

## **The Effects of Compensation Schemes on Self-Selection and Work Productivity: An Experimental Investigation**

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### **Abstract**

The goal of this research is to examine the impact of compensation schemes on self-selection and work performance. Michael Jensen in “Paying People to Lie: The Truth about the Budgeting Process” in *European Financial Management*, Vol. 9, 2003, pp. 379-406 argues that the shape of the compensation scheme, i.e. whether people are paid a lump-sum or on the basis of performance, leads them to self-select themselves into a preferred compensation scheme based on their expected productivity. At the same time, he argues that once a choice is made, the nature of the compensation scheme can affect productivity. This study directly tests these propositions using a laboratory experiment.

Participants are asked to play eight three-minute word-creation (anagram) games and later to answer a short questionnaire. At the beginning of the session, participants choose which one of two compensation schemes they would like to adopt for calculating their earnings. The first compensation scheme pays them \$0.20 per correct word created. The second scheme pays them a lump-sum of \$2.20, independent of their performance. The lump-sum payment is set at \$2.20 because in prior studies the mean number of words created per anagram in a three-minute period was 11. A person creating 11 words under the piece-rate scheme would earn \$2.20.

Participants are paid according to the compensation scheme they selected for periods 1 and 2. For periods 3 and 5, all participants are paid the lump-sum of \$2.20 regardless of their earlier choice. For periods 4 and 6, all participants are paid \$0.20 per correct word, regardless of their earlier choice. For periods 7 and 8, participants will again be given the choice of the two compensation schemes.

Afterwards, participants complete a questionnaire on which they make a number of lottery-choice decisions based on an instrument developed by Holt and Laury, in “Risk Aversion and Incentive Effects,” *American Economic Review*, Vol. 92, 2002, pp. 1644-1655. One of the paired lottery choices is randomly selected and implemented. In addition to being paid for the words they create according to the compensation schemes outlined above, participants are paid an additional sum based on the outcome of their chosen lottery from the pair of randomly-selected lotteries.

We are interested in whether people self-select themselves into different compensation schemes based on ability as suggested by Jensen, based on risk-aversion or based on both. We examine the compensation scheme selected, using a two by two factorial design. The first factor is each participant’s level of risk-aversion as measured by the lottery mechanism. The second factor is the productivity of the player as measured by the data from the four middle games when all players are compensated in the same manner. It turns out that both factors matter significantly and that the importance of productivity increases with experience playing the game.

Finally, we examine how the productivity of participants changes when they are exposed to different compensation schemes, using the data from the middle rounds. We were particularly interested in whether participants are more productive when using the compensation scheme they selected than when using the alternative compensation scheme, or whether all participants are more productive when they are paid based on their productivity. We found the latter is the case.