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Motivation, money, prestige and cheats

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ABSTRACT

This paper investigates the effects of supervision and incentives on subjects' performance and cheating behavior in a real effort task. With a sample of 540 participants in three different experiments, we investigated the interaction between motivation and monetary and social rewards, with and without supervision. Our results suggest: (1) lack of supervision promotes cheating, though workers tend to cheat moderately; (2) both economic and social incentives increase motivation but only when workers like their jobs; (3) workers do not increase their band of acceptable dishonest behavior for possible economic rewards, but they do increase dishonest behavior for possible social rewards, like prestige.

1. Introduction

The effects of supervision and incentives on subjects' performance and cheating have been studied in last years and results are controversial. On one hand, regarding to supervision-performance relationship, Falk and Kosfeld (2006) have suggested that close supervision of workers might undermine intrinsic motivation. Ariely et al. (2008) have proposed that the way in which monitoring is framed crucially influences its effect on motivation. On the other hand, supervision is expensive, especially for small firms. In order to reduce the cost of supervision and encourage workers to actively contribute, organizations often distribute incentives (Clark and Wilson, 1961). Financial and economic incentives are commonly used in the labor market, and the effect of those incentives varies depending on the type of task (Camerer and Hogarth, 1999). In fact, although according to standard economic reasoning an increase in the financial incentives provided for an activity will improve performance, there are some notable exceptions. Gneezy and Rustichini (2000) show that people who are unpaid tend to exert greater effort than those paid only a small amount. Ariely et al. (2009), meanwhile, demonstrate that when incentives are too high, people may "choke under pressure," resulting in very bad performance.

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However, supervision and incentives not only have effects on subjects' motivation and performance but also on cheating. Without supervision people could cheat. According to Nagin et al. (2002) employees are "rational cheaters". They anticipate the consequences and firms respond with monitoring and incentive systems. In the labor market, employees have many incentives for being dishonest, whether they are ordinary workers or top executives. One clear example are bank sales employees. Their job should be to advise customers how to best invest their money. However, in reality, bank employees have sales targets that will affect the quality of their advice in order to increase sales and, in turn, their salary. Another good example are brokers. Although brokers are supposed to act in their clients' best interests, the commissions system can tempt them to choose personal gains over their clients' interests (Davis, 2004; McDonald, 2002). We could also find dishonest behavior of CEOs and high executives in big companies. While money markets are characterized by a monotonic relationship between payment and effort, in social markets effort is independent of economic compensation levels (Heyman and Ariely, 2004). Social motivation, like prestige, may play a large role in promoting their dishonest (and sometimes irrational) behavior. Especially in the case of experienced CEOs, for whom economic incentives are not as important, prestige could be a good argument to increase their motivation but also their dishonest behavior: "*. . .you do not understand anything. It is not the money. It is the game, the game between people.*" (*Gordon Grekko in Wall Street: Money never sleeps*). Moreover, the effect could be bigger if competition appears. Under competition individual increase their effort (Gneezy and Rustichini, 2004) but if individuals recognize a possibility to cheat, their incentives to increase effort under competition are muted (Schwieren and Weichselbaumer, 2010). Thus, we have the following hypotheses:

Hypothesis 1. Supervision is necessary not only because supervision affects motivation, but also because lack of supervision promotes dishonest behavior.

Hypothesis 2. Although incentives increase motivation and, therefore, performance, without supervision incentives will also increase cheating behavior, especially in the case of social incentives like prestige, which are obtained through a competitive process.

With respect to the level of cheating and taking into account that there are different types of cheaters (Gneezy et al., in press), the Theory of Self-Concept Maintenance (Mazar et al., 2008) suggests that workers typically solve this motivational dilemma adaptively by finding a balance or equilibrium between two motivating forces: financial incentive and positive self-concept. In this equilibrium, workers can derive some financial benefit from behaving dishonestly (but not too dishonestly) and still maintain their positive self-concept in terms of being honest individuals. Following this reasoning, (1) the equilibrium between incentives and positive-self concept should be independent of supervision, and (2) workers should be less likely to cheat in a highly supervised setting, because the chance of "getting caught" is significantly higher. In addition, the cheating could be affected by lack of motivation. To control for this effect, we included a measure of intrinsic motivation in our study. If we take into account intrinsic motivation, unmotivated employees are likely to extend little effort in their jobs, avoiding the workplace as much as possible, leaving the organization if given the opportunity, and producing low quality work. Employees who feel motivated toward their work, however, are likely to be persistent, creative and productive, turning out high quality work that they willingly undertake (Amabile, 1993). Intrinsic motivation is the extent to which an individual is interested in a task and engages in it for the sake of the task itself (Utman, 1997). Therefore:

Hypothesis 3. People with high intrinsic motivation in their job not only have greater motivation and become more productive, but also cheat less and need less supervision.

Hypothesis 4. Employees still maintain the same positive self-concept, in terms of being honest individuals, with different grades of supervision. As such, with high levels of supervision, where workers are more likely to "get caught," cheating behavior will decrease.

Given these points, we conducted three experiments to examine the relationship between supervision and incentives and their implication on performance and cheating. In the first experiment, in order to analyze performance and grade of cheating in different monitoring situations, we replicated experiment 1 of Ariely et al. (2008), but including a control measure of efficiency. In the second experiment, we added economic and social incentives to the task in order to analyze how they modify levels of both motivation and cheating. In the third experiment, our main objective was to control if the levels of motivation and cheating change with intrinsic motivation, with and without incentives. Our results suggest that workers' supervision is necessary, not only because supervision may increase motivation, but also because without supervision, workers cheat. Consistent with the literature, we found that incentives increase motivation; however, this only occurs for participants with high intrinsic motivation. At the same time, certain incentives (in particular social incentives) seem to increase participants' band of acceptable dishonest behavior.

2. Experiment 1: monitoring and effort

2.1. Experimental design

Here, we replicated Ariely et al. (2008) experiment 1 (Ariely's experimental design is provided in Appendix A of the Supplementary material). The subjects were Spanish University students. Each subject participated in the experiment alone,

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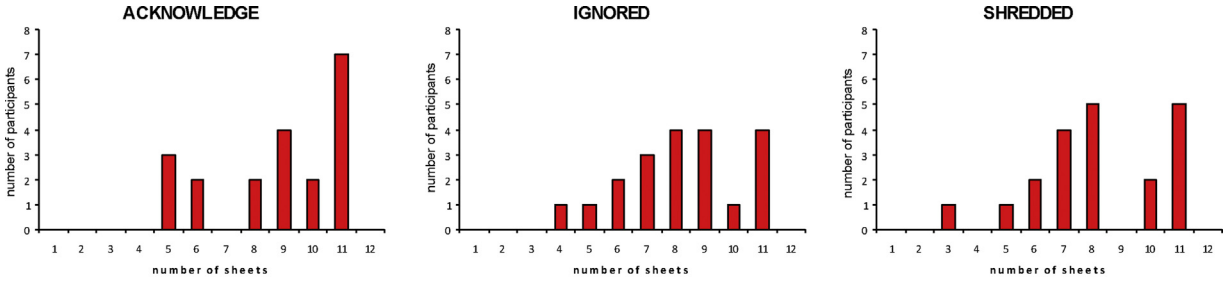

Fig. 1. Number of sheets completed in the Acknowledged, Ignored, and Shredded conditions.

without the presence of other subjects in the lab. Subjects were randomly assigned to one of three conditions: Acknowledged ($N = 20$), Ignored ($N = 20$), or Shredded ($N = 20$). In addition to the Ariely et al. (2008) experimental design, we recorded the time each participant took to hand in their work, as well as the number of pages completed in conditions A and I (this was not possible in the S condition).

3. Results

Unlike Ariely et al. (2008), we saw no significant differences between the A and I-S conditions. In the three conditions the subjects completed an average of 8.80, 8.20, and 8.15 sheets and received an average total of 3.00D , 2.94D , and 2.90D . Fig. 1 shows the histograms of the number of sheets completed in each condition. A Kruskal–Wallis test showed that there were no differences in the three groups' labor supply ($\chi^2 = 1.30$; $p < 0.522$). Between each condition the Wilcoxon rank-order test revealed, contrary to what was found by Ariely et al. (2008), that labor supply was not significantly greater in the Acknowledged than in the Ignored condition ($Z = -1.032$; $p < 0.314$), nor was there a difference between the Ignored and Shredded conditions ($Z = -0.124$; $p < 0.904$). Ariely et al. (2008) concluded that monitoring increases workers' effort and motivation. However we did not find differences between Acknowledge and Ignored/Shredded conditions. This raises the question whether there are cultural differences between Spanish and American participants (see Section 5 for further in-depth discussion). For example, do Spanish participants work more without supervision? To develop a better understanding about these differences, we analyzed two efficiency control variables: the quality of the work handed in by participants in the A and I conditions (this was not possible in the S condition), as well as the time taken to complete the work in each condition.

These investigations revealed interesting results. In the Acknowledge condition, we found that all participants handed in fully completed pages. In the Ignored condition, however, participants often completed only a few of the pages, handing in other pages that were either incomplete or (in most cases) completely empty. While there was not a significant difference in the number of handed in pages in the A and I conditions, there was a significant difference in the number of completed pages ($Z = -4.834$; $p < 0.000$). In the Acknowledged condition, the subjects completed 99% of the sheets; while in the Ignored condition, the subjects completed only 47%. Investigating the incomplete sheets, we found that in condition A, 1% of sheets were incomplete because of a mistake, whereas in condition I, participants completed only about a half of the pages they declared, not because of mistakes but because they cheated. If Ignored participants cheated, we assumed that Shredded participants also cheated; however there was no way to measure this directly. Instead, we investigated the average time participants spent to hand in their work. A Kruskal–Wallis test showed differences in the three groups' labor supply when measured as average time spent working ($\chi^2 = 17.424$; $p < 0.000$). The Wilcoxon rank-order test revealed that the time spent was significantly greater in the Acknowledged versus the Ignored condition ($Z = -3.629$; $p < 0.000$), with no significant differences between the Ignored and Shredded conditions ($Z = -0.258$; $p < 0.799$). In the three conditions, the subjects spent an average of 4.03, 2.91, and 2.94 min on each page. So if the number of completed sheets showed that Ignored participants cheated and there were no differences between the time spent by Ignored and Shredded participants, it seems that Shredded participants cheated as well.

According to our first hypothesis, lack of supervision encouraged participants to cheat. Ariely et al. (2008) did not find cheating and concluded that supervision might improve worker morale rather than induce a feeling of lost autonomy. Taking into account that lower motivation may also affect cheating (see Experiment 3), results from experiment 1 suggest that worker supervision is necessary to stop dishonest behavior. Whether supervision inhibits workers from cheating or it increases workers' motivation, these results suggest that the supervision is necessary. Nevertheless, the cost of supervision is still high, especially for small businesses. In order to reduce the cost of supervision and encourage workers to contribute, organizations often distribute incentives (Clark and Wilson, 1961). We investigate the role of incentives on motivation and dishonesty in experiment 2, specifically focusing on the differences between economic and social incentives.

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4. Experiment 2: economic vs. social incentives

4.1. Experimental design

In Experiment 2, we added two more conditions to the original Acknowledge, Ignored and Shredded conditions: additional economic motivation ($N = 20 + 20 + 20$) and additional social motivation ($N = 20 + 20 + 20$). All 120 participants are different than Experiment 1. The additional economic incentive conditions were identical to the original conditions, except that the most efficient participants (in terms of average time per sheet) were offered an incentive of a direct extra payment of 10D in a situation similar to that of a permanent worker, or an extra 10D to participate in another 30 min experiment, similar to the situation of a non-permanent worker. We found no difference in either motivation or cheating between the two types of economic incentives. 10D was considered a "good amount" of compensation for an hour experiment by participants in the A condition of experiment 1. We offered an incentive of 10D for 30 min, since it was double what was considered a "good amount". Here, we wanted to know if the possibility of earning more money would increase motivation, and if that incentive might affect the amount of cheating.

The social incentives conditions were the same as the original conditions except that the most efficient participants would be identified as the "winners" of that experiment, and their names would be announced to the class. We ran experiments during a regular semester undergraduate course as part of laboratory classes. The students could participate voluntarily and the results of the experiments did not directly affect their grade at the end of the semester. After the experiments were run, we explained the experiment, showed the results, and announced who had the best performance in each experiment. There are no differences regarding to Experiment 1, participants run experiment alone in the lab, but in this case, all participants were enrolled in the same course. Again, we wanted to know if social prestige would increase motivation or affect dishonest behavior.

5. Results

As expected, the results showed that incentives have a significant effect on performance; we also found a surprising effect of incentives on cheating. We saw no differences (see Table 1 in Appendix B) in the average number of papers declared finished (participants finished an average of 8.50 sheets) in the Acknowledge condition with either economic [$Z = -0.570$ ($p < 0.583$)] or social incentives [$Z = -0.388$ ($p < 0.718$)]. We found the same results for the Ignored condition and Shredded condition. This means that economic and social incentives in a supervised setting did not increase workload or cheating with respect to the number of units declared. However, in the Acknowledge condition (see Table 2 in Appendix B), both economic [$Z = -2.019$ ($p < 0.043$)] and social incentives [$Z = -2.044$ ($p < 0.040$)] decreased the time spent by participants. The incentives did not increase the workload, but workers were faster in the task. We interpret this result as incentives increasing participants' motivation, resulting in more efficient labor (they need less time to do the same amount of work). We also saw significant differences in the amount of time participants spent doing the task when offered social incentives for both the Ignored [$Z = -2.018$ ($p < 0.043$)] and Shredded [$Z = -2.829$ ($p < 0.004$)] conditions. There were no significant differences with economic incentives [$Z = -0.244$ ($p < 0.820$)] [$Z = -0.502$ ($p < 0.620$)]. Moreover, there are differences between economic and social incentives in Ignored [$Z = -2.304$ ($p < 0.021$)] and Shredded [$Z = -2.741$ ($p < 0.006$)] conditions but there is not in the Acknowledge condition [$Z = -0.054$ ($p < 0.968$)].

According to our second hypothesis, both "economic reward," such as the opportunity to earn a high wage during future work or a direct bonus for efficient work, as well as social reward, such as prestige, increase motivation when there is supervision. Critically however, without supervision, incentives had no effect on worker performance. In addition, incentives influenced participant to cheat, declaring work finished when it was in fact not. Similar results are found by Schwieren and Weichselbaumer (2010). Here, participants significantly increase their cheating behavior under competition, which may be an attempt to retain a chance of winning. Compounding this behavior, it seems that social prestige not only increases motivation to dishonestly declare greater workloads but also increases motivation to dishonestly win the incentive. While there were no differences in the number of real finished pages, there was a significant difference in the time spent working in the Social condition. Interestingly, we found that economic incentives do not encourage participants to cheat more to win the incentive. This is particularly troubling to firms, since they typically use incentives to replace supervision. Is there a situation when incentives without supervision can be beneficial? According to Jordan (2001) under low intrinsic motivation people cheat more, therefore, under high intrinsic motivation people may cheat less. We explore this possibility by examining internal motivation and its relationship with supervision and incentives in experiment 3.

6. Experiment 3: intrinsic motivation

6.1. Experimental design

Here, we modified experiments 1 and 2 by asking participants to complete a very popular word search "mind game" puzzle taken from a local newspaper. In order to develop a deeper understanding about the results in previous experiments, we analyzed if there were differences between participants with (and without) intrinsic motivation to complete the task. Intrinsic motivation was measured as how much a participant enjoyed doing the task. We selected "word search puzzles"

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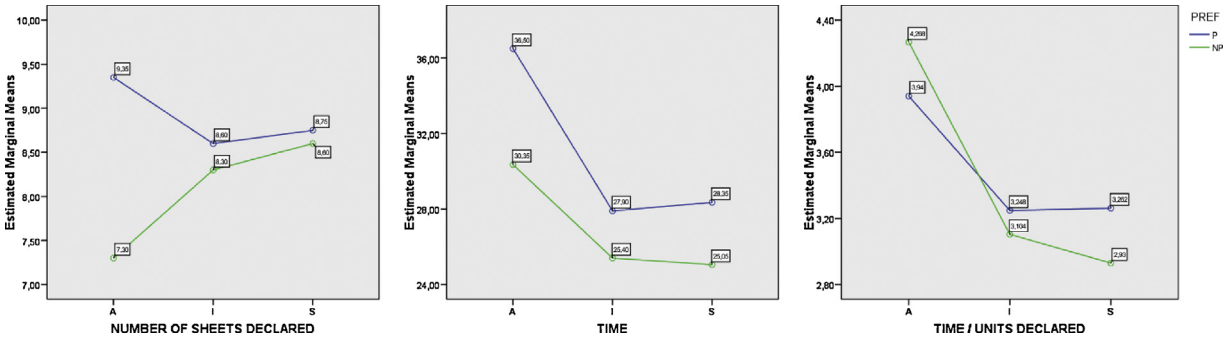

Fig. 2. Number of sheets declared, time and time per units in the Acknowledged, Ignored, and Shredded conditions for P and NP groups.

because they are very similar to the task in experiment 1 and 2 (participants paid 0.55D for finding 10 different words instead two consecutive letters). Before the task, we asked participants to rate their preferences for different popular newspapers mind games, including: "Word Search Puzzles", "Crossword Puzzles", "Jumble" and "Sudoku". They had to order the task depending of their preferences: "1" the first choice and "4" the last one. Participants were not aware that they would be doing a word search task when they made their preference ratings. Because these newspapers mind games were popular, participants could easily rate their preferences without having to learn each game before the experiment and because of that we changed the task.

We then selected two different groups: group P composed of 60 participants who answered 1 (first choice) for word search puzzles, and group NP composed of 60 participants who answered 4 (last choice) for word search puzzles. As in the previous experiments, we recorded the time each participant took to hand in his or her work, as well as the number of pages completed in conditions A and I. Once we observed the effect of intrinsic motivation, to compare the interaction between incentives and intrinsic motivation, we added additional economic incentives (60 participants in group P and 60 participants in group NP) and additional social incentives (60 participants in group P and 60 participants in group NP). Therefore, 360 participants composed our sample in this experiment.

7. Results

In the Acknowledge condition there are no differences in the time per unit ($Z = -1.488$; $p < 0.136$) or the number of units finished ($Z = -0.609$; $p < 0.542$) with respect to the results of Experiment 1. As such, it seems that the difficulty and effort to find two consecutive letters is the same as the difficulty and effort to find one word, making the tasks comparable. We did not find differences respect to the number of units declared between Acknowledge and Ignored/Shredded conditions for participants who liked the task (an average of 9.35, 8.60, and 8.75 sheets; $\chi^2 = 1.99$; $p < 0.368$). Same results for participants who did not like the task. These results support our findings from experiment 1. Looking between P and NP groups, however, we observed that in the Acknowledged condition, NP Group participants (who did not like the task) finished fewer units ($Z = -2.859$; $p < 0.004$) and spent more time ($Z = -2.166$; $p < 0.030$) than the P Group, as would be expected (Fig. 2).

As in the Experiment 2 economic and social incentives did not increase workload or the level of cheating in terms of declared units for either intrinsically motivated participants (see Table 3 in Appendix B) or unmotivated participants (see Table 4 in Appendix B). However, in the Acknowledge condition both economic [$Z = -2.724$ ($p < 0.006$)] and social [$Z = -2.833$ ($p < 0.005$)] incentives decreased the time spent by the P Group participants (see Table 5 in Appendix B). These incentives did not increase the workload, but workers were faster in the task, suggesting the incentives increased P Group participants' motivation. Interestingly, we did not find the same effect for the NP Group (see Table 6 in Appendix B). Therefore, only participants who liked the task (had intrinsic motivation) were influenced to be more efficient with economic and social incentives.

Finally, we found that intrinsic motivation also played an important role on cheating behavior. As in experiment 1, we found that all participants in the Acknowledge condition handed in fully completed pages, and participants in the Ignored condition completed only a few of the pages. However, as in the first and second experiment, and agreeing with Hypothesis 4, participants cheat only moderately. While experiment 1 participants only finished the 47% of declared sheets in the Ignored condition, in experiment 3, P Group participants finished 63%. Moreover, for the Ignored and Shredded conditions economic incentives made no significant differences in the time spent on the task for either P Group or NP Group participants. With social incentives, however, both P [$Z = -3.158$ ($p < 0.002$)] and NP Group [$Z = -2.612$ ($p < 0.009$)] participants declared that they spent less time than in the non-incentives situation. Overall, these results show that participants with intrinsic motivation cheated less.

According to our third hypothesis, under high supervision, participants who like the task finish more units and need less time to finish each unit compared to participants who do not like the task. In addition, under low supervision, participants who like the task finish more units and spend more time on each unit to finish the task. This means that, in line with Jordan (2001) and what we observed in Experiment 2, participants cheat less when they have a preference for the task (that is,

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intrinsic motivation). Both motivated and unmotivated participants, in agreement with our forth hypothesis and in line with Mazar et al. (2008), still maintain the same positive self-concept, in terms of being honest individuals, with different grades of supervision. Without supervision the level of cheating is moderated only by the time they spend on the task (if we compare present results with the results in experiment 1). As in the case of unmotivated participants, intrinsically motivated workers still tend to lie about the number of units declared.

8. Discussion and conclusion

Our results suggest that the supervision of workers is necessary not only because of its effects on motivation, but also because lack of supervision promotes dishonest behavior. Without supervision, we have found that workers only complete half of the work they purport to have finished and therefore spend less time "on the job". As we can see in experiment 1, the fact that workers cheat when they are not supervised decreases their economic profits (they earn less money than if they work honestly for the same time), while at the same time decreasing the profits of the organization (because more than 50% of the work is not completed). Regarding incentives, both economic and social incentives motivate participants who enjoy their job to be more efficient. At the same time, it seems that people can increase their band of acceptable dishonest behavior if presented with the right incentive. In the case of economic rewards, we did not see a significant effect on dishonest behavior. However, our economic incentive was small, 10D . It is possible that increasing the reward may cause the level of cheating to become significant. Nonetheless, the amount of money offered to the participants was about two times what participants considered a "good deal", and three times the amount of money they earned for the task they completed during the initial experiment. Moreover, higher reward amounts are not realistic incentives for regular workers in real firms, because economic incentives are rarely bigger than three times regular salary. In the case of social reward, we find that even prestige in a small social group (in this case the participants' class) increases participants' motivation, but at the same time also increases cheating to win the reward.

Our results show the importance of a firms' hiring procedure. In particular, companies should place a high value on hiring employees who display a preference for the tasks they would need to complete during their jobs. Along the same line of reasoning, Collins (2010) concludes that because the performance of intrinsically motivated employees ultimately benefits the organization, human resource professionals should understand and support antecedents that empower their most capable employees. According to our results, workers who did not like the task worked less and spent more time completing the task than workers who enjoyed the task. Moreover, under low supervision, intrinsically motivated employees had greater quality of work and cheated less. While participants cheated, their level of cheating was not as high as it might have been. Participants could have reported they completed all sheets, especially in the Shredded conditions where there was no way for the experimenter to monitor if subjects cheated. However, it seems participants tempered their level of cheating, potentially to fall within a band of "acceptable dishonesty," which is limited by internal reward considerations. These results support the Theory of Self-Concept Maintenance (Mazar et al., 2008). In reference to the labor market, workers without supervision could have a dilemma about whether or not to cheat.

Finally, Ariely et al. (2008) found significant differences between supervised and non-supervised participants. In their case, American participants in the non-supervised conditions allege to have completed less work. We do not see this trend with Spanish participants. Spanish students in the current study cheat when unsupervised while MIT students in the original simply work less. While this could be explained by cultural differences between Spanish and Americans in their concept of right and wrong (Spanish participants may accept a higher level of cheating without tipping the moral/immoral scale (Kuehn et al., 1990)), it would be appropriate to take into account other possibilities. For instance, Charness and Dufwenberg (2006) assume that people feel guilty if they harm others by lying to them, and Gneezy (2005) found that lying behavior depended on the costs it imposed on both the liar and on the one who is lied to. We can link those ideas with the CuPS (Culture X Person X Situation) approach (Leung and Cohen, 2011) and its conclusions about American and Latin people. In this approach, one variable may predict a given behavior in one culture, and it may predict the opposite type of behavior in another culture. According to Leung and Cohen (2011), it is necessary to understand the particular logics of a cultural system, mainly dignity and honor. It is very important not to forget that US Universities like MIT where Ariely et al. (2008) run the experiments have a very important Honor Code that students in Spanish Universities do not. The distinction between honor, dignity, glory and respect as values and principles that may be used to read value structures and cultural codes (Orit, 2002) could explain the difference found. We consider this line very interesting for future research. Furthermore, as in our experiment each participant did the task alone, it would be very interesting analyze in future research the role of others in individual behavior in line with recent works about peer effects (Fosgaard et al., in press) or Robin Hood effect (Ploner and Regner, in press; Gino et al., in press).

In summary, our results suggest that the supervision of workers is necessary, not only because it may moderate motivation, but in particular because lack of supervision promotes cheating. In this article, we show that economic and social incentives can increase peoples' motivation (when participants like the task), but they can also incentivize workers to cheat. People can choose to be honest or not. They often have two competing motivations: gaining from cheating versus maintaining their positive self-image as honest individuals (Aronson, 1969; Harris et al., 1976). It seems to be a win–lose situation from which we have to choose. However, Mazar et al. (2008) proposed in their Theory of Self-Concept Maintenance that people typically solve this motivational dilemma adaptively by finding a balance or equilibrium between the two motivating forces. People tend to behave dishonestly to derive some financial benefit, but only to a small degree in order to maintain

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their positive self-concept as honest individuals. Our results support this theory and go beyond, demonstrating that not only must workers be supervised to discourage cheating, but also that monetary or social incentives can modulate the amount of cheating and in some cases increase dishonesty. In fact, when we analyze the level of cheating, people who like their job cheat less than people who dislike their job, even with economic incentives. Importantly for future research, when social incentives appear, the level of cheating becomes the same for all workers regardless of intrinsic motivation.

Appendix A. Supplementary data

Supplementary data associated with this article can be found, in the online version, at http://dx.doi.org/10.1016/j.jebo.2013.03.015.

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