Stockholm School of Economics
M. Sc. in Economics
Spring 2012

Power on Risk-taking and Competition – A Laboratory Experiment

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Abstract

We investigate the effects of power on risk-taking behavior and competitive behavior with monetary payoffs through the conduction of a laboratory experiment with a sample of 92 undergraduate students. Participants are primed into a high or low power condition and their choices pertaining to certain and uncertain outcomes in both a gain and loss domain, as well as the choice to self-select into competition, are studied. We find that individuals in the high power condition are significantly more risk-averse in the loss domain compared to individuals in the low power condition, which can be explained by the approach and inhibition framework. No significant differences are found for risk-taking in the gain domain or for competitive behavior between the two power conditions. Individuals in a low power condition are found to follow prospect theory to a larger extent, while managers are found to follow expected utility theory.

Keywords: Power, approach and inhibition framework, risk-taking behavior, competitive behavior, prospect theory

JEL Codes: D03, D81, C91

Date of Examination: 24.05.2012
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Acknowledgements

The authors wish to express gratitude to Professor Magnus Johannesson for valuable input, feedback and enthusiasm. We further wish to express thanks to Anna Dreber for valuable input during discussions. Finally we are grateful to the Jan Wallander and Tom Hedelius Foundation for funding the experiment.

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1. Introduction

In social relationships, power is a basal force. A reason for the fascination with power lies in the influence a power-holder can exert on his surroundings as well as the disproportionate share of resources obtained as a consequence of power. The importance of the concept of power lies not only in recognizing how those individuals high in power - such as leaders - make decisions, but also in understanding underlying human behavioral mechanisms. What mechanisms allow an individual in power to act differently from those in his surroundings?

Current literature is preoccupied with the significant behavioral effects that power can have in the power-holder. In research on status, which can be a determinant of power, it has been shown that status can lead individuals to better coordinate tasks as well as increase willingness to donate to a public good (Eckel and Wilson, 2007; Eckel et al., 2010).

In order to explain the distinct findings in behavior of individuals holding a high power position, a framework was introduced by Keltner, Gruenfeld and Anderson (2003), which describes the activation of approach or inhibition processes depending on whether an individual takes on a high or low power role. Thenceforward, researchers have attempted to test various hypotheses pertaining to the framework, with most findings providing empirical ratification thereof (Anderson and Berdahl, 2002; Galinsky et al., 2003). Though several studies regarding the approach and inhibition framework have been conducted, there are still missing links with certain behaviors still unexplored from a power position perspective.

The aim of this thesis is to apply the knowledge generated from previous studies unto areas yet to be explored, in order to provide a more complete understanding of the processes behind power. Where previous empirical research outcomes include the correlation between power and action-orientation (Galinsky et al., 2003), power and the expression of true attitudes and positive thinking (Anderson and Berdahl, 2002), as well as heightened power leading to optimism in perceiving non-monetary risks (Galinsky and Anderson, 2006), it is our aim to conduct an investigative study of two behaviors we believe are naturally derived as a next step in the research on power.

Two novel concepts we treat are the effects of power on risk-taking behavior for monetary payoffs in a gain and loss domain, as well as the effects of power on competitive behavior in

individuals. Risk-taking behavior for monetary payoffs and competitive behavior is interesting both from a behavioral economics point of view and from an organizational and leadership point of view, as risk-taking and competitive situations are those in which employees often will find themselves in. It is of interest to further understand why managers and subordinates make certain decisions, specifically regarding if financial decisions may differ between these groups based solely on the role they have. Organizations would in this case need to take measures such as finding an efficient format of financial incentive schemes for employees and managers. The study also provides more substance to a study conducted by Galinsky and Anderson (2006). We take on a deductive approach where we apply current theory and outcomes of previous research in order to test our hypotheses regarding the outcomes of power on monetary risk-taking and self-selection into competition. A laboratory experiment is conducted in order to test these hypotheses. The question formulations to be answered in this thesis are: how does high power affect risk-taking behavior in the gain domain for monetary payoffs, how does high power affect risk-taking behavior in the loss domain for monetary payoffs, and how does high power affect competitive behavior in terms of self-selection into competition?

1.1 Demarcations

The scope of the study we conduct is limited to testing three hypotheses regarding how power affects an individual's risk-taking and competitive behavior in a laboratory setting. Management and leadership studies are not included in the scope of this thesis. The focal point lies on the concept of power as defined in section 2.1 and not adjacent concepts such as leadership or status.

1.2 Disposition

The remaining portion of this thesis is divided into six parts. In section two below follows a presentation of three relevant areas of previous research, including power, risk-taking behavior and competitive behavior, followed by our formulated hypotheses. In section three of the thesis we present the methodology of our stud, including the experimental design and

the data collection process. Section four presents the variables and the econometric models used for the analysis. Consecutively, section five presents the results, which are then discussed in section six together with limitations. Finally, in section seven we draw conclusions of the outcomes of the study.

2. Previous research

In this section we give an overview of relevant research background within the three areas pertaining to power, risk-taking and competition. The section begins with a description of the literature behind the approach and inhibition framework regarding the effects of power on behavior. Next we provide an in-depth treatment of prospect theory and risk-taking behavior in individuals and we conclude by providing insights from literature on recent studies conducted on behavior in competitive settings.

2.1 The approach and inhibition framework of power

We choose to define power as an individual's ability to alter the state of others through either the provision or withholding of valued resources or the administration of punishments (Keltner et al., 2003; Anderson and Berdahl, 2002). This definition posits individuals with power in a resource and reward abundant environment, in which these individuals are able to attain goals as they feel unconstrained by the consequences of their actions and the evaluation of others. Fewer constraints translate into fewer hindrances encountered in the pursuit of rewards. Conversely, the environment of individuals in a powerless position connotes access to fewer resources, a greater risk of punishment as well as exposure to social threat. There are social constraints on the behavior of powerless individuals because others can control their outcomes, thereby making them dependent on others and sensitive to their evaluations.

In order to explain the behavioral effects resulting from elevated power, Keltner et al. (2003) in a recent study proposed a framework of the approach and inhibition system, encompassing the effect that power has on the activation of two main motivational systems in individuals. Activation of the approach system process occurs when an individual is in a powerful position and implies a greater attention towards rewards, taking action, automatic cognition, disinhibited behavior and positive affect. The uncertain and threatening environment

connected to powerlessness instead triggers the inhibition system process, which implies systematic cognition, vigilant and situational constrained behavior as well as negative affect.

Recent research has aimed to empirically test the approach and inhibition framework proposed by Keltner et al. (2003), with several hypotheses still in need of direct empirical testing. An example includes whether individuals in power act in a consistent way with how they believe that individuals in power would act or whether the behavior instead is intrinsic (Galinsky et al., 2003). Boksem et al. (2009) provide neutral evidence for the framework through the measurement of EEG activity of subjects after priming them with high or low social power. They find that power priming leads to an increased activity in the left-frontal brain, which has previously been associated with approach behavior. Such activity has not been tied to positive affect however, so results are not fully in line with Keltner et al. (2003).

In order to ratify the framework, Galinsky et al. (2003) test whether elevated power in individuals increases action-orientation compared to those in a reduced power scenario. The authors confirm that the likelihood of action increases in the power holder with elevated power. Individuals given a power position in a group task were more likely to take a card in a simulated game of Blackjack, had a higher proclivity to act in a goal-consistent behavior (act against an annoying stimulus) and were more likely to take action in a social dilemma regardless of whether the action taken served self-interest or public interest. Similar supporting results were found by Anderson and Berdahl (2002), where participants high in personality dominance or with assigned control over resources expressed true attitudes, positive thinking, and had a higher likelihood of perceiving rewards and a lower likelihood of perceiving threats (partners liking them and partners having anger towards them, respectively).

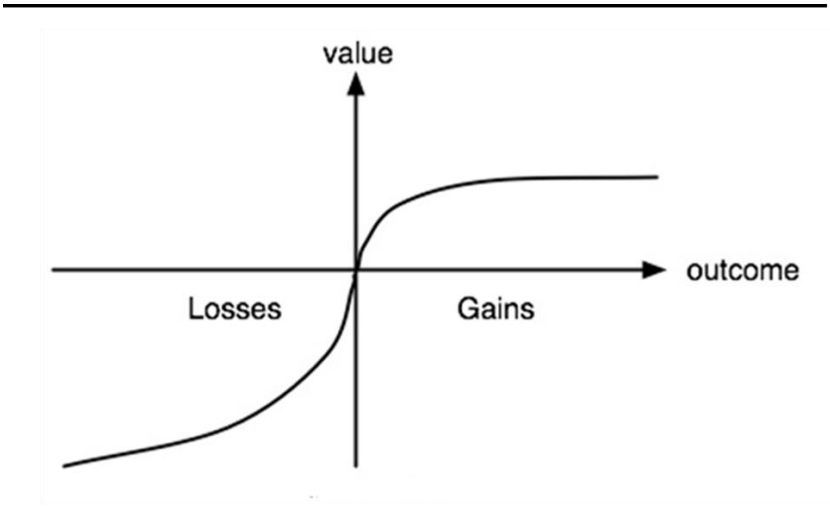
In a field study conducted by Ferguson et al. (2010), differences in power positions were shown to affect responses to poor performance in organizations. Results were found to be in accordance with the approach and inhibition framework, as individuals who held power would engage in approach-related behaviors such as training and comforting the poor performer. Individuals with less power would compensate for or reject the poor performer, in accordance with the inhibition approach.

2.2 Risk-taking behavior and prospect theory

Kahneman's and Tversky's (1979) prospect theory was the first realistic psychological theory formulated regarding an individual's preferences among outcomes involving risk. According to prospect theory, individuals tend to evaluate choice outcomes as gains or losses relative to their current situation rather than in terms of absolute values. Consequently, gains and losses are typically defined relative to a neutral reference point, such as the individual's current asset position. This implies that when an outcome is considered a gain, less risky choice outcomes are preferred to risky outcomes (*risk aversion*). However, when the outcome is considered a loss, risky choices' outcomes are preferred to less risky outcomes (*risk-seeking*). The change in risk behavior between gains and losses is labeled the reflection effect.

Furthermore, prospect theory states that individuals tend to attach more weight to losses than to gains of corresponding value (*loss aversion*). That is, the value function is steeper for losses than for gains (see figure 1). When forming an expectation, the outcome payoffs are multiplied by decision weights. Small probabilities tend to get over-weighted while moderate and large probabilities get under-weighted. This can explain the reason why individuals, by way of example, buy lotteries or insurance.

Figure 1 – *Prospect theory value function*



When observing previous literature within risk-taking, a vast majority of studies have found that women are more risk-averse than men in many settings, both in laboratory experiments as well as in field studies (Eckel and Grossman, 2008; Schubert et al., 1999; Powell and Ansic, 1997). In a laboratory study, Fehr-Duda et al. (2006) found that men and women differ in

their probability-weighting scheme, where women tend to be less sensitive to probability changes and underestimate large probabilities of gains to a greater extent than men. Studies in the field pertaining to managers and professionals find small to non-existent differences in preferences for risk between genders (Croson and Gneezy, 2009; Atkinson et al., 2003). Arch (1993) suggests that men view risk-taking as a challenge in which they should participate, while women see risk-taking as a threat that should be avoided. Overconfidence and emotions are also important concepts affected by gender differences, with men being overconfident regarding their rates of success in uncertain situations more so than women are, and women experiencing emotions more frequently that can impact the perception of probabilities, i.e. perceive them as more risky.

The behavior of an individual regarding risk can change through the influence of external factors, i.e. negative affect such as anger or stress has been shown to increase risk-taking behavior (Lerner and Keltner, 2000; Procelli and Delgado, 2009; Loewenstein, 2000). Similarly, power can be considered an external factor that influences behavior towards risk, as has partly been shown by Galinsky and Anderson (2006) for non-monetary risks. The authors conduct various studies that empirically test power on non-monetary risk-taking. A first study investigates whether a generalized sense of power in individuals leads to a perceived increased optimism about the occurrence of personal future events. In a second study the perception of increased optimism is moved from a personally relevant point of view to the environment in general and in excess of a generalized sense of power, the authors prime subjects into high or lower power through the use of a memory tasks concerning power. In both these studies the results show that a high generalized sense of power and priming into a high power position lead to more optimism in perceptions. In a third study the authors test whether there actually exists a preference for risk in individuals primed with high or low power. Priming was non-conscious and entailed finishing word fragments with either high or low power words. The authors include both a gain and loss framing for preferences, and use a neutral power condition for a control group, enabling the separation and singling out of effects for the high and low power conditions respectively, rather than just investigating the difference between the two power conditions. Results show that participants in a high power condition were more risk-seeking, while the activation of low power did not lead to risk aversion since the results between the low power condition and the control group were not significantly different.

Relating back to the approach and inhibition framework, an implication of the framework is that the links between power and the two systems should be symmetrical. Galinsky and Anderson (2006) did not find support for this, as participants primed with a low power condition were not found to be more risk averse for non-monetary risks. Accompanying these results is the need for further empirical testing in order to more fully understand the mechanisms related to power and more robustly decide the size and direction of the effects of high and low power conditions.

2.3 Competitive behavior

An extensive amount of research has been conducted on competition, with both economists and psychologists expressing interest in the topic. Within the field of psychology, studies on the behavioral changes caused by competitiveness have shown that competition is associated with more aggressive behavior, focus and superior performance (Steiner et al., 2010; Mazur et al., 1992).

General findings in economic literature also point to a change in behavior in competitive settings, for example it has been found that competition makes individuals act in a more selfish manner (Schotter et al., 1994; Roth et al., 1991) as well as appear less giving and generous (Duffy and Korniekno, 2010). Two measures of competition are widely acknowledged and used in recent economic literature (Croson and Gneezy, 2009). One way is through the measurement of change in performance for an individual in a competitive setting versus a non-competitive setting, while a second measurement regards an individual's willingness to self-select into competition.

Current literature specifically emphasizes gender differences in competitive behavior (Croson and Gneezy, 2009). In a laboratory experiment conducted by Gneezy et al. (2003), men and women were under the instruction to solve as many maze puzzles as possible with payments for doing so following either a piece rate payment scheme or a winner-takes-all payment scheme. Findings showed that under the piece rate scheme men performed slightly better than women. In the competitive tournament, with a winner-takes-all-payment scheme however, men increased their performance significantly, while women remained statistically at the same level. Finding similar results in terms of gender differences in competition, Gneezy and Rustichini (2004) ran a field study on young children running 40 meters alone or in pairs with

different gender compositions. Boys running in a competitive setting increased their performance significantly while the girls' performance did not change.

When measuring an individual's willingness to self-select into competition, Niederle and Vesterlund (2007) chose to examine compensation choice in addition problems, where there are no gender differences in performance. Men and women first compete under both a piece rate scheme and a winner-takes-all scheme and then were given the freedom to select the preferred incentive scheme for a consecutive task. Results showed a self-selection bias in men towards the competitive winner-takes-all scheme, while many high-performing women lost potential payoffs by shying away from competition. Croson and Gneezy (2009) sum these effects as men being more overconfident in their relative performance, which is a driver in foretelling entry into competition. Furthermore, since tournaments imply uncertain payoffs, gender differences in behavior towards risk (as discussed in the section above) are likely to affect the choice of compensation scheme. Nevertheless, research has yet to confirm whether behavioral changes depend on gender composition of groups, i.e. same-gender groups or mixed-gender groups, with ambiguous results found across studies (Croson and Gneezy, 2009).

Previous literature has not engaged in predicting or testing whether high or low power conditions would change competitive behavior. This would, however, be an important aspect to investigate as individuals in power positions often find themselves in competitive environments; managers of firms need to take into account and act upon the competitive environment of their business while subordinates find themselves in competition for attaining a raise or promotion in organizations.

2.4 Hypotheses

Our thesis aims at obtaining an in-depth analysis of how power affects risk-taking behavior in a gain and loss domain as well as investigating the effects of power on self-selection into competition. We conduct a laboratory experiment where we test three hypotheses through the priming of dyads of participants into a high and low power condition.

Prospect theory argues that individuals experience gains and losses differently, as they are more sensitive to losses and thus act in a risk-seeking manner in the loss domain and a more

risk-averse manner in the gain domain. In the study conducted by Galinsky and Anderson (2006), the authors question that individuals primed into a high power condition would act in accordance with prospect theory. Instead, they propose that individuals primed into a high-power condition would, in accordance with the approach and inhibition framework, focus on positive affect and rewards. Galinsky and Anderson argue that this should lead to more risk-seeking behavior in both a gain and loss domain. The authors further suggest that power alters the perceived probability of an outcome, and given their finding that high power individuals were more optimistic regarding risks, these individuals would hence act in a more risk-seeking fashion as they would assign higher probabilities to positive outcomes and lower probabilities to negative outcomes, independently of valuations of the outcomes or the framing. The opposite would be true for individuals primed into a low power condition as they focus on negative affect and threats, which subsequently should make them more risk-averse in both the loss and gain domain.

We concur with Galinsky and Anderson (2006) that in the gain domain individuals in high power should be more risk seeking than individuals in low power, as they are more focused on positive affect and rewards: generally functioning in a domain of gains. Conversely, low power individuals would be functioning in a domain of losses given that they are affected by threats and negative affect. This would lead low power individuals to be more risk-averse in a gain domain. Hence we form our first hypothesis:

H1: Individuals primed into a high power condition will be more risk-seeking in the gain domain than individuals primed into a low power condition

Our hypothesis for how high power individuals will act in the loss domain however, contradicts the assertions made by Galinsky and Anderson (2006). We argue that these individuals will be more risk-averse in the loss domain instead of risk-seeking as predicted by prospect theory. High power individuals should set a reference point for their current asset position higher than those individuals in the low power condition. This in accordance with the approach framework, in which the activation of positive affect causes high power individuals to have a more positive outlook on their current asset position. While low power individuals would cognitively set a lower reference point for their current position, which would lead to more risk-seeking behavior in the loss domain in order to avoid sure losses, high power individuals would hence be more risk-averse. Hence we form our second hypothesis:

H2: Individuals primed into a high-power condition will be more risk averse in the loss domain than individuals primed into a low-power condition

Our first two hypotheses hence suggest that the behavior of high power individuals would contradict prospect theory, while the behavior in line with prospect theory for low power individuals should be intensified.

H3: Individuals primed in a high-power condition will be more likely to compete in a competitive environment than individuals in a low-power condition

Individuals in a high power condition have an activated approach process and therefore give greater attention to rewards and should easily overestimate their abilities. It is probable that power will make individuals more likely to compete as they would have a more positive belief about their capability to win the competition and therefore be more prone to self-select into competition.

3. Methodology and data collection

In order to test whether the activation of power in individuals leads to increased risk-taking and competitive behavior, a laboratory experiment was conducted with a convenience sample of 92 first- and second-year undergraduate students at the Stockholm School of Economics[1]. Subjects were recruited based on willingness to participate, and experimental sessions commenced in dyads, with participants being coupled with another subject from a different year of study in order to increase the assurance of subjects not having met before the time of the experiment[2].

The reason for the choice of a laboratory experiment is that it allows for the randomization of participants into high and low power conditions and for isolating effects. A laboratory experiment also allows for testing direct links to risk-taking and competitive behavior. The sample we use is relatively large compared to previous studies regarding power, which usually only treat samples of up to 50 participants, which should enable us to obtain reliable

[1] The experiment took place between November 2011 and January 2012.

[2] When such coupling was impossible, social media channel Facebook was used as a tool to ensure that subjects did not know each other. Nevertheless, it cannot be confirmed that participants in all dyads did not know each other.

results[3]. Many studies in recent literature have conducted a laboratory approach initially by priming participants into high or low power conditions, the findings of which can be used as a benchmark for the type of behavior that could be found in a field experiment (Anderson and Berdahl, 2002; Galinsky et al., 2003; Galinsky and Anderson, 2006).

3.1 Experimental design

Participants were randomly assigned as managers or subordinates before they partook in the experiment. For each experiment session, only one dyad was treated at a time, and participants were placed in separate rooms as they came to the experiment. Subjects were then primed into the high power condition (manager) or into the low power condition (subordinate) in a two-step process, or a double-priming process. The first priming task was collaborative in nature, allowing the participants in the dyads to interact with each other. The second priming task was conducted in separate rooms and consisted of a memory assignment. After the double-priming process, subjects were asked to complete a risk-taking assignment followed by a competition assignment. In order to ensure that subjects remained in their primed roles throughout the entire experiment, they were informed of a second collaborative task[4], exactly the same as the one conducted during the first priming, which would commence after they had concluded the risk-taking and competitive assignments. Finally, the participants were asked to complete a short questionnaire and were then paid in accordance with the choices subjects made in the risk-taking and competitive assignments. Payments were on average 150 SEK[5] per participant. The entire experiment, save the collaboration task, was conducted on computers through the survey program Qualtrics.

3.2 First priming

The initial priming exercise consisted of a collaborative task in dyads based on that of Galinsky et al. (2003) and Overbeck and Park (2001). Participants were first informed of their assigned roles as manager or subordinate (see appendix 1-3 for complete instructions), as well

[3] A number of pilot studies were run prior to the experiment were the experimental design was tested and improved. A total of 24 individuals participated in the pilot studies.
[4] To subjects the collaboration task was presented as a "quality assurance assignment"
[5] Exchange rate 1 USD = 6,88 SEK on the 23rd November, 2011

as the role of the other individual in the dyad. Subordinates were not given much information about the collaborative task and were instructed to await further information from their manager. Managers were in turn informed about the design of the collaborative assignment and told that they would enter the room in which the subordinate was located, where they would explain and conduct the task at hand.

The design of the collaborative task consisted of subordinates identifying as many mistakes as possible in an incorrect invoice through the comparison with a correct original, with a set time-constrain of two minutes in place (see appendix 5 for an example of the invoices). This task was conducted twice. Managers were responsible for providing the subordinates with instructions, as well as managing the time-constrain. Furthermore, each manager had to choose a level of difficulty for both of the erroneous invoices, with difficulty level consisting of a varying number of mistakes in the invoices, as well as correct and evaluate the work of the subordinate. Power entails controlling scarce resources as well as the behavior, thoughts and feelings of other individuals, wherein lies the importance of managers feeling they were in control of certain aspects of the task in order to ensure successful priming (Anderson and Berdahl, 2002).

The subordinate was informed by the manager that he had authority to choose the level of difficulty, as well as the level he had decided upon. The manager also stated that the subordinate would be evaluated at the end of the task, but that the subordinate would not get to partake in either his results or his evaluation. The evaluation consisted of rating the subordinate's performance on a 7-point Likert scale, as well as rating the performance against how well the manager thought other subordinates would do, also on a 7-point Likert scale. For the priming of a subject in the low power condition, it was vital for the subject to feel that another individual had control over resources and that he was dependent on the evaluation of the high power individual, in order to ensure successful priming. The results of the evaluations were not disclosed to the subordinates, as doing so could have affected their decision to compete in a later stage of the experiment.

Managers were not informed of whether their evaluation of the subordinate's performance would have monetary consequences for the subordinate or for themselves, leaving room for interpretation. The collaboration task that commenced after the risk-taking and competition assignments was alike to the first priming task, but with new invoices.

3.3 Second priming

Once both the manager and the subordinate had finished with the first collaborative task, they were primed again into their relative roles through a memory task (see appendix 4 for further details). Directly applied from Galinsky et al. (2003) and Galinsky and Anderson (2006), the memory task for participants in the high power condition implied subjects writing about an experience in which they had power over another person/persons, while participants in the low power condition were to write about an experience in which someone or others had power over them. Similarly to the first priming, the second priming had a time limitation of five minutes.

In order to ensure that the memory task was effective in its priming of individuals, an objective coder unaware of the aim or hypotheses of the experiment was asked to rate the amount of reported power in the memory task essays on a 7-point scale, adopted from Galinsky and Anderson (2006). The results of the coding show that participants wrote about different levels of power: $t(92) = 11.87$, $p<0.01$, with managers reporting significantly higher levels of power ($M=5.15$, $SD=1.08$) compared to subordinates ($M=2.56$, $SD=1.01$). A second objective coder also rated the power essays, confirming the first coder's result with a high correlation across ratings, $r=0.70$ ($p<0.01$).

Where the first priming addressed the concept of power as something exercised in social relationships, the second priming task reinforces the same through activating a "sense of power" in subjects, anchored in past relational experiences regarding power which are recalled. The double-priming should hence ensure successful priming into high and low power conditions. After the priming tasks were completed, participants were asked to complete a risk-taking and competition task.

3.4 Risk-taking task

The risk-taking task consisted of ten questions in each of the gain and loss domains. Each question allowed for the subject to choose between a risk-seeking and a risk-averse alternative. For the gain domain, subjects were instructed (see appendix 6 for further details) that they had the choice between receiving X SEK for certain or flip a coin for Y SEK, where $X < Y$ with X ranging between 30-70 percent of the value of Y. Y took on a value of either 100

SEK or 150 SEK. The risk-seeking choice would hence be to flip a coin for a higher amount. The corresponding phrasing in the loss domain was that subjects had the choice between losing *X* SEK for certain or flip a coin for losing *Y* SEK or no money at all, where $X < Y$ with X ranging between circa 30-70 percent of the value of *Y*. *Y* took on a value of -50 SEK or -75 SEK. See table 1 for an illustration of all the choices given in both the gain and loss domain for the risk-taking task.

Table 1 – *Risk-taking task choices*

	Gain domain choices (SEK)	**Loss domain choices (SEK)**
1	70, 100 vs. 0	-30, 0 vs. -50
2	60, 150 vs. 0	-55, 0 vs. -75
3	40, 100 vs. 0	-40, 0 vs. -75
4	45, 100 vs. 0	-20, 0 vs. -50
5	105, 150 vs. 0	-15, 0 vs. -50
6	50, 100 vs. 0	-35, 0 vs. -50
7	30, 100 vs. 0	-25, 0 vs. -75
8	75, 150 vs. 0	-30, 0 vs. -75
9	90, 150 vs. 0	-25, 0 vs. -50
10	60, 100 vs. 0	-45, 0 vs. -75

Further, subjects were informed that one of the choices made in the gain domain and one of the choices made in the loss domain would be randomly selected and paid out in real cash to them. In order to include a loss domain in the experiment, a common reference point was set for both managers and subordinates. They were informed at the beginning of the experiment that 75 SEK had been put aside for each subject for participating in the experiment, but that this amount was subject to diminishing or increasing depending on what decisions the subjects would take during the experiment. This entails that subjects could never make a loss

from participating in the experiment, with a minimum payoff of 0 SEK.

3.5 Competition task

The set-up for the competitive task was similar to the one used by Niederle and Vesterlund (2007), with subjects instructed to solve as many mathematical addition problems as possible with a time-constraint of two minutes. The task consisted of 35 four double-digit numbers to be added together (see appendix 7 for further details). First, subjects were to complete the task with payment according to a piece-rate payment scheme. Next, subjects were given the task again, but had the choice to be paid through the piece-rate scheme again or a winner-takes all payment scheme. The winner-takes all payment scheme implied that subjects would receive double the payment of the piece-rate scheme if they solved more problems correctly than a randomly chosen prior participant in the experiment: that is actively choose to compete. Failure to solve more problems than the prior participant would result in a payoff of zero[6].

Once the dyads of participants had finished with the second collaborative task, each participant was asked to fill out a short questionnaire in separate rooms (see appendix 8 for further details). The questionnaire was used to obtain information on the participants' age, gender, their belief of the purpose of the experiment, as well as two questions on the generalized sense of power adapted from Galnisky and Anderson (2006) and Anderson and Berdahl (2002). The generalized sense of power is a proxy for the general power position an individual holds in his network. Both questions were ranked by the subject on a 1-7 Likert scale, where the first question was phrased as follows: "I feel powerful in the relationships with people in my daily life" and the second question was phrased as: " It is often I who take the lead when I work in a group with other people".

4. Statistical tests and variables

In the following section we present the variables and the econometric models we use in order to test our hypotheses. We also give an overview of the specific tests we use.

[6] In order to create correct incentives, when the same amount of problems was solved as the prior participant the payoff would be according to the piece-rate payment scheme.

4.1 Dependent variables

Three dependent variables were used in our econometric models in order to test our hypotheses: two variables measure the outcome of the risk-taking task and the third variable measures the outcome of the competition task (Table 2). The risk-taking outcome variables measure the frequency of choosing the risky choice in the ten gain domain choices and in the ten loss domain choices. The variable measuring the outcome of the competition assignment is binary in nature and represents the choice to self-select into competition.

Table 2 – *Dependent variable descriptions*

Variable	Variable name	Coding	Variable description
Dependent variables			
Risk-taking gain domain	risk_g	numeric 1-10	Number of risky decisions taken in the gain domain Out of 10 risky choices
Risk-taking loss domain	risk_l	numeric 1-10	Number of risky decisions taken in the loss domain Out of 10 risky choices
Competition	comp	0, 1	Decision to compete Yes= 1, No= 0

4.2 Independent variables

For all dependent variables the main regressor was the random allocation of high or low power. Control variables include age, gender, and mathematical ability. Age was measured in years while gender was a binary variable with woman as base (see table 3 for a full overview of all independent variables). The control variable regarding mathematical ability was used to control for the mathematical skills of participants in the competition assignment, given that a higher mathematical skill should lead to a higher likelihood of self-selecting into competition. The variable was measured as the number of correctly calculated math problems under the initial piece-rate payment scheme. In the questionnaire, respondents were asked to write what

they believed the purpose of the experiment was. A binary variable regarding understanding of purpose was created based on subjects suggesting a purpose concerning solely power or any combination between power, risk-taking and/or competitive behavior. The mean of the two questions pertaining to sense of power in the questionnaire was calculated and used as a control variable.

Table 3 – *Independent variable descriptions*

Variable	Variable name	Coding	Variable description
Main independent variable			
Power condition	power	0, 1	High or low power condition Manager=1, Subordinate=0
Control variables			
Age	age	numeric	Age of participant
Gender	gender	0, 1	Gender or participant Man=1, Woman=0
Mathematical ability	math_ability	Numeric, 0-35	Number of correctly solved math problems Out of 35 math problems
Understood purpose	purpose	0, 1	If participant understood the purpose of the experiment Understood=1, Did not understand=0
Sense of power	senseofpower	1-7	Mean of the two questions regarding participant's power in daily life Scale of 1-7, 1=low sense of power and 7= high sense of power

Table 4 – D*escriptive statistics*

	Number of participants	Percentage of sample	Mean	Min	Max
Self-selection into competition	51	55%			
Number of risk-taking choices					
Gain domain			4.1	0	8
Loss domain			4.9	0	10
Nr of correctly solved math problems			8.6	1	19
Sense of power			4.4	1.5	6.5
Understood purpose	17	18.5%			
Age			20.6	17 years	29 years
Gender					
Male	48	52%			
Female	44	48%			

Descriptive statistics (table 4) show that the range of risky decisions chosen for the sample in the gain domain ranges between 0 and 8 choices with a mean of 4.1, while the corresponding range for the loss domain is between 0 and 10 risky choices with a mean of 4.9. 55 percent of the sample chose to self-select into competition and the number of correctly calculated math problems ranges between 1 and 19 with a mean of 8.6. 52 percent of the sample is male (48 percent were female), and the range in age of participants was between 17 and 29 years with a mean of 20.6 years. 17 participants had a general idea of the aim of the experiment and the measure of sense of power ranges between 1.5 and 6.5 with a mean of 4.4.

4.3 Econometric models and statistical tests

The econometric models used were created and run with STATA as well as SPSS. Ordinary Least Squares (OLS) were used for regressions, as well as robust standard errors. Logistical regressions were also run for the binary dependent variable of competition, which are presented in appendix 9.

In a first simple OLS regression model, risk-taking in the gain (*risk_g*) and loss domain (*risk_l*) respectively is used as the dependent variable with only power condition included as the explanatory variable (*power*) (1). In another simple regression, power condition (*power*) and mathematical ability (*math_ability*) is regressed on the variable for self-selection into competition (*comp*) (2). In excess of using t-tests, an independent samples Mann-Whitney U test and a Contingency-table chi-square test are also used to test the aforementioned relationships. A paired samples t-test is used to test within group differences between gain and loss domains.

(1) $$risk\_g/risk\_l = \beta_0 + \beta_1 power + u$$

(2) $$comp = \beta_0 + \beta_1 power + \beta_2 math\_ability + u$$

Next, further control variables are added to the regression. Risk-taking in the gain and loss domain and decision to compete are used as dependent variables (*y*). For all regressions age and gender are included as controls, and in the regression with competition as the dependent variable, mathematical ability (*math_ability*) is also included as a control. An interaction term between power condition and gender is calculated and used (*power_gender*). However, first a regression is run with only the addition of the control variables while the interaction term is added only in a second regression (3).

(3) $$y = \beta_0 + \beta_1 power + \beta_2 controls + \beta_3 power\_gender + u$$

Finally, to model (3) sense of power (*senseofpower*) as well as understanding the purpose (*purpose*) is added as control variables, while the interaction term between power condition and gender is removed in a more extended model (4).

(4) $$y = \beta_0 + \beta_1 power + \beta_2 controls + \beta_3 senseofpower + \beta_4 purpose + u$$

5. Results

In this section, the results of the laboratory experiment will be presented. First the outcome of simplistic models (1) and (2) will be demonstrated, followed in a second section by more extended models (3) and (4).

5.1 Simplified model results

The results of the simple models are presented in table 5. As can be deduced from the table, an initial independent samples t-test shows that the mean number of risky choices in the gain domain is not significantly different between managers and subordinates. A Mann-Whitney U test fails to reject that managers and subordinates have the same distribution of risky decisions in the gain domain. In a loss domain we obtain significant results, with the mean number of risky choices taken by managers and subordinates significantly differing on a 5 percent significance level, as subordinates take significantly more risk in the loss domain than managers. A Mann-Whitney U test also rejects that managers and subordinates have the same distribution of risky decisions in the loss domain. In the simple model, there is no significant difference between managers and subordinates regarding self-selection into competition, which is also supported by a Contingency-table chi-square test. The simple model regression results are also presented in Table 6, Table 7, and Table 8 in the following section together with the other model results.

Table 5 – *Simplified model results (1) and (2)*

			P-value	
	Mean	**Std**	**T-test**	**Mann-Whitney U test / Contingency-table chi-square test**
Model (1) Risk-taking gain domain				
Manager	4.19	1.173	0.527	0.420
Subordinate	4.00	1.665		
Model (1) Risk-taking loss domain				
Manager	4.60	1.513	0.043*	0.037*
Subordinate	5.27	1.615		
Model (2) Competition				
Manager	0.53	0.504	0.889	0.816
Subordinate	0.58	0.499		

*Significant on a 5 percent level

A Paired Samples t-test computes the difference between the gain (*risk_g*) and loss (*risk_l*) risk variables within the group of managers as well as within the group of subordinates, and tests whether the average difference is significantly different from zero. The test for the group of managers shows that they do not take a significantly different number of risks, $t(47)= -1.46$ ($p<0.20$), between the gain domain ($M=4.19$, $SD=1.17$) and the loss domain ($M=4.60$, $SD=1.51$). The same test for subordinates rejects that the average difference between *risk_g* and *risk_l* is zero $t(45)=-3.76$ ($p<0.001$), with subordinates taking significantly more risk in the loss domain ($M=5.27$, $SD=1.62$) compared to a gain domain ($M=4.00$, $SD=1.67$). This indicates that subordinates follow prospect theory more so than managers do.

5.2 Results of extended models

When adding control variables to simple model (1), results for the power condition (*power*) remain insignificant within the gain domain for risk-taking, see table 6. The table shows the coefficients of the variables with robust standard errors in brackets. No control variables are statistically significant on a 5 percent significance level. When an interaction term between power and gender (*power_gender*) is added, the interaction is insignificant, showing no gender differences within the power conditions for risk-taking. In the extended model for risk-taking within the gain domain where sense of power (*senseofpower*) and understanding of the purpose (*purpose*) are added, no results are significant.

Table 6 – *Regression analysis results for risk-taking in the gain domain*

	Simple model (1)	Adding controls	Adding interaction (3)	Extended model (4)
power	0.191 (0.301)	0.230 (0.306)	0.209 (0.450)	0.180 (0.298)
age	-	0.056 (0.095)	0.056 (0.095)	0.048 (0.090)
gender	-	0.405 (0.304)	0.384 (0.520)	0.472 (0.306)
power_gender	-	-	-0.040 (0.619)	-
senseofpower	-	-	-	0.016 (0.125)
purpose	-	-	-	0.641 (0.410)
R-squared	0.005	0.030	0.030	0.060
nr. obs	92	92	92	92

Coefficient of variable with robust std. deviation in brackets
*significant t-statistic on a 5 percent level

In the loss domain for risk-taking, compared to the simple model (1), power condition (*power*) becomes insignificant when control variables are added (see table 7). The power condition variable is however significant on a 10 percent level, which implies a direction of subordinates taking more risky decisions in a loss domain compared to managers. Gender is also significant on a 10 percent level, implying a direction of men taking more risks than women. When adding the interaction term between gender and power condition (*power_gender*), the interaction term is insignificant. In the extended model for risk-taking in the loss domain, the power condition is significant on a 5 percent level, with subordinates taking more risk in the loss domain than managers. No other control variable is significant.

Table 7 – *Regression analysis results for risk-taking in the loss domain*

	Simple model (1)	Adding controls	Adding interaction (3)	Extended model (4)
power	-0.671 (0.327)*	-0.604 (0.317)	-0.904 (0.511)	-0.617 (0.302)*
age	-	-0.062 (0.106)	-0.063 (0.106)	-0.065 (0.111)
gender	-	0.553 (0.326)	0.257 (0.511)	0.576 (0.328)
power_gender	-	-	-0.572 (0.645)	-
senseofpower	-	-	-	0.028 (0.150)
purpose	-	-	-	0.268 (0.369)
R-squared	0.045	0.084	0.092	0.089
nr. obs	92	92	92	92

Coefficient of variable with robust std. deviation in brackets
*significant t-statistic on a 5 percent level

Table 8 – *Regression analysis results for competition*

	Simple model (2)	Adding controls	Adding interaction (3)	Extended model (4)
power	-0.014 (0.098)	0.002 (0.097)	0.025 (0.149)	-0.007 (0.101)
math_ability	0.061 (0.014)***	0.052 (0.015)***	0.053 (0.015)***	0.052 (0.015)***
age	-	-0.001 (0.023)	-0.001 (0.023)	-0.003 (0.024)
gender	-	0.188 (0.104)	0.210 (0.149)	0.205 (0.104)
power_gender	-	-	-0.043 (0.199)	-
senseofpower	-	-	-	0.014 (0.045)
purpose	-	-	-	0.163 (0.123)
R-squared	0.137	0.170	0.170	0.188
nr. obs	92	92	92	92

Coefficient of variable with robust std. deviation in brackets
***significant t-statistic on a 0.1 percent level

When adding control variables to the model with competition as the dependent variable, results remain unchanged (see table 8). Mathematical ability (*math_ability*) is significant on a 0.1 percent level, as it also was is the simple model. Gender is significant only on a 10 percent significance level in the regression where control variables are added, again implying a direction that men self-select into competition more than women. In the extended model, no significant results are found, and only mathematical ability is signficant, on a 0.1 percent level, out of the remaining variables[7].

6. Discussion

We will now discuss the results obtained from the four regression models for risk-taking in both a gain and loss domain, as well as the four regression models for competitive behavior. We also discuss possible limitations of the study as well as future improvements and implications for future research in the following sections.

6.1 Discussion of results

The main result of our study is that we find support for a difference in risk-taking behavior for monetary payoffs between managers and subordinates in the loss domain. The results from the simple model for risk-taking in the loss domain show that managers are more risk-averse than subordinates on a 5 percent significance level. When adding control variables, the power condition variable (*power*) is only significant on a 10 percent level, while when understanding the purpose of the experiment (*purpose*) and the general level of power people possess in their daily lives (*senseofpower*) are controlled for in the extended model, the power condition again becomes significant on a 5 percent level. Although the significance of the power condition variable varies depending on the model used, all models show a direction of managers being more risk-averse in the loss domain compared to subordinates. These results are in line with our second hypothesis (H2) and the predictions regarding the activation of approach processes. Since individuals in power have activated approach processes, we would expect

[7] Logistical regression results are found in the appendix. In the logistical results, mathematical ability is significant on a 1 percent level rather than a 0.1 percent level as in the OLS regressions. No other results change.

them to set a reference point of their current asset position higher than individuals in low power, leading them to more risk-averse behavior.

The results for the gain domain are surprising as they are not consistent with the results found for non-monetary risks by Galinsky and Anderson (2006) and they do not support our first hypothesis (H1) that individuals in the high power condition should be more risk-seeking in the gain domain compared to individuals in the low power condition. Nevertheless, there is some indication of the results pointing to a difference in risk-taking behavior in the gain domain between high and low power individuals as the point estimates between the two groups differ in the direction of high power individuals being more risk-seeking. Therefore there may be an effect in the expected direction, but as this study is limited to 92 subjects it is therefore likely that the sample is too small to obtain statistically significant results. In this study we hence cannot reject the null hypothesis that there is no effect of power on risk-taking behavior in the gain domain.

It is important to take into account that there can be differences in risk-taking behavior when using hypothetical scenarios, such as the ones used by Galinksy and Anderson (2006), and using real certain or uncertain monetary payoffs, such as the ones used in this study. Previous research has found a difference in behavior towards risk depending on whether the payoff is phrased in hypothetical or real terms when the payoff is large enough (Neill et al., 1994; Holt and Laury, 2002). If real decisions in contrast to hypothetical ones make individuals act in a more risk-averse manner in the gain domain (Neill et al., 1994), this could offer another possible explanation for the difference in results in this study compared to Galinsky and Anderson's (2006).

In the light of a paired samples t-test which fails to reject that risk-taking behavior is the same across domains for the group of managers, but at the same time rejects on a 1 percent significance level that risk-taking behavior is the same for the group of subordinates, further insights to the results are provided. Within the group of subordinates, these individuals take significantly more risk in a loss domain compared to a gain domain. The paired samples t-test suggests that subordinates are acting in accordance with prospect theory, which entails more risk-seeking behavior in the domain of losses and more risk-averse behavior in the domain of gains. The same is not true for managers, who are not taking significantly more risk in the loss domain compared to the gain domain. Instead, the results of the paired samples t-test suggest

that managers are to a greater extent following expected utility theory, either due to increased risk-taking in the gain domain or decreased risk-taking in the loss domain, or both.

Only decreased risk-taking in the loss domain offers a plausible explanation, as no significant results are found in risk-taking behavior in the gain domain between the two power conditions and as there is no reason to suspect that subordinates are taking more risk in the gain domain. An explanation of the risk-averse behavior for low power individuals in the gain domain can be found in the approach and inhibition framework. Low power individuals are affected by inhibition processes of negative affect and threat, and should also set a lower reference point for their current asset position which ought to make them more risk averse in a gain domain.

Although the approach and inhibition framework in theory predicts an effect of the high-power condition on competitive behavior, no significant results were obtained and we fail to ratify this link in the study as well as our third hypothesis (H3). Our results suggest that there is no effect of power on competition.

Previous studies have found gender differences in risk-taking and competitive behavior, with men engaging in more risk-taking behavior and deciding to compete more frequently than women. For risk-taking behavior in the loss domain, when adding control variables age and gender to the simple model, gender is significant on a 10 percent significance level, indicating a direction of men taking more risky decisions than women. The same is true for competition, with results showing a direction of men choosing to compete more frequently than women when control variables gender and age are added to the simple model. These results would likely be more significant with a bigger sample size. Nevertheless, the results from our study seem to indicate a direction of men being more risk-seeking in the loss domain compared to women as well as more prone to self-select into competition, which is in line with findings from previous literature (Croson and Gneezy, 2009; Gneezy et al., 2003; Niederle and Vesterlund, 2007).

Four important implications can be attained from this study. Firstly, low power individuals are prone to take more risk than high power individuals in an equally risky situation. The behavior of high power individuals is less in line with prospect theory and also becomes more consistent in terms of risk-taking in both the loss and gain domain, like in expected utility theory, which may be desirable. Secondly, if managers act more in accordance with expected utility theory rather than in accordance with prospect theory as the results suggest, this can have implications for e.g. choice of income incentive schemes, such as the offering of options

rather than stock to CEOs. Thirdly, if subordinates are more risk-seeking in the loss domain, this should have implications for monitoring mechanisms within organizations. Fourthly, our study presents novel results that should have strong implications for future research, especially since our results do not entirely go hand in hand with Galinsky and Anderson (2006). This leads to the importance of future contextual field studies in order to discern whether this difference is in fact present.

6.2 Limitations and future improvements

In this section general limitations and possible improvements are identified and discussed.

In terms of internal validity, several measures have been taken in this study in order to ensure that biases are avoided and high validity is maintained. Subjects in the sample were randomly assigned high or low power roles. Furthermore, since the aim of this study was to construct an artificial hierarchy of power through priming, special measures were taken, such as looking up contacts through the social network Facebook, to ensure that the subject dyads had no real prior personal relationship to each other. Granted, in some cases it is nonetheless still possible that subjects had previous contact with one another, especially due to the relatively small class sizes at the Stockholm School of Economics.

The effectiveness of the second priming was verified by allowing two objective outsiders rank each statement in terms of high and low power on a scale from 1-7. The means of the rankings of both outsiders were then compared for managers and subordinates, with results showing a significant difference between the two groups, implying successful priming.

Since the subject sample consisted of a convenience sample, with subjects volunteering to participate in the study, there could be a diminishing effect on the external validity of the results. Moreover, it is important to note that the specificity of the context used, could make it hard to extend the results to real situations of power. Although the results of this study might not be directly generalized to the whole Swedish population, they can be viewed as an initial indicator for the effect of power on risk-taking behavior and competitive behavior. It would be up to future research to investigate this link on a wider scale, allowing for more generalization to the whole population.

6.3 Implications for future research

The results of this thesis indicate a link between power and risk-taking behavior in the loss domain. It would be of interest for future research to test this link in contextual field studies, in which individuals have power over one another in a natural setting.

Furthermore, future research should focus on creating a connection between the field of psychology and behavioral economics in terms of the effects of power on behavior. Currently, there is a vast amount of literature within the field of psychology depicting the link between power and cognitive processes, while much research remains to be carried out on how power affects economic behavior.

In an interesting bulk of nascent research, studies have been conducted on how power posing, i.e. the adaption of an expansive body posture, can enhance the sense of power (Huang et al., 2011). Results point to power posing having an effect on the implicit activation of power, taking action and abstraction. Thus future research could also focus on teasing apart the effect of physical body posture on sense of power and behavior.

7. Conclusion

The aim of this thesis was to examine the relationship between power and risk-taking behavior in the gain and loss domain as well as self-selection into competition with monetary payoffs. This has never been tested empirically before. We find results that reveal a significant link between power and risk-taking behavior in the loss domain. More specifically our findings show that individuals in a high-power condition are less risk-taking in the loss domain than individuals in a low power condition. The findings also suggest that low power individuals follow prospect theory while high power individuals behave in line with expected utility theory. For the remaining two hypotheses we cannot reject the null hypotheses of no effect of power on risk-taking in the gain domain and self-selection into competition.

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9. Appendices

1: Experimental Instructions
2: Instructions for Bosses
3: Instructions for Subordinates
4: Memory Task
5: Example of Invoice from Collaborative Assignment
6: Instructions for Risk-taking choices
7: Instructions for Competition
8: Questionnaire
9: Logistical Regression

1: Experimental Instructions

Nedan följer en beskrivning av experimentets utformning.

Det kommer att ta cirka 40 minuter att genomföra experimentet och till ditt förfogande har det lagts undan 75 SEK som du har möjlighet att använda under experimentets gång. I Del 3 kan du tjäna ytterligare pengar, men det finns också en risk att förlora pengar i vissa frågor (dock max de 75 SEK du redan tilldelats). Ditt deltagande är anonymt, d.v.s inga svar du ger i experimentet kan kopplas till dig.

Experimentet kommer att börja med att roller fördelas mellan dig och en annan deltagare i experimentet som befinner sig i ett annat rum. Experimentet kommer sedan att bestå av fyra delar.

I den **första delen** får du och den andra deltagaren i uppgift att lösa en kvalitetssäkringsuppgift.

I **Del 2** blir du ombedd att genomföra en minnesövning, där vi kommer att be dig beskriva en viss situation som du minns.

I **Del 3** kommer du bli ombedd att fatta ett antal ekonomiska beslut samt lösa ytterligare några uppgifter.

I **Del 4** kommer du och den andra deltagaren att få lösa ytterligare en kvalitetssäkringsuppgift.

Slutligen ber vi dig att besvara ett kort formulär angående experimentet.

Vi kommer tyvärr inte att kunna svara på frågor angående experimentets syfte, men vid experimentets slut kommer du att ha möjlighet att lämna din e-post adress om du vill få information om experimentets resultat. Vi kommer då att senare maila vår masteruppsats med resultaten. Däremot får du gärna ställa frågor om det är något som du inte förstår under experimentets gång.

Tack för ditt deltagande i detta experiment!

2: Instructions for Managers

Du har tilldelats rollen som **Chef** i detta experiment.

Föreställ dig att du jobbar på ett företag som säkerställer kvalitén på andra företags dokument. Din underordnades och ditt uppdrag idag är att kvalitetssäkra fakturor från en kund. Det första du kommer att få göra som chef är att gå in till den underordnade och beskriva för honom/ henne hur kvalitetssäkringsuppgiften kommer att gå till då han/hon inte har fått någon information angående kvalitetssäkringsuppgiften ännu.

Den underordnade kommer att få en kopia på en faktura som innehåller ett visst antal fel samt en kopia som inte innehåller några fel. Den underordnades uppdrag är att hitta så många av dessa fel som möjligt under 2 minuter genom att jämföra den felaktiga fakturan med den felfria fakturan. Den underordnade kommer att göra denna uppgift två gånger (2 minuter per uppgift).

Du som chef kommer att få välja svårighetsgrad på de två uppgifterna. Du kan välja att ge den underordnade två svårare uppgifter, två lättare uppgifter, eller en svår och en lätt uppgift i den ordning du behagar.

Som chef kommer du sedan att ta tid på den underordnade och säga till när de 2 minuterna har gått. Den underordnade måste då upphöra med att hitta fel i fakturan. Efter det att varje uppgift löses kommer du att anteckna hur många fel den underordnade hittade utav det totala antalet fel som finns i fakturan. Du kommer att få ett papper som är markerat som ”Lösningsnyckel” och jämföra detta med papperet med den underordnades hittade fel. Den underordnade kommer inte att få ta del av sitt resultat.

När alla uppgifter genomförts kommer du som chef att bedöma den underordnades prestation. På grund av anonymitetsskäl kommer heller inte den underordnade att få se din utvärdering.

Baserat på ditt val av svårighetsgrad så finner du de två uppgifterna i kuverten markerade ***uppgift 1 ”svår”***, ***uppgift 1 ”lätt”*** , ***uppgift 2 ”svår”*** och **uppgift 2 ”lätt”**.

När du förklarar uppgiften för din underordnade, försäkra dig om att han/hon förstår följande punkter:

1) Den underordnade ska hitta fel genom att jämföra den felaktiga fakturan, markerad som ”Felaktig”, med den felfria fakturan markerad som ”Korrekt originalfaktura”.

2) Den underordnade kommer att få göra två uppgifter, där han/hon kommer att få två minuter på sig för varje faktura att hitta så många fel som möjligt.

3) Du som chef kommer att ta tid på den underordnade och säga till när tiden har tagit slut.

4) Att du som chef har befogenhet att välja svårighetsgrad på uppgifterna, samt vilken svårighetsgrad du valt.

5) Att du som chef kommer att rätta de två uppgifterna och bedöma den underordnades prestation. Den underordnade kommer varken att få ta del av sitt resultat eller din bedömning.

Ta gärna med dig detta papper när du går in till den underordnade utifall att du skulle glömma någon punkt när du instruerar den underordnade.

Markera nedan vilken svårighetsgrad du valt på uppgift 1:

☐ Svår

☐ Lätt

För in den underordnades resultat från första uppgiften nedan.

Antalet hittade fel:_____

Markera nedan vilken svårighetsgrad du valt på uppgift 2:

☐ Svår

☐ Lätt

För in den underordnades resultat från den andra uppgiften nedan.

Antalet hittade fel:_____

Bedömning

Den underordnade presterade enligt mina förväntningar.

1	2	3	4	5	6	7
= Håller inte med alls						= Håller helt med
☐	☐	☐	☐	☐	☐	☐

Jag tror att den underordnade presterade bättre än genomsnittet.

1	2	3	4	5	6	7
= Håller inte med alls						= Håller helt med
☐	☐	☐	☐	☐	☐	☐

3: Instructions for Subordinates

Du har tilldelats rollen som **Underordnad** i detta experiment.

Föreställ dig att du jobbar på ett företag som säkerställer kvalitén på andra företags dokument. Ditt uppdrag idag är att kvalitetssäkra fakturor från en kund. All information om uppgiften kommer du att få från din chef, så vänligen vänta tills han/hon kommer och förklarar uppgiften för dig.

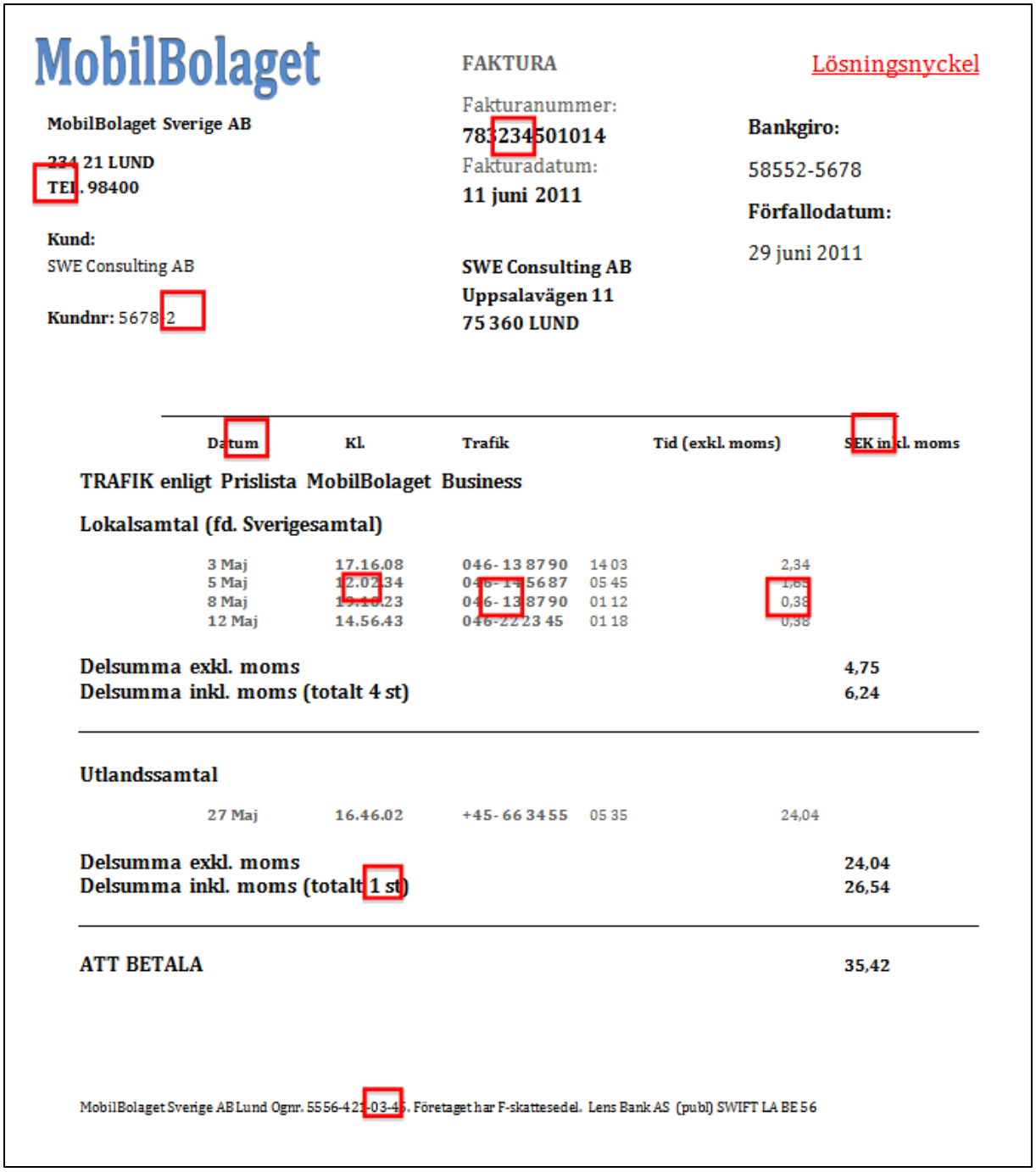
4: Memory Task

Del 2 - Minnas en situation

I denna del av experimentet vill vi be dig att minnas en tidigare situation där du hade makt över en annan person eller över flera personer. Med makt menas en situation där du kunde kontrollera möjligheten för en annan individ eller individer att få något de ville ha, eller att du var i en position att utvärdera dessa individer. Beskriv denna situation i detalj, vad som hände, vad du kände, etc.

Du kommer att få 5 minuter till att beskriva denna situation. På nästa sida börjar uppgiften, och efter 5 minuter kommer du automatiskt att tas till en ny sida. Instruktionerna ovan kommer även att finnas på nästa sida.

5: Example of Invoice from Collaborative Assignment



MobilBolaget

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FAKTURA

Lösningsnyckel

Fakturanummer:
7832345501014
Fakturadatum:
11 juni 2011

SWE Consulting AB
Uppsalavägen 11
75 360 LUND

Bankgiro:
58552-5678
Förfallodatum:
29 juni 2011

Datum	Kl.	Trafik		Tid (exkl. moms)	SEK inkl. moms
TRAFIK enligt Prislista MobilBolaget Business					
Lokalsamtal (fd. Sverigesamtal)					
3 Maj	17.16.08	046-13 87 90	14 03	2,34	
5 Maj	12.02.34	046-14 56 87	05 45	1,65	
8 Maj	19.10.23	046-13 87 90	01 12	0,38	
12 Maj	14.56.43	046-22 23 45	01 18	0,38	
Delsumma exkl. moms					4,75
Delsumma inkl. moms (totalt 4 st)					6,24
Utlandssamtal					
27 Maj	16.46.02	+45-66 34 55	05 35	24,04	
Delsumma exkl. moms					24,04
Delsumma inkl. moms (totalt 1 st)					26,54
ATT BETALA					35,42

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6: Instructions for Risk-taking choices

Del 3 - Ytterligare uppgifter

Nu kommer du att få genomföra några ytterligare uppgifter. Nedan följer tre beslutssituationer som innehåller ett visst antal uppgifter. Gå till nästa sida för att komma till den första beslutssituationen.

Gain Domain

BESLUTSSITUATION 1

I denna del kommer du att ställas inför 10 beslut. I varje beslut väljer du mellan att med säkerhet få en viss summa pengar eller att singla slant om att vinna en viss summa pengar. Summan som du kan vinna i slantsinglingen varierar mellan 100 kronor och 150 kronor i de olika besluten. När du fattat alla 10 beslut kommer ett av besluten att väljas ut för faktisk betalning. Om du i det utvalda beslutet valde pengar med säkerhet, får du dessa pengar. Valde du slantsinglingen kommer det i experimentet att avgöras (genom slantsingling) om du vinner eller inte (krona ger vinst och klave ger förlust). Experimentledaren kommer att singla slant framför dig. Slantsinglingen kommer att genomföras när experimentet avslutats.

NU SKA DU FATTA DINA BESLUT

Loss Domain

BESLUTSSITUATION 2

I denna del kommer du att ställas inför 10 beslut. I varje beslut väljer du mellan att med säkerhet förlora en viss summa pengar eller att singla slant om alternativen att förlora en viss summa pengar eller att inte förlora några pengar alls. Summan som du kan förlora i slantsinglingen varierar mellan 50 kronor och 75 kronor i de olika besluten. När du fattat alla 10 beslut kommer ett av besluten att väljas ut för faktisk betalning. Om du i det utvalda beslutet valde att bli av med pengar med säkerhet, måste du ge experimentledaren dessa pengar, som dras av från de 75 kronorna du fick för att delta i detta experiment. Valde du slantsinglingen kommer det i experimentet att avgöras (genom slantsingling) om du förlorar den angivna summan eller inte (krona ger vinst och klave ger förlust). Experimentledaren kommer att singla slant framför dig. Slantsinglingen kommer att genomföras när experimentet avslutats.

NU SKA DU FATTA DINA BESLUT

7: Instructions for Competition

BESLUTSSITUATION 3

Denna del består av två delmoment.

Delmoment 1:

I delmoment 1 kommer du att lösa enkla huvudräkningsproblem. Nedan finner du ett övningsproblem av exakt samma typ.

63 + 19 + 12 + 44 = ……

Du får 2 minuter på dig att lösa så många huvudräkningsproblem du kan. För varje problem du löser korrekt tjänar du 2 kronor. Efter 2 minuter på delmoment 1 tas du automatiskt till en ny sida.

Delmoment 1 - När du byter sida börjar uppgiften. Du har 2 minuter på dig att lösa så många tal som möjligt. Du behöver inte lösa uppgifterna i den ordning de står.

Delmoment 2.

Precis som i delmoment 1 får du även här 2 minuter på dig att lösa så många huvudräkningsproblem som möjligt.

Nu får du dock själv bestämma på vilket av nedanstående 2 sätt du vill få betalt:

- Betalning som i delmoment 1: 2 kronor för varje problem du löser korrekt.

- 4 kronor per korrekt löst problem om du löser fler problem än en slumpvis utvald tidigare deltagare i experimentet löst. Om du löser färre problem får du 0 kronor. Om du och den tidigare deltagaren löst lika många problem korrekt, dvs. att det blir oavgjort, får du 2 kronor per löst problem.

Klicka på det betalningssätt du föredrar:

- ❍ 1. (1)
- ❍ 2. (2)

Delmoment 2 - När du byter sida börjar uppgiften. Du har 2 minuter på dig att lösa så många tal som möjligt. Du behöver inte lösa uppgifterna i den ordning de står.

Efter 2 minuter på delmoment 2 tas du automatiskt till en ny sida.

Appendix 8: Questionnaire

Nu är experimentet avslutat. Nedan följer en kort enkät angående experimentet som vi vill att du svarar på. Efter att du svarat på enkäten kommer utbetalningarna från Del 3 i experimentet att ske.

1) Vad tror du att syftet med experimentet var?

2) Jag känner mig mäktig i förhållanden med personer i mitt dagliga liv.

- 1 = Håller inte med alls (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 = Håller helt med (7)

3) Det är oftast jag som tar ledningen när jag jobbar i grupp med andra människor.

- 1 = Håller inte med alls (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 (5)
- 6 (6)
- 7 = Håller helt med (7)

3) Vad är ditt kön?

- Kvinna (1)
- Man (2)

4) Vad är din ålder? Skriv med siffror.

Tack för din medverkan. Vänligen räck upp din hand så att experimentledaren vet att du avslutat enkäten.

9: Logistical Regressions

	Simple model (2)	Adding controls	Adding interaction (3)	Extended model
power	-0.050 (0.456)	0.052 (0.465)	0.164 (0.669)	0.005 (0.491)
nr_correct	0.327 (0.110)**	0.294 (0.111)**	0.296 (0.112)**	0.289 (0.111)**
age	-	-0.013 (0.105)	-0.012 (0.104)	-0.019 (0.114)
gender	-	0.839 (0.468)	0.954 (0.706)	0.910 (0.471)
power_gender	-	-	0.229 (0.945)	-
senseofpower	-	-	-	0.070 (0.213)
purpose	-	-	-	0.713 (0.608)
Pseudo R-squared	0.115	0.141	0.141	0.154
nr. obs	92	92	92	92

Coefficient of variable with robust std. deviation in brackets
** Significant z-statistic on a 1 percent significance level