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Article

Money, morale, and motivation: a study of the Output-Based Research Support Scheme in University College Dublin

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Abstract

Adapted from the Norwegian model, University College Dublin has implemented the Output-Based Research Support Scheme (OBRSS) to stimulate research performance. Semi-structured interviews were conducted to understand the perception of the OBRSS after two years of implementation, its implications on research and publication practices, and the responses to monetary reward as an incentive. This study shows that the effects of the OBRSS on publication practices are intertwined with intrinsic and instrumental values. More importantly and unexpectedly, the study reveals the norms and values concerning academic integrity and research culture, the importance of intrinsic motivation in research and scholarship, as well as morale issues in academic work environment. The findings are consistent with studies of self-determination theory that an incentive scheme can be highly effective if it conveys clear goals and values with a vision of enhanced intrinsic motivation; however, a scheme can be demoralizing when it is perceived as a controlling mechanism.

Key words: Output-Based Research Support Scheme; Norwegian model; motivation; morale; research policy; research evaluation.

Introduction

Performance-based research systems (PRFs) have been implemented in many countries for allocating block grants to universities based on *ex post* assessments of research performance (Hicks 2012; Zacharewicz et al. 2018). Some funding systems are for the sole purpose of allocating resources, while others also serve as a tool of research evaluation (Sīle et al. 2018). Although the reasons for implementing PRFs are complex and are specific to national contexts, a common goal is to strengthen research performance, specifically, to increase the number of publications in high-quality international publication channels. PRFs have also been adapted at local levels to incentivize research performance of individual researchers (see, e.g. Hammarfelt et al. 2016).

Adapted from the Norwegian Model, University College Dublin has implemented the Output-Based Research Support Scheme (hereafter 'OBRSS' or 'Scheme') to award academic staff with discretionary funds based on research outputs. The OBRSS, however, is distinguished from reward of cash-for-publication (Quan, Chen, and Shu 2017) because the award is in the form of discretionary fund rather than a bonus to a salary. It is also different from performance-based funding systems (PRFs) because it is not a national system (see Hicks 2012).

The design and implementation of the OBRSS involved the creation of a ranked publication list and a points system based on the Norwegian model (for details, see Cleere and Ma 2018). Academic staffs are prompted to update their publications on the research management system every year and their publications are automatically matched with those on the ranked publication list. A point statement is issued to each academic staff every year, indicating the amount of award based on the number of publications and doctoral students in a 3-year period. The OBRSS accounts for approximately 1% of the university's annual research budget. The award is relatively small compared to funding from competitive grants, averaging approximately a thousand euros per academic staff per year.

Except for those involved in the design and implementation of the Scheme, most academic staffs were not informed until the announcement of the OBRSS and a consultation period about the ranked publication list. Each year, academic staff are asked to give feedback pertaining to the inclusion, exclusion, and ranking (i.e. 'prestigious' or 'normal') of journals and publishers. It is expected

that the process would result in a ranked publications list that is representative of research outputs at international and national levels over time. The suggestions are reviewed based on journal impact factor, CiteScore, as well as the justifications and reasons provided by academic staff. These suggestions are collected by the Vice President for Research and Innovation of each of the seven colleges in the university during the consultation period; individuals can also contact the research office directly.

In the first year of implementation, there was a significant increase in the number of staff updating their research profiles, resulting in a more comprehensive overview of publication records and channels within the university. While the OBRSS is not designed as a tool for research evaluation, the updated profiles have aided, for example, to compare the coverage of publications by academic staff in Scopus and the ranked publication list (Cleere and Ma 2018), as well as statistics about research active staff and publication trends.

At the time of this writing, there is not a national system of research evaluation in Ireland. Funding for universities is allocated via block grant by the Higher Education Authority, with additional funding available through directed funding and performance funding (HEA 2017). The criteria for distributing performance based funding are stated as 'linked to a process whereby the outputs and outcomes for the system and individual institutions are agreed through a process of dialogue' (HEA 2017: 26). The Government Budget Allocations for Research and Development (GBARD) accounts for 0.97% of total government expenditure compared to an average of 1.38% in the European Union (EU) in 2016 (Department of Business, Enterprise and Innovation 2018), and its project funding constitutes a much higher percentage than institutional funding when compared to other EU member states (Zacharewicz et al. 2018). The economic recession of 2008 has steered policy dynamics with greater emphasis on performance and competitiveness (Hazelkorn et al. 2013). There is a heavy reliance on competitive grants to fund research projects, from recruiting doctoral students, post-doctoral fellows, to purchasing equipment. General research funding is limited and often does not cover many research- or teaching-related expenses. Major funding agencies such as Science Foundation Ireland are operated under the Department of Jobs, Enterprise & Innovation; and the third-level funding crisis has been claimed as a reason of increasing student-teacher ratio that has caused the 'tumbling down' in university rankings (see O'Brien 2018). Research universities have become competitors as academic competition is increasingly institutional and global (Musselin 2018).

It is commonly understood that research is motivated by the pursuit of knowledge, the desire and aspiration to understand and improve human conditions and our environment, and to explore the questions and puzzles arise from our unbound curiosity about ourselves and the world around us. Academics are stimulated by intellectual conversations with peers, teaching, as well as public engagement. Nevertheless, publication practices are shaped by epistemic, pragmatic, and personal motives (Hangel and Schmidt-Pfister 2017). How would researchers respond to monetary reward in the form of discretionary fund based on research outputs? Would market mechanism such as reward-per-publication alter publication practices, scientific progress, and academic culture at large? While there have been some studies focusing on the unintended consequences and constitutive effects of evaluation systems, there is a dearth of writings about motivations for research and academic writing. Studies pertaining to different forms of reward and the motivating factors in research and publications have been scarce.

In the following, studies related to the Norwegian model will be briefly reviewed and discussed, followed by a literature review about incentives, motivation and internalization of rules, including self-determination theory (SDT; Ryan and Deci 2000; Gagné and Deci 2005), as well as studies specifically about motivation of research performance and productivity. The findings of the study will be discussed with a focus on morale and motivation in response to monetary rewards and a discussion of the importance of autonomy-supportive environments for creative, innovative, and scholarly work. The paper concludes that a reward scheme can be motivating and hence achieve its goals of improving and strengthening research performance when it is perceived as supporting autonomy; however, a scheme can be demoralizing when it is perceived as a controlling mechanism that engenders competition and discourages collaboration in research culture.

Literature review

The Norwegian model

The Norwegian Model was designed by the Minister of Education and Research in Norway in consultation with the Norwegian Association of Higher Education Institute (UHR). The model has been used for allocating block grants to universities and involves the following major components (Sivertsen 2016):

- A complete representation in a national database of structured, verifiable, and validated bibliographical records of the peer-reviewed scholarly literature in all areas of research;
- A publication indicator with a system of weights that makes field-specific publishing traditions comparable across fields in the measurement of 'Publication points' at the level of institutions;
- A performance-based funding model which reallocates a small proportion of the annual direct institutional funding according to the institutions' shares in the total of Publication points.

The model has been implemented and adapted in countries including Denmark, Flanders (Belgium), Finland, and Norway. One of the most novel aspects of the Norwegian model is the construction of a national bibliographic database that encompasses all scholarly publications in all disciplines (Schneider 2009) and there is evidence that the model has steered publications at the prestigious level. Yet, Aagaard, Bloch, and Schneider (2015) find that while there have been strong increases in publication output in terms of total number of publications and journal articles in the Web of Science since the implementation in 2004, the citation impact remains stable. They also note that there were other changes in the Norwegian science system during the period examined and it is difficult to single out the effect of the model, while Schneider (2009) warns that the performance-based funding models can lead to homogenization of research.

In 'A Bibliographic Model for Performance-Based Budgeting of Research Institutions', it is stated that the Norwegian model is intended for use at aggregated level and that it should not be used at individual level (UHR 2004): 'it must be emphasised that bibliometric statistics can only be used for determining research funding at a macro level. Bibliometric statistics cannot replace or simulate qualitative assessments and evaluations related to funding at other levels' (p. 50). Sivertsen (2016) has also noted that local use of indicator 'can be highly problematic, especially if the indicator replaces responsible leadership and human judgement' (p. 87).

Despite the fact that local use of the Norwegian model and indicators are not recommended, Aagaard (2015) has observed local adaptation of the indicator and their practices vary significantly across disciplines and fields. Notwithstanding the Norwegian model is a relatively weak PRFs, he maintains that the trickling down of incentives to individual level can alter individual behaviour and perception of the model due to allure and anxiety. Some universities in Sweden has also adapted the model and/or indicators for research assessment locally. The responses to the adaptations include the concerns about negative consequences of assessment procedures, as well as changing publication practices, for example, publications in international journals in spite of in journals of local languages (Hammarfelt and de Rijcke 2015; Hammarfelt 2018).

Incentives and motivation

Why do researchers publish? Hangel and Schmidt-Pfister (2017) examine the motivations to publish at different career stages in Germany, the UK, and the USA and find that there are tensions between intrinsic and instrumental values: while researchers are intrinsically motivated by their scholarly pursuits, they are also acculturated to the so-called 'publish or perish' reality of academic marketplace; hence their motives are intertwined with epistemic, pragmatic, and personal motives. They argue that the methodological and cultural aspects of scientific knowledge production can be affected by the tensions resulting from different motivations, specifically, 'a shift from publishing as a consequence of getting interesting research results, to doing research in order to publish' (p. 541).

According to SDT, the needs for autonomy and competence are strongly linked to intrinsic motivation and satisfaction and that 'choice, acknowledgement of feelings, and opportunities for self-direction were found to enhance intrinsic motivation because they allow people a greater feeling of autonomy' (Ryan and Deci 2000: 70), whereas tangible rewards, threats, deadlines, pressured evaluations, and imposed goals can diminish intrinsic motivation. In Ryan and Deci's (2000) conceptualization, intrinsic motivation refers to 'the inherent tendency to seek out novelty and challenges, to extend and exercise one's capacities, to explore, and to learn', contrasts to extrinsic motivation, which refers to 'the performance of an activity in order to attain some separable outcomes' (p. 71). Reward or incentive systems that are administered in an autonomy-supportive climate without incorporating elements such as competition are less likely to undermine intrinsic motivation (Gagné and Deci 2005), and awards and recognition are considered more effective ways of incentivizing performance and productivity (Ryan and Deci 2000; Frey, Homberg, and Osterloh 2013).

In a test of hypothesis derived from SDT, Kuvaas (2008) finds that support for autonomy, competence, and development and work experience is fully mediated by intrinsic motivation, while Cerasoli, Nicklin, and Ford (2014) show that incentives and intrinsic motivation are not necessarily antagonistic and are best considered simultaneously even though intrinsic motivation is a medium to strong predictor of performance. In fact, many research studies show that intrinsic motivation is associated with more positive outcomes and less negative outcomes in the public sector and the education sector (see, e.g. Vansteenkiste et al. 2007; Eyal and Roth 2011; Andrews 2016).

Studies about motivation and monetary rewards in research show similar findings. Horodnic and Zait (2015), for example, show that intrinsic motivation is positively correlated, whereas extrinsic motivation is negatively correlated, with research productivity. Backes-Gellner and Schlinghoff (2008) shows that faculty members were motivated by monetary rewards for publications, however, they also instantly reduce the number of publications as soon as the monetary incentives are gone. Although extrinsic motivations such as cash-for-publication can have significant effect on the number of publications in targeted journals (Quan, Chen, and Shu 2017; see also Shao and Shen 2012), many have argued that the use of evaluative metrics and incentives such as cash-for-publication can lead to negative outcomes, with plagiarism and fraudulent research perceived as violations of academic conduct, on the one hand, and salami-publications, self- and exchange-of-citations, and other gaming behaviour as constitutive effects of evaluation systems, on the other.

Woelert and Yates (2015) have discussed the implementation of strong PRFs is perceived as having little trust in academics and their work. Similarly, Hicks (2012) suggests that 'the perceived autonomy of individual scholars is a source of perennial dissatisfaction and of the accusation that PRFSs harm scholarship and the research enterprise' (p. 259). The importance of autonomy has also been noted by Wood (1990), highlighting the principle of 'freedom of inquiry' as an essential component of research, among many other factors influencing research performance of academics.

However, there is insufficient empirical evidence about the positive and negative effects of the academic reward systems, either in the form of number of publications, citations, monetary rewards or awards such as the Nobel Prize and the Holberg Prize, not to mention little has been written about motivation and morale. Despite some discussions about the relationship between academic writing and its rewards (see, e.g. Cronin 2005), evaluative metrics have been mostly discussed in terms of measures and evaluation criteria. There is little understanding as to whether, and to what extent, they motivate and incentivize research and publications.

Internalizing rules

Dahler-Larsen (2012) has used the concept of evaluation machine to suggest how people internalize evaluation as routines and themselves as objects of evaluation. He further argues that constitutive effects as a fruitful way to understand the complexities of evaluation (Dahler-Larsen 2014). His concepts and suggestions have been manifested in some studies about the implications of evaluative metrics on publication practices in recent years (see de Rijcke et al. 2016). Many focus on the use of evaluative metrics and explore topics such as changes in publication and research practices including goal displacements, unintended consequences, and so on. For example, academics in arts and humanities in Uppsala University altered publication practices and individual routines with the introduction of an evaluation system within the university (Hammarfelt and de Rijcke 2015), on the one hand, and researchers in the life sciences are 'thinking with indicators' in their research practices (Müller and de Rijcke 2017), on the other. There is an urgency to understand the effects of evaluative metrics due to issues such as gaming behaviour in knowledge production and scholarly communication. These changing research and publication practices do not indicate, however, whether researchers are incentivized or disincentivized to conduct research of their own and public interests.

In a study about national rankings of law schools in the USA, Espeland and Sauder (2007) explain the mechanisms of self-fulling prophecy and commensuration in generating reactivity—how individuals alter their behaviour in reaction to being evaluated,

observed, or measured. They describe self-fulfilling prophecies as 'processes by which reactions to social measures confirm the expectations or predictions that are embedded in measures or which increase the validity of the measure by encouraging behaviour that conforms to it' (p. 11), whereas '[C]ommensuration is characterized by the transformation of qualities into quantities that share a metric, a process that is fundamental to measurement' (p. 16). They reported that while many of their respondents found rankings as deeply flawed measures, they reacted by changing resources allocation, altering organizational scripts and procedures, and the development of gaming strategies. Sauder and Espeland (2009) argue that rankings can create anxiety and allure when external measures are internalized and negotiated between institutional pressures and organization activities.

Aagaard (2015), using Sauder and Espeland's (2009) conceptual framework, state that incentives can trickle down due to 'the allure and the anxiety that the availability of a quantitative performance measure creates' (p. 736). Uncertainties about an evaluative system or indicator can be a consequence of the emergent agency of an indicator, as an authority list of publications or an indicator becomes irreversible and less challengeable (Brunn-Jensen 2011). Yet, Krog Lind (2019) has shown that research managers can play a major role in determining and making an evaluation system stronger or weaker, influenced by factors including identity and culture of a university. His study resonates the three main purposes of evaluative practice, namely, distributive, improvement, and controlling (Molas-Gallart 2012) in that evaluation systems can be designed and implemented for different purposes, which allow for different levels of autonomy in research.

In sum, there has been a lack of study investigating issues pertaining to motivation and morale in academia and research, in particular, how to motivate research activities through incentive and reward systems. This study investigates the perception and practical implications of the OBRSS immediately after 2 years of implementation. Specifically, how do academic staff perceive the Scheme, including its objectives, fairness, and transparency? Are they motivated or incentivized to alter their publication channels? Finally, whether extrinsic motivations such as money-for-publication and number of citations are effective in bringing the best of intrinsic motivation for research?

Methods

This study was consisted of two phases. In the first phase, a survey was sent to all research staff listed in the university directory. In the second phase, semi-structured interviews were conducted with academic and administrative staff. The survey was disseminated immediately after the OBRSS points statements issued in late October 2017 (second statement since implementation of the Scheme) and received a total of 178 responses, i.e. 17.75% of population. Many answers to the open-ended questions were lengthy and provided useful insights for designing the interview protocol in the second phase. This article presents the findings of the semi-structured interviews.

The semi-structured interviews were conducted between January and May in 2018. They were 25–55 minutes in length. The participants included ten assistant professors, two associate professors, seven professors/full professors and they were from different disciplines across the university. Six of the interviewees worked also in administrative and management capacity. In the interviews, the participants were asked their perceived purposes of the OBRSS, the benefits and drawbacks of the Scheme, and their suggestions for improvements. Furthermore, they were prompted to discuss whether the OBRSS had affected their publication practices. Interviews were conducted until data saturation had been reached.

The study faced two main challenges: first, since the researcher was an insider of the academic community, there were scrutiny and questions about the confidentiality and independence of the study. To resolve this, the researcher had made extra steps, including creating email account and cloud storage outside of the university network to ensure anonymity and to build a trusting relationship with the participants. Second, the participants, as they were volunteers, could hold more extreme, either positive or negative, feelings or opinions about the OBRSS. The findings show that, fortunately, there were balanced views about the Scheme, not to mention their discussions about topics such as morale and intrinsic motivation were unexpected, fruitful, and insightful. It should be noted that, however, the effectiveness of the OBRSS cannot be fully described and explained in this study, for some discussions by the participants concern normative issues rather than actual practices, not to mention it is impossible to single out the effects of the OBRSS on future changes in publication trends since many factors such as recruitment strategies and external funding are also at play.

Findings

The implementation of the OBRSS was considered by the participants as the university's strategy to incentivize publications in preselected publication channels and to stimulate research activities. Some participants also considered the strategy of improving university rankings and prestige, while many suspected that the OBRSS would become a tool for comparing individual's research performance on a regular basis.

The ranked publication list was discussed most in terms of its coverage and representation, in particular the imbalance between disciplines. Since the initial list was compiled and ranked based on the Danish, Finnish, and Norwegian list using CiteScore (Scopus) among other indices as arbitrators, it did not cover many publications of Irish studies, or reports tailored for Irish businesses, communities, and local interests. The participants also had the perception that there is an imbalance of representation between the sciences and the arts and humanities, for example, as publications in the sciences are usually indexed in major databases such as Scopus while few in the arts and humanities are documented. In fact, the participants not only discussed disciplinary differences, but also specializations in research areas: the more specialized a research article is, the less likely it will be published in a general interest—and usually high impact factor or prestigious—journal such as *Nature* or *Ethics* or *American Sociological Review*. Although there was no question about the prestige of such journals, there was a sense of unfairness when articles published in specialist journals were ranked 'normal' as opposed to 'prestigious', or not on the ranked publication list at all. The participants also commented that the OBRSS does not distinguish types of publication, for example, a book review can be treated the same as a research article in a journal.

Notwithstanding the consultation period in place, the participants reported the task as 'impossible' in the sense that the list is extensive and a fair and accurate evaluation would take up significant effort and time. Most participants reported that they had only compared the list with their own publications and made suggestions

accordingly, and they were uncertain about the process and criteria as to which suggestions would be considered or discarded as some never received any feedback. Although comments and suggestions are solicited every year, most participants commented that the implementation of the Scheme was top-down and many of their inputs were considered inadequately.

For instance, the participants reported very limited discussions, formal or informal, about the Scheme or the results among colleagues. Responding to questions about the benefits and drawbacks of the OBRSS, they commented on the need for greater support for research in the Irish context and issues in relation to morale and motivation. Their responses will be further discussed in the following sections: money, morale, and motivation.

Money

The award of discretionary fund was a welcomed initiative by all participants, regardless of their opinions about the Scheme. This was largely due to the general lack of research funding in Irish universities, particularly for those whose research areas did not lend themselves to competitive research grants, as well as those who were not successful in grant applications. Many reported that they used the OBRSS reward for travelling to conferences, buying textbooks, small equipment, and/or laboratory supplies.

The participants were appreciative of the 'no-strings attached' funding as they can use it for research or teaching at their own discretion, for example, the award also allowed for developing research projects not prescribed in competitive research funding. A participant in Engineering discussed the use of the OBRSS reward:

> 'I got a little bit I want to get a prototype of an invention, I am... What does the taxpayer want, they don't want papers, taxpayers won't read papers, they don't like papers, way too many papers in the world, definitely not people want or need, but they do want their dad's cancer cured... brain cancer alright that's the payoff. It's 2018 where's my flying car, they are absolutely correct to ask about the progress in technology and humanity... engineers building cool invention to benefit humanity. If you are not doing that something has gotten drastically wrong, that's what we are for. So the point is that if I go to the research council and say I want to build a cool machine, they say nah these papers are what we want. The OBRSS can help a bit with the cool machine that somebody might buy'. (Participant #AP05)

Although there was a consensus that it is a good initiative to distribute discretionary fund, there were different considerations as to how the OBRSS fund should be allocated. As the OBRSS awards academic and research staff based on the number of publications and doctoral students, those who are in senior positions and/or have received research grants tend to benefit more from the Scheme. As one participant commented:

> 'The system rewards people who already have money, rewarding people who publish... but people who publish are generally people who are successful in getting grants, or successfully carried out research projects of some kind, so in a way they are the people who need the money least, arguably in current situation. So you know people who have the most money would probably get the most from this Scheme, and they are just putting it in a pile'. (Participant #AP02)

Many participants stated that the Scheme should avoid creating an environment where the rich get richer; rather, it should be used to help those who have been struggling with starting or completing a research study due to the lack of funding. Furthermore, many participants also mentioned that disciplinary differences also contributed to the unfairness of the OBRSS as some research areas publish more frequently than the others.

However, when asked whether 'output' is an appropriate and fair mechanism for distributing the award, the responses varied—although the OBRSS favours those who have been successful in grants and publications, many participants mentioned that no system can be entirely fair. One participant suggested that distributing an equal amount to everyone could resolve issues such as disciplinary differences and would be more conducive to collaboration.

Morale

Morale issues were raised by many participants when they were asked about the drawbacks of the OBRSS and whether they had discussed the Scheme formally or informally with colleagues. Words such as *competition*, *recognition*, *humiliation*, and *embarrassment* were used to describe their reaction to the OBRSS. The main reason was that the OBRSS makes comparing and ranking individuals possible. Some participants reported discussion of points with their line manager, and some found associating their work and their identity with the points demoralizing.

Although the OBRSS was not used for research assessment at the time of the study, many participants believed that it would be used for assessment exercises. Some noted strongly that research evaluation is the ultimate purpose of the Scheme, whilst some felt that the university does not recognize their work when a publication or a project is not included in the ranked publications list, or it is ranked 'normal' rather than 'prestigious'. There were questions pertaining to the mission of the university and the role of academics as collaborators and teachers because the OBRSS gave the impression that research, teaching, and public engagement activities other than publishing in the preselected publication channels are not valued by the university. One participant felt deeply about the demoralizing impact of the OBRSS:

> 'The outputs – we are producing publications, we are producing conferences, we are producing teaching, but the social interactions among intellectual equals in academic environment is the richest thing of the university, and we are constantly reprimanding it by distracting our attention to competition, schemes, assessments, and inefficient processes, failing processes that cannot be fixed... I want to work in a university. The university is the best thing ever. To put a number on a spreadsheet and say that you have to make this number bigger, when this thing is going on, this beautiful, growing, vibrant thing that connect to everything. It's such as a failure. It's shocking'. (Participant #AP01)

The OBRSS was also perceived as a mechanism that discourages collaboration within the university. It was understood that the points system of the Scheme 'penalises' co-authorship, signalling the university does not endorse collaboration between colleagues. Furthermore, the Scheme was also perceived to create a competitive, market-based environment as the points, calculated based on the number of publications and doctoral students, put every individual on a scale. For instance, each individual received a point statement indicating the range of award in their unit and where her/his award stands compared to peers. Some participants noted that the competitiveness the Scheme engenders was damaging to research culture, as

well as morale in the unit. None of the participants discussed or disclosed the amount of funding received:

> 'At least in my area, I found that people don't discuss very much how much we've got. I don't know if that is because you don't want to be bragging or people are embarrassed if they got less, so I think in a way it engenders competition between academics, I think that's problematic, I don't think that's the purpose of it'. (Participant #AP03)

Some participants noted that there was a level of humiliation if the points were used as a managerial tool to compare individuals, as if contributions other than the predefined outputs were not recognized by the university. One senior academic put directly: 'It's quite destructive to morale. If a project that you've been working on for 10 years costs zero, and a review you throw out in an afternoon gets some sort of money. That makes no sense. The confidence in the system is not very high' (Participant #FP01).

Motivation

The main purpose of the OBRSS is to increase the number of publications in selected high-quality outlets. The responses to the incentives vary among the participants of this study. Some participants, most of them early career researchers, responded that they will consult the ranked publication list when they publish in the future. However, rather than the monetary reward, the perception that the OBRSS will be used for research assessment in the promotion process is more relevant in the decision. One participant said, for example, 'I have suspicion that the university uses it to enumerate and reward research might have something to do with promotion, even though promotion suggests that the criteria are different' (Participant #AP09).

Furthermore, while the OBRSS aims to increase publications in prestigious outlets, it can have the side effect of disincentivizing some research and teaching activities, for example, co-supervising doctoral students in other institutions or publishing in alternative and/or open access channels as these activities were not counted in the OBRSS points system at the time of the study. Again, the reason was less about the monetary reward, but because the OBRSS publications list was perceived as being recognized and prioritized by the university.

Although all participants welcomed the research funding allowed by the OBRSS, many articulated that monetary reward as an extrinsic and superficial motivation and did not agree with the values implicated by the Scheme. The participants reflected that academic integrity can be put into question if researchers are motivated by monetary rewards. Here's an example of a strong opinion:

> 'I would say that any academic who chooses their publication channels based on anything like this shouldn't be on the university campus. Period. There's no relation to quality. Anybody who does that should not be here. There is no room for that. I mean *none*. They should not be teaching, they should not be... I don't think anyone would do it. They choose around prestige, they choose around what kind of feedback and what kind of audience you'd like to have. That has no relation to this at all. None, none, none'. (Participant #FP05)

Many expressed that research should be intrinsically motivated: 'It is a perverse incentive if you are producing research based on that amount, or even mostly, or somewhat partially, it would deviate from broadly understood what motivates research. It's not money, it shouldn't be money' (Participant #AP08).

Discussion

The findings of this study resonate Hangel and Schmidt-Pfister's (2017) observation of the tension between intrinsic and instrumental values in publication practices. Many participants expressed the strong needs for intrinsic motivation for research. Some felt that monetary rewards work against the ideal of academic work in the sense that they interfere with the autonomy and instinct to pursue research and scholarship. Hence, the incentives can be demoralizing when they are perceived as controlling mechanisms rather than motivation. Yet, the incentives can be useful for encouraging academic staff to publish more and to publish in internationally recognized channels when they are perceived as a recognition of their work.

In University College Dublin, tenure and promotion are separate processes—academic staff can get tenure without applying for promotion. Since most positions are permanent and secure, promotion is prestigious and hence also more competitive. Although the OBRSS was designed to incentivize and stimulate research, it was speculated by many participants that it will be used in the promotion process. As such, publishing in the ranked publication list is perceived as a means of validation and a way to seek recognition by the university. This is felt most strongly among participants in the lecturer/assistant professor position. They were most explicit about the effects of the Scheme on their choice of publication channels in the future, in the sense of either 'I am already publishing in publications on the list', or 'I will check if the targeted channel is on the list in the future'. These participants' responses were consistent with Backes-Gellner and Schlinghoff's (2008) observation that promotion is a stronger incentive compared to piece-rate or bonus pay in most organizations.

The effects of monetary rewards on publication practices are complicated by the existing funding models in Ireland. Some participants indicated they would consider the OBRSS ranked publication list but it was partly because of the general lack of research and university funding over the years, particularly since the economic crisis in 2008. This point was supported by the general agreement of the need for more funding to support research, as well as teaching and public engagement activities. The participants appreciated the additional funding allowed by the OBRSS irrespective of whether they would steer their research and publications suggested by the ranked publication list. Nevertheless, whether the OBRSS, which amounts to approximately 1% of the annual university research budget, will lead to an increase in research outputs is difficult, if not impossible, to be determined accurately. It is because publication trends can be affected by other factors such as external funding and recruitment of staff (see also Schneider, Aagaard, and Block 2016). While changes in research practices and culture can be observed, the effects on the number of publication and their impact such as citations cannot be solely attributed to the Scheme.

Nevertheless, gaming strategies because of the monetary reward had been mentioned by many participants. For example, there were discussions about writing shorter pieces such as reviews and letters in prestigious journals to increase OBRSS points since the point system did not differentiate a two-page review and a 20-page research article at the time of the study. Despite the gaming strategies mentioned, there was no indication that the OBRSS would lead to more serious problems such as fraudulent research or plagiarism as

described in the study of cash-for-publication in Chinese universities (Quan, Chen, and Shu's 2017) or the PRFs implemented in the Czech Republic (Good et al. 2015). It is likely because the awards were relatively small and were in the form of discretionary fund compared to bonuses to a salary. There were no concerns about academic misconduct, even though some felt that academic integrity is being corrupted by monetary incentives.

The participants' responses about morale and moral values pertaining to monetary rewards were unexpected—the discussions of these topics were often triggered by questions about benefits and drawbacks of the Scheme, as well as the extent to which the Scheme had been discussed formally and informally among colleagues. Many participants explicitly denounced the use of monetary rewards as an incentive for publications, stating that research should be intrinsically motivated, that monetary rewards can dampen the drive for projects they are passionate about. Their responses correspond to SDT that activities having the appeal of novelty, challenge, creativity, and problem solving are intrinsically motivated, whereas extrinsic, tangible rewards can undermine intrinsic motivation (Ryan and Deci 2000; Gagné and Deci 2005). These responses are evidence of the significance of intrinsic motivation as well as the values of academic integrity in research and scholarship. These findings also resonate a study about pay-for-performance in public service, where Frey, Homberg and Osterloh (2013) show that '[I]f the employee feels that the superior's gesture serves only an instrumental purpose, intrinsic motivation is impaired' (p. 954).

Furthermore, more than half of the participants discussed the monetary rewards in relation to the core values of scholarship, research, and university; and some also argued that the OBRSS points system engenders competition among colleagues. While the relationship between reward system and morale requires further investigation, the discussion is worth noting because of the potential consequences for research, collaboration, and work environment. As Gagné and Deci (2005) note, incentive programmes should be designed 'to acknowledge effective performance without incorporating controlling elements such as competition among teammates or pressure to meet the numbers' (p. 354), and that an autonomy-supportive climate is essential to enhance intrinsic motivation. Hence, the concerns about competition and morale as a consequence of the OBRSS should be considered. Point-for-publication as an incentive, if overemphasized by academics and management as a measure of success, does not necessarily contribute to high-quality, original, and innovative research. More importantly, the competitiveness it engenders can mean a more individualistic and less collaborative work environment. It is a critical issue if the purpose of the Scheme is to strengthen research performance—the Scheme will motivate research and publications if the incentives are seen as autonomy-supportive; however, it can undermine intrinsic motivation if it is perceived as controlled motivation (see also Andrews 2016).

The participants were conscientious that the standard—outputs defined by the ranked publication list—and the values embedded will be internalized, when other contributions in research, teaching, and public engagement could be downplayed. Self-fulfilling prophecy (Espeland and Sauder 2007) is manifested through the participants' responses by conforming to select publication channels based on the OBRSS points system, which can further confirm and reinforce the expectations and values implicated in the OBRSS.

On the positive side, self-fulfilling prophecy can lead to positive results in publications and hence the objective of the OBRSS to increase the number of publications in prestigious publication outlets. It is impossible to speculate, however, whether the increase will be in quantity (see, e.g. Butler 2003, 2004) or in publications ranked at prestigious level (see Schneider, Aagaard and Block 2016). Hammarfelt and de Rijcke (2015) have shown that PRFS adapted at individual level altered publication practices and individual routines; however, the publication trends have yet been established.

On the negative side, the legitimacy and fairness of the ranked publication list can be compromised by the perception that the points system would be used as a measure of research performance: if researchers do not publish or explore new publication channels, it will only reinforce the prestigious status of publications already on the list. There will be little room for new publications to be added, which can also stifle developments such as open access and open science (see also Schneider 2009; Brunn-Jensen 2011). Although there is a consultation period every year to ensure the ranked publications list as representative and fair as possible, the effects of self-fulfilling prophecy cannot be overlooked. The deployment of strategic actions and plans of law schools in reaction to rankings despite the disagreement with the value and validity of measures (Espeland and Sauder 2007) is but a cautionary tale of how measures—both in terms of reward or assessment—can be deleterious.

The local use of the Norwegian model was not recommended in the first place; this study sheds lights on some of the positive and negative responses when it is adapted at individual level. The effectiveness and outcomes of the Scheme pertaining to its objectives of stimulating research outputs, however, cannot be deduced from this study. It should also be noted that there can be discrepancies between individuals' opinions and actual practices (see, e.g. Hammarfelt and Haddow 2018; Ma and Ladisch 2019). Nevertheless, this study reveals the norms and values held by academics in response to the introduction of the OBRSS and monetary rewards, highlighting the importance of intrinsic motivation in research and scholarship. At a time when many are urging for responsible use of metrics (see, e.g. Hicks et al. 2015), these factors should be considered in the design of reward and incentive schemes and the deliberation of research policy.

Conclusion

PRFs have been implemented in different countries and institutions to stimulate research, as well as to allocate resources. The OBRSS implemented in University College Dublin is distinguished from national PRFs; it is also different from cash-for-publication schemes since the awards are relatively small and do not constitute a bonus to a salary as reported in, for example, Quan, Chen, and Shu's (2017) study in some Chinese universities. Adapted from the Norwegian model, the OBRSS awards academics with discretionary fund based on the number of doctoral students and publications on a ranked publication list. This article presents findings about the perception of the Scheme and the responses pertaining to monetary rewards, morale, and motivation after 2 years of implementation.

Whether the OBRSS was considered a reward or an evaluation system, or both, this study reflects the reasons to publish are intertwined with epistemic, pragmatic, and personal motives (Hangel and Schmidt-Pfister 2017). When national and international grants are highly competitive and do not cover all areas of research, the distribution of discretionary fund was a welcomed initiative. The main motive of the Scheme was clearly understood—to increase publications in high-quality, prestigious international outlets. But most

importantly, this study reveals the norms and values concerning academic integrity and research culture, the importance of intrinsic motivation in research and scholarship, as well as morale issues in academic work environment. The findings are consistent with the studies of SDT in that intrinsic motivation can be undermined if rewards and evaluation systems are perceived as instrumental and controlling, and as such, not conducive to innovative and original research. Contrarily, if they are considered as supportive and meaningful, can enhance intrinsic motivation and morale.

While research performance and publication trends can only be traced over a long period of time, the effects on collaboration, morale, and motivation are immediate and can have significant influence on individuals, institutions, and work environment. In the context of the OBRSS, the transparency of the implementation of the Scheme, including the construction of the ranked publication list, and the fairness of the points systems are necessary conditions to achieve its goals. The negative impact on morale and motivation, however, must also be considered. These issues can be mitigated, for example, by articulating the shared goals and values of the Scheme and by making clear as to how the points system will and will not be used by different levels of administration and management. These steps can prevent 'second-guess' of the intent and use of the Scheme. It is also important to acknowledge and recognize other types of contributions and provide clear and consistent guidelines in research and university policy. As Krog Lind (2019) has shown, research managers can play a key role in making an incentive scheme strong or weak by taking into account the identity and culture and other practical concerns of a university. All in all, it should be recognized that research is essentially intrinsically motivated; any incentives or measures should consider the autonomy required for works of originality, novelty, and creativity, inasmuch as a work environment that is autonomy-supportive. An incentive scheme can be highly effective if it conveys clear goals and values with a vision of enhanced intrinsic motivation and if conditions supportive of autonomy and competence are provided (Gagné and Deci 2005). The perception of a research policy or a reward scheme as a controlling mechanism, however, would reduce its effectiveness and undermine research integrity.

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