headteachers love to throw stats at us. It’s a very effective way of politely saying that parent’s aren’t clever enough to understand the situation’.

‘Really?’ the professor asked. ‘I wouldn’t have thought parents and activists are particularly interested in technical questions about statistical models’.

‘Well, you’ll have to find a way of making the arguments accessible to a wide audience’, Steve explained. ‘But the actual critique is dynamite. Stats have enormous power and they’re often used to silence dissent. If you can explain the problems that lie at the heart of these approaches, it could be very important.’

‘I’ll try to find some space to pull the ideas together’, the professor said without looking away from the photo in front of him: an early twentieth century image of a homeless man in Paris.

‘What do you think?’ Steve asked, looking at the picture.

‘It’s strange’, the professor replied. ‘I know these photos were quite effective in spreading an awareness of the scale of urban poverty; so I suppose they had a positive social impact...’

‘But’, Steve prompted.

‘But...’ The professor spoke slowly and quietly, ‘they feel a bit *voyeuristic*. I’m sure they made the photographer’s reputation, but what did they do for the man sleeping in the gutter?’

‘Funny you should say that’, Steve smiled and walked into the next exhibition room.

### **Using the Master’s Tools<sup>[53]</sup>**

As the two men moved through the exhibition they passed several art students, each standing beside a different photograph, sketching on small pads. The professor smiled to himself. ‘What’s so funny?’ Steve asked. The older man moved to a corner of the room away from other visitors and spoke in soft, conspiratorial tones. ‘It all feels a bit pretentious; people sketching photographs. It reminds me of that scene in *Annie Hall*’, he explained.<sup>[54]</sup> ‘You know, where the two leads are discussing photography but, as they talk, their *real* thoughts are printed along the bottom of the screen?’

Steve grinned and, being a confirmed movie buff, recalled the scene perfectly, ‘Woody’s talking about how “a set of aesthetic criteria” haven’t emerged for photography and all the time he’s thinking “I wonder what she looks like naked?”’

‘That’s right’, the professor continued, ‘and she’s thinking “I hope he doesn't turn out to be a shmuck like the others”.’

The men laughed and moved to the next exhibition room. They wandered in different directions, occasionally calling the other over to examine a particularly interesting picture. They were in the ninth room of the exhibit, named ‘Liberation: 1960s – 1980s,’ when the professor called Steve over with greater than usual excitement.

‘Now *this* is interesting’, the professor exclaimed. ‘It’s using photography to subvert usual power relations. Have you seen this?’

Steve leant forward and examined the work. In front of him were six black and white photos, each over a foot wide, with two panels of text beneath. ‘*Fully Automated Nikon (Object/Objection/Objectivity)*. Laurie Anderson.[<sup>55</sup>] Don’t know the name,’ he said shaking his head.

‘Maybe you’re too young to remember, she had a few hits in the ’80s; guested on an album track with Peter Gabriel. She’s incredibly versatile. Does performance art, music, poetry and, it seems, photography’, the professor explained.

The images each showed street scenes featuring men, either facing the camera or turning their head away, their eyes blanked out by white rectangles. The text explained how the pictures came about, as a way of turning the tables on men who sexually harassed the artist as she walked the streets of New York:

‘As I walked along Houston Street with my fully automated Nikon, I felt armed, ready. I passed a man who muttered “Wanna fuck?” This was the standard technique: the female passes and the male strikes at the last possible moment forcing the woman to backtrack if she should dare to object. I wheeled around, furious. “Did you say that?” He looked around surprised, then defiant. “Yeah, so what the fuck if I did?” I raised my Nikon, took aim, began to focus. His eyes darted back and forth, an undercover cop? CLICK.’[<sup>56</sup>]

‘This is powerful’, the professor enthused. ‘She’s using the camera to *resist* oppression – to turn the tables on the oppressor. This is the opposite of the voyeuristic scenes in the earlier rooms.’ As he spoke the professor caught a grin flash across Steve’s face and he realised he had been trapped. He straightened himself and, smiling, looked Steve in the eye, ‘This is what you wanted to show me isn’t it?’

Steve laughed and confessed, ‘Yeah, sorry prof. But I knew you’d like it. And the best part is that there’s a network of sites using camera phones to do the same thing. It started in New York and now there are sites across North America. There’s even talk of them being established worldwide.’<sup>[57]</sup>

‘That’s great’, the older man agreed, ‘but what’s it got to do with *statistics*?’

‘Well’, Steve explained, ‘just as photography isn’t *necessarily* voyeuristic, so statistics aren’t *necessarily* oppressive. I mean, think how important stats have been in making the argument about institutional racism. The last time I heard you on the radio you quoted a list of stats as a way of highlighting how racism operates across public services’.

The professor nodded as he recalled the interview – an attempt to interrupt the media’s usual misrepresentation of racism as a crude and simple hatred now eradicated from public life. He had to admit that when he was talking to non-academic audiences a few well chosen statistics could shake people’s assumptions; ‘Compared with their white peers Black people are three times more likely to be expelled from school; nearly four times more likely to be arrested; five times more likely to be in prison; and seven times more likely to be stopped and searched by police – all *official* statistics. So much for a post-racial world!’<sup>[58]</sup>

‘That’s right’, Steve continued, ‘stats can be a powerful way of exposing oppression. Weren’t some basic stats *vital* in getting a discussion started about racism in schools?’

‘You’re right’, the professor agreed, ‘figures showing the lower average attainments of “West Indian” students were a key part of the campaign to establish multicultural and antiracist education *but* none of that work would have happened without constant pressure from the Black community.’<sup>[59]</sup>

‘Absolutely’, Steve replied, ‘the stats don’t achieve anything by themselves but they *can* be a valuable weapon. If we jettison statistics we’ll be losing a powerful part of our armoury. There’s nothing inherently conservative about numbers.’<sup>[60]</sup>

The professor looked at the black and white images on the wall and thought about his friend's arguments for a few moments before replying. 'OK', he said, 'I'll grant you that numbers aren't always conservative, but I still say that statistics *are* inherently less able to capture the subtleties of racism and how it operates.'

'No question', Steve agreed. 'Stats can't possibly capture the huge complexity of racism and how it works across so many unseen aspects of the world, but I'm not convinced that any single method can do that successfully. The fact that stats have such force in the public consciousness means that we *have* to be more imaginative – and critical - in how we use them to fight racism.'

## CONCLUSION

Quantitative data should therefore be considered not only as the illustration or evidence of the construction of the education system, but also as active instruments of planning, control and monitoring of such construction: therefore they are informative but not neutral. (...) Quantitative data are social constructs... (Carpentier 2008: 704)

In this article I have used the medium of a CRT chronicle to challenge the dominant assumptions surrounding the status and meaning of statistical work on race/racism in education. Numbers carry a special kind of influence in contemporary policy debates, where statistics are generally equated with scientific rigour and objectivity. It is especially important, therefore, that quantitative researchers recognize their responsibility to be critically reflexive about the claims that they make on the basis of available data. Although antiracist scholarship sometimes makes effective use of statistics, there are also cases where quantitative researchers make sweeping statements about the nature of educational inequality that fail to recognize the complexity of the racialized processes they seek to address.<sup>[61]</sup>

Like any other method of inquiry, quantitative approaches are influenced by the assumptions and experiences of the researchers themselves. However, this danger is especially acute in quantitative research because, first, its scientific aura means that its

findings are generally given greater weight and credence than qualitative work; and second, because commentators, policymakers and the public are less likely to feel competent to challenge statistical conclusions.

I have used the case of the Longitudinal Study of Young People in England (LSYPE) to explore some of the particular dangers involved in quantitative research on race inequity in education. For example, the statistical conclusions effectively removed certain inequalities from the ensuing public debate. Although Bangladeshi, Pakistani and Black African students were less likely to be entered for the high level examinations than their White peers, this fact was discounted in the published report because the statistical models claimed the under-representations to be less than they would have predicted. Such calculations are based on a series of assumptions, about the nature of raced and classed inequalities, that do not stand up to critical scrutiny.

By seeking to treat educational inequality as the result of discrete and predictable processes related to differences in the profile of individual students, quantitative research risks falling into the trap of blaming the victim. By focusing on how much inequality is associated with particular student identities (including class, gender, race, family structure and maternal education) such research can give the impression that the problem arises from those very identities – rather than being related to *social processes* that give very different value to such identities, often using them as a marker of internal deficit and/or threat.

A very serious weakness with quantitative research on race inequality in education is the use of ‘prior attainment’ measures to supposedly enable the statisticians to compare like-with-like. Using student attainment as indicative of general ability and/or potential is hugely problematic. Research in primary schools, for example, indicates that Black students often face a series of racist processes that position them as less able and leads to a closing down of opportunities. The students’ attainments at age 10 or 11, therefore, cannot be divorced from their racialized experience of schooling to that date; but when statisticians use those assessment scores as a measure of ability, as a basis for comparing the progress and attainment of secondary school students, those inequalities become encoded as a *personal quality* – a deficit within the child – rather than as a *product* of discriminatory social processes.

These problems are made even more acute where statisticians claim that certain social identities or experiences ‘explain’ a proportion of an inequality. Although the researcher may use the term in a limited and specialised way, their general audience (including policymakers and practitioners) can interpret this to mean that the identity *causes* the inequality.

My central argument in this article is that quantitative research is no less subject to misunderstanding and researcher bias than any other method; indeed, the more that statisticians manipulate their data, the more it is likely that majoritarian assumptions will be introduced as part of the fabric of the calculations themselves and the conclusions that are drawn. In race research this means that quantitative analyses will tend to project, and reinforce, a relatively de-racialized understanding of social processes that is oblivious to the multiple, shifting and hidden forms of racism that characterize the system. The statisticians’ pronouncements, including their judgements about the relative absence of racism, feed into both popular and political discourses that shape education policy. In turn, therefore, the racism that has eluded the statisticians can be further reinforced and normalized through supposedly color-blind policies that have deeply racialized and racist outcomes.

## Acknowledgements

This paper is dedicated to the memory of my friend Cari Loder, an exceptional woman who never let an expert tell her what to think. My arguments have benefitted from the advice of numerous colleagues, including Michael W. Apple, Stephen J. Ball, Gregg Beratan, Vincent Carpentier, Paul Connolly, Sean Demack, David Drew, Zeus Leonardo, Grace Livingston, John Preston, Claudine Rausch, Nicola Rollock, Alice Sullivan, Carol Vincent, Deborah Youdell and Terezia Zoric. Although I haven't always heeded their advice, I deeply appreciate their positive engagement with the issues. Any errors and oversights are, of course, entirely my responsibility.

## References

- Allen, W. (dir.)(1977) *Annie Hall*. Screenplay by Woody Allen and Marshall Brickman.
- Anderson, L. (1973, revised and reprinted 2008) *Fully Automated Nikon (Object/Objection/Objectivity)* shown at the Tate Modern, 2008, courtesy the artist and Sean Kelly Gallery, New York.
- Anderson, L. (1994) *Stories from the Nerve Bible: A Retrospective 1972-1992*. New York: HarperPerennial.
- Araujo, M. (2007) 'Modernising the Comprehensive principle': selection, setting and the institutionalisation of educational failure, *British Journal of Sociology of Education*, 28(2): 241-257.
- Bell, D. (1985) Foreword: The Civil Rights Chronicles (The Supreme Court, 1984 term), *Harvard Law Review*, Vol. 99, pp. 4-83.
- Bell, D. (1992) *Faces at the Bottom of the Well: the permanence of racism*. New York: Basic Books.
- Bhopal, K. & Myers, M. (2008) *Insiders, Outsiders and Others: Gypsies and Identity*. Hatfield: University of Hertfordshire Press.
- Carpentier, V. (2008) Quantitative sources for the history of education, *History of Education*, 37(5): 701 – 720.
- Commission for Racial Equality (CRE)(1992) *Set to Fail? Setting and Banding in Secondary Schools*. London: Commission for Racial Equality.

- Connolly, P. (1998) *Racism, Gender Identities and Young Children: Social relations in a Multi-Ethnic, Inner-City Primary School*. London: Routledge.
- Connolly, P. (2007) *It may look good but does it actually work? A critical race perspective on evaluating the effects of diversity education programs on young children's racial attitudes*. Paper presented at the American Educational Research Association annual conference, Chicago, April.
- Corbett, R. (2006) Women strike back online against street harassment, *Women's eNews*, May 8, 2006.
- Curtis, P. (2008) Education: Black Caribbean children held back by institutional racism in schools, says study, *The Guardian*, 5 September.  
<http://www.guardian.co.uk/education/2008/sep/05/raceineducation.raceinschools> (last accessed 13 May 2009).
- Delamont, S. (2001) Review of 'Taking sides in social research', *British Journal of Sociology of Education*, 22(1), 157–160.
- Delamont, S. (2003) *Feminist Sociology*. London: Sage.
- Delgado, R. (1989) Storytelling for Oppositionists and Others: A Plea for Narrative, *Michigan Law Review*, Vol. 87, pp. 2411-2441.
- Delgado, R. (1993) On Telling Stories in School: a reply to Farber and Sherry, *Vanderbilt Law Review*, 46: 665-676, reprinted in E. Taylor, D. Gillborn & G. Ladson-Billings (eds) *Foundations of Critical Race Theory*. New York: Routledge, pp. 340-8.
- Delgado, R. (1995) *The Rodrigo Chronicles: conversations about America and race*. New York: New York University Press.
- Delgado, R. & Stefancic, J. (2001) *Critical Race Theory: An Introduction*. New York: New York University Press.
- Department of Communities and Local Government (DCLG)(2009) *Improving Opportunity, Strengthening Society: a third progress report on the Government's strategy for race equality and community cohesion: Volume 2 Race Equality in Public Services – Statistical Report*. London: DCLG.
- Department for Education & Skills (DfES)(2007) *Getting It. Getting It Right. Exclusion of Black Pupils: Priority Review*. (The Wanless Report). London: DfES.
- Drew, D. & Demack, S. (1998) A league apart: statistics in the study of 'race' and education, in P. Connolly & B. Troyna (eds) (1998) *Researching Racism in*

- Education: Politics, Theory and Practice*. Buckingham: Open University Press, pp. 140-70.
- Farber, D.A. & Sherry, S. (1993) Telling Stories out of School: an essay on legal narratives, *Stanford Law Review*, 45: 807-855, reprinted in E. Taylor, D. Gillborn & G. Ladson-Billings (eds) *Foundations of Critical Race Theory*. New York: Routledge, pp. 311-339.
- Gillard, D. (2008) Us and Them: a history of pupil grouping policies in England's schools, at <http://www.dg.dial.pipex.com/articles/educ30.shtml> (last accessed 2 August 2009).
- Gillborn, D. (2004) Ability, selection and institutional racism in schools, in M. Olssen (ed.) *Culture and Learning: access and opportunity in the classroom*. Greenwich, Connecticut: Information Age Publishing.
- Gillborn, D. (2005) It takes a nation of millions (and a particular kind of education system) to hold us back, in B. Richardson (ed.) (2005) *Tell It Like It Is: how our schools fail Black children*. London: Bookmarks, pp. 88-96.
- Gillborn, D. (2008) *Racism and Education: coincidence or conspiracy?* London: Routledge.
- Gillborn, D. (2009) Burning down the house? Refuting the myths and recognising the promise of critical race theory, in Andrew Pilkington, Shirin Housee & Kevin Hylton (eds) *Race(ing) Forward: Transitions in Theorising 'Race' in Education*. Birmingham: Higher Education Academy, Sociology, Anthropology, Politics (C-SAP), pp. 59-85.
- Gillborn, D. & Youdell, D. (2000) *Rationing Education: Policy, Practice, Reform and Equity*. Buckingham: Open University Press.
- Gorard, S. & Smith, E. (2008) (Mis)Understanding underachievement: a response to Connolly, *British Journal of Sociology of Education*, 29(6): 705-714.
- Gottfredson, L. (1986) Societal consequences of the g factor in employment, *Journal of Vocational Behaviour*, 29: 379-410.
- Government Equalities Office (2009) *A Fairer Future: The Equality Bill and other action to make equality a reality*. London: Government Equalities Office.
- Hallam, S. (1999) Set to see a rise in standards, *Times Educational Supplement*, 23 July, p. 19.
- Herrnstein, R. J. & Murray, C. (1994) *The Bell Curve: Intelligence and Class Structure in American Life*. New York: The Free Press.

- Kornhaber, M.L. (2004) Assessment, Standards, and Equity, in J.A. Banks & C.A. McGee Banks (eds) *Handbook of Research on Multicultural Education*. San Francisco: Jossey-Bass.
- Ladson-Billings, G. (2006) They're trying to wash us away: the adolescence of Critical Race Theory in education, in Adrienne D. Dixson & Celia K. Rousseau (eds) *Critical Race Theory in Education: All God's Children Got a Song*, New York: Routledge, pp. v-xiii.
- Lorde, A. (2003) The master's tools will never dismantle the master's house, in Reina Lewis & Sara Mills (eds)(2003) *Feminist Postcolonial Theory: A Reader*. London: Routledge, pp. 25-8.
- Martin, M.C. (2000) Towards Tate Modern, in Blazwick, I. & Wilson, S. (eds)(2000) *Tate Modern: the handbook*. London: Tate Gallery Publishing.
- Matsuda, M., Lawrence, C., Delgado, R., & Crenshaw, K. (1993) *Words that wound: Critical race theory, assaultive speech, and the first amendment*. Boulder, CO: Westview.
- Moscou, S. (2008) *Black = 0, White = 1*. Saarbrücken: VDM Verlag Dr. Müller Aktiengesellschaft & Co.
- Oakes, J. (1990) *Multiplying Inequalities: The Effects of Race, Social Class, and Tracking on Students' Opportunities to Learn Mathematics and Science*. Santa Monica: Rand Corporation.
- Oakes, J., Joseph, R. & Muir, K. (2004) Access and Achievement in Mathematics and Science: Inequalities that Endure and Change, in J.A. Banks & C.A.M. Banks (eds) *Handbook of Research on Multicultural Education*. Second Edition. San Francisco: Jossey-Bass, pp. 69-90.
- Office for Standards in Education (Ofsted) (2008) *The educational achievement of black boys*. Working paper: personal communication.
- Petersen, E.B. (2009) Resistance and enrolment in the enterprise university: an ethno-drama in three acts with appended reading, *Journal of Education Policy*, 24(4): 409-422.
- Rampton, A. (1981) *West Indian Children in Our Schools*. Cmnd 8273. London: HMSO.
- Reay, D. & Wiliam, D. (1999) 'I'll be a nothing': structure, agency and the construction of identity through assessment, *British Educational Research Journal*, 25(3): 343-54.

- Reynolds, N. (2007) Tate Modern reveals giant crack in civilisation, *Daily Telegraph*, 8 October, at <http://www.telegraph.co.uk/news/uknews/1565498/Tate-Modern-reveals-giant-crack-in-civilisation.html> (last accessed 15 June 2009).
- Rollock, N. (2007) *Failure by Any Other Name? Educational Policy and the Continuing Struggle for Black Academic Success*. London: Runnymede Trust.
- Rollock, N. (2009a) Education Policy and the Impact of the Lawrence Inquiry, in N. Hall, J. Grieve and S.P. Savage (eds) *Policing and the Legacy of Lawrence*. Cullompton: Willan Publishing
- Rollock, N. (2009b) *The Stephen Lawrence Inquiry 10 Years On: An Analysis of the Literature*. London: Runnymede Trust:  
<http://www.runnymedetrust.org/uploads/publications/pdfs/StephenLawrenceInquiryReport-2009.pdf>
- Sewell, T. (2008) Racism is not the problem, *The Guardian*, website discussion piece, <http://www.guardian.co.uk/commentisfree/2008/sep/05/raceinschools.racineeducation> (last accessed 11 May 2009).
- Sewell, T. (2009) *Generating Genius: Black Boys in Search of Love, Ritual and Schooling*. Stoke on Trent: Trentham Books.
- Solórzano, D.G. & Yosso, T.J. (2002) Critical Race Methodology: Counter-Storytelling as an Analytical Framework for Education Research, *Qualitative Inquiry*, 8(1): 23-44.
- Strand, S. (2007a) *Minority Ethnic Pupils in the Longitudinal Study of Young people in England (LSYPE). Research Report DCSF-RR002*. London: DCSF.
- Strand, S. (2007b) *Minority Ethnic Pupils In The Longitudinal Study Of Young People In England (LSYPE), Research Brief DCSF-RB002*, London: DCSF.
- Strand, S. (2008) *Minority Ethnic Pupils in the Longitudinal Study of Young People in England: Extension Report on Performance in Public Examinations at Age 16: Research Report DCSF-RR029*. London: DCSF.
- Sukhnandan, L. & Lee, B. (1998) *Streaming, Setting and Grouping by Ability*. Slough: NFER.
- Swann, Lord (1985) *Education for All: Final Report of the Committee of Inquiry into the Education of Children from Ethnic Minority Groups*. Cmnd 9453. London: HMSO.
- Tate (2005) *Tate Modern: The First Five Years*. London: Tate.

- Tikly, L., Haynes, J., Caballero, C., Hill, J. & Gillborn, D. (2006) *Evaluation of Aiming High: African Caribbean Achievement Project*. Research Report RR801. London: DfES.
- Tomlinson, S. (2008) *Race and Education: Policy and Politics in Britain*. Maidenhead: Open University Press.
- Wright, C. (1986) School processes - an ethnographic study, in J. Eggleston, D. Dunn & M. Anjali (1986) *Education for Some: The Educational & Vocational Experiences of 15-18 year old Members of Minority Ethnic Groups*. Stoke-on-Trent: Trentham.
- Wright, C. (1992) *Race Relations in the Primary School*. London: David Fulton Publishers.
- Ziliak, S.T. & McCloskey, D.N. (2008) *The Cult of Statistical Significance: How the Standard Error Costs Us Jobs, Justice, and Lives*. Ann Arbor: University of Michigan Press.

**Table 1**  
**Dominant Discourses on Research**

Quantitative Research	Qualitative Research
<ul style="list-style-type: none"> <li>• Quantitative Methods:               <ul style="list-style-type: none"> <li>○ Surveys</li> <li>○ Randomised Controlled Designs</li> <li>○ Quasi-Experimental Designs</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• Qualitative Methods:               <ul style="list-style-type: none"> <li>○ Semi- and Unstructured Interviews</li> <li>○ Ethnography</li> <li>○ Narratives and Storytelling</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• Scientific</li> <li>• Objective</li> <li>• Neutral</li> <li>• Evidence</li> <li>• Truth</li> </ul>	<ul style="list-style-type: none"> <li>• Political</li> <li>• Subjective</li> <li>• Partisan</li> <li>• Anecdote</li> <li>• Fiction</li> </ul>

Source: Adapted from table 1 in Connolly (2007).

**Table 2**  
**Cumulative Odds Ratios from Ordinal Logistic Regression for Mathematics Tier of Entry by Ethnic Group**

<b>Ethnic group</b>	<b>Base model</b>	<b>Prior attainment</b>	<b>Family background</b>
Indian	<i>1.34</i>	<i>1.63</i>	<i>1.86</i>
Pakistani	<b>0.55</b>	1.19	<i>1.55</i>
Bangladeshi	<b>0.65</b>	1.08	<i>1.72</i>
Black Caribbean	<b>0.44</b>	<b>0.68</b>	<b>0.72</b>
Black African	<b>0.62</b>	<i>1.56</i>	<i>1.75</i>

Notes

Base	Ethnic group.
PA	Ethnic group, Key Stage 2 maths test marks.
FB	Ethnic group, Key Stage 2 maths test marks, gender, social class, maternal education, FSM, home ownership, single parent households.

*Blue italic* significantly more likely than White British to be entered for higher tiers.

**Red bold** significantly less likely than White British to be entered for higher tiers.

Source: Adapted from table 42, Strand (2007a, 87).

## Notes

---

- <sup>1</sup> My thanks to Sue Atkins for bringing this quotation to my attention.
- <sup>2</sup> I use the term ‘minoritized’ in preference to the more usual ‘minority ethnic’ because the former draws attention to the social processes by which particular groups are defined as lesser or outside the mainstream.
- <sup>3</sup> I first used this approach in my book *Racism and Education: Coincidence or Conspiracy?* (2008) and have been struck by the very positive reception that the chronicles received from diverse audiences including parent- and community-advocacy groups.
- <sup>4</sup> Both characters are fictional. For further background on chronicles and these characters, see Gillborn 2008; chapters 1 and 9. I use the word ‘Black’ to refer to people who would identify their family origins in the Caribbean and/or Black Africa.
- <sup>5</sup> In ‘tiered’ examinations the final grades available are determined by the kind of examination paper that the teacher decides is ‘appropriate’ for each student: the highest grades (A\*, A and B) are only available in the top tier: students in the lower (‘Foundation’) tier cannot do better than a grade C. See Gillborn & Youdell (2000); Gillborn (2008, ch. 5); Tikly et al (2006).
- <sup>6</sup> Curtis (2008).
- <sup>7</sup> Curtis (2008).
- <sup>8</sup> Tikly *et al* (2006).
- <sup>9</sup> Connolly (2007).
- <sup>10</sup> See Gillborn (2008, ch. 6); Rollock (2009a & b).
- <sup>11</sup> ‘Whilst a compelling case can be made for the existence of “institutional racism” in schools, there is a comparatively weak evidential basis for arguing that ‘street culture’ has a *more* persuasive influence on Black young people than it (or any other anti-academic youth culture) has on other young people. Out-of-school factors might explain the background to many individual exclusions, but it is harder to demonstrate their contribution to an exclusions *gap*.’ (DfES 2007, 13, original emphasis). For an account of the suppression and eventual muted publication of the report see Gillborn (2008, 130-1).

- 
- <sup>12</sup> For further discussion of this issue see Bell (1992); Delgado & Stefancic (2001, ch. 1); Gillborn (2009).
- <sup>13</sup> Sewell (2008). Sewell subsequently repeated his views on the study and asserted simply ‘The reasons why African Caribbean boys are less likely to be entered into the top tiers is because they are not working as hard as their white peers’ (Sewell 2009, 18).
- <sup>14</sup> See Gillborn (2008, 190).
- <sup>15</sup> Bell (1992, 111).
- <sup>16</sup> Bell (1992, 114).
- <sup>17</sup> Sewell (2008)
- <sup>18</sup> Gypsy-Traveller students are consistently the lowest attaining of all minoritized groups. See Bhopal & Myers (2008). For further information see the Gypsy and Traveller Law Reform Coalition at <http://www.travellerslaw.org.uk/> (last accessed 2 August 2009).
- <sup>19</sup> Ofsted (2008).
- <sup>20</sup> Sewell (2008)
- <sup>21</sup> Strand (2007a, 18-20).
- <sup>22</sup> Strand (2007a, 7).
- <sup>23</sup> Drew & Demack (1998, 168).
- <sup>24</sup> Strand (2007a, 122).
- <sup>25</sup> Strand (2007a, 87).
- <sup>26</sup> Strand (2007a, 88).
- <sup>27</sup> Family background is taken to include ‘gender, social class, maternal education, FSM [free school meal status], home ownership and single parent households’: Strand (2007a, 88).
- <sup>28</sup> Strand (2007a, 88).

---

<sup>29</sup> Built as a major architectural addition to London to mark the new Millennium, the bridge was opened in the summer of 2000 but had to be closed for more than six months while major structural modifications were made.

<sup>30</sup> Attendance figures at the Tate Modern have outstripped all predictions and make it the most popular museum of modern art in the world: Tate (2005, 41).

<sup>31</sup> Herrnstein & Murray (1994).

<sup>32</sup> Herrnstein & Murray (1994, 321).

<sup>33</sup> Gottfredson (1986).

<sup>34</sup> Herrnstein & Murray (1994, 321).

<sup>35</sup> Strand (2007a, 7)

<sup>36</sup> See, for example, Araujo (2007); Commission for Racial Equality (CRE)(1992); Gillborn (2004, 2005 & 2008); Kornhaber (2004); Oakes (1990); Oakes et al (2004); Sukhnandan & Lee (1998); Wright (1986). For a history of selection in English education see Gillard (2008).

<sup>37</sup> For qualitative studies of race and primary schools see Connolly (1998); Wright (1992).

<sup>38</sup> Hallam (1999); Reay & Wiliam (1999).

<sup>39</sup> Strand (2007b).

<sup>40</sup> Strand (2007b, 2).

<sup>41</sup> Strand (2007b, 1-2).

<sup>42</sup> Strand (2007b, 1-2).

<sup>43</sup> See Gorard & Smith (2008, 708).

<sup>44</sup> Architect Giles Gilbert Scott: see Martin (2000).

<sup>45</sup> Doris Salcedo quoted in Reynolds (2007).

---

46 Strand (2008, 33-34: emphasis added).

47 Strand (2008, 37:emphasis added).

48 Strand (2008, 45: emphasis added).

49 Strand (2008, 45: emphasis added).

50 The exhibition was hosted at the Tate Modern between 22 May and 31 August 2008.

51 ‘We know that inequality does not just come from your gender or ethnicity; your sexual orientation or your disability; your age, or your religion or belief. Overarching and interwoven with these specific forms of disadvantage is the persistent inequality of social class – your family background or where you were born. Social class still holds a powerful grip over people’s lives’ Government Equalities Office (2009: 9).

52 Rollock (2007).

53 See Lorde (2003).

54 Allen (1977).

55 Anderson (1973, revised and reprinted 2008).

56 Anderson (1994, 146-7).

57 The principal site is at <http://hollabacknyc.blogspot.com/> (last accessed 1 August 2009). For further details see Corbett (2006).

58 Department of Communities and Local Government (2009).

59 See Gillborn (2008, ch. 4); Rampton (1981); Swann (1985); Tomlinson (2008, ch. 3).

60 For a wealth of material critically applying quantitative approaches to key social issues, see the Radical Statistics group at <http://www.radstats.org.uk/> (last accessed 12 October 2009).

61 On a related issue, see Moscou (2008) for a discussion of the racialized assumptions that underpin some health research.

