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## Early career academics and evaluative metrics: Ambivalence, resistance and strategies

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### **Abstract**

Measures of research productivity and quality are key components of academic life, and a successful academic career is heavily dependent on meeting quantified performance standards. For many years citation-based measures like the Impact Factor dominated the metrics landscape, but in the last two decades a swathe of new evaluation tools have emerged, including the h-index, ranked journal lists, and altmetrics. While the effectiveness of these metrics is debatable across many disciplines, their use in the social sciences and humanities has attracted most criticism. This chapter is concerned with how early career academics are using and responding to evaluative metrics; their strategies and ambitions for the future, and their perceptions of how evaluative metrics influence their work. In-depth interviews with Australian academics in the social sciences and humanities allowed us to explore these questions and we are particularly interested in how competing ‘orders of worth’ come to the fore in these accounts, and how researchers negotiate rivalling demands and expectations. Drawing on Brandtner’s concept of ‘evaluative landscapes’, we suggest that metrics and indicators can be seen as signposts which are used to assess achievement and to navigate a pathway to an ‘idealised sense of self’.

### **Introduction**

The reputation-based economy in which scholars compete for positions, grants and visibility is not unique to the present day, and neither are discussions and complaints about a ‘publish or perish’ culture in academia. In fact, the tradition of researchers being compared and ranked based on their writings, as well as the principle of focusing on publications as a key merit can be traced back to the origins of the modern university in 18<sup>th</sup> century Germany (Josephson, 2014). Since then the primary method of valuing research outputs has been peer review in various forms. However, it seems that the proliferation of measures and indicators of research impact in recent years marks, if not a completely different evaluative landscape, at least a remarkable intensification of measuring and counting in that landscape.

This intensification of measurement is visible both in the manifold of indicators, services and products that provide metrics and data on research outputs, and on the many levels – from country comparisons to individual level bibliometrics – that these indicators and evaluation systems are used. From being a rather specialised and obscure activity, which was largely dependent on a few data sources (mainly the citation databases provided by ISI, now *Clarivate Analytics*), we now have a situation

where many actors compete in providing a vast array of more traditional citation-based indicators as well as new, alternative, ways of measuring (altmetrics). Paired with growing demands for accountability and evaluation across society (Dahler-Larsen, 2011; Power, 1997) this has led to increased reliance on metrics across all levels of academia. It can be seen at a macro level of highly visible university rankings and country comparisons that influence research policy and strategies, to a meso-level where institutions allocate resources based on performance measures, to individual (micro) use of metrics when hiring or applying for funds. Increasingly the ‘quantification’ of research is also instigated by researchers themselves when monitoring their own performance through Google Scholar or by creating profiles in services such as *ResearchGate* and *Academia.edu* (Hammarfelt, de Rijcke & Rushforth, 2016).

The increasing use of bibliometric measures and indicators, described as a metric tide (Wouters et al., 2015), has prompted further interest in the possible effects that these measures might have on research and researchers. Starting with Linda Butlers’ (2003) landmark study of the Australian research evaluation system, which suggested an increase in the number of publication but not in ‘impact’, we have seen a range of studies trying to distinguish distinct effects. While it has been difficult to pinpoint direct effects of specific systems (for an in-depth discussion on the difficulties of studying effects see the special issue of *Journal of Informetrics* [Waltman, 2017]), it is evident that metrics and indicators have an influence on practices and decisions on a range of levels (de Rijcke, Wouters, Rushforth, Franssen & Hammarfelt, 2016). One reason as to why it is challenging to isolate specific effects is that indicators and evaluation systems operate in a complex evaluative landscape (Brandtner, 2017) in which assemblages of measures and values interact. Moreover, depending on an institution’s, or an individual’s, position in the evaluative landscape the reaction to performance measurement is likely to take different forms. For example, an esteemed and already highly ranked university may respond differently to ranking lists compared to less well-known institutions. Similarly, the reaction of a tenured professor to the demands of evaluation systems and metrification will differ to that of a young researcher without secure employment.

Hence, the rather complex and multifaceted landscape of evaluation in academia suggest that a fruitful approach to investigate the consequences of metric use is to focus on specific groups and contexts rather than on effects of the research system as a whole. One such group, which we deem as particularly interesting to study, is ‘early career researchers’ as these have been identified as especially perceptive to outside pressures (Hammarfelt & de Rijcke, 2015; Herschberg, Benschop & Brink, 2018). The questions we seek to answer is how early career researchers use, and respond to, evaluation systems and indicators, and how such interactions inform strategies and ambitions for the future. The influence of evaluation systems and bibliometric indicators on the work practices and strategies of young researchers has been discussed in previous research (Müller & de Rijcke, 2017). While we are inspired by these accounts, our work adds a further dimension by focusing on a set of fields, the social sciences and humanities (SSH), which has attracted less attention, and where both the concept of ‘early career academics’ and the evaluative landscape is shaped quite differently compared to STEM fields.

The study draws on in-depth interviews with Australian academics in the social sciences and humanities. We are particularly interested in how competing ‘orders of worth’ (Boltanski & Thévenot, 2006) come to the fore in these accounts, and how researchers negotiate rivaling demands and expectations. In contextualising our findings we also relate to a broader literature on early career researchers and the consequences that ‘narrow regimes of worth’ might have on the epistemological and social organisation of research (Fochler, Felt & Müller, 2016).

The chapter is organised as follows: first, a background section provides an introduction to research on early career researchers, metrics use and the wider evaluative landscape. In this section we also describe the material we have used, and the context, SSH in Australia, from which the data were gathered. The findings are then presented thematically in four sections – ambivalences, resistances, strategies and identities – which represent different, but not mutually exclusive, ways of approaching indicators and evaluation systems found in our material. Ambivalence about indicator use occurs across disciplines and academic career stages (Wouters, 2014), but resistance and identity are themes that are connected more directly with young academics (Archer, 2008; Clegg, 2008; Malsch & Tessier, 2015; Obaldiston et al., 2016). The strategies theme was explored to illustrate how this younger cohort is actively engaging with the evaluation landscape. Finally, we present some concluding thoughts on how different values are negotiated within a complex ecology of measures and indicators, and we also discuss our findings in relation to a broader evaluative landscape.

## **Background**

### *Early career academics*

Early career researchers (ECRs) – generally referring to researchers in a transition phase from newly minted PhDs to senior positions and stable employment – form a group that has recently been of great interest in relation to research policy and higher education. There is no agreed upon definition for what constitutes an ‘early career researcher’, but the label is generally applied to researchers who have finished their doctoral dissertation (PhD students are not included). To delimit when researchers leave this early phase is more difficult, and to a large degree this is dependent on possibilities of more stable employment and funding. Thus, the length of this period may be longer or shorter depending on the research field in question and national context. For example, the potential for securing a permanent contract (tenure) is significantly higher in England where 86% of staff have permanent contracts than in Germany where only 30% of staff are permanent (Wöhler, 2014). Sometimes the ‘early career’ period can be as long as nine years (Hakala, 2009, p. 179), while others draw a line at five years after a PhD is completed (Petersen, 2011, p. 35). As our study concerns a range of fields we opted for a fairly generous definition by setting the limit to seven years after receiving the PhD. In relation to the terminology we use, it is important to acknowledge that ‘early career researchers’ is a concept that is often used to describe the natural and medical sciences. In these fields the notion is closely connected to a ‘postdoctoral phase’ and even if such positions are becoming more common in the social sciences and humanities they are still not a mandatory step in a research career. In fact, many young academics in SSH are heavily involved in teaching after receiving their PhDs, and their situation is rather different from a

postdoc that spends most of their time on research. Thus, we suggest that ‘early career academics’ (ECA) might be a more accurate label when the concept is used in SSH.

Topics such as the precarity of early career academics (Enright & Facer, 2017), issues of gender discrimination (White, 2004) and mental health problems (Signoret et al., 2018) are among the issues that have been explored by researchers interested in ECAs. Furthermore, as argued by Fochler and colleagues (2016, p. 177), young researchers are an interesting group to study as they are strongly affected by competition and changes in how research is evaluated. This focus on young researchers also opens the possibility for studying how these scholars are socialised into a specific academic culture.

For Archer (2008) these young academics are caught in an ‘audit culture’ in which they are positioned as ‘neoliberal’ subjects, and as one of her respondents comments: ‘You can’t argue against a lot of the audit culture’ (Archer, 2008, p. 282). Still, young academics are able to formulate critique and resistance, while at the same time reflect on their own role and identities. The imagined ‘future self’ becomes a key for understanding how young academics orient themselves in a complex and competitive environment (Osaldiston et al. 2016). Metrics in the form of publications, citations, and grants become important in guiding scholars towards a future idealised self. The ‘quantified academic self’, which is perhaps most evidently manifested on platforms such as ResearchGate, is then increasingly important for the formation of academic identity (Hammarfelt et al., 2016). Metrics also becomes a way of mitigating risk and uncertainty, and as argued by Cannizzo (2018) the decision to place the responsibility of handling risk on the individual rather than the institution is a deliberate strategy. Young academics, without permanent contracts, are the ones who most evidently feel the pressure of managing the uncertainty of career prospects and employment. Consequently, many accounts given by early career researchers are not so much about hopes of a bright future, but concerns about failure and exclusion.

#### *Mind the gap: SSH and rivalling orders of worth*

‘The evaluation gap’ is a concept introduced by Paul Wouters (2017) and it describes a situation of mismatch between evaluation tools (for example bibliometric indicators) and notions of what constitutes quality by those who are evaluated. For most social science and humanities fields the ‘gap’ between what metrics such as citations or journal impact factors measure and what actually is valued within the field is wide (Haddow & Hammarfelt, n.d.; Hammarfelt & Haddow, 2018). Reasons for this mismatch is partly due to inadequate database coverage resulting from more diverse publication practices in many SSH disciplines (Hicks, 2004), but epistemological factors are important to consider as well.

On a more general level the inadequacy of bibliometrics to capture and reflect research quality in the humanities can be discussed in term of rivalling ‘orders of worth’ (Hammarfelt & Haddow, 2018). Building on Boltanski and Thévenot’s distinction between different ‘orders of worth’ it becomes evident that the ‘evaluation gap’ is, in part, attributable to a clash between rivalling value systems. Following their conceptual framework, bibliometric indicators and various journal rankings foremost relate to ‘industry’ and the ‘market’ where statistics, global circulation and competition are central manifestations. The order of worth which characterises the ‘world of industry’ is described through words such as ‘performance’, ‘efficiency’

and ‘productivity’. Thus, the mere concept of ‘performance measures’ signals the type of worth that is at stake when such indicators are introduced. The main objective is to promote the productive ‘man of action’ and foil the inactive and wasteful (Boltanski & Thévenot, 2006, p. 204f). The evaluative gaze is here directed towards the future, and what has worked traditionally is of little importance. If the key concept of the world of industry is performance, then the most distinctive notion in the realm of the ‘market’ is competition. In this logic, nations, universities and scholars compete in a ‘marketplace of ideas’, which has global reach. While it might be debated whether researchers, especially in SSH, really compete on a universal market the possibility of such competition (and comparison) is assumed when universities, journals and even scholars are globally ranked and compared.

Although the kind of worth expressed in the worlds of ‘industry’ and ‘the market’ clearly has an influence in SSH disciplines these fields draw on additional ‘orders of worth’ originating in spheres of the ‘inspired’ (singularity and creativity) and ‘the domestic’ (local and authority). ‘The inspired world’ is in many ways a shielded one, where outsiders have little say and where few measures and general rules exist. What is valued here, and this is also the reason why bibliometric measures are seldom applicable in research fields associated with ‘the inspired world’, is uniqueness and originality. The relative independence in relation to other orders of worth makes this kind of value system fragile and somewhat unstable, and the inspired world constantly needs to ‘confront the paradox of a worth that eludes measure’ (Boltanski & Thévenot, 2006, p. 159).

The domestic world reflects the importance of the local, and traditions, for assigning worth. Authority and seniority are important as ‘hierarchical superiors supply the worth of inferiors and define their identity’ (Boltanski & Thévenot, 2006, p. 171). This system of assigning worth is well recognised in the academic system more generally, and it is especially notable in the manner in which the traditional university has been organised. What makes the domestic sphere more relevant to SSH disciplines compared to their colleagues in STEM is the more local orientation of research and teaching which elevates the importance of a confined elite.

Tensions between ‘orders of worth’ vary considerably between fields in SSH, and scholars in a largely internationally oriented field like economics might experience these tensions less than those in more nationally oriented fields such as literature or history. Here it is important to acknowledge that the individual researchers interviewed in this study are positioned in an ‘evaluative landscape’ in which bibliometric indicators are joined by many other evaluation practices. In the same way as Brandtner (2017) suggests that evaluative landscapes, rather than single evaluative practice, should be in focus when studying organisation responses, we propose that a broader plurality of evaluative practices must be considered when studying responses to and effects of bibliometric measures. The full plurality of evaluation practices of SSH research in Australia cannot be captured in this study alone, and our ambition is not to map a complete landscape. Rather the purpose of incorporating the concept of evaluative landscapes is to show how bibliometric measures and indicators come to interact and compete with other types of evaluative practices. In this study we zoom in on one particular component of a wider evaluative landscape, and by necessity this means that other, possibly important aspects, remain uncharted.

### *Methodology*

Our data were drawn from interviews with Australian SSH scholars, conducted in early 2017. These followed a widely distributed online survey in Australia and Sweden (Haddow & Hammarfelt, n.d.; Hammarfelt & Haddow, 2018), in which Australian scholars were asked to indicate their willingness to participate further in the study. Of the scholars who were interviewed (51 in total), ten met our criteria for ECA status. The time since being awarded their PhD ranged from 1.5 to 7 years and most scholars (six) were in lecturer positions. An equal number of male and female participants comprised the ECA group, and their research areas spanned the SSH spectrum; literary studies, anthropology, sociology, education, linguistics, communication, law and workplace safety. Their employing universities are representative of the different types of institutions in the Australian higher education sector.

The interviews explored two main topics: the influence of research evaluation (at any level – institutional, national or international) on publishing and/or creative practice activities; and opinions about evaluative metrics and their relevance to the scholars' research fields. An unstructured approach was taken to allow participants to discuss their thoughts on each topic, with occasional prompts from the researcher (Haddow). Each interview was recorded and subsequently transcribed, providing rich descriptive data for analysis.

NVivo, the qualitative analysis software tool, was used to code the data. The data were initially coded into broad categories, such as 'publishing practices', 'evaluative metrics' and 'research culture'. Sub-categories that captured specific aspects of the topic, for example 'strategies', 'ranked journal lists', and 'identity and exposure', were then coded. Using the query function of NVivo, we exported sets of quotes by category and sub-category into document files. These data were subjected to repeated reading and identification of common threads to arrive at the themes discussed below. Direct quotes are used to illustrate the themes. The participant number and research field are noted against the longer quotes to provide context.

It is acknowledged that the act of qualitative data collection and analysis is not an objective process. Our interpretation is bound by the interview discussion, in which both interviewer and interviewee are influenced by their own constructed knowledge and understandings of the evaluation landscape. Similarly, we bring our existing knowledge and opinions to the interpretation of data, which has the potential to 'highlight' particular topics (Denzin & Lincoln, 2008). The themes we determined are situated in our perspectives of the evaluation landscape and would almost certainly differ from other interpretations. In addition, the themes share blurred and overlapping boundaries; illustrating, we believe, the complex and multifaceted nature of the evaluation landscape in which the ECAs are working.

### **Findings**

In the following section, we discuss the responses of ECAs to evaluative metrics in their academic life. These responses relate very directly to the new researchers' identities as scholars and employees, and they reflect an environment in which competing 'orders of worth' (Boltanski & Thévenot, 2006; Hammarfelt & Haddow, 2018) are experienced. For some this is expressed as ambivalence and possibly

resistance, while others choose to ignore the expectations to be measured as per the status quo. However, quantification in academic work also results in playing ‘the games of academic politics’ (Malsch & Tessier, 2015, p. 85) and developing strategies to demonstrate alternative measures of worth. In the final part of the section we present the ECAs’ reflections on identity in relation to the use of evaluative metrics.

### *Ambivalences*

Ambivalent attitudes to the use of evaluative metrics as a performance and assessment measure is said to stem from ‘the interaction between individual and structural factors’ (Wouters, 2014, p. 57). While the use of metrics has the potential to challenge an individual scholar’s sense of worth at any stage in their career, the often-precarious circumstances of ECAs, with a focus on their future in a research field and academic employment, can intensify the importance of structural factors.

For ECAs to secure ongoing positions in academia they are likely to have to demonstrate research achievements according to criteria that include metrics of some kind. In Australia, ranked journal lists are frequently used, along with citations and Impact Factors. Promotion and grant applications also require scholars to attend to evaluative metrics as evidence of ‘quality’ research (Hammarfelt & Haddow, 2018). Illustrating an appreciation of these imperatives, but with a lack of conviction about their value, one young academic said ‘I’m not sure that I really am chasing the numbers, although I’m aware that that probably is a good career move to do that’ (P22: Education) and another commented: ‘I don’t feel like I can just ignore the various different measures that we’re given on those things’ (P5: Communication). Metrics for these young academics are reluctantly acknowledged as a facet of their work.

Researchers also interact with structural factors relating to their discipline, such as scholarly communication traditions and accepted research practices. Although research conventions differ across fields, many young academics in SSH have entered academia valuing books and book chapters, as well as creative works and practitioner-oriented research. For one ECA this is expressed as a ‘tension between what ... universities want compared to what people in their own particular disciplines need’ (P23: Education). ‘What universities want’ is often at odds with the norms of SSH research, and although the national research evaluation model includes books and other non-traditional outputs for assessment, it is journal articles that are the preferred publication for many institutions. (Hammarfelt & Haddow, 2018).

The ambivalence experienced by most of the Australian early career academics in SSH is not dissimilar to Malsch and Tessier’s (2015, p. 87) ‘identity fragmentation’ and ‘loyalty dilemma’, with the former being closely aligned with Boltanski and Thévenot’s (2006) competing ‘orders of worth’. In some cases, ECAs expressed some helplessness in the face of the evaluative landscape: ‘I feel like, while I can look for quality journals, there are also other factors that I have less influence over’ (P5: Communication). In others the competing ‘orders of worth’ extend into the realm of an ‘evaluation gap’ (Wouters, 2017). These ECAs question the appropriateness of some metrics, or indeed metrics in any form, and regard them as inadequate and

potentially inequitable criteria for assessment in a research field. An ECA in the field of education made the point:

Those things [metrics], I think, have gained increasing weight in the system ... but as I say I'm very specific to the field of education because what I don't like seeing, which sometimes happens, is when the norms or the values of one discipline start to invade another. (P23: Communication)

Hence, evaluation criteria and metric use is very much dependent on disciplinary cultures, and the adoption of norms and values from other contexts might be experienced as an 'invasion'. To withstand the pressure of conforming to specific indicators or measures thus becomes an act of independence, and devising alternative criteria for assessment is part of being a sovereign and resourceful research field.

An important component of the Australian evaluation landscape is the use of ranked journal lists, and Australian scholars are acutely aware of them. This is, in part, a result of the introduction and then discarding of a list of ranked journals for the national research evaluation model, Excellence for Research in Australia (ERA). Its continued use, as well as the regularly updated Australian Business Deans Council (ABDC) ranked journal list, as a quality assessment tool is evident in our survey results (Hammarfelt & Haddow, 2018; Haddow & Hammarfelt, n.d.) and emerged as an issue of equity in the use of indicators. A comment by the 'earliest' of the ECAs interviewed illustrates this point:

people do compare academics, and there's all those h-scores, or different methods of rating academics, so is it actually a fair way to do it when you can't publish in journals that are highly rated because they just don't exist in your areas? (P37: Workplace safety)

A mismatch between institutional expectations and an ECA's disciplinary values was linked to the ranked journal list, in: 'frankly I only publish in it because it's got an A rating. I don't publish in it in order to influence either my peers or practitioners in my field. So we end up with I think some perverse incentives' (P42: Law). On the issue of metrics and academic work, another scholar remarked: 'I despair at an academy that is becoming more and more exclusive and not just metricised'. This ECA had earlier expressed their opinion of metrics and broader social influence:

It seems particularly hierarchical and power laden and problematic that the printed word, as reflected in metrics and exclusive to not very broadly read academic journals, as an exclusive measure, I think that that is very much a part of the policing of knowledge globally, and socially in our own society and I have a real problem with it. (P36: Anthropology)

In this quote we see how the use of metrics is related to a broader rhetoric of 'excellence' where attention is directed to top ranked journals, or institutions. The ranked list of journals is perhaps the most salient example in our material, but criteria such as 'being indexed in Web of Science' also denotes an exclusive set of journals that direct themselves foremost to an international and scholarly audience.

Whether related to institutional performance measures, disciplinary factors or broader notions of excellence, the use of evaluative metrics in social sciences and humanities fields has the potential to generate ambivalent attitudes. Individual ECAs respond to this experience in different ways, with resistance, either active or passive, being one.

### *Resistances*

Archer (2008) refers to the term ‘resistance’ in her discussion about how some scholars construct their academic identity in the neo-liberal academy. In a paper published in the same year, Clegg (2008 p. 340) noted that ‘covert resistance could co-exist alongside a strong sense of practising with integrity’. We use ‘resistance’ to represent the ECAs’ frustrations with an evaluation landscape and an instinct to challenge, criticise or work within that system in the recognition that metrics play into career considerations regardless of their worth..

The direct connection between ranked journal lists and preferred publishing channels in SSH, meant that some ECAs expressed their resistance to evaluative metrics as a facet of their publication practices: ‘Although my focus should be on A and A star in the ABDC I’ll also quite happily write for other journals that I think have impact in my area of research’ (P42: Law). The reference to reaching a particular audience was echoed by several ECAs. It indicates a tension between the channels that produce desirable outcomes in one evaluative landscape, such as a particular institution, and channels that may have longer-term disciplinary impact, and is clearly articulated in the comment:

I’m a little bit cynical of them, but I guess that is the system of which we work in. ... I guess you’ve got to play by the rules of that game, but for me, I’d rather publish in a journal where my peers and the people that I read, and the scholars, and the thinkers that I respect, they publish in that. To me, I’d rather 50 people that I rate read my work than 5,000 people. (P22: Education)

However, the sheer number of publishing channels and evaluative metrics available was also a source of frustration for one ECA, who commented: ‘five or six different platforms plus Academia.edu. I’ve just given up on those. I can’t continue monitoring those and doing publications for that’ (P31: Linguistics). The level of inherent bias (gender and nationality) in evaluative metrics was the basis for another young academic’s concerns: ‘there’s a lot of disparity built into publishing systems and all the metrics then have those disparities built into them too. So that’s one of the biggest reasons why I’m very sceptical about it’ (P36: Anthropology).

While resistance, frustration and scepticism was expressed by some, pragmatic attitudes towards evaluative metrics were also evident in the ECAs’ comments. Metrics are used because that is what is required – at the same time as being regarded as a poor indicator of research quality. The terms ‘cynical’ and ‘contrived’ were used by ECAs to describe their opinion of metrics, alongside a recognition that ‘those are the rules of the game’ (P31: Linguistics). We suggest this response to ‘playing the game’ to advance an academic career is a form of covert resistance for some ECAs, and is expressed clearly in:

My opinion about the quantitative measurable stuff is pretty low at a personal level, although I do take impact factors into consideration – and this is really

something that impacts on whether you get a promotion or not, or something that you have to place in an ARC grant application. (P32: Sociology)

The structural factors in the evaluation landscape, such as promotions and grants, are a means to reduce career uncertainty. However, these structures are driven by metrics that new academics have little power to influence and, in many cases, do not value. Individuals manifest their ambivalence and resistance to the evaluation landscape in different ways, often balancing their integrity as a scholar with ‘playing the game’. The ECAs’ responses demonstrate there are tensions relating to competing orders of worth, but these tensions also have the potential to generate creative strategies that embrace metrics in a range of forms.

### *Strategies*

In an evaluative landscape that values the ‘world of industry’, early career academics in SSH have developed a number of strategies to establish themselves and demonstrate their ‘worth’. For an ECA only two years post-PhD completion, the strategy involved developing a ‘résumé to get the ongoing job’ (P22: Education), which was not necessarily in the institution where they were currently employed. The role of evaluative metrics during this period is illustrated in the comments:

Early on the first few years out of my PhD I spent a lot of time on the ERA page researching journal names and figuring out which ones I should go for. I used that, too, to find a couple of A star journals. (P36: Anthropology)

In the first couple of years out of PhD I was pretty well 100% driven by these policy drivers and these institutional expectations and lists. I’m now probably 80% driven by them. Still primarily driven by them, but a bit more flexible. (P23: Education)

That flexibility appears to come with a foothold in the academy; so that ECAs with more years of experience feel they can risk a strategy that accommodates the ‘inspired’ and ‘domestic’ spheres of their academic identity. The quote above and the comment ‘my strategy has evolved via what I want to do personally, and also what I feel like I have to do instrumentally, from a university perspective’ (P32: Sociology) were made by ECAs with more than five years’ experience since their doctoral studies.

Impact Factors and ‘all sorts of other measures’ were regarded, by some, as another layer of knowledge that must be acquired to perform effectively in academia. That knowledge informs publishing decisions that align with the evaluation landscape’s criteria and many of the ECAs associated ‘significance in the world’, ‘Impact Factors’ and ERA journals with research rewards, often expressed as ‘points’. We suggest that competing orders of worth, combined with the manifold of evaluative metrics available results in creative strategies that incorporate measures in similar, but different forms. Scholarly communication networks, such as *Academia.edu* and *ResearchGate*, have provided an alternative to citation-based metrics, while still delivering the ‘numbers’ that are valued by management. Due to their potential for improving research visibility these alternative approaches are viewed as feeding into, as well as complementing, traditional evaluative metrics. Several ECAs talked about uploading publications to scholarly communication networks in order to ‘get more

citations', 'see views' and 'hits', and that these metrics might be used for promotion applications and other performance assessment activities. The alternative metrics are not immune from criticism, however, and the potential for 'gaming the system' and questionable correlation with quality was raised. Despite it all, the attraction of metrics – or the worth of metrics in the evaluation landscape – is palpable in the remark:

So I look at those metrics and I always get pleased when I get a good mark on one of those sites, you know. When they pick up another citation it makes me feel like, you know, tick, tick, tick, you know, keep going. (P36: Anthropology)

Clearly, the strategic use of metrics feeds into the general insecurity of an academic career (getting a job, embarking on a career), but it also thrives on a more general anxiety regarding the value of one's own work. Thus, scoring well in terms of metrics might for a young researcher suggest that they are on the right path, and that others value the work. Yet, as the quote above suggests, metrics can deliver a sense of reward; to check the scores might for many be an act associated more with joy and pleasure than anxiety.

Existing evaluative metrics are central to most of the strategies discussed above, but recent changes in the Australian evaluation landscape may enable the inspired and domestic spheres to emerge as alternative orders of worth. In the next section we explore these alternative strategies and the ECAs' thoughts on how worth might be demonstrated.

### *Engagements*

After a trial in 2017, the ERA 2018 is taking submissions on engagement and impact to assess research. This component of the ERA will run parallel to the research quality assessment model that has been in operation since 2012 (Australian Research Council, 2018). With a focus on research that contribute beyond the academy, this component of the ERA will run parallel to the quality assessment model that has been in operation since 2012 (Australian Research Council, 2018). While the outcomes are not yet known, the discussion around engagement and impact has generated interest in the possibilities of proving value outside the predominantly publication-based model.

The opportunity that impact might offer was discussed by a number of the ECAs, although metrics remained a feature in some cases. Reflecting our earlier discussion about ambivalences and research visibility, one ECA commented:

What's increasingly coming is you look at broader evidence of whether your message is being read by people so you're looking at Google Scholar or you're writing articles for The Conversation or public media. Again, it's not perfect, but you preference things that are visible. Things that are web-based that you can record the number of visits, the number of reads, etcetera, ... because it's measurable. Again, it's not correct and it's not fair, but it's measurable and therefore you can at least look at it. (P23: Education)

Indeed, the impact associated with reaching a wider audience was identified as a feature of this shift in the evaluation landscape and this had a liberating effect,

illustrated in an ECA's remark that they 'no longer hold as strongly to the fear that I have to focus on the really top prestige publications' (P36: Anthropology).

Although impact beyond academia is slowly being recognised in national research evaluation systems, institutions appear to be retaining a metrics focus, as an ECR involved in informing government policy noted:

significant impact that occurs from discussions either with people who are making formal submissions to influence and help their [government] thinking. ...It is hard to overstate how important that influence is and it's equally hard to actually convert it into some sort of metric that you can say this is the value of my research. ... Lots and lots of us do it all very quietly and get no recognition for it but it's not something we should stop doing just because there's no recognition. So research can have impact outside of journals, outside of questions about impact factor of journals or number of citations and I don't think we have mechanisms to collect that. (P42: Law)

The difficulty of 'converting' impact into a metric of some form is echoed in the comment: 'I think impact – I don't think you can ever measure it to be honest. But I think impact matters a lot more than citation numbers' (P36: Anthropology), and for an ECA who works with activists, impact 'comes in far more diffuse ways that aren't necessarily closely tied to the publication itself'. The impacts described, such as creating or being a catalyst for 'shifts with activist groups through my conversations and through my connections with them on a personal level' (P5: Communication), won't result in metrics like citations or tweets. Whether these are of value in demonstrating impact was queried by another ECA, whose School was encouraging 'other' publications to improve impact, in addition to peer reviewed articles. Their observation 'I'm still not perfectly convinced as to what the impact is. Broadly it's media impact' (P42: Law), describes the challenge for scholars in this alternative approach to evaluation. It is a point reiterated in:

Academia needs to remember that good quality public engagement isn't how many times your paper gets tweeted. It's on the ground stuff that you do within community, within local stakeholders, and various other things, especially in social science. (P32: Sociology)

Whilst attempts to measure alternative impact are generally welcomed it is evident that our respondents question the capacity of their evaluative landscape to fully grasp the broader influence that their research has on society. In many ways these alternative metrics – for example usage statistics derived from the web – fail to capture what they intend to measure, and yet these numbers, which are neither 'fair' nor 'correct', are better than not having any numbers at all. For some SSH disciplines, such as philosophy, these metrics demonstrate the paradox referred to by Boltanski and Thévenot (2006, p. 159). That is, the 'worth' - or 'impact' in the language of the evaluation landscape – of research in these disciplines 'eludes measure', so that any metrics produced bear little relationship to the scholarly value of that work.

### *Identities*

While academic identity is closely related to the points raised in the previous discussion, some of the ECAs made more direct connections between academic identity, scholarship and evaluative metrics. If they use metrics ‘to provide pathways’ to their ‘idealised sense of self’ (Osbaldiston et al., 2016, p. 15), they also recognise the potential damage to their academic identity and the sustainability of their discipline, as a consequence of adhering to the ‘market’s’ orders of worth. These concerns are articulated in the following comments:

I think ... writing about those things that are quite interesting to you helps to continue to authenticate you as an academic person, especially in my discipline, where you can get caught up in the numbers game, and start publishing things for rather instrumental reasons that appease university goals and whatever else. (P32: Sociology)

I’ve seen very renowned scholars produce fairly shallow work because they produce such a volume of it, because that helps their citation rates and that helps their indices, and I find that very disappointing that that happens in my discipline. (P36: Anthropology)

The ECAs’ concerns also extended to contemplating the ‘worth’ of evaluative metrics and the focus on prestigious journal publications in relation to scholarship. The following reflection on the influence of an evaluative landscape on epistemic processes and the future of knowledge production illustrates the extent to which metrics are perceived as a threat to scholarly work.

I know a lot of universities say, ‘No, no. It is about quality.’ But the reality is, their version of quality is that you publish in the top 10% of journals or something like that in terms of impact factor ... We need to have a discussion about slow, deliberate thinking that goes into scholarship. I really do worry about the way we are going and the way we are trending, actually. (P32: Sociology)

This respondent connects the use of metrics with the broader trend of ‘acceleration’ of work and practices in contemporary academia (Vostal, 2016). Hence, changing temporalities, which also are due to funding arrangements and work conditions more generally (Ylijoki & Mäntylä, 2003), are here intertwined with discussions on measures and performance. As so often is the case, evaluative metrics thus comes to be interpreted as a ‘symptom’ of more general developments – ‘acceleration’, ‘elitism’ or ‘academic capitalism’ – haunting academic life.

### **Concluding remarks**

Traditionally measurement, and especially numbers, has been seen one of the main ways to reduce uncertainty (Porter, 1996). In the context of assessing scholarly output however, it seems that metrics thrive on existing uncertainties in how research should be evaluated. Bibliometric indicators can thus, in the same way as university rankings, be described as ‘engines of anxiety’ (Espeland & Sauder, 2016). For many young academics in our study these measures do not provide a bridge over the ‘evaluation gap’ but rather they reinforce and widen divisions between different orders of worth. The result is a fractured evaluative landscape where values rarely align, and while this

opens windows of opportunity for some (engaging, resisting), others might resort to ‘playing the game’ or just giving up. Manifesting as ambivalence, resistance and strategies, the responses to metrics and other indicators of ‘quality’ by the early career academics suggest that for many the evaluation gap will be bridged by strategies that incorporate alternative approaches to demonstrate scholarly ‘value’. Yet, for some scholars and fields – especially those where the ‘domestic’ and the ‘inspired’ orders of worth plays a central role, the ‘gap’ might become so wide, that it becomes futile even to attempt to bridge it. This sense of futility is not far-fetched or just a possibility; it is in fact very real for teachers working within similar measures-based environments (Ball, 2003). In contextualising such conclusions, however, it is of great importance to acknowledge that SSH consists of large heterogeneous fields of research, which should not be reduced to just being the significant other in relation to STEM fields (Hammarfelt & Haddow, 2018). Hence, our findings should be read in the light of the diversity of fields under study, and we acknowledge that there are vast differences in evaluative cultures between, for example, the fields of economics and literary studies.

Studying (and worrying) about a younger generation easily results in a largely unproductive ‘nostalgia’ for the ‘golden days’ (Ylijoki, 2005). Such descriptions of a not so distant past without indicators and evaluation often accompany the extensive criticism of neoliberalism, audits and new public management in contemporary academia. We draw on key insights from such criticism, but at the same time we are careful not to depict the use of metrics in black and white. As indicated by our respondents, metrics are experienced as obtrusive and damaging, yet at the same time they can bring pleasure and reward. In fact, recognising that bibliometric indicators and rankings do play an important role in the daily life of these researchers means that we must study them as integrated in a larger evaluative repertoire; as part of an evaluative landscape.

Metrics, we argue, can be viewed as signposts in this academic landscape; used to assess achievement and to navigate a pathway to the ‘idealised sense of self’. The many forms of metrics available allow for creative approaches to demonstrate ‘success’ and develop an academic identity. There is a risk, however, that metrics will undermine that identity at a time when it is most precarious. Several quotes from young academics in SSH reflect the challenges of navigating this landscape of measures, rankings, and indicators, while maintaining a strong sense of self, ‘loyalty’ to their discipline and to scholarship more broadly. A degree of powerlessness is evident at times, but so too is intellectual resistance (Malsh & Tessier, 2015). It is unlikely that we will see the demise of the ‘industry’ and ‘marketplace’ spheres of academic work in the near future, so this resistance as well as the strategies to work within the evaluative landscape might be viewed as positive forces. Certainly, the value and ‘worth’ ascribed to scholarship by early career academics, compared to their opinions of metrics as a measure of quality, suggests that the ‘inspired’ and ‘domestic’ spheres will not submit easily.

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## References

- Archer, L. (2008). The new neoliberal subjects? Young/er academics' constructions of professional identity. *Journal of Education Policy*, 23(3), 265–285.
- Australian Research Council (2018). *Engagement and impact assessment*. Retrieved from <http://www.arc.gov.au/engagement-and-impact-assessment>
- Ball, S. J. (2003). The teacher's soul and the terror of performativity. *Journal of Education Policy*, 18(2), 215–228.
- Boltanski, L., & Thévenot, L. (2006). *On justification: Economies of worth*. Princeton and Oxford: Princeton University Press.
- Brandtner, C. (2017). Putting the world in orders: Plurality in organizational evaluation. *Sociological Theory*, 35(3), 200–227.
- Burrows, R. (2012). Living with the h-index? Metric assemblages in the contemporary academy. *The Sociological Review*, 60(2), 355–372.
- Butler, L. (2003). Explaining Australia's increased share of ISI publications—the effects of a funding formula based on publication counts. *Research Policy*, 32(1), 143–155.
- Cannizzo, F. (2018). Tactical evaluations: Everyday neoliberalism in academia. *Journal of Sociology*, 54(1), 77–91.
- Clegg, S. (2008). Academic identities under threat? *British Educational Research Journal*, 34(3), 329–345.
- Dahler-Larsen, P. (2011). *The evaluation society*. Stanford, CA: Stanford University Press.
- Denzin, N. K., & Lincoln, Y. S. (2008). *Strategies of qualitative inquiry*. Thousand Oaks, CA: Sage Publications.
- Enright, B., & Facer, K. (2017). Developing reflexive identities through collaborative, interdisciplinary and precarious work: The experience of early career researchers. *Globalisation, Societies and Education*, 15(5), 621–634.
- Espeland, W. N., & Sauder, M. (2016). *Engines of anxiety: Academic rankings, reputation, and accountability*. New York, NY: Russell Sage Foundation.
- Fochler, M., Felt, U., & Müller, R. (2016). Unsustainable growth, hyper-competition, and worth in Life Science research: Narrowing evaluative repertoires in doctoral and postdoctoral scientists' work and lives. *Minerva*, 54(2), 175–200.
- Haddow, G., & Hammarfelt, B. (n.d.). Quality, impact and quantification: Indicators and metrics use by social scientists. *Journal of the Association for Information Science and Technology*.
- Hakala, J. (2009). The future of the academic calling? Junior researchers in the entrepreneurial university. *Higher Education*, 57(2), 173–190. <https://doi.org/10.1007/s10734-008-9140-6>
- Hammarfelt, B., & de Rijcke, S. (2015). Accountability in context: Effects of research evaluation systems on publication practices, disciplinary norms, and individual working routines in the faculty of Arts at Uppsala University. *Research Evaluation*, 24(1), 63–77.
- Hammarfelt, B., de Rijcke, S., & Rushforth, A. (2016). Quantified academic selves: The gamification of research through social networking services. *Information Research*, 21(2), paper SM1. Retrieved from <http://InformationR.net/ir/21-2/SM1.html>

- Hammarfelt, B., & Haddow, G. (2018). Conflicting measures and values: How humanities scholars in Australia and Sweden use and react to bibliometric indicators. *Journal of the Association for Information Science and Technology*, 69(7), 924–935.
- Herschberg, C., Benschop, Y., & Brink, M. van den. (2018). Selecting early-career researchers: The influence of discourses of internationalisation and excellence on formal and applied selection criteria in academia. *Higher Education*. Advance online publication. doi:10.1007/s10734-018-0237-2
- Hicks, D. (2004). The four literatures of social science. In H. F. Moed, W. Glänzel, & U. Schmoch (Eds), *Handbook of quantitative science and technology research* (pp. 473–496). Dordrecht: Kluwer Academic Publishers.
- Josephson, P. (2014). The publication mill: The beginnings of publication history as an academic merit in German universities, 1750-1810. In P. Josephson, T. Karlsohn, & J. Östling (Eds), *The Humboldtian tradition: Origins and legacies* (pp. 23–43). Leiden: Brill Academic Publishers.
- Malsch, B., & Tessier, S. (2015). Journal ranking effects on junior academics: Identity fragmentation and politicization. *Critical Perspectives on Accounting*, 26, 84–98.
- Müller, R., & de Rijcke, S. (2017). Thinking with indicators: Exploring the epistemic impacts of academic performance indicators in the life sciences. *Research Evaluation*, 26(3), 157–168.
- Osbaldiston, N., Cannizzo, F., & Mauri, C. (2016). “I love my work but I hate my job”—Early career academic perspective on academic times in Australia. *Time & Society*. Advance online publication. doi:10.1177/0961463X16682516
- Porter, T. M. (1996). *Trust in numbers: The pursuit of objectivity in science and public life*. Princeton, NJ: Princeton University Press.
- Power, M. (1997). *The audit society: Rituals of verification*. Oxford: Oxford University Press.
- Rijcke, S. de, Wouters, P. F., Rushforth, A. D., Franssen, T. P., & Hammarfelt, B. (2016). Evaluation practices and effects of indicator use—a literature review. *Research Evaluation*, 25(2), 161–169.
- Signoret, C., Ng, E., Silva, S. D., Tack, A., Voss, U., Lidö, H. H., ... Balachandran, C. (2018). Well-being of early-career researchers: Insights from a Swedish survey. *Higher Education Policy*. Advance online publication. doi:10.1057/s41307-018-0080-1
- Vostal, F. (2016). *Accelerating academia: The changing structure of academic time*. Basingstoke: Palgrave Macmillan.
- Waltman, L. (2017). Special section on performance-based research funding systems. *Journal of Informetrics*, 11(3), 904.
- White, K. (2004). The leaking pipeline: Women postgraduate and early career researchers in Australia. *Tertiary Education and Management*, 10(3), 227–241.
- Wouters, P., Thelwall, M., Kousha, K., Waltman, L., de Rijcke, S., Rushforth, A., & Franssen, T. (2015). *The metric tide*. Bristol: HEFCE. Retrieved from [http://blogs.lse.ac.uk/impactofsocialsciences/files/2015/07/2015\\_metrictideS1.pdf](http://blogs.lse.ac.uk/impactofsocialsciences/files/2015/07/2015_metrictideS1.pdf)
- Ylijoki, O.-H. (2005). Academic nostalgia: A narrative approach to academic work. *Human Relations*, 58(5), 555–576.
- Ylijoki, O.-H., & Mäntylä, H. (2003). Conflicting time perspectives in academic work. *Time & Society*, 12(1), 55–78.