

Conceptions of ‘research’ and their gendered impact on research activity: A UK case study

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Abstract

The last twenty years have seen an increased emphasis around the world on the quality and quantity of research in response to national research assessments, international league tables, and changes in government funding. The prevailing attitude in higher education embeds research as the ‘gold standard’ in the context of academic activity. However, a key feature of this trend is significant gender differences in research activity. We argue that research productivity is related to identification as a researcher, and that identifying as ‘research-active’ or not would appear to depend upon how an individual academic subjectively defines ‘research’. This article brings together two hitherto separate bodies of work 1) the impact of gender on academic research careers, and 2) academic conceptions of research. Through a combination of interviews, focus groups and questionnaires, we investigate the extent to which interpretations of ‘research’ and ‘research activity’ differ by gender within an institution in the UK and the potential impact of these interpretations. Although the research found that there are many similarities in the interpretations of ‘research activity’ between genders, we found one important difference between male and female participants’ conceptions of research and its relationship to teaching. Significantly, our findings suggest that there is a need to expand our existing conceptualisations of ‘research’ to include ‘research as scholarship’ in order to address the obstacles that current understanding of ‘research’ have placed on some academics. Self-definition as a researcher underlies research activity. A narrow conception of ‘research’ may prevent individuals from identifying as ‘research-active’ and therefore engaging with research.

Keywords

gender; research activity; conceptions of research; research assessment

Introduction

Academics in higher education are increasingly expected to be research-active. The last twenty years have seen an increased emphasis on the quality and quantity of research in response to national research assessments, international league tables, and changes in government funding (Brew *et al.*, 2016). Correspondingly, whilst promotion criteria increasingly recognise that academic careers include three primary areas of work: teaching, administration and research (Parker, 2008), research excellence largely remains the key requirement for career progression in many universities worldwide (Barrett & Barrett, 2011).

This emphasis on research has brought to the fore significant gender differences in research activity (e.g. Aiston & Jung, 2015; European Commission, 2011; Obers, 2015), with men being employed in 70% of researcher positions globally (Husu, 2014; UNESCO, 2012) and 62% in the UK (European Commission, 2015). These differences are not explained by caring responsibilities. Indeed in HE a lack of childcare responsibilities has not helped the advancement of female academics (Coate & Howson, 2016), and female academics with children have been found to have a higher research output than their child-free female colleagues (Aiston & Jung, 2015). Contacts and networking are thought to disproportionately affect career progression of male academics (Coate & Howson, 2016). However, fundamentally academic research performance influences promotion. When gender is analysed in isolation, women's research profiles are less developed than those of their male counterparts (Doherty & Manfredi, 2010), and women overall have been shown to publish less than male colleagues (Aiston & Jung, 2015). Amongst the multifaceted reasons for differences in research profiles it has been found that conceptions of research relate to research productivity (Brew *et al.*, 2016).

Whether academics consider themselves to be ‘research-active’ or not depends upon their subjective interpretation of the term ‘research’ (Brew *et al.*, 2016). Definitions and concepts of research are developed within the working context (Stubb *et al.*, 2014). The academic environment both constrains and enables academic research depending on how individuals interpret their contexts (Archer 2000). Inevitably, external structures such as research assessment, also influence the formation and development of research, defining and establishing certain types of research and research expectations. Such conceptions of research may lead to a gender-differentiated impact on academics. In essence academics may not consider themselves to be ‘research-active’ because they do not conceptualise their activity as ‘research’. Self-definition as a researcher underlies research activity. A narrow conception of ‘research’ may prevent individuals from identifying as ‘research-active’. Therefore, there is a need to expand our existing conceptualisations of ‘research’ in order to address the obstacles that current definitions and understanding of ‘research’ have placed on some academics.

This article brings together two hitherto separate bodies of work: the impact of gender on academic research careers and academic conceptions of research. We explore the ways in which the national academic environment may constrain particular ways of thinking about research and enables others. Through a combination of interviews, focus groups and questionnaires we investigate the extent to which interpretations of ‘research’ and ‘research activity’ differ by gender and the potential impact of these different interpretations on female academics.

Gender and research in higher education

Over the last two decades higher education has undergone a transformation, however research outputs (most commonly in the form of publications) remain the most important currency (Aiston & Jung, 2015). This performance-based culture emphasises quality research activity of international standing (Baker, 2012). As Morley (2014) states:

“research performance is implicitly associated with the prestige economy in higher education, and is a pathway to academic seniority and indicator for promotion”
(p.116).

In spite of movement towards broadening out promotion criteria to include professional expertise, teaching and leadership, research excellence remains the predominant requirement for promotion (Barrett & Barrett, 2011; Parker, 2008).

Various countries have adopted forms of research assessment e.g. Excellence for Research in Australia (ERA) and UK Research Excellence Framework (REF). Already in the UK, and increasingly in other countries, these schemes are “significant in conditioning salience and profitability” (Trowler, 2013, p.66). Such evaluation schemes emphasise particular elements of research (e.g. publications), or as Henderson *et al.* (2016: 4) put it “publications that ‘count’”. The ‘counting’ of research (e.g. publications, outputs, citations etc.) has become central to the business of academia in which the individual is sometimes reduced to a series of numbers against which they are measured (Henderson *et al.*, 2016). Research evaluation schemes further formalise and embed this ‘counting’ into set time periods in which individuals are expected to produce predetermined outputs or be constructed as ‘lacking’ (Honan *et al.*, 2015).

Furthermore, whilst in theory assessment exercises are meant to assess research outputs rather than direct research, in practice the structures of academic work have been visibly altered (Hamann, 2016). The selective allocation of funds on the back of research assessment reproduce a disciplinary core which is financially well supported, reproducing a particular notion of ‘excellence’ which supports the style and production of research established by the core. This makes it increasingly challenging for peripheral researchers, research areas, and traditionally teaching focused institutions to develop in this conception of ‘research’ (Hamann, 2016; Leathwood & Read 2013).

Despite the limitations of the REF and ERA there is a relative lack of overt resistance to these generally metric informed analysis of academic performance (Leathwood & Read, 2013).

Instead academics play the ‘game’ in order to progress within the structures of the institution as a matter of self-interest and survival (Angervall, 2018; Black *et al.*, 2017). Yet motivation goes beyond compliance, it comes from a desire to disseminate knowledge, the prestige that comes from recognition, and pleasure in the activity itself. In other words, many academics need no coercion to write, rather they voluntarily undertake the work (Honan *et al.*, 2015).

We experience a sense of belonging in being a part of the “academicwritingmachine” (Henderson *et al.*, 2016, p.4) and the recognition which comes with being part of the club (Angervall, 2018). However, the performance driven, competitive, audit culture undermines pleasure found in conducting research changing what it means to be an academic (Leathwood & Read 2013). The neoliberal practices of national research evaluations therefore produce new academic subjectivities focused upon written outputs which define and legitimise particular academic identities (Angervall, 2018; Henderson *et al.*, 2016; Leathwood & Read, 2013; Stubb *et al.*, 2014). Arguably, the legitimisation of particular identities may disproportionately position female academics as ‘lacking’ (Honan *et al.*, 2015).

A gender disparity in research activity has long been recognised (Rees 2011). Evidence demonstrates that on average women in higher education advance more slowly in their research careers, and receive fewer resources than their male counterparts (Fox and Colatrella, 2006; Su *et al.* 2015). There may be a variety of reasons for this difference including: the high density of women in vocational disciplines, where research activity has traditionally been less pronounced (e.g. nursing and teaching) (Doherty & Manfredi, 2010); the nature of research activity in the Science, Engineering and Technology subjects requiring work outside of normal hours challenging caring responsibilities (Howe-Walsh & Turnbull, 2014); and that particular types of research have been attributed different value e.g. ‘hard’ quantitative scientific research (often dominated by males) has been elevated by HEIs over ‘soft’ qualitative research (more commonly conducted by females) (Knights & Richards, 2003). What has been missed from this dialogue is the possibility that there may also be gendered conceptualisations of ‘research’. Different conceptions may influence the extent to which individuals align themselves with an academic identity built around publication counting and because they do not consider what they do as ‘research’. Yet, not being ‘research-active’, does not mean that an academic is not doing research (Lucas 2006). Rather it may simply mean that their research is not measured within the current metrics (Brew *et al.*, 2016).

Conceptions of ‘research’

The meaning of ‘research’ and what work a person needs to be doing to be considered ‘research-active’ varies nationally (e.g. REF or ERA), institutionally (e.g. teaching or research intensive) and by discipline (e.g. hard or soft science). These differences influence how research is conceptualised. Subject areas where problems are well-defined more often

consider research to be a fact-finding process with clear outcomes (Stubb *et al.*, 2014). Less defined subject areas, such as in the arts, often reflect a more subjective view of research perceiving it as a personal process (Stubb *et al.*, 2014). These research conceptualisations influence productivity with academics who perceive research as a process of publication publishing more than those who perceive it as a personal journey (Brew *et al.*, 2016).

Conceptions of research can be viewed as a continuum ranging from research as an academic requirement, to establishing and developing as an academic, to contributing to the development of the academic discipline (Åkerlind 2008). Stubb *et al.* (2014) identified four distinct, but sometimes overlapping, conceptions of research related to how product-orientated versus process-orientated and person-centred versus community-centred the researcher is. These were:

- Research as ‘a job to do’: Research work as fulfilling duties and expectations set by the academic role, a contractual responsibility (product-person).
- Research as ‘obtaining qualifications and gaining accomplishments’: Research work as gaining necessary personal qualifications and accomplishments to be considered competent (product-community).
- Research as ‘a personal journey’: Research work for personal learning and development, an opportunity to broaden one’s own thinking and understanding (process-person).
- Research as ‘making a difference’: Research work as an opportunity to make a difference within the discipline or beyond, enhancing understanding for a better world (process-community).

This model offers a useful typography, but arguably misses an important fifth conception which reflects a more rounded view of research in which academics view research as a part of all of the work they undertake. We suggest that a more holistic interpretation of research, whereby research is understood as fundamental to *all* aspects of academic work and thus offer an additional fifth conception to Stubb *et al.*'s (2014) model viewing research work as 'scholarship'.

- Research as 'scholarship': Research work for the scholarly development of all aspects of academic work (research, teaching, administration and community service) (product, process, person, community).

This additional definition broadens the notion of research challenging the audit research culture and the notion of 'lacking' in academia which is particularly damaging to some female academics and others who do not conform to masculinised academic constructs (Leathwood & Read, 2013). Assumptions about gender roles and differences are embedded in higher education. These 'gender schemas' have led the performance and ability of men to be over-rated and that of women to be under-rated (Valian, 1999, cited by Rees, 2011). Such gendered assumptions are developed and reinforced through the ways in which gender is performed and interpreted. Gendered identities are a set of practices that are, at times, actively and consciously performed, but generally played out through the everyday (Butler, 1993). The concept of performativity offers an embodied way of re-thinking the relationship between social structures and individual agency (Butler 1993). People perform ingrained forms of socially practiced identities which become so habitual as to appear natural. For example, women are more likely to focus on the less valued 'caring' elements of the academic role such as teaching, administration, community work, and pastoral care (Kjeldal *et al.* 2006; Morley, 2014) as they perform socially constructed expectations of their gender.

Male academics are not expected to express the same level of ‘caring’ and therefore are able to engage less with these elements than their female counterparts leaving them more time to be ‘research-active’ (Fritsch, 2016; Link *et al*, 2008). These are practices that enact their gender identities. These ingrained practices lead to assumptions about authority, status, expertise, scholarly standing etc. of individuals (all factors within the prestige economy) based on their gender (Coate & Howson 2016; Rees, 2011). Hence, women and people who do not perform the assumptions of masculinity have been “‘othered’ or made ‘different’” (Angervall, 2018: 111). Consequently, research excellence initiatives, such as national research evaluations, which produce an audit research culture focused on the production of publications that ‘count’ in a constrained period of time, benefit a masculinised performance of being an academic rather than the activities more often associated with female academics (Husu, 2014).

Self-definition as a researcher underlies research activity, but too narrow a conception of ‘research’ (such as that through the REF) may prevent individuals from being ‘research-active’ to the detriment of academics that do not fit the masculine norm. In attempting to re-evaluate this disparity, we analyse conceptions of research by gender. We explore the extent to which some conceptions of research are more damaging to certain academics based on gender norms and how an expansion of current conceptualisations to include ‘research as scholarship’ would benefit those within the academy who do not perform as ‘male academics’ and encourage research progression.

Method

This article has emerged from a broader project investigating the influence of gender upon the experiences of academics in relation to research activity and the REF2014 within a post-

1992 moderate sized HEI in England (Davies *et al.* 2016). All staff within the institution that fulfilled the REF eligibility criteria were given an opportunity to be considered for inclusion, with 215 self-selecting to be considered. Of these, 151 staff were selected for submission to the REF. A detailed analysis revealed that gender did not adversely impact on the chances of being selected for submission. However, when the characteristics of the 215 staff who considered themselves to be ‘research-active’ (i.e. they had self-selected for potential submission to REF 2014) was compared against the profile of all 527 academic and research staff in employment on the REF census date, it was found that female staff were significantly under-represented amongst researchers (40.5% cf. 52.6% (Chi-squared 1df, N=215) = 12.7, $p < 0.01$).

At the point of the research 52% of academic staff were female in comparison to the sector average of 44.6%. The higher proportion of female academic staff reflects areas of the university’s curriculum provision (particularly Health and Social Care and Teacher Education) recruiting predominantly female staff. Research data was collected by means of a questionnaire (including space for qualitative responses), focus groups and semi-structured interviews with both male and female academic staff (Davies & Healey, 2017). One hundred and nineteen academic staff responded to the questionnaire (14% return rate). Of these, 43 (36%) were male and 76 (64%) were female. Ages ranged from 25 to 65 and over for both genders. Sixty-four percent of the sample were aged between 35 and 54. Twenty-three different job roles were recorded across the sample, ranging from Lecturers to Deans. Most males (56%) and females (57%) were either a lecturer or senior lecturer. The participants were drawn from a range of disciplines: arts (24%), professional (34%), sciences (20%), and social sciences (22%). A higher proportion of females (34, 44%) worked in ‘professional’ disciplines in comparison to the male participants (9, 19%), with male participants more

highly represented in the other areas, particularly in the Sciences (12, 26%; females 13, 17%) and arts (16, 34%; females 14, 18%). These differences by gender were statistically significant ($p=0.024$). The majority of all of respondents (79%) considered themselves to be 'research-active'.

Questionnaire respondents were invited to participate in further research on the topic. From this group of volunteers, participants were selected based on ensuring a representation by gender, age, discipline and status. Overall, 9 interviews and 3 focus groups (totalling 12 participants) were held. A system of 'triangulation' from the literature, questionnaires, focus groups and interviews was used to provide as comprehensive representation of views as possible (Davies & Healey, 2017). Questionnaire, interview and focus group respondents were asked to define what being 'research-active' meant to them and what they thought 'research-active' meant to the university in the context of a broader discussion or set of questions about their experience of research in the institution. These definitions were coded inductively and then categorised according to emerging themes. Each individual could express more than one conception of research in the same interview/questionnaire. These key themes were then quantified across the data sources to account for the frequency of particular conceptions of research. The quantitative data was analysed in Excel, and Chi-Squared tests used to test for significant differences between gender and different conceptions of research. When a statistically significant difference by gender was found we also tested whether this held when we controlled for discipline area. Where the assumptions of Chi-squared were not met, Fisher's Exact test was used instead. It is important to acknowledge that the findings relate to a single institution, and are therefore not generalizable beyond the institution from which the participants were drawn. We do not suggest that the same study with different participants from in other contexts would reveal the same findings. Rather, we aim to

identify and analyse the specific type of conceptions of research found within this institution, extending possible theoretical perspectives on the nature of ‘research’.

Gendered interpretations of ‘research activity’

Seventy-nine percent of respondents indicated that they were ‘research-active’ between 1st January 2008 and October 31st 2013 (the REF2014 assessment period) (Males 88%, Females 74%). An analysis of different interpretations of ‘research activity’ indicated some interesting similarities and differences in how the male and female participants defined conceptions of research. The most common interpretations of research activity related to: publications, impact and research assessment, funding, dissemination, and linking teaching to research.

Publications, impact and research assessment

Unsurprisingly a similar percentage of men (72.3%) and women (68.8%) considered publications to be a key part of research activity. Of all the comments made about research activity, reference to publishing was the most regularly identified characteristic (mentioned 89 times, 28.3% of all characteristics). This illustrates the way in which publishing has become entrenched in higher education (Aiston & Jung, 2015). This interpretation can be linked to Stubb *et al.*’s (2014) ‘a job to do’ conception. People need to publish to fulfil the requirements of their role. For example, in responding to what the term ‘research-active’ meant, the following points were made:

“Publishing in peer-reviewed journals and in academic collections and monographs”
(Rebecca).

“The publication of journal articles, of books, of conference papers and all the usual types of dissemination” (Edward).

Publications in this context were clearly related to mechanisms of sharing research findings through journal articles, books/monographs and academic conference papers as part of the academic role. This conception constructs 'research' as being focused on outputs rather than on the process. As Henderson *et al.* (2016, p.4) argue, this forces academics to be part of the 'academicwritingmachine' in order to be considered legitimate members of the academic community. Whilst this may bring satisfaction and prestige in its own right, it was also seen a requirement of the academic role.

For the first time in UK research assessment, REF2014 focused on 'impact', as well as publications, as an important indicator of research excellence. A slightly higher percentage of male (27.7%) than female (23.8%) participants cited 'impact' as being an important characteristic of research activity. For example, research activity was defined as being:

“engaged in research which is time-based, outcome driven and has wider application/impact” (Louise).

However, when these individuals identified 'impact' they did not specify what they meant by the term. Others identified research activity as being an original contribution to increasing knowledge. Over 10% more males (23.4%) than females (11.3%) identified originality as a characteristic of 'research activity'. For example, research activity was about “generating new knowledge” (Clarke) in order to 'make a difference'. This was often highlighted in relation to:

“making a contribution to the expansion of knowledge in the field, the development of the discipline nationally, internationally” (Mark).

Whilst this was not a statistically significant difference by gender ($p=0.061$), it was statistically significant ($p=0.013$) that people in academic disciplines (21.1%) mentioned originality more than those in professional disciplines (4.5%). The level of originality of

research is, to some degree, subjective depending upon the perspective of the people reviewing it. The difference in the focus on originality for professional disciplines than academic disciplines may be related to the prestige economy in academic disciplines and the added benefits of having work that is perceived to be highly original (Baker, 2012; Morley, 2014).

Over twice the percentage of females (23.8%) than males (12.8%) considered research assessment to be central to their definition of research activity although this was statistically insignificant (by gender $p=0.150$ and discipline $p=0.473$). These responses considered being research active to relate directly to inclusion in the REF:

“I know it means eligible for submission to the REF” (Maria).

This quote suggests that eligibility to the REF (i.e. that someone has published enough high-quality work) was admittance to the academic club and therefore enabled her to identify as ‘research-active’. Whilst for others this is a limited definition of research activity:

“Someone who is actively engaged in research project(s), the research does not necessarily have to be submittable for the REF” (Robert).

This suggests that research activity is considered to be broader than just the REF, but the REF remains an important context to be considered. Others noted the importance of inclusion in the REF:

“It means publishing in outputs that are recognised by the REF for my sub-discipline” (Ellen).

Or defined their own status as ‘research-active’ on their REF (or equivalent) submission background:

“I have always been research-active as I was entered for the RAE in 2000” (Andrea).

Defining themselves and/or their research in terms of research assessment processes conceptualised research as ‘a job to do’ and focused on research as outputs. These differences in conceptions of research may influence perspectives of research activity, believing that unless they achieved the status of being included in the REF, then they would not consider themselves to be research-active. However, research assessment exercises, and the subsequent funding that accompanies the outcomes have been shown to reproduce a disciplinary core and a particular notion of ‘excellence’ limiting the development of other areas of research (Hamann 2016; Leathwood & Read 2013).

Funding

Writing proposals and seeking funding were the second most commonly referenced characteristic of research activity (42, 13.3%). This element appears to fit between two of Stubb *et al.*'s (2014) conceptions of research as ‘a job to do’ and as ‘gaining accomplishments’. The activity of writing proposals relates to the product focus of getting the job done. However, if successful, a grant award is an accomplishment. Although not a statistically significant difference by gender ($p=0.177$) or discipline ($p=0.873$), this was more regularly identified by women (17.1%) than by men (8.5%). Someone was considered ‘research-active’ if they were:

“[a]ctively engaged in applying for research grants” (Sarah),

“putting forward a bid for a research project” (Eric).

“securing external research funding” (Matthew).

Securing funding relates to the prestige economy (Morley 2014). Successfully obtaining funding establishes individuals as having greater authority status, expertise, scholarly standing etc. in the academic community (Coate & Howson 2016). Yet, women researchers are losing out when it comes to funding (Husu 2014). For example, in the period 2007-2013

female applicants had a lower success rate for European Research Council grants than male applicants (success rates for starting grants were 30% male, 25% female; for advanced grants 15% males and 13% females) (Husu 2014). Gender is performed, and society is conditioned to expect certain ‘performances’ from people based on their gender, often leading male academic abilities to be over-rated and female academics to be under-rated (Rees, 2011).

Dissemination

The third most common characteristic mentioned as a response to the question on definitions of research activity was that of dissemination (34, 10.8%). There was a gendered difference in the participants who mentioned dissemination (male 19.2%, female 31.3%), however this was statistically insignificant by gender ($p=0.159$) and discipline ($p=0.81$). Dissemination may have been more difficult for individuals who, for whatever reason, were not publishing or had other commitments that made, for example, conference attendance difficult. In particular, the impact of caring responsibilities on progression was recognised in relation to the ability of academics to engage in research promoting activities, such as conferences. In an increasingly globalised community, international engagement is vital to academic progression. This perception added an additional burden on people with caring responsibilities:

“[For] staff who’ve got children and they’re young children, to go away on an international conference for five days is actually very difficult because you’re putting a pressure on the partner that stays behind” (Edward).

“Researchers with young families - male or female - are at a disadvantage as it much harder for them to maintain international links, to travel and to spend time away at conferences. This has an impact on research and discipline specific contacts” (Frank).

Whilst female academics with children have been found to have a higher research output than their child-free female colleagues (Aiston & Jung, 2015), it is also recognised that contacts and networking disproportionately benefit the career progression of male academics (Coate & Howson, 2016). Disseminating research through attendance at conferences are important opportunities to grow and develop networks which offer opportunities to develop research and hence progress.

Linking teaching to research

Finally, research was linked to teaching activity. These participants perceived research in a broader sense than Stubb *et al.*'s (2014) four conceptions of research. Significantly more female respondents ($p=0.036$) identified both taught courses (16.3%) and postgraduate research supervision (7.5%) to be part of 'research activity' than their male counterparts (6.4% taught, 2.1% postgraduate). There was no statistical difference by discipline in relation to whether or not participants linked teaching to research ($p=0.116$). However, significantly more women than men included teaching in their definition of research activity ($p=0.019$) within the academic disciplines, but not the professional disciplines ($p=0.556$). The female participants who raised this discussed: "using research to inform teaching" (Rachael), and talked about their teaching and work with postgraduates being led by their research:

"When I think of my research... I would use the term 'research-led teaching' about what I'm trying to do" (Hanna).

More female than male participants therefore considered themselves as 'research-active' if they were using research to inform their teaching. This conceptualises research 'as scholarship', whereby these participants viewed research as underlying other aspects of the academic role rather than seeing it as a separate activity.

In contrast, some male participants considered the relationship more generally, for example defining being ‘research-active’ as:

“remaining passionate and involved with the subject you teach” (Elliot).

This quotation suggests enthusiasm for the subject comes from being actively involved in research, rather than in the teaching itself. This fits with the Stubb *et al.*’s (2014) research as ‘a personal journey’ conception, in which research broadens one’s own thinking and maintains passion. This perception of research being ‘additional’ to the ‘day job’ based around teaching is also identified by Andrew who defined research activity as “beyond that required for support of teaching”. Andrew appears to acknowledge that a certain level of research is necessary to develop teaching resources and lectures, but that for someone to be considered as ‘research-active’ this must be in addition to the work conducted for teaching alone. Research ‘as scholarship’ therefore would not support his conception of research as he seemed to believe that research had to be more than the research work done to support other aspects of the academic role.

The way teaching and research were linked in different ways by the different genders supports the literature which suggests female academics focused more on teaching than their male counterparts (Fritsch, 2016; Link *et al*, 2008; Morley, 2014). Whereas the female participants more frequently conceptualised research as enhancing the teaching that they did, the males more frequently saw it as something separate from teaching. The conception of ‘research as scholarship’ acknowledges the variations in academic workloads and responsibilities offering recognition of the range of different roles academics perform. When focusing on the less valued ‘caring’ elements of the academic role such as teaching, administration, community work, and pastoral care (Kjeldal *et al*. 2006; Morley, 2014)

academics often utilise their research skills to investigate and address the issues. They may inherently be adopting a ‘research as scholarship’ approach to all their academic work even if they do not consciously recognise or define this as ‘research’.

Discussion

This analysis has demonstrated that there are many similarities in the interpretations of ‘research activity’ between genders. This included the emphasis on the importance of publishing and the necessity for impact in research. Both of these elements are central to the national assessment of research. Being included in the REF was perceived as a clear statement of belonging as an academic researcher (Honan *et al.*, 2015). However, if ‘research activity’ is defined primarily in relation to research assessment and an academic does not feel they are producing enough high-quality outputs to be included in the research assessment, then a negative reinforcement cycle is created whereby the individual may over time place less value on the research work that they are doing, decreasing their confidence in their abilities and preventing them from developing their research further. Consequently, they may have weaker career aspirations and be less likely to put themselves forward for promotion or engage in competitive activities which enable career progression (Coate & Howson 2016; Rees, 2011).

The majority of characteristics of research (71.6%) identified by participants related to research ‘as a job to do.’ Although it was more common for people from academic disciplines to identify originality and increasing knowledge as ‘making a difference’ through research. Arguably, researchers who focus on originality may make more of an impact in their respective fields. Yet, the over-rating of males and under-rating of females (Rees, 2011) may mean that the work of males may be given greater credit for its originality than that of

female academics. Only one male in the research considered research ‘as a personal journey’, in which their passion for knowledge drove their enthusiasm for academic work. This contrasts with Stubb *et al.* (2014), who found that this was the most common conception amongst PhD students (at 40% of student descriptions). Perhaps in the modern academic culture with the focus upon ‘counting’ research (Henderson *et al.*, 2016, Leathwood & Read, 2013) the ‘journey’ conception is too much of a luxury, and the need to produce research outputs, rather than for self-development becomes dominant. This follows Stubb *et al.*, (2014) who found that as students progressed through their PhDs the focus on research as ‘a job’ increased across the participants. Once in academic jobs, research has become exactly that, a job.

Finally, the main gender differentiation between participants was that it was mainly female participants who conceived of research ‘as scholarship’. The statistically significant difference in relating teaching to research between male and female participants, at least within academic disciplines, demonstrates how teaching is given more attention by women. Inevitably this reduces the time they have available to put into producing the ‘countable’ publications emphasised through research assessment exercises (Henderson *et al.* 2016). This underlies earlier work around gendered priorities in academic work and the impact this has upon time for research (Aiston & Jung, 2015; Barrett & Barrett, 2011). The broader conception of research ‘as scholarship’ enables individuals to identify as ‘research-active’ on the basis of the full range of work that they do.

There is a growing number of teaching-focussed staff in universities, which are disproportionately made up of women, some of whom are expected to engage in the scholarship of teaching and learning (Locke, 2014). Alongside this there is an increase in the

number of academic staff producing teaching and learning publications in refereed journals, although this is often in addition to articles in their discipline. However, although REF rules allow teaching and learning publications to be included in submissions, many of the leaders of units of assessment within institutions are reluctant to take the risk of doing so because of uncertainty over how their panels will assess them (Cotton *et al.*, 2017). This contributes to the lower perceived esteem of teaching, and teaching related publications, compared with research, and discipline-based publications. The challenge of gaining recognition for teaching related research may lead some academics to become increasingly disenfranchised with the dominant notion of ‘research’ because their work does not readily fit within this conception. This may lead to disengagement with research altogether and individuals labelling themselves as ‘non-research-active’ so as to remove themselves from an area of practice which feels exclusive (for example only 41% of staff at the research institution considered themselves to be ‘research-active’ enough to put themselves forward for consideration for the REF). In order to be ‘research-active’ individuals have to perceive what they do as involving research, hence too narrow a conception of ‘research’ may prevent individuals from partaking in research at all. By conceptualising research in a more holistic way, academics who have not previously considered themselves to be ‘research-active’ have the opportunity to become part of the ‘researcher club’ and engage in research in the wide range of areas in which they are working.

Conclusion

Overall, the data illustrates that gender does not influence conceptions of research, except in relation to the linking of teaching to research. This research is based upon a case study in a non-research-intensive university, with the majority of respondents considering themselves to be ‘research-active’. Further research is needed into conceptions of research by gender for

both active and non-active researchers in different contexts (by discipline, type of institution, and country). In the meantime, cultural change should be encouraged to support all academics to be ‘research-active’ in whatever form this takes.

Fundamentally, we see research as integral to the academic role. This includes research for discovery of knowledge; linking teaching and research; or applying and integrating research knowledge and skills to investigate and address the daily encounters and challenges presented as part of being an academic. Individuals should be recognised and rewarded based on broad conceptions of ‘research’, not just focusing on conceptions that are founded on and reproduced by structures such as the REF and ERA. In particular, recognition of the conception of ‘research as scholarship’ by HEIs might contribute towards breaking down gender disparity in research activity. The environment of the academic both constrains and enables academic research depending on how individuals interpret their contexts (Archer 2000). In order to develop more research-active members of staff the academic environment needs to enable this through creating cultures which celebrate broad conceptions of research. As Morley (2016) laments, in the research economy of higher education, women are increasingly becoming side-lined. Whilst there remains a gender gap within research activity in the academy and limited conceptions of research continue to be favoured over others, then women’s academic progression will continue to suffer (Baker, 2012; Doherty & Manfredi, 2010).

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