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True-belief, pragmatism or alienation: a study of HE academics' response orientations to metrics-based evaluations

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ABSTRACT

While much has been written about the impact of metrics in higher education, less is known about the variety of response orientations that individual academics may adopt in reaction to the increasing metricization of academia. Taking the English higher education sector as a case study, this research surveyed the views of academics from Education and Economics departments in England regarding the impact of teaching and research metrics on their academic identity and practice. Based on a hierarchical cluster analysis of their survey and interview responses, we proposed three distinct response orientations which we called true-belief, pragmatism or alienation, based on how they negotiated or accommodated their academic practices in response to metrics-based evaluation. This heterogeneity of academics' responses to metrics-based evaluation, proposed by our research, suggests the need for a leadership culture which acknowledges a more varied set of attitudes and challenges resulting from that evaluation. The findings of our study also make the case for a more inclusive approach to deciding the institutional response to metrics; allowing all individuals within an institution to make meaningful contributions which are better aligned to their academic identities and professional values.

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Introduction

The use of metrics to evaluate research and teaching quality in higher education (HE) has been on the rise internationally, with the specific measures and priorities shaped by both the national HE policies of each country as well as an international policy context (see for example Cruickshank 2003; Hazelkorn 2009; Huang 2018; Li, McCormick, and Barnett 2015). In the UK (the context of the present study), the Research Assessment Exercise (RAE), introduced in 1983, used independent evaluations regarding the quality of research outputs to determine funding allocation to universities at a time of tight budgetary restrictions. In 2008, the RAE evolved into the Research Excellence Framework (REF). Further, the launch of the Teaching Excellence Framework (TEF) in 2015, incorporating teaching evaluations, employability figures, etc., was introduced (in part) to address a perceived bias towards valuing research quality over teaching quality resulting from the REF (DBIS 2015). This expansion of metrics-based evaluation systems has been matched by growing pressure on the UK government (and from the government) to account for public spending on higher education and research (Wilsdon et al., 2015).

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Academics have had a long and complex relationship with these metric-based teaching and research evaluations. To date, much of the research on this 'audit culture' has highlighted it's perceived negative impact upon the individual both within the England and beyond (Grealy and Laurie 2017; Locke and Bennion 2011) leading to the erosion of academic freedom, promotion of instrumentalist approaches to teaching and research, performativity associated with metrics and an impoverishment of collegial culture (Shore and Wright 2015; Harley 2002; Wilsdon et al., 2015). O'Brien and Guiney (2019) highlight the deteriorating conditions in academic life in the English HE, fuelled by a sense of precariousness inherent to metrics-driven performance-monitoring systems for both research and teaching. Locke and Bennion's (2011) analysis of the data from the 'changing academic profession' (CAP) survey, delivered across 20 countries over the past twenty-five years, indicates relatively low levels of job satisfaction in the UK compared to other countries in the survey. Further, the creation of the TEF has been seen as creating a system in 'doomed opposition' (Blackmore 2015), with the REF and TEF pulling academics in different directions. However, this narrative surrounding the impact of metrics-based evaluations sometimes overstates the deterministic effects of these evaluations and disregards the value that local practices within individual institutions offer in negotiating the debilitating impact of these metrics (Naidoo 2017). Indeed, there are several studies which highlight the manner in which differing institutional strategies in response to these metrics can mediate the effects of the metrics-based evaluations (Oancea 2014; Harley 2002; Kolsaker 2008; Locke and Bennion 2011; Blackmore 2015; O'Connell 2019; O'Connell, O'Siochru, and Rao 2021).

While acknowledging the importance of institutional strategies in mediating the impact of these metrics-based evaluations is a step in the right direction, the majority of these studies characterise the academics within those institutions as passive recipients of the national or institutional policies (Smith 2017). There are only a few studies which recognise that academics can be self-determining actors, who use metrics-based evaluations to gain recognition for their work and achieve career advancement (Blackmore 2015). The institutional strategies developed in response to the metrics play an important role in offering a defining professional community with which academics actively engage to position themselves and construct their academic identities (Clark 1983; Taylor 1989; Henkel 2005). Henkel (2005) argues that whilst the wider government policies shape institutional agendas, the degrees of academic freedom to exercise choice in how individuals engage within the defining institutional framework varies and is central to shaping once academic identity. Henkel further argues that the way academics interact with their two key communities, their discipline and their institution, defines their academic identity which is influenced by institutional discourses, values and norms (ibid). However, Henkel also highlights an increasing weakening of stable disciplinary identity in which academic identity is becoming a more dynamic process of negotiating the more fluid and permeable boundaries, with academic freedom assuming a variety of meanings. Therefore, considering the salience of institutional strategies (which respond to metrics) in shaping academic identity, institutions need to better recognise and accommodate for the possible ways in which academics may choose to engage with these metrics to gain professional fulfilment, while attempting to align individual and institutional agendas. In line with this perspective, Locke and Bennion (2011) highlight the need for HE decision-makers to understand academic values and identities when developing university strategies in response to these metrics to ensure these are better suited to both individual and institutional needs.

Taking England as a case study, the current research seeks empirical evidence of the various ways in which academics may respond to teaching and research metrics-based evaluation systems. While quantitative data will be used to identify potential response patterns in the diverse academic responses to metrics-driven institutional policies, the qualitative analysis will offer a more nuanced understanding of the academics' reasoning for the response they are adopting. In doing so, the study aims to offer possible insights for institutions to help develop strategies and policies which recognise these differences and help better engage their diverse workforce, leading to improved outcomes for individuals and institutions. Whilst the focus here is on England, with the

increasing metricization of HE globally, the outcomes of our research will be of relevance in other contexts as well.

We should acknowledge that this study forms part of a larger research project examining academics' perceptions of metrics-based evaluation at institutional and individual levels. Our preceding study examined the policies and processes by which organisations engage with metrics-based evaluation and academic perceptions of the fairness of these institutional processes (O'Connell, O'Siochru, and Rao 2021). Thus, in the current research, when we refer to academics' reactions to metrics-based evaluation systems, this encompasses how they react to both metrics-based evaluations in general as well as their reaction to the metrics-driven institutional policies and processes of their own institution. However, before we examine these individual responses in more detail, we first need to clarify our understanding of 'metrics' and 'metrics-based evaluation'.

Metrics, metricization and academic identity and the English context

Metrics have developed extensively as a mode of state-level steering in countries where autonomy is more devolved to university level, while also becoming a normative reference point for internationally oriented academics (Lenger, 2018; Marini, Locke, and Whitchurch 2019). In the countries where metrics-based evaluations have been introduced, a combination of quantitative indicators (e.g. citation index, impact factor) and interpretative indicators (e.g. peer evaluation) are used to produce a quantifiable measure of the quality of the work. To some (e.g. Wilsdon et al., 2015), the term 'metrics' is used to describe only the quantitative indicators but not interpretative ones. However, in the current research situated within the English context, the term 'metric' has been used to describe the entire system, both REF and TEF (measures of research and teaching excellence respectively in England); based on the viewpoint that the aim of each system is to quantify good teaching or good research, reducing it to a (single) quantitative measure to rank universities for their teaching or research performance. Furthermore, we will refer to 'metricization' to describe its impact on both academics' behaviour and identity. While the REF and TEF systems have many similarities, they differ in terms of their focus and the relationship between those being evaluated and the ones with the power of judgement (see O'Connell, O'Siochru, and Rao 2021 for further details). Moreover, the perceived validity of the TEF is further complicated by the limited agency academics have over what is evaluated, combined with concerns over potential biases to the student judgements which are integral to this metric (Dixon and Pilkington 2017). Therefore, although we refer to both REF and TEF with a single label of 'metrics' we are not ignoring these differences.

As metrics have increasingly become part of the HE landscape in England, they have been perceived to influence not only the shape and form of academic work, but also the professional identity of the academic community (Brew et al. 2018). Academic 'professionalism' has been observed to be not so much an occupational category as a valued self-identity (Billot 2010; Stronach et al. 2002) although the nature of this identity is widely debated. Nevertheless, several commentators have highlighted what they characterise as changes to the nature of academic identity on both an individual and institutional level, changes we would argue are partly a response to metrics amongst other external and internal factors.

On an individual level, since the early 1990s an increasing proportion of academics view research as central to their academic identity (Locke and Bennion 2011). However, a counter trend emphasising teaching has also become evident, resulting in the increased polarisation of the academic community into those who primarily consider themselves researchers and those who consider themselves teachers (Locke et al. 2016). We would argue that these trends within the English HE in particular are likely to be, in no small part, responses to the metrics. On an institutional level, this reshaping of the academic identity manifests itself in a number of ways; from an observed divergence of teaching and research roles (Locke 2014) to role specialisation and an 'unbundling' of academic functions (Whitchurch 2012; Swartz et al. 2018). Contemporary analyses of academic workforce characteristics reflect a changing topography of knowledge production with increasing

diversification of roles, shifting perspectives and career trajectories (Whitchurch, Locke, and Marini 2021). There is also an increasing disparity between traditional career scripts and academics' lived experience, which influences those who are being drawn towards the profession (Whitchurch, Locke, and Marini 2021). Whether we are looking at an individual or institutional level, it is changes of this nature that we refer to when we talk about metricization.

The demarcation of roles has led to fissures in the academic environment with observed changes in the levels of collegiality within HE institutions. A wealth of literature positions collegiality and 'academic citizenship' as central to a university, while at the same time noting the fragility of these ideals in contemporary academic contexts (Tapper and Palfreyman 2002). The increasing levels of individualism in HE are associated with decreasing levels of collegiality (Blackmore 2015; Brew et al. 2018; Locke and Bennion 2011) the origins of which are often attributed to the increasing metricization as the cause (Grealy and Laurie 2017; Harley 2002). Sociological analyses highlight the powerful effects of these public measures on organisational realities, shaping policy and individual practice (Espeland and Sauder 2007; Lenger 2018). Empirical studies highlight how socio-demographic factors such as career stage, role profile and tenure status (Smith 2017; Blackmore 2015) can influence the scope for individuals to respond. Focusing on one of those factors, length of time in profession, Tight (2014) highlights the dynamics created by sectoral expansion and generational shifts resulting in a new cohort of academics who have only known the metricised environment. Smith (2017) points out that metrics figure prominently in performance monitoring mechanisms primarily directed at early career academics. Therefore, the manner and extent to which one experiences the effects of metrics may be influenced by where you encountered them in your career (Tight 2014). For the early-career academics, metrics are integral to their experience of academia and thus might be taken as just another part of academic experience. In line with this, Locke and Bennion (2011) suggest that there will be those in the academic community who accept and even approve the use of metrics, seeing metrics as offering clarity and transparency and counteracting potential biases in the system such as favouritism.

Based on studies such as these, we understand that considerable individual differences exist amongst academics in how they respond to metrics, resulting from differing viewpoints on these metrics-based evaluations and the value these offer/or not to them. However, there are sufficient commonalities among the individual responses to hint at potential groupings or shared orientations rather than complete heterogeneity (Smith 2017; Tight 2014; O'Connell, O'Siochru, and Rao 2021). Therefore, taking England as a case study, this study seeks empirical evidence of groupings or orientations in the way that academics in England negotiate or accommodate their professional practices and priorities in response to contemporary teaching and research metrics-based evaluation systems. This, in turn, may enable us to understand the parameters of individual tolerance within which academics can operate in a metricised environment and the factors which produce irreconcilable tensions with an individual's professional practice (or orientation).

A better understanding of groupings and orientations in academics responses to metrics may also highlight the potential need for HEIs to consider more bespoke and inclusive approaches to accountability practices, so that potential adverse effects on academic autonomy and professionalism might be mitigated. Such an accommodation in institutional policies could help produce a more engaged workforce leading to better outcomes for individuals and institutions. Whilst the focus here is on England, the outcomes of our research will be of value in understanding academic responses to metrics in other contexts, as the influence of metrics becomes increasingly pervasive internationally.

Method

The design employed a mixed-methods design, which included a survey and a semi-structured interview. Online survey responses from 191 English academics based within departments of Education (i.e. Education Studies, Early Childhood and SEN) and Economics were obtained. The survey was followed up with interviews with 30 of those academics who volunteered. Surveys were distributed via

Table 1. Percentage of participants in each response category for various demographics.

Gender (identified)	Male	Female				
%	52	48				
Grade	**Post-Doc**	**Lecturer**	**Senior Lecturer**	**Associate Prof**	**Prof**	**Missing**
%	6	23	28	9	23	11
Years of Teaching Experience	**<5**	**5–9**	**10–14**	**14–19**	**19<**	**Missing**
%	17	23	14	14	29	3
Years of Research Experience	**<5**	**5–9**	**10–14**	**14–19**	**19<**	**Missing**
%	20	20	17.5	12	30	0.5
Professional Preference	**Teaching**	**Research**	**Both**	**Missing**		
%	28	14	52	6		

email to approximately 1600 academic staff which yielded a response rate of 11.9%. The demographic details of the participants are presented in Table 1(for further details on selection of participants refer to O'Connell, O'Siochru, and Rao 2021).

The information sheet included in the survey ensured informed consent, participants' awareness of their right to withdraw and provided contact details. Those that wished to participate were directed to an online survey, with follow up interviews with those who expressed willingness to participate in such interviews (for further details on this procedure refer to O'Connell, O'Siochru, and Rao 2021).

The participants included academics from a range of positions ranging from lower level positions (postdoc / lecturer) who are often tasked with the majority of the teaching, through mid-level positions (senior lecturer / associate professor) who combine teaching and research with course leadership, up to senior positions (professor) who focus more on research and managing the department. While these positions and associated roles can be found in most departments in England, variations occur across departments and institutions. We focused on the academics in Education and Economics for a variety of reasons. Both subjects fall within the social sciences, tend to be multi-disciplinary but do not have structured research groupings commonplace in Science and Engineering. Consequently, research in these subjects is often directed by individual academics based on personal priorities. However, while Economics can be regarded as at the forefront of a metrics movement, as metrics-based rankings are commonly accepted in this discipline as markers of status, Education, on the other hand, relies heavily on standards of the teaching profession which often resist quantified comparisons. Consequently, it was hoped the inclusion of these two subjects would enable us to capture a variety of responses to both teaching and research metrics.

The quantitative elements of the survey were used to identify any groupings among the participants based on their attitudes towards the TEF and REF, while the qualitative elements in the survey and interviews were used to explore the academic identity of the groups thus identified. All of the survey items measuring attitudes were developed through a focus group of academics who used a sorting activity to identify a wide range of attitude statements. The first section of the survey captured the demographic data of the participants including gender, professional role/grade, years of teaching and research experience. The two open ended questions in this section invited participants to relate the impact of teaching and research metrics on their practice. The second section consisted of two subsections measuring attitudes towards the teaching and research metrics with 11 attitude items relating to the REF and 10 attitude items relating to the TEF. Participants indicated their level of agreement with each item using a 5-point Likert scale. The responses to the individual items were summed to produce two total scores representing 'attitude to REF' and 'attitude to TEF' respectively. Producing totals in this way captures the multi-faceted nature of each attitude while simultaneously producing a manageable number of scores for inclusion in the planned analysis.

Results

The data collected was a combination of quantitative data on demographic details, attitudes to teaching metrics and attitudes to research metrics, as well as qualitative data from open ended

questions from the survey coupled with interview responses. A Cronbach's Alpha reliability analysis showed good reliability scores for both total measures of attitudes (Attitude to REF = 0.903, Attitude to TEF = 0.896), demonstrating that the group of items used in each measure were measuring a single underlying attitude construct.

The first aim of the analysis was to establish if there were any groupings among the academics based on their responses to the metrics. To this end, a hierarchical cluster analysis was conducted as this analysis allows us to study the participants' total attitude scores towards REF and TEF to determine if the participants' responses identified any underlying groups within our sample. The analysis was carried out using SPSS, utilising squared Euclidean distance and the Ward algorithm, as these were best suited to our data type and sample size. A range of cluster solutions were run and, following a review of the outputs by three reviewers, the three cluster solution was agreed as the best match for both the data and our theoretical model. As a precaution, we also checked the analysis for the two subjects separately and found that similar clusters emerged. The results identified three distinctive response orientations to the metrics. The appropriate cluster solution obtained was based on parsimony and significant differences between the cluster groups. The mean scores for each cluster on the two variables used are displayed in Table 2.

Using the results of the cluster analysis a new variable was created, 'metrics orientation', indicating which cluster each participant belonged to and thus creating three groups. The first cluster was the most positive, having the lowest means indicating the most positive attitudes towards both metrics. The second cluster presented mixed views, having a positive view of the REF but a much less positive view of the TEF. The third cluster was the most negative, having negative views toward both metrics.

Following the survey, we conducted interviews with 24 individuals who represented the three clusters, so as to learn more about the perspectives of the academics found in each group. Both the open-ended survey responses and interview transcripts were coded via thematic analysis to explore general attitudes towards the metrics frameworks, specific organisational experiences and perceived impact on professional practices. The findings from the thematic analysis were consistent with the findings of the cluster analysis and enabled fuller characterisations of the three clusters to be developed. The three groups with the three types of orientations towards metrics that emerged from the thematic analysis were labelled as 'true-believers', 'pragmatics' and 'alienated'. A more detailed discussion of individuals adopting these three orientations can be found below. The quotes included below are a mixture of survey and interview responses.

Cluster 1 – 'True-believers'

The smallest of the three groups, academics in this cluster are predominantly in the early stages of their career. In the interviews and open questions, members of this group emphasise the positive impacts of metrics-based evaluation on their professional practices and suggest a balanced approach to metrics at institutional level.

> I aim to do quality research and writing anyway. It's encouraged and supported me to focus on what it means to write well [..] As with REF I don't experience it as a stick to beat me with …

Overall, members of this group have a positive orientation towards metrics and associate them with improvements in both research quality and institutional support infrastructures. They accommodate metrics as an integral part of their conception of the identity of a professional academic and acknowledge a degree of legitimacy of the role of metrics. Therefore, they offer very few examples

Table 2. Mean score on attitude toward REF and attitude toward TEF per cluster.

Cluster	Attitude to REF	Attitude to TEF
1	32.03	27.74
2	33.68	38.51
3	45.77	45.05

where metrics have required them to change their practice in any adverse ways. Further, they even positively evaluate some elements of the metrics that are widely seen as negatives by others.

> It's made me highly aware of the admin tasks that need to be performed; I envisage more box ticking … will be a useful recruitment tool if results are good. [A] … way of advertising our capabilities.

Respondents also convey a degree of alignment between individual and institutional goals.

> It will provide a focus on improving teaching practice which is my primary focus.

> There is more of a strategic feel to how some research gets supported (not what research gets done).

From this perspective, metrics are not something to be endured but central to their career development. We see this reflected in their other responses, on how metrics help balance against complacency and favouritism.

> Consideration of potential for impact. Identification of some valid concerns raised by students (such as quality, speed of feedback).

Thus, this group views metrics as necessary to ensure one of the qualities attributed to many professional groups, namely maintaining national standards which ensure high levels of skill and expertise.

Cluster 2 – 'Pragmatics'

The largest of our three groups, membership of this cluster is comprised predominantly of mid-career academics. Their responses indicate a pragmatic approach to metrics, seeing metrics as a mixed bag of positives and negatives but nonetheless an arrangement they can accept and work with. It is interesting to note that the two systems of metrics, research and teaching, are compatible with their conception of the academic identity to a very different extent. The research metrics are somewhat compatible with their conception of the academic identity in terms of ensuring appropriately high standards of quality in academic output. By contrast, they see teaching metrics are much less compatible with their conception of the academic identity; with an erosion of academic autonomy and, in some cases, an inversion of the academic hierarchy.

> The university I work for is scared of pushing back against the students and trusting that we (trained, qualified teachers and lecturers) know what environments and assessments to create that challenge, encourage and stretch students. It is humiliating at times.

Despite these strong reservations, the overall response of the group to the metrics is pragmatic, demonstrating a willingness to 'make do' and compromise in relation to the requirements of the system. This pragmatic orientation is reflected in respondents' preparedness to reprioritise professional practices (particularly in research) so long as they can expect to have some agency in defining the degree of reprioritization. For example, the following participant revealed that a journal's impact factor might become one factor influencing where they publish.

> I marginally change the journals that I target in accord with the weights placed by REF.

From their perspective, there are some sectoral benefits associated with the metrics, such as achieving greater parity between teaching and research, enhancing stakeholder accountability, and reducing favouritism.

> Reduces arbitrary, politicised assessment by powerful individuals and cliques within the institution. Helps identify nationally and internationally important areas of excellence within institutions that would otherwise be dismissed or ignored.

> The department takes REF seriously which is a good motivation.

> The prompts and discussions regarding the REF keep the research element of the role on the agenda. Hopefully we can keep a balance.

That being said, members of this group do not view metrics as inherently 'good' in the way the 'true-believers' group do. Instead, they recognise some context-sensitivity in the way metrics are applied at the institutional level. This suggests that, to members of this group, the benefits and challenges relating to the metrics are highly dependent on the institutional response to metrics and its implementation.

> We have an internal simulation of the REF, plus an active research group and mentoring process … This encourages me to pursue slightly different topics and publication approaches.

> [Concerns regarding the TEF] Nature of TEF and the metrics used, rather than my institution's response (which has been practical).

> Those who prioritise research and publications at expense of teaching are rewarded.

Thus, they see metrics as part of the price-of-doing-business in academia. The trade-offs between institutional and individual priorities required by the metrics are a price they are willing to pay and the demands of metrics can be accommodated or resisted without significant sanction or personal cost. However, for some in this group their pragmatism is driven by wider considerations and what they see as the precariousness of a contemporary academic career.

> It's not actually my current response to REF that influences me … as the knowledge that to become employable … /again, it's not the response of any one institution.

> Career-wise, it's better if I get the teaching experience because academic lecture-ship is more of a permanent post. It does distract me from research.

Cluster 3 – 'Alienated'

The third group was similar in size and composition to the 'pragmatics', in the sense that academics in this cluster were largely mid-career academics. However, in contrast to the other groups, the members of this group made it clear in their responses that they viewed metrics as entirely incompatible with their professional priorities. From their viewpoint, metrics undermine academic standards of skill and expertise by forcing activities which either contribute little to ensuring these qualities or, worse still, prevent the pursuit of improvement by requiring wasteful performative activities.

We apply the 'alienated' descriptor to this group, with this alienation expressed both in terms of threats to their independence and adverse impacts on interdependence within the academic community.

> I'm increasingly drawn to difficult topics that are not fundable and which make me unpopular in the dept [department]/int [institution] as I don't play the funding game.

> I expect that my institution's response to TEF will further limit my ability to enhance my teaching by reducing my autonomy further.

The 'funding game' mentioned in the first quote refers to the fact that a positive evaluation in the REF will earn that HE institution a larger portion of state funding for research.

Academics within this group also identified the adverse impact on academic collaboration within the university.

> It has made me more concerned about whether I will lose out to others if I collaborate instead of doing solo projects or only with those outside the university.

In addition to the negative issues inherent to metrics, the members of this group also see metrics as producing negative policies in their institution. As such, while they are already opposed to metrics in principle, their opposition is exacerbated by institutional practices seen as responses to the demands of these metrics, in particular practices which are perceived to be primarily performative or surveilling in nature.

> The main response of my institution seems to be in relation to increasing form filling and reporting. Research time provision is inadequate.

> The increased reporting and reduced academic freedom in research are clearly visible outcomes of my institution's attempts to manage their REF response.

> More focused on doing things which relate to the metrics rather than the activities which improve the student experience.

Furthermore, metrics are seen to have had a negative impact on their professional identity within their institution. This includes enforced role specialisation and categorisation of staff in ways that produce discriminatory practices in institutional resource allocation.

> Only a select few are given hours to do research. Everyone else is expected to ignore their family and do it in their own time.

> Much narrower group of staff (the 'Reffables') able to obtain funding to attend conferences. All research activity is driven by REF criteria.

From the perspective of this group, the consequence of these changes in policy and identity is that academics are having to reprioritise research and teaching practices in ways that are disempowering and demotivating.

> The official policy of my department is to rely solely on the [..] journal list. I am forced to send my papers to journals according to this 'ranking'.

> The voices of a couple of students can displace the collective wisdom of entire teams of academics.

The 'journal list' mentioned in this first quote refers to a practice in some departments to list journals based on their impact factors.

Finally, they perceive fewer possibilities to shield themselves from the onerous effects of metrics. Various trade-offs and non-compliance strategies are described but these come at a high cost in personal and professional terms.

> I'm told that all non-REFable research is worthless [..]I have vowed not to let this influence my research, so I continue, but it will no doubt affect my career prospects.

> I expect to be 'culled' soon.

Discussion

The aim of the current study was to seek empirical evidence of the distinct groupings or orientations in the way that academics in England negotiate or accommodate their professional practices and priorities in response to teaching and research metrics. Results of our cluster analysis identified three distinct response orientations among the academics with respect to their attitudes towards both research and teaching metrics.

In group 1, which we identified as 'true-believers', members recognise the value of metrics in improving both research quality and institutional support infrastructures. Having accommodated metrics as an integral part of their conception of the identity of a professional academic, they acknowledge metrics as having a legitimate role in maintaining national standards of skill and expertise in academia. In group 2, which we identified as 'pragmatics', metrics are seen as a mixed blessing but an acceptable one. For this group, research metrics are more compatible with their conception of the academic identity than teaching metrics. Furthermore, if offered some autonomy and agency, they are willing to negotiate and adjust their professional practices to meet the demands placed by the various metrics. In group 3, which we identified as 'alienated', metrics are considered to be entirely incompatible with their conception of the identity of a professional academic. They view metrics as threatening their academic autonomy, negatively impacting collegiality and academic identity; resulting in their non-compliance with a high cost in both personal and professional terms.

Consequently, our findings concur with those of Henkel (2005), in emphasising the value of academic autonomy considering its influence in shaping academic identity (both individual and collective identity). In the empirical analysis, we see varying emphasis on those who prioritise individual freedom in setting individual work parameters and those who perceive academic freedoms through a more collective lens. The pragmatics appear to take a more situated view of academic autonomy, highlighting the value and importance of process control. By contrast, the academic responses depicted in the alienated orientation reflect concern with violations of individual autonomy.

These results provide empirical evidence of the divergent reactions of academics to metrics and establish a clear relationship between their views on the metrics and their conception of their academic identity within each of the different orientations. Further, this highlights that an individual's orientation toward the metrics, connected as it is to their self-concept as an academic, is likely to be highly influential with regard to their behaviour.

Of the three orientations we are proposing, it is likely that membership of the 'alienated' orientation presents the greatest challenges for the academic themselves and those leading them. The term and the characterisation of group 3 as 'alienated' can be related to Durkheim's (1951) conception of a social pathology, whose key features are a combination of normative breakdown and social isolation. We can see examples of these two phenomena in the views of the 'alienated' group for whom 'playing the game' of the metrics represents a weakening or redefining of the norms of academia and can lead to an increase in egoism and social isolation (or in the academic world professional isolation). They see metrics as producing the key components of an unhealthy research environment: academics no longer collaborating out of a sense of collegiality but only for mutual gain, others eschewing collaboration completely in the pursuit of personal advancement, and the purpose of research being career advancement rather than the pursuit of truth (Lenger, 2018). Research on similar examples of alienation among secondary-level educators (Martinez, Valdez, and Cariaga 2016) suggests that an individual from the 'alienated' group will feel alienated from their institution if they perceive that their institutions' norms have changed and are no longer aligned to their personal values. Thus, members of the 'alienated' group may be in a vicious circle where they are unwilling to engage with a system they perceive to be at odds with their values; and yet, they are also aware that their lack of engagement will result in a lower status in the group, potentially exacerbating their alienation and increasing the perceived injustice inherent in the system.

However, there may be opportunities to break out of such a 'cycle'. Many of the objections to the metrics mentioned by our participants were as much about the institutional response to the metrics as anything inherent to the metrics themselves. This presents a potential opportunity to reduce the sense of alienation reflected in the 'alienated' orientation through a more inclusive managerial approach when forming an organisation's response to the metrics. For example, Dixon and Pilkington (2017) argue that the parameters of the TEF allow for HE institutions and individual teaching academics to have an input in formulating what Dixon and Pilkington term the 'discourse of excellence'. They advocate for managers to involve all stakeholders in the process of defining excellence, and caution against silencing academic voices through excessive quantification. This approach to leadership echoes Reicher, Haslam and Platow's (2007) view that effective leadership taps into the connection the followers have with the group; therefore, where there is a need to change or challenge the central norms or values of the group, this is done collaboratively through discussion. Although some elements of the metrics processes are determined externally to the institution, the potential for meaningful collaboration within an HE institution should not be underestimated. The value of such joint deliberation in the determination of the antecedents (i.e. instructions, clarifying work) for a process of evaluation was noted by Komaki (1986). The importance of being offered a say in the process should not be seen as limited to rebuilding confidence in the metrics among the 'alienated' alone. We found that having an input was also an important element in determining the willingness of the 'pragmatics' to reprioritise their professional practices.

Finally, it is important to acknowledge the transient aspect to academic identities which can change with space (i.e. the institutional context) and time. There is an element of fluidity to these orientations, they do not describe essentialist orientations, but, rather, reactions to organisational and sectoral practices. Therefore, an individual's response to metrics can change with time or with change in their own circumstances, or that of their institutions (such as a change in institutional governance) or a change in the demands of the metrics themselves. Indeed, the manner and reasons by which these academics end up in these categories is a question worthy of further study.

Conclusion

Our study has offered empirical evidence of the orientations in academics' response to metrics and the links between those orientations and the academics' professional identity and practices. As such, our findings indicate that institutional responses to the metrics can be a critical factor in shaping or reinforcing staff response orientations and consequently their job satisfaction. Therefore, recognition of these orientations is not only of interest to academics and their unions, but is important from a social justice perspective for both staff and their students. Whilst being mindful of the limited agency institutions have within these metrics driven environments, only when institutional strategies speak to all of these academic identities and values can institutions have an engaged workforce who feel valued for their talents. Such an approach can lead to better educational and research quality (consequently improving student experience), can deal with work inefficiency, improve work environment and more broadly improve academics' work life.

Future research may wish to add depth to our understanding of attitudes towards the REF or TEF through the use of factor analysis, identifying specific elements within the overall attitude which vary relative to the total. Additionally, a wider selection of disciplines could be studied to see if any other orientations emerge. Of course, the metrics themselves are not above reproach. As such there is also a need for HE academics to continue advocating reform to both research and teaching metrics and consider ways they use their agency in altering how they engage with these metrics. For example, collegiality and the formation of communities of practice can be highly effective ways to counter a sense of alienation among educators (Martinez, Valdez, and Cariaga 2016). This relationship between, metrics, alienation, collegiality and academic citizenship is another topic worthy of further study. In the meantime, we would advocate for any elements of the metrics that incentivize cooperation within institutions and argue that the value added by communities of practice deserves more recognition. Ultimately, the goal should be to evolve the system of metrics to the point where academics can achieve their potential in a manner that is fruitful and inclusive of a variety of academic identities, orientations and talents.

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