Managerialism in UK Business Schools: Capturing the interactions between academic job characteristics, behaviour and the 'metrics' culture.

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Abstract

Recent decades have seen the evolution of UK business schools into international mass education providers. This transformation has developed against a background of institutional changes that jeopardise work conditions in academia. As few studies have examined the relationships between organisational, social and psychological aspects of academic work life, this paper employs the Job Demands-Resources (JD-R) model to explore empirically the interplay between business school workplace conditions, burnout and retention rates, based on a national sample. We show that higher demands and lower resources are significant in increasing burnout and turnover, whereas the 'metrics' culture has done much to increase workloads and reduce academic freedom and workplace support. These negative impacts can be offset by creating a collegiate and engaged work environment that promotes greater skills utilisation, autonomy and recognition. Such findings are reported for the first time in the literature with important implications for higher education and the academic community.

Introduction

Post-war Europe was marked by major educational reforms that challenged the concept of a university as an elite scholarly place, and gradually transformed it into an institution of mass representation (Geppert & Hollinshead, 2017). Driven by the political climate of the time, higher education experienced a period of socialisation and expansion that promoted

scientific knowledge and academic scholarship as public goods, accommodating larger numbers of students who came from a broader spectrum of social strata, and expanded its functions and roles in society. The modern European university positioned the academics at the heart of the institution and protected their autonomy as an integral part of the academic ethos (Altbach, 1991).

In the decades that followed, the rollback of Keynesian welfare state politics gave way to the resurgence of economic liberalism in the management of public affairs. The university, as a dynamic institution that cannot but adapt to emerging realities, was subjected to significant politico-economic pressures. Similar to other economic sectors that enjoyed state provisions, the policies prescribed by the new paradigm gradually destabilised the public-good character of higher education, halting university democratisation and eventually reversing and subsuming it under the neoliberal logic. As witnessed across many European states, government directives for higher education, such as competition for research funding based on performance outputs and enclosures through the introduction of five-digit tuition fees, are increasingly transforming universities into corporate-like institutions and challenging their equity of access. In parallel to this, traditional modes of university governance are increasingly seen as inefficient, promoting the emergence of university administration as a distinct profession that lessens academic control over decisions.

University ‘re-engineering’ and pressures to conform to industry and government needs was particularly fierce in countries such as Britain, especially for business and management schools which came to play a central role in the global marketization of higher education. By virtue of their importance in productive forces and processes, economics and management-related subjects had long led academic scholarship, turning the related schools and departments into the ‘cash cows’ of universities (Butler & Spoelstra, 2014). Due to their institutional importance, business and management schools have been least immune to the

emerging business-like ‘rules of the game’ and it is there where management-led changes have been felt most quickly and intensely.

Driven by the economic imperatives of standardization, routinization and efficiency, UK business schools have rapidly evolved into internationalised mass-market education providers, with tremendous effects not only on those who study with them but also on those who work in them, as the status and conditions of academic employment are increasingly challenged (Geppert & Hollinshead, 2017). In particular, many academics have found themselves under increased strain, stemming from higher accountability demands and increased bureaucratisation. At the same time, academic salaries have not kept pace with work commitments to teach, do research, attract external grants and offer consultation.

As highlighted in critical management literature, the growing importance of managerial processes in UK business schools mimic industry and market practices (see *inter alia* Alvesson & Spicer, 2016; Bristow *et al.*, 2017). A new ‘corporate culture’ manifests through the introduction of several managerial elements, such as quality control systems, performance measurements and marketing strategies. A series of aggressive neoliberal policies had been put in place, allowing for the substitution of equity-based funding with competition-led financing and the introduction (and subsequent tripling) of tuition fees, tremendously contributing to the generation of a *quasi*-market academic environment (Bristow *et al.*, 2017). Although the adoption of a neoliberal audit culture in academia is not an exclusively-British phenomenon, it is not hyperbolic to say that it is exemplified by contemporary business schools across the country.

Deeply concerned by these developments, the present study seeks to investigate empirically the effects of university *quasi*-corporate culture on academics employed by business and management schools in Britain. As illustrated above, the UK business and management school provides an academic sub-environment that is ideal for exploring the effects of

performance metrics on academics, and the possible clash between marketization/performance-rules and academic ideals. Although this subject has attracted considerable attention in recent years, the multifaceted relationships between organisational, social and psychological aspects of academic work life are still relatively underexplored.

Through the theoretical lenses of organisational theory, this paper applies and adapts the Job Demand-Resources (JD-R) model to the context of UK business/management school academia. Contrary to previous studies on the topic, it provides a quantitative analysis of testable hypotheses based on data collected through a national-scale questionnaire survey instrument. This is the first study after the work of McClenahan *et al.* (2007) and Kinman and Jones (2008) that applies the JD-R theory to universities located in the UK. However, contrary to previous applications, this paper draws its data on a geographically and institutionally diverse sample from 24 universities across Britain, focusing on academics across all career ranks.

Explicitly, the aim of this paper is to shed light on the role various job demands (workload, work-life imbalance) and resources (skills utilisation, perceived participation, rewards and academic freedom) associated with academia play in determining levels of employee burnout and intention to leave their current institution. Furthermore, the paper examines whether and how performance management through quantifiable research and teaching outcomes alters academic workplace conditions and behaviour. In doing so, it seeks to inform collective academic responses to managerialism and the increasing corporate logic witnessed at the contemporary university. Copying with and resisting where necessary these new developments is not only pragmatic but also ontological, necessitating both the defence of academic integrity from policies that threaten to strip off the ideals of scholarship and the avoidance of distortions to the character of higher education imposed through top-down managerial approaches.

Applying the job demand-resources model (JD-R) to the higher education sector

JD-R theory is an organisational theory that explores the mechanisms of employee work engagement and exhaustion (Demerouti *et al.*, 2001). It suggests that any work environment is framed by certain demands and resources based on the psychological, physiological, social and organisational aspects of the job that together shape employee wellbeing (Giauque *et al.*, 2013).

Bakker et al. (2004) define job resources as those aspects of work that function in achieving work goals, reducing the psychological costs associated with job demands and stimulating personal growth and development. Job demands are defined as those aspects of work that require sustained physical or psychological effort and impose certain physiological or psychological costs. Schaufeli and Bakker (2004) outline how resources such as skills utilization, collegiality and flexibility create a motivational 'gain cycle' which helps employees to cope with the demands of their profession. The absence of such resources precludes goal accomplishment and results in feelings of failure, frustration and disengagement. Demands, such as heavy workloads and disruptions in an employee's work-life balance, create an energetic 'loss cycle' that increases mental fatigue and eventually leads to exhaustion.

Furthermore, the concept of employee burnout, namely disengagement from one's work and psychological exhaustion, is also relevant here as it combines the effects of an absence of job resources with high levels of job demands (Demerouti *et al.*, 2001). Burnout has been associated with a number of negative work outcomes, including a greater willingness of employees to leave their current employer (Lee & Ashforth, 1996). The direct consequences of job demands and resources on employee burnout are complicated by the role certain job resources can play in buffering the impact of specific job demands upon burnout (Bakker & Demerouti, 2007). As outlined by Bakker *et al.* (2004), such moderations may occur when

job resources provide employees with social support, render stressors predictable, provide a rationale for stressors, or provide individuals with some degree of perceived control over stressors.

Insert Figure 1 here

In this paper we extend this line of research, using the JD-R model to explore the dynamic relationships between working conditions and employee burnout and behaviour in UK business schools (see figure 1).

There is currently a limited number of empirical studies that apply the JD-R model to the higher education sector. These examine the direct impact of demands and resources on outcomes such as staff engagement, job satisfaction and work stress. More specifically, Rothmann and Jordaan (2006) used data from three universities in South Africa to investigate the impact of job characteristics on academics' work engagement. Their results suggested that job resources (organisational and social support, autonomy, learning opportunities) have a positive effect on staff engagement, whereas job insecurity has a negative impact on commitment and dedication. Similarly, Barkhuizen *et al.* (2014) used a sample of academic staff from various disciplines across 24 South African institutions, concluding that academics that experience greater demands while receiving fewer rewards run a higher risk of becoming exhausted and alienated from their work life.

In Canada, Catano *et al.* (2010) sampled academic staff working at various university departments of 56 institutions to study the effect of job demands on satisfaction and stress. They found that job insecurity and work-life conflict lead to job dissatisfaction whereas the latter is also a major stressor. They also reported that lack of job control and role clarity

along with perceptual unfairness are stress-related factors that predict psychological strain. These findings were further supported by Boyd *et al.* (2011) in the context of 11 Australian institutions.

Following a slightly different path, in their study of US STEM departments, Bozemann and Gaughan (2011) developed a job satisfaction model that encompasses resources and demands (i.e. tenure, work composition, colleague interactions and pay perceptions) with individual attributes and engagement with industry. Their results indicated that there is a high dependency of job satisfaction upon positive views of colleague relationships and payment. Moreover, the work of Mudrak *et al.* (2018) focused on academics employed in Czech universities, using the JD-R theory to investigate interactions between autonomy, social support, quantitative demands, work-life imbalance, job insecurity and their influence on job satisfaction, stress and work engagement. Their findings revealed that job resources promote engagement and satisfaction whereas job demands result in work-life conflict and stress.

A number of empirical studies have also focused on the ability of job resources to buffer the impact of job demands on outcomes. Bakker *et al.* (2004) used data from a professional education institute of applied science in the Netherlands to explore the capacity of job resources (i.e. social support, supervisor relationships, autonomy and performance feedback) to act as buffers against the impact of work overload, emotional demands by students, physical demands and work-home interference. They found that all the said resources reduce the impact of specific demands at work, such as overload and exhaustion, but it is autonomy and social support that are mostly effective in reducing cynicism and copying with emotionally demanding situations. In another study set in the Netherlands, Bos *et al.* (2009) explored work characteristics and drivers of job satisfaction in a sample of academic and non-academic staff of a higher education institution. They reported that job

resources, particularly skill discretion and relations with colleagues, reduce the negative effects of job demands, such as workload and conflicts at work.

Regarding studies set in the UK, there are only two in the present literature. McClenahan *et al.* (2007) used the similar demand-control-support model to test whether academic jobs with high demands (work pressure) and low job resources (supervisor support and autonomy) are stressful, based on a small sample of lecturers and senior lecturers of one British university. They reported that job demands and control have additive effects on psychological well-being, burnout and job satisfaction. Furthermore, the study of Kinman and Jones (2008) assessed the influence of job control, schedule flexibility, employee support and work-life conflict on wellbeing, job satisfaction and leave intentions in a cross-national sample of lecturers and junior researchers across all disciplines. Their study found that there is a positive relationship between job demands, dissatisfaction and intention to leave. It also highlighted a distinction between intrinsic motivations (e.g. intellectual motivation, opportunities to use initiative) and extrinsic barriers to job satisfaction (e.g. pay, promotion, work hours) related to academic work.

Overall, the existing literature suggests that job demands lead to energy depletion and psychological fatigue whereas job resources evoke higher resilience amongst academics towards pressures at work, in turn causing spillover effects on job satisfaction, engagement and intention to leave. However, the body of current empirical work using the JD-R framework is limited by its reliance on university-specific samples (i.e. observations made based on one or few institutions), by disregarding inter-faculty distinctions (i.e. sampling academics from all subjects/schools) and/or disregarding differences between academic and non-academic roles (i.e. sampling all university staff). Therefore, this paper is the first attempt to comprehensively study the dynamic relationships between job demands, resources and behaviour in academia by focusing specifically on business/management

school academic staff and building a sample that comprises a wide set of institutions spread over the country.

Drawing on the findings of current studies focusing on the higher education sector, our model features a number of job demands (workload, work-life imbalance) and resources (skills utilisationparticipation in decision-making, extrinsic rewards and academic freedom) with the view to examine their impact on intention to leave, as mediated by exhaustion and disengagement. In addition, we take into account the possibility that certain job resources can moderate the impact of job demands on burnout. This leads us to our first set of testable hypotheses:

H1a: *Job demands have a positive overall relationship with intention to leave.*

H1b: *Job resources have a negative overall relationship with intention to leave.*

H2a: *Exhaustion mediates the relationship between job demands and intention to leave.*

H2b: *Disengagement mediates the relationship between job resources and intention to leave.*

H3: *Job resources moderate the relationship between job demands and exhaustion.*

Deconstructing the metrics culture in the UK Business School

In his work describing the contemporary institutional environment in UK higher-education, Burrows (2012, p. 356) makes reference to the 'metricisation of the academy'. Following the growth of public sector managerialism, Parker (2014) and Craig *et al.* (2014) highlight that in recent years British universities and particularly their business/management departments have come to operate against a background of new public management (NPM) administration. Elements such as formal measurable performance standards, top-management visibility and competitive provisions are all recognised as key NPM

components (Lapsley, 2009). Despite advocating for openness and transparency, Craig *et al.* (2014) find that the new NPM regime became particularly problematic in academia, as the implementation of market-led organisation practices to improve productivity and efficiency have actually led to higher bureaucratic control, reduced collegiality and the eradication of collective decision-making processes.

The emergence of metrics, which have proliferated in recent years, is seen as serving primarily university top management by providing them with the tools to regulate academic labour (Butler & Spoelstra, 2014). In particular, the multidimensional aspects of academic work and performance, such as research and teaching quality are increasingly being assessed by a narrow set of quantitative measures. Audit mechanisms, such as the UK's National Student Satisfaction surveys (NSS), league tables and the most recent Research Excellence and Teaching Excellence Frameworks (REF and TEF, respectively) manifest the new audit and performativity culture quite eloquently (Knights & Clarke, 2014). Consequently, institutional practices within UK business schools, including hiring, promotion and resources distribution are now heavily informed by strictly-defined assessment indicators such as the number of publications at 'top journals' as determined by the Association of Business Schools Academic Journal Quality Guide (aka ABS list; Hussain, 2015).

The rise of performativity culture in UK business schools, expressed through the transition to increasingly quantitative measurement systems, is believed to destabilise academic identity while it gradually diminishes inherent qualities of the profession, such as academic freedom, originality, pursuit of knowledge and pedagogy (Clarke *et al.,* 2012; Knights & Clarke, 2014; Lynch & Ivancheva, 2015). To accrue the necessary 'quantitative ammunition', academic staff seem more and more preoccupied by the degree to which their work is defined as 'excellent' on the basis of the set quantified 'rules' (Knights & Clarke, 2014). In turn, Butler and Spoelstra (2014) hold that the imposition of the metrics culture and the 'regime of

excellence' has started eroding the scholarly ethos. Abiding by the rules does not only encourage managerialism but also downplays the intrinsic merits and critical aspects of genuine academic enquiry. Likewise, in teaching, survey instruments measuring 'satisfaction' push academic staff to adapt their pedagogical practices to the likings of an ever-consumerist studentship (Burrows, 2012). In this context, instrumental compliance to metrics-based audits and accountability is seen as clashing with the values and ideals ascribed to academia (Knights & Clarke, 2014).

This expansion of corporate administration structures and performative demands within the UK business school are believed to have detrimental effects on collegiality and social support at work. According to Jones (2018), as the research audit culture becomes the new norm, divisive influences emerge whereby collegial relationships are lessened and undermined by instrumental self-marketing bias. At the same time, the crystallisation of top-down managerialism in the running of business schools exposes in some respect the limited capacity of academics to produce some collective responses or communal acts of 'resistance' towards the new *status quo* (Parker, 2014).

In terms of employment conditions, elements of good metrics-based performance serve as bargaining chips in negotiations among academics and managers over task allocation (Burrows, 2012), whereas achievements in the game of 'excellence' have domino effects on career progression and opportunities for funding future projects (Butler & Spoelstra, 2012; Hussain, 2015). Along these lines, several researchers have raised their concerns about the negative consequences of rankings 'fetishism' not only for academic scholarship but also for employee well-being (Willmott, 2011; Burrows, 2012; Craig *et al.*, 2014; Knights & Clarke, 2014; Hussain, 2015). As Catano *et al.* (2010) highlight, several stressors have emerged in academic workplace as fix-term positions become the new norm, workloads increase, salaries fall behind other professions, promotions are slow and pressures to 'deliver' by obtaining external funding and publishing have increased.

To date debate on the rise of this metrics-driven culture at UK business schools has been limited to qualitative and often anecdotal discussion. In this paper we set out for the first time to identify through empirically tested hypotheses whether an increased focus on quantitative measures of academic performance impacts on job characteristics and behaviour. Based on the above discussion we would expect to see increased job demands (e.g. workload) and reduced job resources (e.g. academic freedom) along with knock-on consequences for levels of exhaustion and disengagement. Thus, our second set of research hypotheses are formulated as follows:

H4a: *Greater importance given to metric-based performance measures has a positive relationship with job demands.*

H4b: *Greater importance given to metric-based performance measures has a negative relationship with job resources.*

H5: *Greater importance given to metric-based performance measures has a positive relationship with burnout.*

H6a: *Job demands will mediate the relationship between metric-based performance measures and exhaustion.*

H6b: *Job resources will mediate the relationship between metric-based performance measures and disengagement.*

Methodology

Sample

An attitudinal questionnaire was used to gather data on the qualities and conditions of academic roles and work life at the UK business/management schools. The survey was first piloted in a single institution, before a revised version was distributed through an online platform to 3,000 individuals employed in academic positions at the business/management

schools of 24 universities across the UK[1]. All the academic staff listed on university websites as currently employed in the relevant school/faculty/department were included in the sample. To minimise biases and increase representativeness, special attention was paid to building a sample that is geographically disperse while also maintaining an equal balance between the more research-intensive Russell group universities and non-Russell group institutions[2]. The final number of usable responses received was 564.

Insert Table 2 here

Table 1 provides some descriptive statistics on the respondents. The average age of respondents was just under 47 years, with a majority of respondents being male (57.3%). These demographics align with those collected by the UK's Higher Education Statistics Agency (HESA) for the sector[3]. As may be expected, the majority of respondents carried a PhD qualification (80%) and their average number of years in academia was just under 15 years. That said, the number of years respondents reported being employed by their current university was just 9 years, reflecting the frequency with which academics in the UK change employer during their career. The proportion of responses received from professors and associate professors accounted for 29% of our sample.

Measures

[1] Invitations to participate in the survey were sent to academic staff members at the following higher education institutions: University of Birmingham, University of Bristol, University of Cambridge, Cardiff University, Durham University, University of Edinburgh, University of Exeter, University of Glasgow, Imperial College London, King's College London, University of Leeds, University of Liverpool, London School of Economics and Political Science, University of Manchester, Newcastle University, University of Nottingham, University of Oxford, Queen Mary University of London, Queen's University Belfast, University of Sheffield, University of Southampton, University College London, University of Warwick, University of York.

[2] The Russell Group is an association of 24 research-intensive universities in the UK. Despite representing just 15% of the country's HEI, they receive an impressively high proportion (more than 70% in 2017) of international and national research grants (source: https://russellgroup.ac.uk/media/5524/rg_text_june2017_updated.pdf accessed 20 February 2019).

[3] For academic staff in UK (2017), the HESA report ages as: < 25 (3%), 26-35 (26%), 36-45 (27%), 46-55 (25%), 56-65 (15%), >66 (4%). Males accounted for 59% of full-time academic staff.

Where possible existing validated measures were used for each of the model variables. While maintaining the substantive meaning of each measure's individual items, some minor changes (e.g. replacing the word 'workplace' with 'university') were introduced to ensure measures are of direct relevance to survey respondents. A five-point Likert response scale was applied to each measure for clarity and ease of analysis and interpretation.

Job resources

Skills utilisation [6 items, scale 1 (never) to 5 (always)] is based on the measure developed by Karasek *et al.* (1998) in their Job Content Questionnaire (JCQ), which asks respondents to assess their work-related opportunities to gain new knowledge and be creative in their teaching and research (sample item: 'Opportunity to be creative in what you teach and/or research'). One item was later removed from this measure due to low loading with other items in the measure (i.e. 'My job requires a high level of skill'). As highlighted in the relevant literature, working in academia calls for elements such as creativity and inventiveness (Bristow *et al.*, 2017), which renders this measure particularly relevant as an integral part of the role.

Being inspired by previous explorations of perceptions of participatory management practices by Kim (2002), we created a 5-item measure [scale 1 (strongly disagree) to 5 (strongly agree)](sample item: 'When some important matter comes up that concerns me, my line manager seeks out my ideas before a decision is made'). This measure refers to opportunities of participating in managerial processes and decisions and receiving support from the immediate (department/faculty) and senior management of the institution (Macfarlane, 2007).

As no existing measure has been identified, academic freedom is assessed through two author-created single item measures [scale 1 (strongly disagree) to 5 (strongly agree)] focused on research and teaching (sample item: 'I have academic freedom in how I approach my teaching'). Academic freedom has attracted the attention of the relevant

literature (Lynch & Ivancheva, 2015; Alvesson & Spicer, 2016) as an important aspect of academic autonomy. We include these items alongside the above measure of participation in workplace decision-making to highlight the important distinction between academic autonomy in the creation and dissemination of knowledge within a chosen discipline (academic freedom) and a sense of autonomy within the governance structure of the university.

Finally, the role of extrinsic job rewards should not be underestimated and has been highlighted in previous studies (Rothmann & Jordaan, 2006; Catano *et al.*, 2010; Mudrak *et al.*, 2018). We therefore include single item measures for salary adequacy, promotion opportunities and job security [scale 1 (strongly disagree) to 5 (strongly agree)] (sample item: 'My salary is adequate').

Job demands

Workload [6 items, scale 1 (strongly agree) to 5 (strongly disagree)] is based on Boyd *et al.* (2011)'s 3-item measure of academic workload and the JCQ 5-item measure of psychological demands (sample item: 'I am not asked to do what I consider an excessive amount of work'). Two items were excluded from the original JCQ measure of psychological demands based on their limited applicability to academics, many of whom do not work regular office hours or are required to complete specified tasks within a given timeframe (excluded items: 'My job requires working very fast', 'I have enough time to get the job done'). In place of these items, the three items developed by Boyd et al (2011) were included as more appropriate measure of the time pressures that can be placed on academics (e.g. 'I do not have enough time to perform quality research'). Workload is one of the most commonly cited and significant stressors found in the JD-R literature (Bakker & Demerouti, 2007) and it has also been found to be a significant factor in the higher education sector (e.g. Bos *et al*., 2009).

Work-life imbalance [4 items, scale 1 (never) to 6 (always)] is another well recognised stressor in the JD-R literature. It is taken into consideration through the 4-item measure of Fisher *et al.* (2009) (sample item: 'When I finish working, I am too tired to do things I would like to do'). Especially with the growing support of technology, much of the work undertaken by academics can be completed from home and can be undertaken outside of regular office hours. It is thus not surprising that work-life imbalance has been the subject of attention in previous studies on higher education (e.g. Mudrak *et al.*, 2018).

Outcomes

Burnout was measured using the Oldenburg Burnout Inventory (Demorouti *et al.*, 2001) [scale 1 (never) to 6 (always)]. This measure contains 8 items that measure disengagement (e.g. 'Lately, I tend to think less at work and do my job almost mechanically') and another 8 items are used to measure exhaustion (e.g. 'there are days when I feel tired before I arrive at work'). One item was later excluded from the measure of disengagement due to low loadings (i.e. 'Sometimes I feel sickened by my work tasks'). One item was also excluded from the exhaustion measure due to strong cross loading with items under our measure of work-life imbalance (i.e. 'After work, I usually feel worn out and weary').

Intention to leave [3 items, scale 1 (never) to 6 (always)] was measured based on Boshoff and Allen (2000)'s measure (sample item: 'I often think about resigning from this university').

A number of control variables were included for age, gender, job role, education qualification, years in academia and tenure with current university. These controls were included as older academics are more likely to have family commitments and other circumstances that will affect their job mobility and issues such as work-life imbalance. It can also be expected that seniority, educational qualifications and work experience influence job mobility and academics' views of their work conditions. Finally, it is likely for male employees to have a greater tendency to change institutions due to greater flexibility.

Validity and reliability

Appendix 1 provides a correlation matrix for each of the above measures, along with composite reliability measures (Cronbach's Alpha values ranged from .78 to .90). We tested a series of nested models (see appendix 2) to determine the best fitting model for the data. The selected model consisted of the 7 latent variables as outlined above and was found to be the best fitting model. In the alternative models we attempted to create a single latent measure for Burnout. We also attempted to create combined measures of job demand and resources. In each case, the chi-squared difference test confirmed that the 7 latent-variable model has the best fit with the data and that discriminant validity exists (Anderson & Gerbing, 1988).

Finally, we conducted the Herman's single factor test (Podsakoff *et al*., 2003) to identify any issues with common method bias (CMB). The percentage of variance that could be accounted for by a single factor was found to be 33.55% indicating that there are not any significant difficulties with CMB. Including the other single item measures (academic freedom and extrinsic rewards) and control variables in the measurement model, a final confirmatory factor analysis of all constructs was found to have a satisfactory level of fit (χ^2/DF = 2.40; CFI = .92; TLI = .89; RMSEA = .050).

Method of analysis

Our analysis proceeded in two stages. A first mediation analysis was used to examine the relationship between the various measures of job demands-resources and intention to leave, as mediated by academic burnout (hypotheses 1 and 2). This analysis was accompanied by a moderation analysis to reflect the role job resources can play in moderating the effects of job demands (hypothesis 3). The growing priority that is given to performance management

using quantitative measures of research and teaching outcomes was then examined through a second mediation analysis, focusing on the indirect impact on workplace outcomes created by changes in job demands and resources (hypotheses 4 and 5).

In line with the Barron and Kenny (1986) approach to mediation, we present findings of the total, direct and indirect effects. However, given the limitations inherent in the Barron and Kenny causal steps approach, we apply bootstrap estimation (5,000 samples) with 95 per cent confidence intervals (Preacher & Hayes, 2008). For the moderation model, standardised latent interaction terms were created using a matched-pair product of indicators method (Marsh *et al.*, 2004). A bootstrap was again used to calculate the standard error and parameter estimates more precisely (Little *et al.*, 2006).

Findings

This section provides a detailed account of our empirical results. Findings are first presented on the relationship between job demands-resources and academic willingness to leave their university, as mediated by the level of burnout they experience. This analysis also takes account of the role job resources can play in moderating the impact of job demands on levels of exhaustion. The growing importance that is being given to metric-based performance management both in terms of research and teaching forms the subject of a separate set of findings. More specifically, we examine the direct impact on job demands and resources, and the indirect impact on academic burnout.

Impact of job demands-resources on intention to leave, as mediated by burnout

The findings in Table 2 show that both forms of burnout, exhaustion and disengagement, are significant drivers of academic intention to leave. In relation to work demands, both work-life imbalance and workload have significant positive relationships with intention to leave.

Furthermore, both relationships are at least partly mediated through exhaustion. These findings provide strong support for our expectations under hypotheses 1a and 2a demonstrating that the negative impact high job demands have on levels of exhaustion is a significant factor in reducing employee retention.

Insert Table 2 here

As expected under hypothesis 1b, several job resources were found to have a statistically significant and negative relationship with intention to leave. These include perceptions of participatory management practices, perceived salary adequacy and academic freedom in teaching. Moreover, as expected under hypothesis 2b, disengagement was found to fully mediate the relationship of perceptions of participatory management practices and intention to leave, although it was not found to mediate the impact of salary adequacy or academic freedom in teaching.

The direct and indirect relationship between skills utilisation and intention to leave are worth noting. In line with theory, the indirect relationship shows that greater perceived skills utilisation is associated with increased disengagement and greater intention to leave. However, once we control for the effect of disengagement, skills utilisation is found to have a significant positive direct relationship with intention to leave. One possible explanation of this is that as academics develop their own specialist skills and interests in terms of research and teaching, they perceive a greater sense of mobility between potential employers.

While the perceived adequacy of salary was found to be a significant factor in reducing intention to leave, other forms of employee recognition (promotion opportunity and job

security) were not found to be statistically significant. This may be a reflection of the career path of many business school academics in the UK, where promotion is often best secured through a willingness to move between universities. As a result, promotion opportunities and job security within their current university may play a less significant role in determining an academic's leave intentions. It is also interesting to note that while academic freedom in teaching is a significant factor in reducing intention to leave, the same cannot be said for academic freedom in how individuals pursue their research interests. Greater autonomy in how an academic teaches their modules creates a sense of engagement with programmes and students that are in many ways unique to that university. On the other hand, greater autonomy in the pursuit of research interests engages academics in specific discipline areas that are often not unique to any one institution. This may help explain why academic freedom in the area of research is not as significant a factor in creating academic loyalty to their present institution.

Of the control variables included on table 2 only gender was found to be statistically significant. This would indicate that males are more likely to express an intention to leave their current institution. Considering family commitments, documented differences in relation to putting oneself forward for promotion and different job roles, it may not be surprising to find male academics have a higher willingness to change employer.

Insert Table 3 here

Table 3 illustrates the degree to which the relationship between job demands and intention to leave is moderated by job resources. Our findings support hypothesis 3 and show that the

availability of job resources does play a significant role in reducing the positive relationship between various job demands and levels of exhaustion. More specifically, the results show that when academics perceive a high level of participation in decision-making or an adequate salary level, the impact of a high workload on exhaustion is reduced. Similarly, the impact of high work-life imbalance on exhaustion is reduced by a perception of participation in decision making. It should however be noted that the effect size of these moderations is small to moderate and thereby while the availability of job resources can help in reducing the negative impact of job demands on exhaustion, these effects are not enough to completely offset the impact.

The role of metric-based academic performance management

As explained earlier, the role of performance management through the use of quantitative metrics (e.g. NSS, REF) plays an increasingly important role in UK universities. In this section we examine the impact of the 'metrics' culture on academic job demands and resources, as well as on rates of academic burnout. In the survey respondents were asked to rank four separate outcomes of research and teaching based on their perceived importance. Each list of outcomes included two items that referred to quantitative outcomes (e.g. grant income for research) and two items that described more qualitative outcomes (e.g. stimulation of student learning). Using this data, we created two dummy variables to reflect the priority given to quantitative measures of academic performance under teaching and research.[4]

Insert Table 4 here

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[4] A value of zero was recorded where respondents ranked qualitative outcomes as being the most important and second most important outcomes. A value of one was recorded where they ranked quantitative performance measures as either most important and/or second most important.

Table 4 shows that the granting of greater priority to quantitative output measure does play a role in shaping academics' perceived work conditions and levels of burnout. More specifically we find that when greater importance is given to quantitative measures of teaching output, there is a direct and positive impact on levels of exhaustion. Furthermore, we find there is also a positive relationship with levels of disengagement, which is created indirectly through reduced job resources (i.e. skills utilisation, perceived participation, salary adequacy, job security and academic freedom). The findings are less pronounced when respondents attributed greater importance to quantitative measure of research outcomes, which were only found to significantly impact on levels of disengagement through perceived changes in job resources. Overall, the growing importance of metrics in assessing teaching and research outputs is having a positive impact on levels of burnout, particularly in relation to their indirect impact on levels of disengagement as experienced through perceived deterioration in job resources. These findings provide some support for hypothesis 5 and provides good support for hypotheses 6b.

Conclusion

This paper extends an important line of research into the effects of managerialism on academic work life and performance in contemporary UK business schools. Inspired by a research strand that forms a niche in the current higher education literature, our intention was to apply the JD-R model to the sector by taking on a more comprehensive view of the subject. To do so, we drew on a cross-institutional sample of business school staff located across all rungs of the academic ladder. An additional novel feature of this study was accounting for distinctions between academics who considered themselves as driven mostly by quantitative outcomes and those who reported to be primarily concerned with qualitative achievements.

Thus, our study makes several contributions to research on the topic. It is one amongst a few that focuses on the UK higher education sector and is the only one that gathers data from a wide number of institutions, targeting full-time academics in business/management schools/faculties. This enables us to provide a more representative assessment of outcomes, while controlling for potential biases compared to previous studies. More significantly, this study for the first time critically examines the outcomes of a growing focus on performance management through quantitative metrics in research and teaching outcomes. While existing literature has discussed this issue, our paper is the first that approaches the subject through a quantitative methodological approach to corroborate qualitative evidence.

Similar to previous work, we find that perceived participation in decision-making, skills utilisation and remuneration are amongst the more significant job resources that have positive outcomes in terms of reducing disengagement and turnover in UK academia. These findings corroborate previous work set in other academic settings, including that of Rothmann and Jordaan (2006) in South Africa, Bozemann and Gaughan (2011) in the US and Mudrak *et al.* (2018) in the Czech Republic. In addition, similarly to past research on academic work characteristics and their interplay with psychological strain (e.g. Catano *et al.* 2010 for Canada, Boyd *et al.* 2011 for Australia), our findings also concur on the importance of workload and work-life imbalance as significant stressors for academics, the effect of which is only partly moderated by improved job resources. More interestingly, our work illustrates how academics' increased attention on the 'metrics' culture, embedded in UK business schools and increasingly embraced by public universities across western-type economies (Craig *et al.* 2014), decreases their sense of freedom in research and teaching, their sense of skills utilisation and their feeling of participation in decision-making, thus increasing their levels of disengagement and thereby intention to leave.

Such results signal the eroding influence of managerialism and control systems on key traits of university work life, substantiating our concerns for the future of business school academia in the UK. Admittedly, what academics have come to experience in their workplace are the symptoms of a wider neoliberal statecraft, whereby higher education along with other sectors of the public realm are forcefully driven towards compliance with market economy imperatives. As UK business schools have come to operate in a competitive arena for tuition and grant income, the metrics culture allowed for flattening academic labour and translating its multifaceted character into a narrow set of performative indicators. The collapse of academic activities into value scales further encouraged competition at work and submission to game rules while shrinking space for critical reflection, social and intellectual engagement colleagues and participation in administrative decisions. Empirical research reported here clearly shows that the growing importance of performative functioning is associated with increased workload, reduced autonomy, lack of collegiality, greater fatigue and eventually, alienation.

The implications for government and institutional policy makers are wide and varied. As what is produced by universities and those who work in them becomes more globalised and market driven, each are fully implicated in the reproduction of the metrics-based market-mimicking processes that take place in the contemporary neoliberal business school – it is hard to do differently, it is a game that they are forced to play. As much as it is not possible to avoid this reality, policy makers need to find ways to protect and enhance those values and ideals that make up an academic (collegiality, autonomy, skills development). There is also much that can be done within institutions to help academics cope with increased workload and pressures on work-life. Finally, while not questioning the need for higher education institutions to compete globally, this study shows the importance of not losing sight of the differences that exist between universities, those who work in them and commercial enterprises. Being oppressed to live up to the idealised academic performance as assessed through measurable outputs, are proving counterproductive in terms of

academic welfare and retention. It is when cultivating creativity, generating new insight and stimulating thought is truly core to an institution's culture that the greater academic and institution performance are forthcoming.

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Figure 1: Model

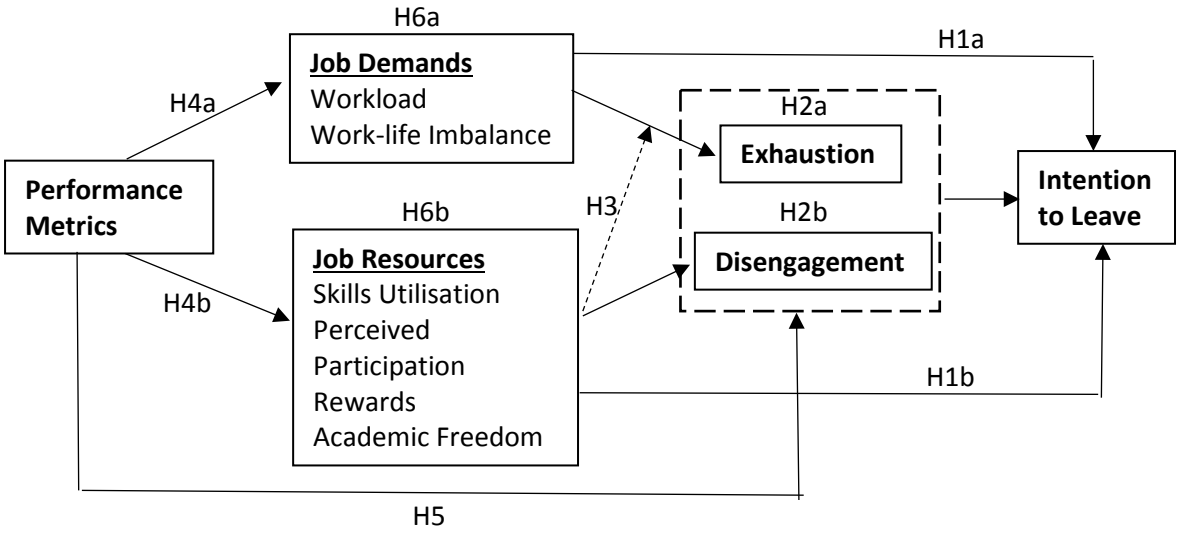

Table 1: Description of survey respondents

Variable	Percentage	Variable	Percentage
Gender		**Academic qualification**	
Male	57.3	Level 8 (PhD)	80.1
Female	39.4	Level 7 (e.g. Masters, PGcert, PGdip)	19.0
No response	3.4	Level 6 (e.g. Bachelors qualification)	0.5
Current job position		No response	0.4
Lecturer	24.5	**Age (years)**	
Senior/Principal lecturer	40.2	<25	0.4
Associate Professor, Professor, Reader	28.9	26-35	12.4
Teaching Fellow, Senior Teaching Fellow.	0.9	36-45	28.9
No response	3.2	46-55	39.4
		56-65	17.9
		>66	1.1
			Mean (SD)
		Age (years)	46.8 (9.2)
		Years as academic	14.8 (9.2)
		Years with current university	9.0 (7.6)

Note: N = 564.

Table 2: Impact of job demands/resources on intention to leave, as mediated by burnout

	Job Demands			Job Resources		
	Direct	**Indirect**	**Total Effect**	**Direct**	**Indirect**	**Total Effect**
Age	.090			.061		
	(.054)			(.050)		
Years Acad.	.013			-.019		
	(.064)			(.055)		
Years Uni.	-.068			-.079		
	(.043)			(.038)		
Edu. Qual.	.074			.069		
	(.041)			(.036)		
Position	-.039			.040		
	(.047)			(.040)		
Gender	-.130***			.012		
	(.040)			(.035)		
Exhaustion	.381***					
	(.090)					
Work-Life	-.157	.298***	.141			
Imbal.	(.083)	(.159)	(.082)			
Workload	.436***	.058*	.494***			
	(.083)	(.107)	(.076)			
Disengagement				.539***		
				(.096)		
Skill Util.				.273***	-.244***	.029
				(.073)	(.062)	(.053)
Participation				-.346***	-.202***	-.549***
				(.083)	(.048)	(.078)
Promotion				-.048	-.011	-.059
				(.044)	(.023)	(.047)
Salary				-.089*	-.009	-.098*
				(.046)	(.021)	(.047)
Job Security				-.048	-.034	-.081
				(.044)	(.025)	(.044)
Acad. Free.				-.103*	-.040	-.142**
Teach				(.050)	(.027)	(.053)
Acad. Free. Res.				.044	-.033	.010
				(.048)	(.023)	(.050)
R^2		.356			.610	
χ^2 /DF		2.85			2.78	
CFI		.941			.930	
TLI		.929			.900	
RMSEA		.060			.055	

Note: standardised coefficients, standard errors given in brackets, * p < .05, ** p < .01, *** p < .001.

Table 3: Impact of job demands on burnout, as moderated by job resources

Independent Variable (IV)	Moderating variable (MV)	IV	MV	Interaction	ΔR^2	f^2
Workload	Participation	.588*** (.071)	-.190* (.075)	-.155** (.056)	.020	.062
	Skills Util.	.699*** (.043)	-.273*** (.047)	-.001 (.041)	.000	.000
	Salary	.707*** (.049)	-.008 (.050)	-.112* (.054)	.008	.015
Work-Life Imbalance	Participation	.679*** (.043)	-.276*** (.049)	-.108* (.045)	.012	.039
	Skills Util	.700*** (.043)	-.269*** (.045)	-.024 (.040)	.000	.000
	Salary	.791*** (.035)	-.010 (.040)	-.026 (.045)	.000	.000

Note: standardised coefficients, standard errors given in brackets, Effect size (f^2) = [R^2 (interaction model) - R^2 (main effects model)]/[1- R^2 (main effects model)], High/Low = [IV β+ (interaction β +/ – 1SD)*mediation β], * p < .05, ** p < .01, *** p < .001.

Table 4: Impact of metric-based performance management on burnout, as mediated by job demands/resources

	Exhaustion			Disengagement		
	Direct	**Indirect**	**Total Effect**	**Direct**	**Indirect**	**Total Effect**
Age	-.040			.090		
	(.042)			(.055)		
Years Acad.	.037			.172*		
	(.059)			(.083)		
Years Uni.	.049			.073		
	(.029)			(.044)		
Edu. Qual.	-.008			.033		
	(.029)			(.040)		
Position	-.056			.013		
	(.034)			(.051)		
Gender	-.052			-.074		
	(.032)			(.042)		
Work-Life Imbal.	.870***					
	(.029)					
Workload	.222***					
	(.049)					
Skill Util.				-.585***		
				(.061)		
Participation				-.314***		
				(.067)		
Promotion				-.050		
				(.047)		
Salary				-.091*		
				(.047)		
Job Security				-.131**		
				(.047)		
Acad. Free. Teach				-.130*		
				(.052)		
Acad. Free. Res.				-.136**		
				(.041)		
Metrics (Teaching)	.068*	.033	.101*	.071	.177***	.249***
	(.032)	(.053)	(.053)	(.041)	(.049)	(.056)
Metrics (Research)	.033	.042	.074	.014	.096*	.110*
	(.033)	(.050)	(.052)	(.043)	(.050)	(.059)
R^2		.691			.639	
χ^2 /DF		2.78			2.80	
CFI		.938			.926	
TLI		.924			.900	
RMSEA		.051			.056	

Note: standardised coefficients, standard errors given in brackets, * $p < .05$, ** $p < .01$, *** $p < .001$.

Appendix 1: Correlation matrix and Cronbach's Alpha values

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.Skill Utilisation	.886																
2.Participation	0.50	.770															
3.Promotion	0.24	0.41	-														
4.Salary	0.23	0.37	0.25	-													
5.Job Security	0.25	0.46	0.21	0.17	-												
6.Acad. Free. Teach	0.45	0.43	0.17	0.21	0.22	-											
7.Acad. Free. Res.	0.48	0.45	0.23	0.17	0.27	0.48	-										
8.Work-Life Imbal.	-0.29	-0.38	-0.28	-0.28	-0.27	-0.23	-0.25	.899									
9.Workload	-0.46	-0.65	-0.39	-0.36	-0.31	-0.36	-0.32	0.71	.802								
10. Disengagement	-0.71	-0.70	-0.34	-0.30	-0.38	-0.50	-0.50	0.48	0.61	.724							
11.Exhaustion	-0.51	-0.58	-0.32	-0.25	-0.36	-0.38	-0.39	0.78	0.72	0.89	.796						
12.Int. to Leave	-0.36	-0.68	-0.33	-0.36	-0.36	-0.44	-0.32	0.46	0.59	0.68	0.60	.867					
13.Age	0.02	-0.06	0.02	0.10	0.04	0.02	-0.07	-0.11	-0.02	0.04	-0.02	0.05	-				
14.Years Academia	0.05	-0.05	-0.01	0.19	0.05	0.04	0.04	-0.07	0.01	0.08	0.05	0.05	0.68	-			
15.Years University	0.02	-0.04	-0.02	0.09	-0.02	0.04	-0.05	-0.04	0.03	0.09	0.07	-0.03	0.33	0.36	-		
16.Edu. Qual.	0.02	-0.03	-0.02	-0.09	-0.01	-0.10	0.17	0.07	0.10	0.02	0.04	0.13	-0.14	-0.06	-0.13	-	
17.Position	0.14	0.13	0.17	0.09	0.13	0.05	0.25	-0.08	-0.07	-0.11	-0.06	-0.04	0.27	0.40	0.07	0.21	-
18.Gender	0.01	-0.01	-0.09	-0.01	-0.08	0.02	-0.05	0.24	0.12	-0.04	0.14	-0.01	-0.12	-0.14	0.02	-0.06	-0.12

Note: Pearson correlations, Cronbach's Alpha values given on diagonal.

Appendix 2: Nested model analysis

Models	χ^2 (DF)	CFI	TLI	RMSEA	$\Delta\chi^2$ (DF)
7 Factor (SU, Part, WLI, WL, Exhaust, Diseng, IL)	1317.12(490)	.91	.90	.055	Preferred model
6 Factor (SU, Part, WLI, WL, Burn., IL)	1776.53(497)	.86	.85	.070	1,139.59(7)***
5 Factor (JD, JR, Exhaust, Diseng., IL)	1977.03(502)	.84	.83	.075	200.00(5)***
4 factor (JD, JR, Burn, IL)	2388.24(506)	.80	.78	.084	411.21(4)***
Single factor	4089.09(458)	.612	.58	.119	1,700.85(48)***

Note: SU (skills utilisation), Part (perception of participatory management practices), WLI (work-life imbalance), WL (workload), Burn (Burnout), IL (intention to leave), Diseng (disengagement), Exhaust (Exhaustion), JD (job demands), JR (job resources).