

‘Physical’ masculinities and mathematics

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Prior research has shown how ideas about ‘rational man’ and media images of male mathematicians can create an environment in which doing mathematics is ‘doing masculinity’ (Mendick, 2006). This report re-visits the intersection of gender and mathematics, highlighting a form of ‘physical’ masculinity that is opposed, rather than aligned, to mathematics. The analysis draws primarily on thematic analysis of interviews with three low socio-economic status (SES), ethnic minority Year Nine (age 13-14) boys in New Zealand. I argue that colonial images of Māori (indigenous) and Pacific men as physically but not academically talented are still evident in these students’ narratives about school mathematics.

Keywords: mathematics; masculinities; New Zealand; SES; ethnicity

Introduction

Prior research about the relationship between gender and school mathematics has highlighted the way particular ideas – the Enlightenment idea of ‘rational man’ (Walkerdine, 1998), and images of mathematicians in popular culture (Epstein, Mendick, & Moreau, 2010) – position mathematics as a masculine activity. Such research does not simply argue that boys are ‘better at mathematics’ than girls, but rather that girls must undertake difficult ‘identity work’ in order to see themselves as competent mathematicians. Nor is such identity work absent for boys, because mathematical masculinity is aloof, rational and associated with whiteness and social privilege (Epstein et al., 2010; Moreau, Mendick, & Epstein, 2010). This article adopts Connell’s (2008) position that there many ‘masculinities’. It suggests that New Zealand, a multicultural, post-colonial society obsessed with sport (Grainger, 2009), provides an especially conducive setting for the production of masculinities strongly invested in sport and physicality. The article represents a work in progress in terms of both data analysis and the development of ideas.

Ethnicity, the body, and masculinities in New Zealand

The idea that Māori (indigenous) New Zealanders are physically talented but intellectually slow has a long history in European thought. For example, Hokowhitu explains that

One stylized configuration of Māori was the physical/unintelligent dolt. A physical/intellectual dichotomy, that would limit Māori throughout colonial history, emerged in the grand colonizing era of the eighteenth and nineteenth centuries. (Hokowhitu, 2003, p. 194)

Educational ethnographer Fitzpatrick writes of the mainly Māori and Pacific Island heritage students in the school where she conducted her research that:

Stereotypes of the brown body being inherently physical and non-intellectual provide them both with motivation and a sense of belonging, but also restrict their identities and lock them into their bodies. The students, in turn, view physical education (PE) as easy and non-academic, despite the significant academic class work and assessments they complete. Such a misapprehension gives them confidence in PE contexts and, possibly even enables them to achieve educational capital in the form of qualifications. It also, however, reinforces their (and others) views of themselves as non-academic. (Fitzpatrick, 2011, p. 150)

Two arenas in which Māori gained a great deal of recognition and respect from European heritage New Zealanders in the twentieth century were war and rugby (Hokowhita, 2003; King, 2003). It should be noted that only men could be soldiers or rugby players. Whilst New Zealand literature is relatively clear about how the mind/body binary is racialised, more work is needed to clarify how it is gendered. Connell (2008) shows that in many Western schools, sport and physical toughness are tied up with masculinities. She chooses the examples of war and sport, already mentioned in relation to stereotypes of Māori physicality, as hallmarks of 'hard' masculinities.

Definitions and practices of masculinity are also embedded in institutions and mass culture. A familiar case is the construction of 'hard' masculinities in the organizational culture of armies. Another example is commercial sport, which through the mass media is now a very important source of images of masculinity for youth. (Connell, 2008, p. 133)

Connell links physical and academic masculinities to social class and ethnicity, arguing that Black and working-class boys are more likely than other boys to seek recognition through physical toughness and athletic ability rather than academic success. This strongly embodied "protest masculinity" (Connell, 2008, p. 139) could not be more different to the cerebral, 'geeky' masculinity stereotypically connected to mathematics.

The study

This report draws primarily on thematic analysis of interviews with three low socio-economic status (SES) ethnic minority students in New Zealand, although it briefly alludes to questionnaire and test data. The wider study included student questionnaire and test data from a socially and ethnically diverse group of 425 Year Nine students (aged 13-14) in three co-educational New Zealand secondary schools, as well as student and teacher interviews and lesson observations. The interviews and questionnaires covered topics such as enjoyment, ease, and importance of various school subjects, and career goals. A 'multiple capitals' approach (Bourdieu, 1986; Shilling, 1991) framed the mixed-methods analysis of students' accumulation of 'academic capital' (good test results, compliant classroom behaviour) and 'physical capital' (athletic ability developed through PE and sport). The themes of academic and physical capital emerged inductively from students' conversations about different school subjects and extracurricular activities. The following section examines the narratives of three students who identified as 'physical' but not 'mathematical'. These students' 'imagined futures' (Ball, Macrae, & Maguire, 1999) involve reconversion of physical capital into economic capital (money) and symbolic capital (such as occupational prestige and fame).

Mathematics rejected: risky investments in ‘physical capital’

Callum is a low-SES boy with Māori and European ethnicity in a mid-set class. During my observations he had been moved to an isolated seat at the front of the classroom for disruptive behaviour. He plays rugby and basketball, does martial arts, and follows rugby on TV. He finds mathematics boring and difficult. His favourite subject is PE and his least favourite subjects are mathematics and science. When I ask Callum to rank a range of subjects from easy to difficult he says:

I'm not really good at, I'm one of those people that's not really good at all, like, that like, that subjects aren't easy and stuff. So that probably the easiest one for me would probably have to be PE, because I enjoy it and just like give it one hundred percent every time. And difficult and hard, probably maths and science.

The first sentence of this quote suggests that it is difficult for Callum to articulate what he is trying to say about himself. There is some evidence that for Callum difficult emotions are associated with his identifying as “one of those people” for whom “subjects” – which seem not to include PE – aren't easy. He expects he will be nervous when he gets to his national mathematics exam in Year Eleven (age 16).

The main feelings that Callum says he associates with mathematics lessons are frustration and feeling stupid.

David: Why do you feel frustrated?

Callum: Just, I just don't really know what to do and sometimes when I just like – like ‘cos I think last time I did get put up the front [of the classroom] again for talking a bit, but so, but when there was really no one around I did get a bit frustrated ‘cos I had nothing to do, didn't understand the work really well.

Callum's difficulty with mathematics positions him in opposition to the successful student, both academically and morally. He explains the behaviour that leads to the humiliation of being isolated from other students and near the teacher as deriving from his lack of mathematical ability.

I've probably been a bit of a trouble-maker in maths, but probably because, again, I probably get bored because I don't know what to do, even if I ask the teacher for help I don't know what to do, so I just start doing random stuff, talking and stuff.

Callum is undecided as to whether he will continue to take mathematics once it is no longer compulsory; the only subject that he is sure he wants to continue with is PE. He imagines the decision over whether to continue with mathematics depending on his ability:

It depends, like if I still suck at maths at that, oh like, you know, if I am still the same as I am now at maths I'll probably just drop it, I probably won't see the point of doing maths, but if I'm pretty good at maths, getting the hang of it and then I'll probably keep continuing doing maths.

Given Callum's troubling experiences in the mathematics classroom and his perception of his own low ability, it is hardly surprising that he has begun to imagine a future for himself which does not rely on success in mathematics. Callum plans to join the military, a plan which he explains using a violent and patriotic cliché: “I like New Zealand and one day I'd like to fight for it”. This career aim to some extent justifies Callum's focus on PE, because a physical fitness assessment is one of the entry requirements for army training. Callum's wish to ‘fight for his country’ alongside participation in rugby and martial arts speak of identification with a ‘hard’ and physically aggressive masculinity (Connell, 2008).

Callum's interview was an especially poignant example of a student disaffected with mathematical success and strongly invested in the accumulation of physical capital, however, it was not unique. Michael and Joshua, two boys with Pacific Island heritage, display a similar level of identification with physical rather than academic capital. Both have mathematics attainment around the national average for their age. Neither boy reports the level of difficulty with mathematics expressed by Callum, yet they do talk of always being blamed when other students are being noisy, and of lunchtime being their favourite part of school. Both list PE as their favourite subject. Michael's least favourite is mathematics and Joshua's least favourites are English and Religious Education. Both rated PE as very important and wrote on their questionnaires that they wanted to be professional rugby players when they grow up. They follow a range of sports on TV, including rugby league and Ultimate Fighting Championship (UFC) mixed martial arts fighting, both of which are highly professionalised at the top end. The top end, however, is a long way away for Michael and Joshua. Their school rugby team had suffered a stunning series of defeats, until by the end of the season morale was so low that they could not even field a full team.

In contrast to their questionnaire responses, Michael and Joshua did not mention wanting to be sports players in their interview.

David: Have you got any idea what you might want to do when you leave school?

Michael: I just know that I want to do something physical.

Joshua: Yeah, I want to do something to do with sports.

M: Not like sitting in an office.

J: Yeah.

D: Why is that? What would it be like if you got a job in an office that you wouldn't like that?

M: It would be boring. I want to do something that's - that's cool - that I don't want to get stressed and that.

Michael later suggest that he might like to be a builder like his cousins, and Joshua explains that he would like to be a PE teacher:

David: Do you know any people where you see their jobs and you think that looks kind of cool?

Joshua: Mr Hadley, he said he didn't do really well in school but he went to university and became a PE teacher.

For both boys, there is an explicit emphasis in the way they narrate their imagined futures on doing something 'physical' and that doesn't require high academic achievement. However, they are unclear about the details of their strategies for entering the paid workforce. Both say that they want to go to university, but neither know what the entry requirements are. For Michael, university seems an unusual and financially costly precursor to entering a construction trade. Joshua will need to gain entry to the selective Bachelor of Physical Education degree in order to progress towards training as a PE teacher, most likely a challenge due to the difficulty he claims to have with science.

My argument is not that there is anything wrong with the 'physical' jobs that Michael and Joshua imagine for themselves, or with their evident enjoyment of sport and PE. What worries me is that they are coming to see themselves as on the margins of academic schooling and mathematics in particular, even though they are attaining

reasonably good results. Each lists a high status ‘academic’ subject (Michael mathematics, Joshua English) as their ‘least favourite’ and they rule out ‘office jobs’ despite (or because of?) not knowing anyone who has one.

Mathematics and ‘hard’ masculinities: an impossible combination?

School rewards the ‘academic’ much more than the ‘physical’. If certain groups of students are positioned such that it is difficult to develop successful academic identities this can profoundly affect their orientation towards the academic curriculum, including mathematics. The emotional impact of such an existence is illustrated in Callum’s narrative of failure and disengagement with mathematics. Based on a small ($n = 40$) interview subsample, I have suggested that such experiences are especially common for Māori, Pacific Island heritage, and low-SES European heritage boys. A statistical analysis of the questionnaire and test data is currently in progress that may provide a firmer foundation for claims about the ethnic and socio-economic correlates of ‘physical’ masculinities.

I do not think that Callum, Michael, or Joshua have some kind of inherent lack of mathematical potential or ‘intelligence’. Rather, I have suggested that it is difficult for them to occupy the subject position of the ‘brainy’ mathematics student at the same time as successfully embodying the ‘physical’ masculinity that is discursively tied to Māori, Pacific, and low-SES European men in New Zealand (Fitzpatrick, 2011; Grainger, 2009; Hokowhitu, 2003). These boys, largely disengaged from mathematics, can find a sort of refuge in PE and sport. Success in these arenas still brings recognition from schools, although generally to a lesser degree than academic success. Furthermore, the physical capital that they accumulate may be highly valued by their families and peers in a way that is cross-cut by SES and ethnicity. The futures that they imagine involve reconversion of physical capital into economic and symbolic capital in ways that are either highly risky, as in the case of professional sport, or lead to poorly rewarded and insecure positions in the employment structure. My critique is not of involvement in sport and physical activity *per se*. What I wish to suggest is that some students are discursively positioned as more suited to sporting and ‘physical’ achievement than academic or ‘mind’ achievement, and that these two types of achievement accrue very unequal rewards. Doing mathematics may well be ‘doing masculinity’ (Mendick, 2006), but not all masculinities align easily with doing mathematics.

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