

Performance under Pressure: Estimating the Returns to Mental Strength in Professional Basketball

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Abstract

Introduction

One of the stylized facts in modern labor economics is that skilled and trained individuals are more productive and receive, therefore, higher wages. Moreover, an increasing body of literature demonstrates the effect of an individual's physical appearance on individual salaries (see Hamermesh and Biddle 1994, Sunder 2005, Case and Paxon 2006). Perhaps surprisingly, very little is known about the influence of a worker's mental abilities on wages.

Although rank-order tournament are usually helpful in identifying the most able and/or talented worker, sometimes workers who have already demonstrated their superior productivity fail to meet a particular threshold criterion. An unsatisfying performance delivered by a usually productive person is particularly likely when stakes – and thus the incentives to exert effort – are very large. Although this "perverse" effect of high-powered incentives has been described in the literature as "choking under pressure" (see Dohmen 2005), there is very little empirical evidence demonstrating the impact of "coolness" on individual earnings, i.e. whether individuals who can handle competitive pressure better than others are particularly rewarded for that ability.

Methods

Using a unique database from the "National basketball Association" we analyze the impact of the ability to make the "big points" on player salaries. Since the ability to perform well under pressure is one of the most desired qualities for any athlete in any sport, we hypothesize that players with strong mental attitudes are of crucial importance for their teams and are, therefore, rewarded higher than observationally similar players. Our dataset includes all players who appeared in at least one regular season game in any of the four seasons 2003/04-2006/07. The total number of observations is about 450, with some players being active in all four seasons and others in only one of them. Since basketball is a very fast and dynamic game where winning a regular season game might affect the probability of moving into the playoffs, we pay special attention to the performance statistics of players in the last five minutes of the final quarter or during overtime, where no team is in the lead by more than five points.

We estimate Mincer-type earnings functions with the relative performance from the free throw stripe during the "clutch time" as our dependent variable. Our preferred 2SLS fixed effects model indicates that players who act "cool" under pressure (i.e. who either maintain or even increase their performance level in critical situations during the clutch time) earn a wage premium of more than 5%, which is statistically highly significant.

Discussion

One of our other main results is that, that previous studies have systematically "overestimated" the effect of "superstardom": In many studies, the number of all star appearances has been used as a proxy for popularity. When controlling for "mental strength", the magnitude of the coefficient of all star appearances declines by more than 10%, implying that previous studies have not been able to separate the impact of mental strength and of popularity on individual player salaries. Nevertheless, the results should be interpreted cautiously, since other parameters, such as the number of audiences in the stadium which might also influence the players shooting performance and hence his salary, is not accounted for.

References

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