

27th April 2018

Dear Professor Yellowlees and colleagues,

Please find enclosed a submission for your *Tapping All Our Talents* review.

Please accept my apologies that it is anonymous, however, I believe I had good reason. Firstly, and most importantly, I wanted to relate a personal story about my wife's experience of gender discrimination and wanted to protect her anonymity. Secondly, I felt I would be more able to freely express my thoughts if I was unconstrained by the fear of being personally judged by members of the panel. Whilst I would like to think that none of my opinions are too contentious, and that in face-to-face discussion we could thrash out any areas of uncertainty; I am all too aware that written documents are static, allowing no clarification from the author and that excerpts can be read or (mis-)understood in isolation. Or perhaps most likely, that I just haven't expressed myself as clearly as I should have liked.

I look forward to reading the review report in due course.

Yours anonymously.

Q1 Do you believe progress has been made towards achieving gender equality in the STEM workplace in Scotland since 2012? (Yes/no).

Yes

Q2 If yes, what action(s) do you believe have had the greatest impact on improving gender equality in STEM in Scotland? (List maximum of 3).

-Improved shared parental leave arrangements in organisations; greater use of these by families and consequent visibility of it as an option –e.g. the world doesn't collapse when a man takes 6 months of parental leave.

-Increased visibility of female leadership in these subjects.

-Broader societal changes including increased number of children born or adopted into same-sex relationships, which helps to distill questions of child-bearing from those of gender, and can be a flagship for equality of parenting and employment roles.

Q3 Where you do not believe progress has been made, or could be improved upon, what do you believe have been the key limiting factors? (List maximum of 3).

Unfortunately, time is a major constraint in seeing some of the changes necessary. Given relatively small numbers of senior positions, often occupied for many years at a time, even with perfectly equal (either 50:50 or at a ratio reflecting the potential appointee pool) new appointments; there is likely to be a significant lag in addressing inequity in senior positions. Thus progress here will likely be slow, an unfortunate adversary in attempts to make changes. Any progress should be measured against potential best case scenarios. E.g. modeling should be undertaken to calculate how fast progress could be reasonably expected to happen. Thus, the actual results may be more positive than they may look at first glance.

One of the major barriers is that while there are major improvements to the ability to take shared parental leave; it is still a zero-(or close to zero-) –sum game. For a father (or the non-child bearing, or non-first-to-take leave) parent necessarily diminishes the leave available to the other (assuming their return to work). Thus for the father to take more leave there has to be the agreement for the mother to take less. So whilst these policies make it easier for men to take leave, these are not decision taken in isolation (most of the time). This is a right to leave at the expense of the mother's right to leave. What is necessary to truly improve the situation in my mind is paternal leave that is not at the expense of maternal leave. Obviously the main enemy of this is the expense associated with increasing the total leave rights, but if we want to see improvements in gender equality it is what is required. The more men who take extended leave, the more men who will consequently work part-time; take career-breaks or resign/retire. Thus a significant increase in funding is required to help improve this. The advice from health services that breast-feeding is best/necessary and the social pressure from the National Childbirth Trust that amplifies this, makes it more difficult for women to return to work before a year is up. This in turn makes it more difficult for men to avail of the shared paternal leave rights. Indeed these two policies appear at odds with each other.

Q4 Which of the recommendations made in the 2012 *Tapping All Our Talents* report do you believe should be prioritised going forward? (List maximum of 3).

Claudia Goldin, Henry Lee Professor of Economics at Harvard University and leading researcher on the gender pay gap talks about temporal flexibility as one of the key drivers of the gender pay gap, in that men either are, or make themselves, or (most likely) are facilitated by their partners to be *temporally flexible* in their work. This, in turn, is a characteristic which is rewarded financially by many businesses, at least partially driving the gender pay gap. What it tells us is that greater efforts to facilitate flexible working patterns (especially in jobs that pay well) will have a beneficial effect. I think most would appreciate that it gets increasingly difficult to be in the most senior positions the fewer hours per week that you work. Whilst there is no clear cut-off as to the point at which it becomes impossible, most would accept that working e.g. 4 hours per week is not compatible with working in many of the most senior positions (deliberate *reductio ad absurdum*) whereas working a notional 39 hours instead of a notional 40 is likely to be fine. Somewhere in-between there will lie a tipping-point for each job. What will make it easier for women (and indeed men who work part-time or have/take parental/caring responsibilities) to take these jobs is flexible patterns of work which support their responsibilities beyond work. For example, working from home, working at home, ability to split work around childcare commitments, enhancements to IT infrastructure to allow easier networking/collaborative work both simultaneously and non-simultaneously.

Q5 What further recommendations (if any) would you make to policy-makers, educators or employers to tackle gender inequality in STEM in Scotland? (List maximum of 3).

One of the reasons for submitting this anonymously is that my wife was recently (2017) subject to gender pay discrimination (the illegal, *Made in Dagenham* kind) and I wish to preserve her and her employer's anonymity. The situation arose where she had been working for the business (in a STEM position) for 9 years. Her employer took on a new male employee at the same grade as my wife (but with 9 years less experience and fewer postgrad qualifications), yet paid him ~£4k more per year. What made it all the more rankling (though it shouldn't really matter) was that the senior partner (who had employed him) and the business manager who had done all the paperwork were both also women. When my wife brought this to the senior partner's attention she was a little (though perhaps not sufficiently) embarrassed and expressed ignorance about this. They changed my wife's pay to that of equal to the new employee's, but with no mention of back pay (let alone a potential action from my wife against the business). Not wishing to cause ill-feeling, my wife did not pursue either of these, although very shortly thereafter took a position as a partner in a competitor's business.

So, with this in mind, what needs to be done – perhaps a reminder of the provisions and demands of the Equal Pay Act 1970 (albeit now under the auspices of the Equality Act 2010) would be a start. That every employer when advertising a job should look at what their current employees are paid. Whilst most large organisations have appropriate checks in place, my suspicion is that my wife was not alone in a smaller employer where by lack of oversight these gaps arise. The gender pay stats now required to be published don't apply, at least yet, to the smaller employers where I suspect the problems are likely to be larger.

One of the other elements that I would like to see in reports is a greater acknowledgement of the value of childcare and caring responsibilities. There is a tone throughout many reports that inherently suggests that these aspects of one's life are not of value, and that one's contribution to society can/should be measured alone in terms of one's salary from employment. Now that is clearly not to say that there isn't a problem;

ere clearly is, but the tone somewhat grates. As a part-time worker with parental and caring responsibilities myself, I feel somewhat diminished by the suggestion that my life should be measured alone by what my pay packet shows. It is a corrosive implication which undermines these responsibilities – it says to those with these responsibilities (mainly women, but also some men), “not only are you paid less at work, but also your work at home is of no value”.

Section 2: *In detail Women in STEM in Scotland 2018*

. Q6 What lessons do you believe have been learned from initiatives undertaken since 2012 to tackle gender inequality in the STEM workforce across the public, academic and/or industry sectors? Examples of good practice would be useful.

One size fits none – in my own employer, we have seen a number of attempts to improve accessibility of some meetings, however, the lessons learned were most interesting. The key message has to be – speak to and listen to your staff, and don't be afraid to try out changes and adapt in light of results. In one example, we tried to move a weekly 4pm guest lecture (driven in part by Athena Swan demands) to earlier in the afternoon to hopefully allow more parents/carers/women to attend. However, when it was moved attendance fell dramatically and there was an outcry (most vocally) from those who worked part-time and had external responsibilities. Looking in retrospect at the data, it turned out that almost all who worked part-time worked fewer whole days, not shortened days. The effect of bringing it into the middle 'core' hours of the day was to make it more difficult for those working at a distance to make it, and interrupted the middle of people's day, rather than being something at the end of the day. It has this moved back to 4pm, but more helpful options are being examined to support greater attendance. One option being considered is rotating the day it is on, so that those who work different days can attend, rather than those who don't work Thursdays never being able to attend. Obviously, if work patterns changed more globally (e.g. with all working 9.30-3.00, 5 days a week), then a 2pm start may be more suitable in the future.

. Q7 In 2018's economic, political and social context, what do you consider to be the key influencers (positive and negative) on gender equality in STEM in Scotland?

Greater visibility of female scientists in public life can have a large impact; Helen Czerski and Alice Roberts being two excellent examples that immediately spring to mind. Similarly, female TV presenters who have an interest in science (Kate Humble, Maddie Moate and *Nina (& the Neurons)*) also have an immeasurable but important impact on children. Through their exposure to science my own two children (one girl, one boy) currently have interests in welding and civil engineering (particularly the industrial excavation (digger) component) respectively. It is a delight to see at their young ages (4 & 2 respectively) that their interests are for the moment unconstrained by gender stereotypes; long may that continue.

I also think that there is a broader halo effect from an increasing role of women in public life (e.g. party leaders in Holyrood) with previously inaccessible jobs now being more visible. Similarly as more children are born or adopted to same sex marriages/partnerships/alliances and single parents of any gender, so too will it be more apparent that the stereotyped gender roles of old are less relevant. To that end, today's announcement of Ruth Davidson's pregnancy will hopefully have a positive effect more widely.

Q8 To what extent do you believe that the issue of gender inequality in STEM is being recognised as a priority and to what extent do you believe that rhetoric is being met with action?

I think the current gender pay gap publication duty, whilst a good start, needs to go much further in detailing the characteristics of those reported. The headline numbers are important but they hide a variety of sins, which need to be understood in more detail so as to be addressed. There should be lobbying for greater transparency and broader gender pay reporting.

The issue of gender inequality also benefits and suffers to some degree from being seen as a one-sided issue. It benefits in that a simple (apparently one-tailed) agenda makes for clear policy decisions. However, it potentially disenfranchises men from engaging in the process and unless men feel empowered to take on different roles in society (e.g. more senior domestic, caring and voluntary roles) then it will be more of an uphill battle. Discussions with a close friend and colleague who sits on a local Athena Swan committee portrays an image that is focused on solely increasing women in senior positions with little if any cognisance that this will require a different balance in more junior positions (or at least more senior positions outside of work). This needs to pivot towards looking at employment more widely than just what happens in the final few promotions.

In parallel, enthused by these discussions (and with my own pecuniary interest in supporting those (e.g. me) in part-time roles) I went to the Athena Swan website. I was disappointed that it somewhat fudged the issue by saying that,

“ECU’s Athena SWAN Charter covers women (and men where appropriate)...”

<https://www.ecu.ac.uk/equality-charters/athena-swan/>

It’s not completely clear where it’s appropriate to cover men, but it feels lop-sided, as if saying, that if a policy would support men in a low-paid, female-dominated area or women in a low-paid, male-dominated area, then it was of no-interest. To my mind, these areas need similar scrutiny to help re-balance the see-saw.

Education

. Q9 What do you believe should be done to encourage more girls and young women to engage with STEM subjects in early years, primary and secondary education?

More dedicated hours of science teaching per week in schools associated with increased funding for science classrooms.

Greater exposure to industry early on – school trips, in-reach from STEM industry and funding to support this.

I’ve not delved into the data, so am not sure on this point but there is now a wide palette of subjects available to children at all levels, and review of who sits each of them at National 5, Higher and Advanced Higher level gives an idea of patterns. Clearly, gendered ideas of subjects have set in by this stage. I’m not sure whether a wider palette of options is a benefit or detriment. I suppose it partially depends on whether Health & Food *Technology* (82% female at Higher, 2017) or Administration and Information *Technology* (65% female at Higher, 2017) are accounted for in the statistics as part of the T of STEM, or Psychology (77% female at Higher, 2017), and Environmental *Science* (57% female at Higher, 2017) as part of the S of STEM.

o these qualification offerings cannibalise female entrants to other male-dominated STEM offerings (e.g. Engineering Science (92% male at Higher, 2017) and amplify the differences? In parallel, are there differential job prospects for each of these qualifications? – e.g. does Engineering Science make Engineering less likely as a career, whereas Psychology does not really change your chances of being a psychology scientist?

I'm sufficiently distant (>20 years) from school-age myself so as to feel uncertain of how these preferences emerge, but it is striking even by this stage.

<https://www.sqa.org.uk/sqa/64717.4239.html>

Q10 What innovative or impactful practice do you know of or believe should be taking place in universities and colleges to tackle issues of gender disparities in STEM subjects? What do you think can be done to embed STEM gender equality thinking across universities and colleges?

Deliberate awareness of gender of guest speakers, conference panelists, reasonable adjustments to allow participation of all.

A very clear and strong message about supporting men (and women) in senior domestic, caring and voluntary roles. This helps to make those undertaking them feel valued (not really at the moment), but also hopefully allows more senior or ascending men to consider them as options, thus creating the necessary space for women to take on more senior roles. I fear that without this, unconscious biases will propagate the *status quo*.

Also, to the degree that it is possible, CVs (where still used) and application forms for shortlisting should be gender-blinded if not already. The paper *Orchestrating Impartiality* demonstrated very powerfully how unconscious gender biases can seep into recruitment.

Goldin, Claudia, and Cecilia Rouse. 2000. "Orchestrating Impartiality: The Impact of "Blind" Auditions on Female Musicians." *American Economic Review*, 90 (4): 715-741. DOI: 10.1257/aer.90.4.715

<https://pubs.aeaweb.org/doi/pdfplus/10.1257/aer.90.4.715>

Cultural Change

. Q11 In what ways do you believe industry can lead by example to tackle inequality within workplace culture?

The economic (and thus business benefit) case for reform should be clear – that if you can tap all our talents by removing structural impediments to a large portion of the population participating in certain sectors, then your business will benefit. We need industry leaders of all genders to be banging this drum, loud and consistently. Industry lives by innovation, and global and regional economic events are only likely to tighten margins further – surely there are ways to innovate solutions to some of the issues, in particular in my mind the issue of temporal flexibility.

Q12 What do you believe are the most effective ways to challenge and change deep-rooted attitudes and institutional culture in order to improve gender equality in STEM?

Simple, highly visible messages for the masses, underpinned by nuanced, detailed data collection and analysis. This needs to be accompanied by efforts to genuinely improve parental rights for the non-childbearing and non-first-to-take-leave adoptive/foster-parent (usually men). Current arrangements to support this are at the expense of the childbearing / first-to-take-leave adoptive/foster-parent and thus are doomed to suboptimal uptake.

Male leaders making an effort to talk about their parental/other responsibilities, and feeling able to do so; to challenge the dogma that they should stay till the bitter end. E.g. "I'm leaving at 4 to collect the kids", "I can't do Tuesdays, I'm not in work that day"

. Q13 How do you suggest culture change can be measured in a meaningful way?

That's a tricky one – I'd start with good data and analysis on recruitment, retention and promotion. In this, I'd look at all areas of inequality, agnostic to whether they are high or low-paying jobs and consider what can be done to address this. If we ignore why there are so few women in depot and delivery jobs in Supermarkets, we fail to realise that this may be a route for promotion within the company and a potential route to senior management. Similarly if we look at low numbers of men in some low-paying sectors (predominated by women, but providing opportunities for large numbers of unemployed young men) then we're missing a trick too.

The biggest cultural change to my mind will also occur when men take on more senior domestic roles. This needs to be looked at as well. Perhaps this could be framed as a headline 'gap' as well – e.g. Men only occupy 5% of senior domestic roles; efforts now being rolled-out to address this. If we only consider one side of the equation I fear that we will fail.

Additional Information

Age: **25–44**

Gender: **male**

Location: **Lothians and Borders**

Approximate career stage: **professional (non-manager)**

Do you have any caring responsibilities?: **Yes :-**

parent of 2 young children;

welfare and financial attorney for 90-year old friend with weekly support, anticipated to increase over coming years;

previous 24-hour personal carer for parent in their terminal illness (supported by carer's leave from employer).