Less Competition, More Meritocracy?

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Abstract

Uncompetitive contests for grades, promotions, and job assignments, which feature lax standards or consider only limited talent pools, are often criticized for being unmeritocratic. We show that, when contestants are strategic, lax standards and exclusivity can make selection *more* meritocratic. Strategic contestants take more risks in more competitive contests. Risk taking reduces the correlation between selection and ability. By reducing the noise engendered by strategic risk taking, dialing down competition can produce outcomes that better conform with the meritocratic ideal of selecting the best and only the best.

Introduction

Competitions to identify and select "the best and the brightest"---e.g., educational tests, worker performance evaluations, league-table rankings of mutual funds, are a pervasive feature of modern life. The design of selection contests is frequently shaped by the perspective that competition and high standards are fundamental features of meritocratic selection or even its defining characteristic (Frost, 2017)[1].

However, this paper shows that, when contestants are strategic, making contests more competitive can make selection *less* meritocratic. Making contests more competitive, by increasing the number of competitors or raising selection standards, has not only the direct effect of adding contestants who might be better than the incumbent contestants or of excluding a marginal candidate unlikely to merit selection, but also an indirect *equilibrium effect*: making contests more competitive changes contestants' equilibrium strategies.

We show that, when contests become too competitive, contestants choose riskier strategies that reduce the correlation between ability and contest performance, thereby making selection less meritocratic. When this occurs, meritocratic selection can often be furthered by anti-competitive policies such as low selection bars and restricted candidate fields. In fact, many seemingly unmeritocratic practices and proposals further meritocracy, such as the use of "Peter Principle" promotion policies in companies and organizations (Peter and Hull, 1969)[2], the running of "in-house" competition instead of "open competition" for leader selection, and the advocate of using a relaxed selection policy which "approves" more applicants than can be admitted followed by a lottery process for elite-university admissions (Schwartz, 2007)[3].

The Model

Consider a contest with $n \geq 2$ contestants; m of them will be *selected* to fill a *place*, and the remaining $n - m$ contestants will be *deselected* and not receive a place, where $0 < m < n$. Both the *selection quota*, m, and *contest size*, n, are fixed before the contest and are common knowledge.

There are two possible types, t, of contestants: strong, S, and weak, W. Each contestant is strong with probability θ and weak with probability $1 - \theta$. A contestant's type is the contestant's private information.

Selection is based on performance in the contest. Every type-t contestant can take risky activities in the contest that add noise to his otherwise fixed performance $\mu_t > 0, t \in \{S, W\}$. Call μ_t a type-t contestant's *contest ability* and assume $\mu_S > \mu_W$. Assume that the additive noise has a zero mean and that all "fair gambles" are allowed, i.e., a contestant can costlessly choose any distribution of nonnegative performance subject to the *contest ability constraint* that the expected performance of a type-t contestant must equal μ_t. The fair-gambles framework has been adopted in many studies of contests (e.g., Robson, 1992[4]; Myerson, 1993[5]; Lizzeri, 1999[6]).

Each contestant's realized performance is independently drawn from his performance distribution. The m contestants with the highest realized performances are selected, with ties broken randomly. Each contestant aims to maximize his probability of winning a place.

Meritocracy

A meritocratic designer, depending on the situation under consideration, chooses either contest size, n, or the selection quota, m, to maximize the expectation of

$$\#Strong\ Selected\ Contestants - \#Weak\ Selected\ Contestants.$$

Because holding a contest requires the designer to commit to the choices of n and m while the realized number of strong contestants is random, the best possible selection strategy is to prioritize strong contestants, i.e., select weak contestants to fill the quota only after all strong contestants have been selected. We term this policy *merit-based selection*.

Key Results

Theorem 1 (Risk-Taking Caps the Gains from Inclusivity). *For any fixed selection quota, m, there exists a threshold in contest size such that, whenever contest size, n, exceeds this threshold, designer welfare in the contest is lower than her welfare under merit-based selection, and any further increase in contest size does not increase designer welfare.*

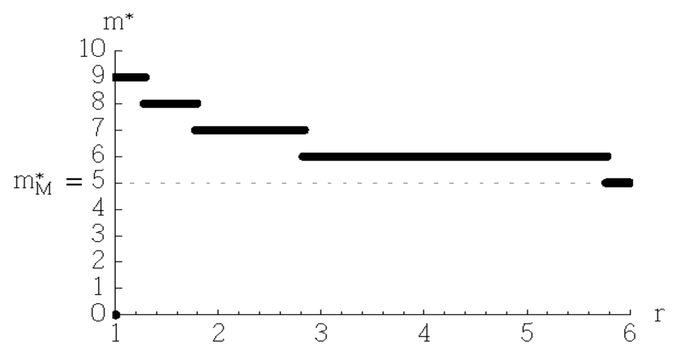
Intuition: Through adopting high-risk strategies, weak contestants are able to sometimes challenge strong contestants for places. However, because of the contest ability constraint, such challenges require increasing the probability of low performance, performance that is likely to be topped even by weak rivals. Thus, weak contestants adopt high-risk strategies to challenge strong contestants only in competitive contests. Fixing the selection quota, increasing contest size provides a statistical benefit by increasing the number of strong candidates in the contestant pool. However, when contest size is sufficiently large, weak contestants will challenge strong contestants, causing a negative strategic effect on designer welfare that dominates the statistical benefit.

Theorem 2 (Optimality of Quota Inflation). *Suppose contest size, n, is fixed and the designer can only choose the selection quota, m. Suppose $\mu_S/\mu_W > (1-\theta)/\theta$ (otherwise, it is optimal to set a zero quota). Then the optimal quota under contest selection is no less than the optimal quota under merit-based selection.*

Intuition: Quota inflation mollifies weak contestants' risk-taking incentives, which makes performance a better reflection of ability. This effect can more than compensate for the loss of efficiency caused by the fact that the marginal contestants selected are very likely to be weak under an inflated quota.

Quota inflation is most pronounced in contests where weak and strong contestants' contest abilities are close (see Figure 1).

Figure 1. Optimal quota under contest selection, m^*, given strength asymmetry, $r = \mu_S/\mu_W$, when $n = 10$ and $\theta = 0.5$. The optimal quota under merit-based selection, m^*_M, equals 5.



Key Implications and Robustness

When contestants are strategic risk takers, even meritocratic designers have an incentive to limit competition by adopting *"clubby"* contests, contests that feature less inclusive contestant pools and over-promotion of marginal candidates.

These implications are robust to (a) endogenous contest ability acquired through costly effort, (b) ex post discretionary filling of the selection quota, (c) scoring caps that bound contestant performance, etc.

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