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Awards unbundled: Evidence from a natural field experiment☆

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ABSTRACT

Organizations often use non-monetary awards to incentivize performance. Awards may affect behavior through several mechanisms: by conferring employer recognition, by enhancing social visibility, and by facilitating social comparison. In a nationwide health worker training program in Zambia, we design a field experiment to unbundle these mechanisms. We find that employer recognition and social visibility increase performance while social comparison reduces it, especially for low-ability trainees. These effects appear when treatments are announced and persist through training. The findings are consistent with a model of optimal expectations in which low-ability individuals exert low effort in order to avoid information about their relative ability.

1. Introduction

> What are the advantages which we propose by that great purpose of human life which we call bettering our condition? To be observed, to be attended to, to be taken notice of with sympathy, complacency, and approbation, are all the advantages which we can propose to derive from it.
> —Adam Smith, "Of the Origin of Ambition, and of the Distinction of Ranks," The Theory of Moral Sentiments (1759)

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The innate human desire for approbation might make status awards a cost-effective tool to incentivize good performance (Besley and Ghatak, 2008; Moldovanu et al., 2007). Awards can motivate employees to exert effort in order to gain recognition and visibility, both of which are free for the employer to bestow but valuable to the employee. However, given that awards derive their value from their scarcity, they inevitably facilitate social comparisons, which might be *demotivating* to employees.[1]

Our goal in this paper is to "unbundle" awards—that is, to provide evidence on the mechanisms that underlie their effectiveness and potential harm. We conduct a natural field experiment to separately identify channels through which awards can affect behavior, unbundling the effect of social comparison through the (private or public) disclosure of rank information, from the effect of employer recognition and social visibility.

We study the effect of awards in the context of a nationwide training program for health workers in Zambia. Our agents are 314 health workers recruited from 162 rural communities and brought to professional school for a one-year training program aimed at teaching community-based health care. After training, trainees will be employed by the Ministry of Health and deployed to their communities of origin, where they will become the first point of contact for health services. Incentivizing learning is key in this context because trainees have no previous medical training; thus, the skills they learn will determine their effectiveness in the field.[2]

During the training program, trainees take courses on several topics, on which they are tested at baseline (at the beginning of the year) and at the end of each course. The field experiment randomly allocates trainees to two broad classes of treatments (in addition to control): those that only provide information on trainees' relative performance, and those that also offer awards. After each exam, trainees in the control group receive a letter from the school reporting their absolute score and their value added, measured as improvement over their baseline score for the given course. Trainees in the "private social comparison" treatment (T1) receive the same letter with added information on their rank in the class distribution of both absolute score and value added. Trainees in the "public social comparison" treatment (T2) receive the same letter as in the previous treatment as well as the names of the top four performers in the class (top two by absolute score and top two by value added).

The third and fourth treatments add awards to rank information. Awards are given to the trainees with the top two scores and those with the top two most improved scores (from baseline). The latter ensures that weaker trainees have a chance to win and are therefore motivated by the award. In the "employer recognition award" treatment (T3), the top four performers receive a congratulatory letter from the Ministry of Health. In the "social visibility award" treatment (T4), one of the top four performers is randomly selected to be featured in an interview, which is printed along with the candidate's photo in a newsletter distributed back to their community of origin. Under a linearity assumption the difference between each of the award treatments and the "public social comparison" treatment isolates the effect of awards from the effect of the social comparisons they inevitably create.

Our setting has three key features that make it ideal for the purpose of this experiment. First, since trainees take four courses during the study period and treatments are announced at the beginning of the first course, we can assess whether they change their behavior in anticipation of receiving rank information and awards or only after these have been provided. Second, during training, the performance of the health workers is measured by an institution (the school) that is different from their employer (the Ministry), and the health workers are physically removed from their home communities. This allows us to separate the effect of information on relative performance (provided by the school) from that of the employer's recognition and from visibility to one's social circle (the home community). In most settings, the employer measures and provides information on performance, such that the provision of information necessarily entails some recognition. The fact that trainees are distant from their communities is similarly useful, as no treatment other than the social visibility award can be used to enhance visibility within their social circles. In most settings in which agents are co-located with their social network, any treatment that reveals their rank in the distribution could potentially be used to enhance visibility.

Third, performance in this setting is uni-dimensional (trainees are solely meant to attend classes and study the topics on the syllabus), and thus not subject to a multitasking problem in the face of additional incentives.[3] Moreover, performance can be measured objectively and precisely by test scores. Value added in test scores is a good measure of learning, as is often the case when knowledge at baseline is very limited (Muralidharan and Sundararaman, 2011).

[1] Lazear (1989) describes the tradeoff in relative performance evaluation: it could motivate employees to work harder, but could also create an excessively competitive work environment and decrease employee morale. Major et al. (1991)'s review of the literature in social psychology provides evidence on the demotivating effect of social comparisons. A related literature in management emphasizes the importance of concealing relative performance information to improve employee motivation (Milkovich and Newman, 1996).

[2] A number of field experiments have evaluated the effect of financial incentives on student learning; the evidence of their efficacy is mixed (Fryer, 2011; Angrist and Lavy, 2009; Kremer et al., 2009; Leuven et al., 2010). In particular, we know of two experimental studies that examine the impact of rank disclosure on academic performance (Azmat and Iriberri, 2010; Tran and Zeckhauser, 2012). These studies fundamentally differ from ours, however, in that neither announces the rank treatment in advance of disclosing rank information. Thus, the studies capture only the *ex post* effect of rank disclosure, whereas we critically distinguish the *ex ante* anticipatory effect from the *ex post* information effect.

[3] The training curriculum comprises both a classroom component, which the school's exams directly measure, and a practical component, in which trainees visit local field sites to apply knowledge and skills gained in the classroom. While trainees' performance during practicals was not separately evaluated, it is important to note that the practical component was explicitly designed to reinforce concepts learned in the classroom, and thus effort across both venues would be expected to affect exam performance. The exams were designed to assess both theoretical knowledge and practical skills.