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The Effect of Creativity on Dishonest Behavior and the Way a Moral Prime Affects this Relationship.

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Abstract

This study finds clear evidence of incomplete dishonesty. People do engage in dishonest behavior but do this only 'a little bit'. In contrast, this study does not observe a relationship between creativity and dishonesty. Having a higher creativity score does not imply that an individual exhibits more dishonest. Moreover, this study does not observe a reduction in dishonesty through a moral prime. Subject who were confronted with a moral prime did not display more dishonest behavior compared to subjects who were not exposed to a prime. Finally, this study does not observe a difference in response to the prime concerning creative individuals compared to less creative individuals. Dishonest behavior of creative individuals influenced differently than dishonest behavior of less creative individuals.

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1. Introduction

Since we were kids, we have been taught that acting dishonestly is something condemnable and should not be engaged in¹. Nevertheless, dishonesty is ubiquitous in our daily lives (Fischbacher & Föllmi-Heusi, 2013). Companies such as Enron, Tyco, and Arthur Andersen provide extreme examples of high-ranked executives involved in scandals (Gino, Ayal, & Ariely, 2009). Moreover, the United Kingdom parliamentary expenses scandal of 2009 illustrates politicians behaving dishonestly. In this scandal members of the parliament widely misrepresented allowances and expenses (Dawar, 2008). Likewise, ordinary people lose track of their moral compass (Gino & Mogilner, 2014). It is estimated that of all annual claims in the U.S. property and casualty insurance industry about \$24 billion (10% of the total sector) is fraudulent (Accenture, 2003). Furthermore, dishonesty is present in academics, an extreme example is Dutch “academic star” Diederick Stapel who committed scientific fraud for more than a decade (Bhattacharjee, 2013). Sadly, such actions have enormous consequences, hurting individuals, families, corporations, and entire academic fields.

Dishonesty is defined as not behaving in accordance with the social and/or moral rules of proper conduct (Gino & Wiltermuth, 2014). For the purpose of this study a more specific definition is employed; it is defined as gaining an advantage by the means of breaking these rules. An example of taking such an advantage is not correcting an error made on a bill when it is favorable to oneself. According to neo-classical economic theory, individuals are not intrinsically bothered by social and/or moral rules. Therefore, the decision to engage in cheating behavior is based on simple cost benefit analysis (Shalvi et al., 2011). However, a recent meta-study regarding dishonesty rejects this explanation and demonstrates that people forgo about three quarters of the potential gains from cheating (Abeler, Nosenzo, & Raymond, 2016). Hence, the decision to engage in dishonest behavior is far more complex than a simple cost benefit analysis. A factor that the neo-classical economics overlooks is that people naturally perceive themselves as honest and want to maintain this self-concept (Mazar, Amir, & Ariely, 2008). This finding implies that people are only able to self-justify little amounts of cheating as it will not conflict with their self-concept. On the other hand, cheating maximally will conflict with their self-concept and therefore will not be engaged in (Shalvi et al., 2011). As a result, people are incompletely dishonest.

¹ The concepts of dishonest behavior, dishonesty, and cheating are used interchangeably throughout this study

As previously stated, dishonesty requires breaking social and moral rules of proper conduct (Gino & Wiltermuth, 2014). The decision to break these rules depends largely on the fact whether the individual can self-justify breaking these rules. Another area that is associated with breaking rules is creativity. Creativity stimulates individuals to construct associations that did not previously exist and go beyond the current status quo. Hence, creativity requires breaking the current rules to exploit new opportunities (Gino & Ariely, 2012). As both creativity and dishonesty require rule breaking it might be possible that the more creative individuals are the more dishonest individuals. There is some research that finds a relationship between creativity and dishonesty (Gino & Ariely, 2012; Walczyk, et al., 2008; Vincent & Kouchaki, 2016; Beaussart, Andrews, & Kaufman, 2013) but the relationship is far from established. Therefore, more research is required to create a better understanding about the determinants of this relationship. It is especially of relevance when creativity is considered as a stable characteristic (Batey, Chamorro-Premuzic, & Furnham, 2010 ; Feist, 1998).

People like to believe that all their behavior is conscious and they knowingly decide their actions. However, research shows that unconscious activation of concepts can easily alter behavior without subjects knowing that their behavior is changed (Bargh, Chen, & Burrows, 1996). Primes can change a variety of behavior; they can make people more creative (Gino & Ariely, 2012), reduce their walking speed (Bargh et al., 1996) and reduce dishonesty (Randolph-Seng & Nielsen, 2007). In all these experiments a semantic prime or mere exposure to a certain visual cue changed behavior. If a simple prime is able to reduce dishonesty, it is an efficient way to mitigate the societal impact of dishonesty. However, recent work in psychology has put priming experiments under scrutiny and questions the generalizability of such studies. In recent years there were numerous failures of replications of highly-cited, seminal experiments (Doyen, et al., 2012; Harris, et al., 2013; Pashler, Coburn, & Harris, 2012). Therefore, it is relevant to explore whether priming can actually reduce dishonesty. Based on the previous elaborations, the following research question is formulated:

What is the relationship between creativity and dishonesty and how does moral priming affect this relationship?

The aim of this study is threefold; first it examines whether the findings of Gino & Ariely (2012) are replicable. They find that more creative individuals portray more dishonest behavior. Secondly, this study examines whether moral priming is actually able to reduce cheating behavior. Thirdly, this study examines whether there is a different effect of the moral prime on

the more creative individuals compared to the less creative individuals. This study finds clear evidence of cheating and incomplete dishonesty. However, no effect of creativity on dishonesty is observed, creative individuals do not exhibit more dishonest behavior. Moreover, the moral prime had no effect on cheating behavior. Individuals who were exposed to the moral prime did not report a higher score, as compared to individuals who were not exposed to the prime. Finally, creative individuals who were exposed to the moral prime engaged in similar amounts of cheating as the creative individuals not exposed to the prime. Likewise, less creative individuals exposed to the moral prime engaged in similar amounts of dishonest behavior compared to the individuals who were not exposed to the prime.

This study is structured in the following way: After the introductory chapter, the second chapter introduces and explores the dishonesty literature. Here, the heterogeneity of cheating is elaborated upon, followed by a discussion regarding the difference between lab and field studies. Based on the literature review, three hypotheses are developed in the third chapter. The fourth chapter, data and methodology, elaborates on the survey design, sample characteristics and methodology. Subsequently, the findings of several statistical analyses are described in chapter five. Finally, chapter six, contains a discussion about the observed results, followed by an examination of the limitations of the current study and proposing directions for future research.

2. Literature Review

The literature review is the basis of this study, where the relevant concepts are provided and elaborated upon. First, the current dishonesty literature is described, followed by a description of the heterogeneity of cheating. Finally, the external validity of lab experiments regarding dishonesty are examined.

2.1 Dishonesty

For an extended period of time, neo-classical economists assumed that people are not intrinsically bothered by social and/or moral rules (Shalvi et al., 2011). For example, when an individual decides whether to rob a gas station, three different options are weighted. These three options are; the expected possible payoff from robbing the place, the probability of being caught, and the magnitude of the punishments when getting caught (Mazar, Amir, & Ariely, 2008). When the material gains from robbing the gas station outweigh the magnitude of the punishment and the probability of being caught, the individual will rob the gas station. Thus, according to neo-classical economics people will always engage in behavior that maximizes their material gains given the magnitude of the punishment and the probability to get caught (Rosenbaum, Billinger, & Stieglitz, 2014).

Recent experimental research has rejected the notion that utility from dishonest behavior solely depends on the material payoff. In a meta-study regarding 72 studies among 42 countries with more than 32.000 subjects, people forgo about three quarters of the potentials gains from cheating (Abeler, et al., 2016). These findings strongly deviate from the assumption that people will maximize their material gains (Rosenbaum et al., 2014). People hardly cheat maximally and even refrain from it when the chances of getting caught are essentially zero (Shalvi et al., 2011). This strong preference for honesty is robust, even when the payoff level is increased 500-fold or the same decision is repeated 50 times (Abeler et al., 2016). Hence, compared to neo-classical economic theory, people cheat surprisingly little. The difference between theory and practice could be explained by the fact that neo-classical theory fails to acknowledge that people perceive themselves as honest individuals. People have an internal value system and when an individual complies with this system their utility increases, while noncompliance leads to a decrease. Engaging in dishonest behavior will therefore conflict with their self-concept as honest individuals and thereby decrease their utility. Hence, individuals balance between two competing motivations; gaining from cheating versus maintaining a self-concept as being honest (Mazar et al., 2008). This seems to be a win-lose situation in which choosing one option will

jeopardize the other option. However, this win-lose situation only appears in theory because people deal with such situations differently in real-life.

Batson & Thompson (2001) find that most individuals want to maintain their positive self-concept while, if possible, still reap the benefits of cheating. In an experiment they confronted participants with a simple but moral dilemma. Subjects were required to choose whether they wanted to assign an unfavorable task to themselves or to another participant. In the treatment group, participants were given a coin to facilitate the decision-making process while in the control group participants just had to assign the tasks. In the treatment group participants assigned the unfavorable task far more often to the other person compared to the control group. This finding suggests that flipping a coin provides participants with the opportunity to justify their dishonest behavior and thereby maintain a positive self-concept. Research containing the ultimatum bargaining game supports the aforementioned findings. In this game a proposer divides a fixed monetary amount between himself and a responder. The responder is able to accept or reject the offer, when the offer is rejected no party receives any monetary amount (Bolton, Katok, & Zwick, 1998). In a modified version of the game the proposer was provided with information about the value of their own chips and the value of the responders chips. Subsequently, the researchers manipulated the value of the chips of the responder to be lower or equal to the value of the chips of the proposer. Results indeed indicated that proposers tried to appear fair but were not acting fair (Murnighan, Oesch, & Pillutla, 2001).

The previous experimental research suggests that individuals engage in dishonest behavior to reap the benefits of it but not so much as to weaken their positive self-concept (Shalvi et al., 2011). People seem to find a balance, or equilibrium, between the two competing forces and turn a win-lose situation into a win-win situation (Mazar et al., 2008). This balance is referred to as incomplete dishonesty. Incomplete dishonesty allows for self-justification and makes people perceive themselves as honest while still engaging in dishonest behavior (Shalvi et al., 2011). Thus, when justifications can easily be generated, individuals will be more likely to behave dishonestly as compared to situations in which justifications are rather difficult to generate (Mazar et al., 2008).

The nature of the task might assist in the justification of dishonest behavior. When a task requires an extensive cost benefit analysis, individuals are more likely to be dishonest compared to a task that requires intuition (Cappelen, Sørensen, & Tungodden, 2013). A decision based on intuition is mainly based on ethical reasons in which cheating is always wrong. In these kind of

decisions there are certain moral principles that ought not to be violated. On the other hand, a judgement based on reasoning tends to be based on utilitarian grounds, where the largest possible balance of pleasure over pain is achieved. When the decision is based on utilitarian grounds, certain dishonest behavior is justified because it contributes to the end goal of pleasure maximization (Greene et al., 2004).

When individuals focus on money, they behave differently when they focus on time. Gino & Mogilner (2014) find that shifting the attention from money to time increases self-reflection. Subjects whose attention was shifted on time were less likely to overstate the number of matrices they completed. Self-reflection stimulates individuals to act in ways they can be proud of, which makes it harder to engage in behavior that conflicts with their self-concept as honest individuals. Moreover, self-control, which is the capacity to override some impulses in order to align behavior with future goals, affects dishonest behavior (Mead et al., 2009). Across four experimental studies subjects whose self-control was depleted were more probable to cheat impulsively than those whose self-control was intact (Gino et al., 2011).

2.2 Heterogeneity of Cheating

Depending on the context of the situation the perception of honesty and dishonesty changes. People find the same behavior honest in one situation and dishonest in another situation (Shalvi et al., 2011). For example, stealing a €0.10 pen from a colleague is often not perceived as a dishonest act while stealing €0.10 out of his/her wallet is. Hence, honest behavior is highly heterogeneous and strongly depends on the context of the situation (Rosenbaum et al., 2014). This heterogeneity implies that individual honesty is easily influenced by the framing of the decision. In order to fully understand dishonest behavior, it is important to understand both the economic and non-economic aspects of the choice situation (Cappelen et al., 2013). There are roughly three types of non-economic explanations which might refrain individuals from cheating. (1) There are direct lying costs associated when deviating from the truth, (2) there are reputational concerns in play, and/or (3) there social comparisons or social norms which affect dishonesty (Abeler et al., 2016). These three non-economic aspects affect dishonesty because they affect the individuals self-image, size of the payoff and/or probability of getting caught.

2.2.1 Non-Economic Aspects: Direct Lying Costs

Direct lying costs stimulate honesty because deviating from the social norms is directly costly to the individual themselves. Accordingly, direct lying costs are injunctive as they are independent

of behavior of others. These costs can come from moral or religious reasons, from self-image concerns, or from injunctive social norms of honesty (Abeler et al., 2016). For example, dishonesty is less pronounced when the context of the choice is framed personally compared to a context that is framed non-personally (Cappelen et al., 2013). In a sender-receiver game, introducing an innocent personal element in the communication substantially decreases the propensity of individuals to lie in order to secure a higher payout. Lying about something personal might conflict with injunctive social norms of honesty and therefore prevents an individual from lying.

Another injunctive reason why individuals are reluctant to cheat is morality. When an individual is reminded of their moral obligations, dishonest behavior is reduced (Mazar et al., 2008). Pruckner & Sausgruber (2013) investigate the effect of explicit moral reminders in a field context where payments are not monitored. To evaluate the effect of moral reminders they post a message that appeals to customers' honesty. Moreover, they have another treatment in which customers are reminded of the legal consequences of not paying and they have a control condition where no note is posted. They find that people in the control group and in the legal reminder treatment pay about a tenth of the actual price, whereas payment in the moral treatment is about one fourth of the price. These findings are consistent with Levitt (2006) who finds that honesty increases after the 11th September terrorist attacks. After these attacks there was a huge appeal on morality and this might have reduced dishonesty.

Religion correlates with a reduction in cheating in examinations. Religious individuals show reduced reports of cheating in all of their courses, even when controlling for other variables such as attitude towards cheating and motivation (Rettinger & Jordan, 2005). Allmon, Page, & Rpberts (2000) investigate the determinants of the perception of students about classroom cheating. They find that religious individuals perceive classroom cheating more negative than their non-religious counterparts. Furthermore, they find that the actively religious are more likely to engage in honest behavior compared to the less active religious individuals.

2.2.2 Non-Economic Aspects: Reputation for Honesty Costs

Reputation for honesty inhibits individuals from cheating because people care about some kind of reputation that is linked to their report. People care about how honest they appear to others, regardless if they actually behave honestly (Abeler et al., 2016). For example, the feeling of being watched by supernatural being inhibits dishonest behavior (Piazza, Bering, & Ingram, 2011).

College students who were told about an alleged ghost in the room were less likely to cheat on a competitive task than those who did not undergo the supernatural prime (Bering, McLeod, & Shackelford, 2005). Moreover, young children were less likely to cheat (open a “forbidden box”) when they were told that an invisible agent was in the room (Piazza et al., 2011). These findings suggest that supernatural beliefs increase the feeling of being watched, which in turn could evoke reputational concerns and increase the perceived probability of getting caught.

Zhong, Bohns, & Gino (2010) find that slightly dimming the lights in a room induced cheating. They demonstrated that participants in the dimmed room earned more undeserved money than their equivalents in the non-dimmed room. Darkness gives a false sense of concealment, leading to a perception of a hidden identity which gives people the feeling that their actions are more hidden. The influence of darkness on morality is attributed to the salience of their actions. In a darker room people may perceive their actions to be less monitored by others and therefore perceive a lower probability of getting caught cheating. These findings are congruent with Chiou & Cheng (2013), who find that a well-lit environment promotes honest behavior. In their experiment being in a well-lit room increases the probability of returning undeserved money. Light increases the salience of actions, which in turn may evoke self-image concerns as people are more aware of their own actions. Moreover, an increase in salience may give individuals the feeling that their probability of getting caught increases.

When an honesty box at a university coffee corner was attached with a pair of staring eyes contributions almost tripled compared to alternate weeks where the honesty box was attached with an image of flowers (Bateson, Nettle, & Roberts, 2006). Moreover, van Zant & Kray (2014) demonstrate that face-to-face interaction with the absence of communication promotes honesty. In their experiment senders are required to send either a truthful or a deceptive message to a receiver. The deceptive message yields a higher payoff for the sender. They demonstrate that senders send more deceptive messages in the absence of face-to-face interaction. Face-to-face interaction promotes potential cheaters with explicit visual cues that their behavior is being watched. These findings imply that both explicit and implicit visual cues of being watched are able to decrease dishonest behavior.

2.2.3 Non-Economic Aspects: Social Norms

Cheating is affected by social norms, or social comparisons because if others cheat, lower cost of cheating are induced. Therefore, social norms of cheating depend on the behavior of others

(Abeler et al., 2016). In a study using the deception game, it is demonstrated that dishonesty is more pronounced under team incentives schemes than individual piece-rates. In a team compensation scheme it is easier to hide individual dishonest behavior because it is harder to pinpoint the “cheater” (Conrads, et al., 2013). Teams also engage in more sophisticated dishonest behavior than individuals. Teams apply more extensive cost/benefit analysis to decisions and therefore engage in a more utilitarian decisions making process (Sutter, 2009). Thus, what could be an ethical issue for individuals could be a strategic issue for teams (Cohen, et al., 2009).

The broken window theory suggests that signs of dishonest behavior causes dishonest behavior to spread (Keizer, Lindenberg, & Steg, 2008). For example, when individuals perceived an injustice court verdict they were more inclined to steal an explicitly marked pen. After they observed this “unjust” outcome they were more likely to steal this pen instead of depositing it, as instructed, in a collection box. Around 25% of morally-outraged subjects stole the pens, compared to nobody in the non-morally outraged condition (Mullen & Nadler, 2008). Keizer et al. (2008) find, in a related experiment, that moral spillovers also occur in the public space. They found that the mere presence of graffiti almost tripled the number of people littering and stealing. Congruent findings are observed in the workplace, where workers who observed unfair bonuses were more probable to engage in dishonest behavior (Gill, Prowse, & Vlassopoulos, 2013).

Tournament designs are often introduced to induce greater effort but they simultaneously cause negative externalities. Creating competition increases dishonesty in situations where there is incomplete information about the actions of others (Conrads et al., 2014). In situations where there is incomplete information subjects are less willing to honestly report their production output compared to situations with complete information. Faravelli, Friesen, & Gangadharan (2015) find that greater dishonesty in tournaments is attributed to higher opportunity costs of being honest. In their design the person who reported to have solved the most matrices receives the entire payoff, while the losers receive nothing. Hence, the additional opportunity costs of honesty might explain this behavior. Moreover, dishonesty is more pronounced in competitive environments because individuals who perform poorly try to compensate for their lack of ability. Subjects who performed poorly engaged in “face-saving” activities to avoid embarrassment for their poor performance. They employed more illegitimate tools to achieve better results. Poor performers self-justify their dishonest behavior because they perceive the system as unfair, and therefore it provides them with no opportunities to succeed. The perception about the unfair

system gives them reasons to legitimize their cheating behavior (Schwieren & Weichselbaumer, 2010).

2.3 Dishonest Behavior in the Laboratory and Dishonest Behavior in the Field

The majority of the experiments regarding dishonesty are conducted in a laboratory setting (Rosenbaum et al., 2014). As previously stated, dishonesty is highly heterogeneous and therefore context dependent. In contrast, laboratory environment are highly artificial, which could be problematic for extrapolating the results from the lab to the real world. Hence, the question arises; do participants in laboratory experiments exhibit different patterns of behavior than individuals in a similar naturally occurring setting? Levitt & List (2007) posit that five conditions need to be satisfied in order to generalize a typical laboratory experiment. Generalizability depends on the possible scrutiny of actions by others, the degree of anonymity, the context in which the decision is embedded, the self-selection of participants, and the stakes of the game. The issue with studying dishonest behavior is that there are major economic and ethical considerations at stake and therefore it might be even more complicated to satisfy these five presets (Dai, Galeotti, & Villeval, 2017). Additionally, laboratory experiments regarding dishonest behavior usually have students as subjects. Students might display different behavior compared to nonstudents as they are usually younger, better educated, and less experienced in the task at hand (Levitt & List, 2007).

Tax reporting is at the heart of our economy and depends on an individual willingness to honestly report their income. Alm, Bloomquist, & McKee (2015) investigate whether participants display similar behavioral patterns regarding tax compliance in the field as in the laboratory. Their results indicate that experimental data can reliably replicate taxpayer compliance in the real world. Additionally, they find that students and nonstudents behave roughly the same, even though students are far less experienced in the decision being examined. Similar results are obtained in a study regarding the public transportation sector, where fare dodging is widespread and costs billions of dollars. The authors show that behavior in laboratory tasks is similar as behavior in day-to-day life. At a group level, passengers who dodge fares and who self-report to be a frequent fare dodger are more likely to act dishonestly in the laboratory experiment (Dai, Galeotti, & Villeval, 2017).

3. Hypotheses Development

This chapter proposes and elaborates all hypotheses used in this research. Each section begins by explaining the relevant theory, followed by a proposition of the hypotheses. The first section discusses the effect of creativity on cheating behavior. In the second section, the effect of moral priming on dishonesty is examined. This is followed by an examination of the effect of moral priming on creative and less creative individuals.

3.1 Creativity and Dishonest Behavior

Creativity is a product or response of which observers independently agree that it is novel and appropriate, useful, correct, or valuable to the task at hand, when that task is open-ended and appropriately carried out via discovery rather than via a predetermined step-by-step procedure (Taggar, 2002, p. 315). There are two main underlying components of creativity: divergent thinking and cognitive flexibility (Beaussart, et al., 2013). Divergent thinking involves the ability of producing multiple or alternative solutions to a given problem. It requires unexpected combinations and identifying links among remote associates, thus thinking “out of the box” (Walczyk et al., 2008). In contrast, cognitive flexibility requires individuals to adapt new strategies to new and unexpected conditions in the environment. It requires restructuring of knowledge in multiple ways depending on the context (i.e., the complexity of the situation) (Gino & Ariely, 2012).

Both divergent thinking and cognitive flexibility help people find creative solutions to a wide array of problems. It stimulates individuals to go beyond the current status quo and construct associations that did not previously exist. Creativity therefore requires rule breaking, as one must break the prevailing rules to take advantage of new opportunities (Gino & Wiltermuth, 2014). Likewise, dishonesty requires the breaking of current social and moral rules. Given the fact that both creativity and dishonesty require rule breaking, it might be possible that creative and dishonest individuals are one and the same (Gino & Wiltermuth, 2014).

Dishonesty largely depends on the fact whether it is possible for individuals to self-justify their actions (Shalvi et al., 2011). Thus, when justifications are easily generated, there will be more dishonest behavior, as compared to situations when it is rather difficult to generate justifications (Mazar et al., 2008). Greater creativity might facilitate the self-justification process and help people to rationalize their own behavior. Divergent thinking might help people to develop original ways to dodge current social and moral rules. Likewise, cognitive flexibility might help

people to interpret information about their own dishonest behavior in a self-serving manner (Gino & Ariely, 2012). Hence, individuals who are more creative could also be more dishonest.

There has been some empirical evidence regarding the link of creativity and dishonesty. Walczyk et al. (2008) required students to identify scenarios in which dishonest behavior would lead to more favorable outcomes. They found that the aggregate number of lies correlates with divergent thinking. Moreover, in a study regarding creativity and conflict resolutions, it was found that during competitive negotiation tactics, deception was positively correlated with creativity (De Dreu & Nijstad, 2008). Finally, a series of five experiments demonstrated that creativity increases the propensity of individuals to behave dishonestly (Gino & Ariely, 2012). Based on the previous elaborations, the following hypothesis is formulated:

Hypothesis 1: *Creative individuals exhibit more dishonest behavior compared to less creative individuals.*

3.2 Moral Priming and Dishonest Behavior

People like to believe that all dishonest behavior is consciously and well thought-out. However, dishonest behavior does not only involve conscious decision-making but also involves unconscious responses (Ouwerkerk, Utz, & van Lange, 2004). These responses require a stimulus to be detected by the individuals sensory system, which alters behavior without the individual knowing that his behavior is altered (Randolph-Seng & Nielsen, 2007). In other words, there is an implicit activation of some stored knowledge which affects behavior (Ouwerkerk, et al., 2004). The unconscious activation of stored knowledge is referred to as priming.

Research has documented that primes can easily alter behavior without the participant knowing that his behavior is changed (Gino & Ariely, 2012). One of the most famous studies regarding priming activates the concept of elderly in the mind of the participants, which is often associated with slower behavior. When this concept was activated, subjects subsequently walked slower compared to the control participants (Bargh, et al., 1996). Furthermore, subjects who were exposed to food advertising were consuming more products. Food advertising did not only increase consumption of the advertised products but also increased consumption in non-advertised products (Harris, Bargh, & Brownell, 2009). By exposing participants to advertised products, the concept of consumption is activated which in turn increases overall consumption. Just as priming specific stereotypes (the concept of elderly) alters behavior (walking slower), so too can priming affect dishonesty. The implicit activation of religious concepts makes individuals

more honest (Randolph-Seng & Nielsen, 2007). Beside these implicit reminders of religion, the explicit reminder of morality also reduces dishonesty (Levitt, 2006; Pruckner & Sausgruber, 2013). Explicit reminder of morality make people more aware of their moral obligations and therefore conflicts with injunctive norms of honesty and makes self-justification more complicated. As both implicit reminders of religious concepts and explicit reminders of morality reduce dishonesty, the implicit activation of morality is likewise assumed to reduce dishonesty. The implicit activation of moral concepts might make it harder for individuals to self-justify dishonest behavior and thereby reduce it. Hence, priming morality might unconsciously reduce dishonesty. Based on the previous elaborations, the following hypothesis is formulated:

Hypothesis 2: *The unconscious activation of moral concepts decreases dishonest behavior.*

The easier it is for individuals to generate justifications that rationalizes their dishonest behavior, the more likely the individual will engage in dishonest behavior (Mazar, Amir, & Ariely, 2008). An unconscious activation of morality might affect individuals who are associated to be more creative differently than those who are associated to be less creative. This difference might be explained by the fact that their injunctive norms of honesty are affected differently. Creative individuals might not be able to utilize divergent thinking as much because reminding them of their moral obligations incurs higher direct costs of cheating. Likewise, cognitive flexibility might not be as useful as moral reminders make it harder to interpret information about their own behavior in a self-serving way. Therefore, when there are moral reminders, it is harder to justify, dishonest behavior for creative individuals. Based on the previous elaborations, the following hypothesis is formulated:

Hypothesis 3: *The unconscious activation of moral concepts decreases dishonest behavior more for creative individuals compared to less creative individuals.*

4. Data & Methodology

The methodology section provides details about the data used to test the hypotheses. The first section provides insight on how the survey is designed. Following this discussion, the sample characteristics are elaborated on. The third and final section of this chapter explains the methodology employed.

4.1 Survey Design

To formally analyze the impact of creativity on dishonest behavior and the effect of moral priming, a survey was distributed among 129 participants. Subjects were recruited in two different ways. The first batch of subjects was randomly approached on a university campus. Potential subjects who were sitting alone were approached and given a piece of chocolate with a note attached, containing the following message: *“Win €25 and help me finish my master thesis. Please fill in the survey on the following link”*. The emphasis was put on the payoff because shifting the attention on money induces dishonest behavior (Gino & Mogilner, 2014). Moreover, only participants who were sitting alone were approached as social norms affect honesty (Abeler et al., 2016). The piece of chocolate was offered to potential subjects for recruitment purposes only. At the time of recruitment, many other students were simultaneously recruiting subjects which could have made potential subjects refrain from participating in the study. The second batch of subjects was recruited in the proximity of the researcher through social media. The subjects were kindly asked to fill in the survey and reminded that they could earn actual money. No incentive was used to recruit these participants as it was assumed that the personal relationship with the researcher was sufficient to participate in the survey.

4.1.1 Assessing Creativity

The level of creativity of subjects was assessed with three different scales, that have been proven to robustly predict creative performance (Gino & Ariely, 2012). The three scales employed consisted of Goughs creative personality scale, Hochevars creative behavior inventory and Kirtons creative cognitive scale. On each single measure the participant earns a creativity score. The first measure employed is Goughs creative personality scale (Gough, 1979). This measure asks participants to choose adjectives that describe them best (there was no minimum or maximum amount of adjectives that the subjects had to select). The scale contains a list of 30 adjectives of which 18 are related to creativity. The scoring rule is that the participant received a point every time they checked an adjective that is associated with creativity. A list of all adjectives can be found in Appendix 1A.

The second creativity measure employed is Hochevar's creative behavior inventory (Hochevar, 1980). The inventory contains a list of 77 activities and accomplishments that are considered to be creative (e.g., received an award for acting, made your own holiday decorations). For each item, the subjects were required to indicate how frequently this occurred during their life. Unfortunately, the number of items (77) is very great, which could create selection effects. Too many items might bias the results as subjects who are naturally more altruistic would complete the survey while others drop-out. More altruistic subjects may bias the results as they care more about the well-being of the researcher and would therefore behave more honestly. To avoid these selection effects the original creative behavior inventory is shortened. The original inventory consists of eight main categories which are related to literature, music, crafts, art, math & science, performing arts and non-scalable (which is other creative activities that do not fit the other categories). About each category one question is asked and participants can score this question from 1 to 3, 1=never (0 times), 2= occasionally (1 – 3 times), 3=frequently (more than 3 times). The scoring rule is to add up the total participants score minus 1 for each single item and therefore a participant can score a maximum of 2 points per question. All the exact questions are specified in Appendix 1B.

The third creativity measure consisted of Kirton's creative cognitive scale (Kirton, 1976). The scale included questions related to the subjects creative personality with questions such as "I have a lot of creative ideas" and "I prefer tasks that enable me to think creatively". Participants indicated the extent in which they agreed with each item on a seven-point scale (1=strongly disagree, 7=strongly agree). The scoring rule is to average each participants ratings across the items.

4.1.2 Moral Prime

To unconsciously activate moral concepts in the participants mind, a scrambled sentence task containing moral concepts is employed. This semantic prime has been proven to be a successful prime as Gino & Ariely (2012) successfully activate a creative mindset. In addition, evidence has been found that the scrambled sentence task is able to reduce dishonesty (Randolph-Seng & Nielsen, 2007). Subjects confronted with sentences containing religious words, such as cross and holy, subsequently cheated less on a difficult task. Therefore, based on previous research, it is assumed that the scrambled sentence task with sentences related to morality is able to reduce dishonesty. In this study participants were asked to construct twenty grammatically correct four-word sentences (e.g., the world is round) from a set of five randomly positioned words (e.g., is,

round, the, world, up). For the participants in the moral prime condition, 12 of the 20 sentences were related to morality (e.g. I shall not steal, misreporting is always wrong). When the subjects did not construct a grammatically correct sentence an error message displayed containing the following message: *“You have not constructed a grammatically correct four-word sentence. Please ensure that you have spelled all words correctly”*. After the message was displayed the subjects had the opportunity to correct their sentences. All sentences are displayed in Appendix 1C.

4.1.3 Cheating – Self-reporting Score

To incentivize the subjects to cheat, one subject was awarded actual money. This winner is the one who generates the highest cumulative amount of two numbers up to 50. The numbers were generated on an external website.² In this task subjects have the opportunity to engage in dishonest behavior because participants were asked to self-report the two numbers. Therefore, subjects could report higher numbers than they actually generated. This type of experiment is usually conducted in a laboratory setting where subjects self-report the outcome of flipping a coin or rolling a die (Rosenbaum et al., 2014). To ensure that participants perceived that they could influence their probability of winning, they were asked to self-report two numbers up to 50. In the coin and die experiments every individual was paid directly after the task. However, due to monetary reasons it was impossible to pay out every subject individually and only one subject was paid out, therefore a greater number of outcomes were needed.

There is cheating in the sample when the median of the reported numbers is significantly different from the theoretical benchmark of 50. If there is a significant difference between the medians, at least some of the participants must have behaved dishonestly. There is no way for the researcher to track the numbers and therefore subjects were induced to cheat because there is no possibility to get caught and thus no possible repercussions of cheating. In this way, subjects are only prevented from cheating by their self-concept to appear honest. Therefore, this study focusses on the way individuals are able to justify their unethical actions. Moreover, the participants were asked to add up the numbers because that could instigate a more utilitarian decision-making process (Cappelen et al., 2013). Adding up the numbers might induce dishonesty because participants have to actually think about the numbers generated. Furthermore, self-reporting the numbers is something impersonal, which in turn also instigates dishonesty (Cappelen et al., 2013). Finally, at the end of the survey, the email address of

² The website employed to generate a random number was <https://www.random.org/>

participants was asked in case they wanted to win the money. It was explicitly stated that their email address was treated confidentially and would in no way be linked to any of their responses.

4.1.4 Control variables

For the current research, four control variables were identified that were originally not of direct theoretical interest, but have been recognized as having the potential to influence the results. It has been suggested that gender significantly affects dishonest behavior (Dreber & Johannesson, 2008). They found that men cheat significantly more than woman to secure a small monetary benefit in the sender-receiver game. However, research regarding the effect of gender on dishonesty is inconclusive. Childs (2011), also examines cheating in a sender-receiver game, and does not observe any gender effects. Second, the age of an individual might influence the extent of which an individual behaves dishonestly. An older person could be more experienced at the tasks at hand and behave differently.

The third control variable employed is student status. The participant is asked to indicate whether or not he/she is currently pursuing a bachelor degree, master degree or is not studying at all. Student status might explain the results due to the fact that students might perceive the magnitude of the payoff differently than non-students. Students might value the payoff as a significant amount of money for which they are willing to cheat, while non-students might find this amount insufficient. Furthermore, a distinction is made between students who are currently pursuing a bachelor and master degree. Master students might be more experienced at the task at hand which might drive the results. Finally, the last control variable is relatedness to the researcher. Participants are asked whether they have a personal relationship with the researcher. Dishonesty might be more pronounced when the subjects are not familiar with the researcher as over-reporting about something personal induces honesty (Cappelen et al., 2013).

4.2 Sample Characteristics

There were a total of 129 responses to the survey. At the end of the survey subjects were asked whether they had any idea what the survey is about. When they indicated that the survey was about dishonesty, morality and/or creativity they were removed from the sample. There were eight respondents removed from the sample. Interestingly, just one of these eight respondents reported that they generated 50 twice, implying that almost all respondents who knew that the survey was about cheating did not cheat maximally. After removing these respondents the total sample consisted of 121 respondents. Table 1 gives an overview of the characteristics of the sample. There are 72 individuals in the moral prime group while there are 49 in the control

group. The lowest creativity score is 2.4 while the highest score is 17.4. The average creativity score is 9 and the median is 8.9. Furthermore, the lowest reported score is 13, while 6 subjects indicated that they generated 100. The average reported score is 58 while the median is 56.

Variable	Number	Variable	Observations
Creativity Score			
Lowest Creativity Score	2.4	First Quartile	31
Highest Creativity Score	17.4	Second Quartile	32
Average Creativity Score	9.0	Third Quartile	30
Median Creativity Score	8.9	Fourth Quartile	28
Reported Number			
Lowest Reported Number	13	Reported <25	10
Highest Reported Number	100	Reported between 25 - 49	32
Average Reported Number	59	Reported between 50 - 74	46
Median reported Number	56	Reported >=75	33
Prime group			
Moral Prime Group	49	No-Prime Group	72

Table 1: Sample Characteristics

Table 2 gives an overview of the control variables. There are 47 males and 74 females in the sample. The lowest age in the sample is 17 while the highest age is 31. The average and the median age are both 23. There are 97 students in the sample, of which 38 are currently pursuing a bachelor degree, and 59 who are pursuing a master degree and 24 who are currently not studying. Moreover, there are 63 respondents who know the researcher personally, while there are 58 respondents who do not know the researcher personally.

Control variable	Observations	Control variable	Observations
Gender		Student Status	
Male	47	Currently Pursuing a Bachelor Degree	38
Female	74	Currently Pursuing a Master Degree	59
		Currently not Studying	24
Age		Personal Relationship	
Lowest Age	17	Yes	63
Highest Age	31	No	58
Average Age	23		
Median Age	23		

Table 2: Control Variables

4.3 Methodology

First, I test the correlation between the three creativity measures. It is important to test the correlation between the measures because a cumulative score of the three measures is computed. When there is significant correlation between the measures it implies that a subject

who scores high on one measure is likely to score high on the other measures as well. When the measures correlate, the total creativity score would be more valid as opposed to no observed correlation. Gino & Ariely (2012), conducted a similar correlation analysis and found that all three measures significantly correlate. Table 3 reports the correlation between the three measures. In contrast with Gino & Ariely (2012) there was no significant correlation between the creative personality scale and the creative cognitive scale. Furthermore, there is no correlation observed between the creative personality scale and the transformed creative behavior inventory. On the other hand, there is a significant correlation at a 1% significance level between the transformed creative behavior inventory and the creative cognitive scale.

Measure	Mean	SD	1	2	3
1. Gough's Creative Personality Scale	5.22	2.54	1	.03	.09
2. Hochevar's Creative Behavior Inventory	5.61	2.95	.03	1	.32***
3. Kirton's Creative Cognitive Scale	3.43	.62	.09	.32***	1

Table 3: Correlation Table Creative Measures: * is significant correlation at 10%, ** is significant correlation at 5% and *** is significant correlation at a 1% level.

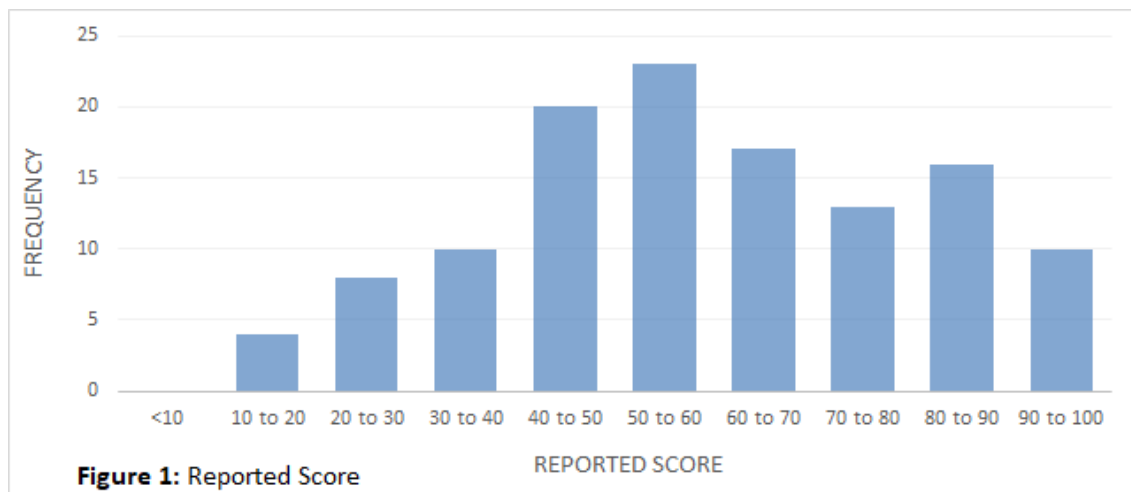
To formally test which statistical methods are needed the Jarque-Bera test for normality is conducted. The statistics corresponding with the Jacques-Bera test are in Table 4 in Appendix 2. The coefficient of the creativity score is not significant at a 10% level. This result implies that the null hypothesis of normality cannot be rejected for this variable. Furthermore, the coefficient of the reported score is significant at a 10% level and therefore the corresponding null hypothesis of normality is rejected. These findings imply that the data for the reported score is not normally distributed. Therefore, non-parametric tests will be used in answering the research question.

5. Results

This chapter tests the hypotheses that are proposed in chapter three. Each section begins with an elaboration on the method that is used. Following this, the results are presented and the hypothesis is either rejected or failed to be rejected.

5.1 The effect of Creativity on Dishonesty

Figure 1 depicts the distribution of the cumulative reported scores, categorized in units of ten. The figure clearly shows a skewed distribution as there are more subjects reporting a number above 50 than below 50. The expected amount of subjects to report over 50 is 61.5, while the actual amount of subjects who reported over 50 is 79. These findings imply that the average of the sample is probably not equal to the theoretical average of 50 and that there is cheating in the sample.



To formally assess whether there is cheating in the sample three Wilcoxon ranked-tests are employed. The reported numbers are compared to their respective theoretical benchmark. If the median of the sample differs significantly from the theoretical benchmark, some subjects must have reported a higher outcome than the number they actually generated. The benchmark for each single reported number is compared to 25. Moreover, the cumulative numbers are compared to 50. Table 5 illustrates that the median of the first reported number which is 28, is significantly higher than 25 at a 5% significance level. Moreover, the median of the second number which is 32, is significantly higher than 25 at 1% significance level. Finally, the median of the cumulative numbers which is 56, is significantly higher than 50 at a 1% significance level. These findings imply that there is cheating in the sample and that the effect of creativity on cheating can be examined.

Number Reported	Z-Score	Sig
First Number Reported	2.30	0.02
Second Number Reported	4.02	0.00
Cumulative Numbers Reported	3.85	0.00

Table 5: Assessment of Cheating in the Sample

The relationship between creativity and cheating is tested with two multiple regression analyses. First, the work of Gino & Ariely (2012) is replicated in which the cumulative score of the three creativity measures are employed. In their research their creativity measures significantly correlate with each other and therefore they argue that it is possible to sum the scores of these measures. Secondly, the three creativity measures are employed individually into one regression analysis. Using the individual measures might be a better reflection of actual creativity as combining the three measures requires arbitrary weighting. Moreover, Table 3 portrays that the creative personality scale does not correlate with any of the other measures. Hence, it is important to examine the measures separately as they might display different results than the cumulative score. Furthermore, in both regressions the moral prime is incorporated as it is also of theoretical interest to this study.

The results of the linear regression regarding the cumulative scores are depicted in Table 6. The regression shows no significant effect of creativity on the reported score at a 10% significance level. Also, the moral prime has no significant effect on the reported score at a 10% significance level. Moreover, Table 7 shows the results of the second linear regression, which examines the effect of the three individual creativity measures. The coefficients of all three creativity measures are insignificant at a 10% significance level. Also, the moral prime is insignificant at a 10% significance level. To observe whether the relationship between creativity and cheating can be explained by other factors two regression analyses including all control variables are conducted. Table 8 and 9 in Appendix 3A and Appendix 3B demonstrate that all control variables, in both regressions, are insignificant at a 10% level. According to the results explained above, the first hypothesis: *“Creative individuals exhibit more dishonest behavior compared to less creative individuals”* is rejected.

Reported Score		
Independent Variable	Coefficient	p-value
Total Creativity Score	.14	.75
Moral Prime	3.89	.34
Constant	55.20	.00
R-Square	.01	

Table 6: The effect of the Cumulative Creativity Scores on dishonesty

Reported Score		
Independent Variable	Coefficient	p-value
Creative Personality Scale	.53	.52
Creative Behavior Inventory	-.60	.42
Creative Cognitive Scale	3.93	.27
Moral Prime	4.16	.30
Constant	44.12	.00
R-Square	.03	

Table 7: The effect of the Individual Creativity Scores on Dishonesty

5.2 The effect of Moral Priming on Dishonesty

To formally assess whether there is a significant difference in reported score between the moral prime group and no-prime group a Mann-Whitney U test is conducted. The average reported score of the moral prime group is 61 and the median is also 61. The average score of the no-prime group is 57 and the median is 52. The results of the test are portrayed in Table 10 and indicate that there is no significant difference between the moral prime group and the no-prime group. The null-hypothesis for the Mann-Whitney U test is not rejected at a 10% significance level. Thus, we cannot reject that the two groups are equal in terms of the median. This finding suggests that the median of the moral prime group is the same as the no-prime group. According to these results, I find no evidence for the second hypothesis, that *“The unconscious activation of moral concepts decreases dishonest behavior”*.

Variable	z-score	p-value
Moral Prime	2.54	.30

Table 10: The Effect of Moral Prime on Dishonesty

5.3 The effect of Creativity and Moral Priming on Dishonesty

This section explores the mediating effect of the moral prime on creativity. First, the effect of the creative individuals, which are the ones who have a total creativity score above the median, is examined. Accordingly, one additional variable is created. The variable takes one when it falls in the moral prime group and has a creativity score above the median and takes zero when it

falls into the no-prime group and has a total creativity score above the median. The total creativity score is employed as none of the individual creativity measures have significantly influence the reported score. The average reported score of the more creative individuals in the moral prime group is 63 and the median is 63. The average reported score of the creative individuals in the no-prime group is 57 and the median is 59. To formally analyze the effect of the moral prime on the more creative individuals a nonparametric equality-of-medians test is conducted. Table 11 illustrates that there is no significant difference in reported number for the creative individuals in the moral prime group and the no-prime group. The null-hypothesis for the median test is not rejected at a 10% significance level. Not rejecting the null-hypothesis implies that no evidence is found that the two groups are different in terms of the median, i.e. no evidence is found that the median for creative individuals is different in the moral prime group and in the no-prime group.

Secondly, the effect of moral priming on less creative individuals, who are the ones with a score below the median, is examined. Accordingly, one additional variables is created. The variable takes the value of one when it falls into the prime group and has a total creativity score below the median and takes zero when the score of the reported value when it falls into the no-prime group and has a total creativity score below the median. The total creativity score is employed as none of the individual creativity measures have a significant effect on the reported score. The average reported score of the less creative individuals in the moral prime group is 59 and the median is 56. The average reported score of the less creative individuals in the no-prime group is 56 and the median is 50. To formally analyze the effect of the moral prime on the less creative individuals a nonparametric equality-of-medians test is conducted. Table 11 illustrates that there is no significant difference in reported number for the less creative individuals in the moral prime group and the no-prime group. The null-hypothesis for the median test is not rejected at a 10% significance level. Not rejecting the null-hypothesis implies that no evidence is found that the two groups are different in terms of the median, i.e. no evidence is found that the median for the less creative individuals is different in the moral prime group and in the no-prime group. According to these results, I find no evidence for the third hypothesis, *“The unconscious activation of moral concepts decreases dishonest behavior more for creative individuals compared to less creative individuals”*.

Variable	Score	p-value
Creative Individuals	33.98	.47
Non-Creative Individuals	39.14	.51

Table 11: The effect of the Moral Prime and Creativity on Dishonesty

6. Discussion

This chapter discusses the empirical findings of the study and compares them with the previous theoretical findings, thereby answering the final research question: *What is the relationship between creativity and dishonesty and how does moral priming affect this relationship?* This is followed by a discussion of the implications of this research. Finally, several limitations of the research are highlighted, with suggested ideas for future research

6.1 Discussion

The purpose of this study is threefold; first, the work of Gino & Ariely (2012) is replicated, to observe whether the relationship between creativity and dishonesty is as prevalent as they suggest. Secondly, the recent issues regarding the generalizability of priming research are examined (Harris et al., 2013). Thirdly, it is tested whether the moral prime affects creative individuals differently than non-creative individuals. These hypotheses are tested with a survey that is distributed among a sample of 121 respondents. There is cheating in the sample as the median of the generated numbers is significantly higher than its respective benchmark. As there is cheating in the sample the relationship between creativity and cheating can be examined. This study confirms that people, in general, are incompletely dishonest as only six subjects reported that they generated 100.

After conducting four regressions, no relationship between creativity and cheating is observed. There are several possible explanations for these findings. First, this relationship may not be as ubiquitous as Gino & Ariely (2012) suggest. Creative individuals may not be better at generating justifications for their dishonest behavior than less creative individuals. Hence, creative individuals will not engage in more dishonest behavior. Another possible reason why no relationship is observed, is that the task at hand might not give the proper incentives for creative individuals to behave dishonestly. For the majority of subjects the numbers that they generated are relatively far from the number that is needed to win the prize. For instance, when a subject generates 60, he/she needs to add at least 35 to have a number that could potentially be the highest number generated. For most subjects, cheating a little bit will not significantly increase the probability of winning the prize. Hence, the only way to win the prize is to cheat (almost) maximally. Even for creative individuals cheating (almost) maximally would be highly uncommon as it will still conflict with their self-concept as honest individuals (Shalvi et al., 2011). Thus, it is possible that the task at hand is not appropriate to incentivize creative individuals to engage in more cheating behavior. Additionally, the magnitude of the payoff could not have been sufficient to incentivize creative individuals to behave dishonestly. Due to severe budget

constraints it was only possible to offer €25, if the payoff is increased creative individuals could be more inclined to cheat. Finally, creative subjects are assumed to think more “out of the box” than less creative individuals (Walczyk et al., 2008). Therefore, the creative individuals might have reacted differently to the number generation process compared to the less creative individuals. The numbers were generated on an external website and the website automatically added a time stamp to the numbers. The time stamp, in combination with the external website might have given subjects the feeling that the generated number were tracked by the researcher. Creative individuals might be more inclined to suspect that their answers were tracked because they are more likely to identify links between remote associates. The idea of being tracked could give creative participants the feeling that their answers are not anonymous and might have inhibited cheating behavior.

Both the moral prime group and the no-prime group are statistically the same in terms of the reported score. A possible explanation for this finding is that there are insufficient cheaters in the sample. The majority of people could have behaved honestly, and even a large reduction in cheating by the moral prime will not cause statistically significant differences. However, this reason is unlikely as the mean and median of the reported score in the prime group are higher than the mean and median in the no-prime group. A more plausible explanation is that a semantic prime is not sufficient to inhibit dishonest. Harris et al. (2013) replicates a seminal experiment in which people were exposed to words related to achievement (e.g., *strive*, *attain*). In the original experiment, exposure to these words lead to an enhancement in performance on a demanding cognitive task. However, Harris et al. (2013) also found no effect of priming. These results imply that the priming literature should be interpreted with caution and that the findings are not as robust as previously suggested.

Creative individuals in the moral prime condition do not behave more dishonestly than creative individuals in the no-prime condition. Likewise, less creative individuals in the moral prime condition do not behave more dishonestly than less creative individuals in the no-prime condition. In both cases the two groups do not report significantly different scores. Therefore, there is no difference in the way creative individuals react to a moral prime compared to less creative individuals. These results are expected as the previous results showed that the moral prime was not able to reduce dishonesty. As the moral prime had no effect on the entire sample, the moral prime also does not have an effect on a specific sub-group within the sample.

The findings of this study have significant practical implications. This study confirms that people will not cheat maximally, which is of great importance for institutions and companies. The effectiveness of these organizations depend for a large part on honest behavior. However, people are incompletely dishonest and do cheat in a low degree, which appears trivial but could have significant negative societal consequences. Furthermore, organizations should be careful in applying findings from the priming literature as they are not as robust as suggested. Semantic priming might not be as effective in altering behavior as the literature suggests.

6.2 Limitations and Directions for Future Research

One major limitation of this study, is that the winner of the monetary amount was only paid out after the data collection. In this way, subjects had no idea when they could actually expect the payment. Delayed payments could lead to temporal discounting which decreases the present, subjective value of a reward (Myerson, et al., 2003). Hence, being unaware of the timing of the payment could decrease the subjective value of the monetary amount and might refrain subjects from cheating. Moreover, only one subject is paid out, while in similar studies all subjects are paid out (Rosenbaum et al., 2012). Paying out just one participant might not incentivize subjects sufficiently to cheat as the probability of winning, even after cheating, is still rather low.

Another limitation of this study is that creativity is measured according to three self-reported measures. The creativity measures depend on self-reported answers and subjects might not be sufficiently incentivized to state their actual beliefs. Another issue with self-reported measures is that subjects may lack introspective ability to provide an accurate response to a question (Fan et al., 2006). People might perceive their own creativity differently than others perceive their creativity. The final limitation of this study concerns the linguistic ability of the subjects. Subjects were recruited out of the proximity of the researcher and on a university campus in the Netherlands. For the majority of subjects, English is considered as their second language and therefore they might not be fully proficient in the language. Not having clear associations with the language reason might inhibit subjects from activating stored knowledge and therefore make the prime ineffective.

Future research could easily overcome the limitations of this study by conducting a study that incentivizes creativity and pays out every individual subject directly after the task. Furthermore, a different task could be employed in which cheating a little bit actually brings direct monetary benefits. Moreover, future research could investigate whether the moral prime has a different

effect on subjects of which English is the primary language. In addition, the suggestions above can be combined to examine the effect of the moral prime on creative individuals and less creative individuals.

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Appendices

Appendix 1: Research Design

Appendix 1A: Creative Personality Scale

No	Adjectives related to creativity	Adjectives not related to creativity
1	Capable	Cautious
2	Clever	Commonplace
3	Confident	Conservative
4	Egoistical	Conventional
5	Humorous	Dissatisfied
6	Individualistic	Honest
7	Informal	Interests narrow
8	Insightful	Mannerly
9	Intelligent	Sincere
10	Interests wide	Submissive
11	Inventive	Suspicious
12	Original	
13	Reflective	
14	Resourceful	
15	Self-confident	
16	Sexy	
17	Snobbish	
18	Unconventional	

Appendix 1B: Creative Behavior Inventory

1. I have realized achievements related to literature (e.g. worked as an editor, written lyrics to a song, wrote a story, participated in a writers workshop)
2. I have realized achievements related to music (e.g. wrote music for an instrument, played an instrument with reasonable proficiency or entered a contest as a musician)
3. I have realized achievements related to crafts (e.g. cooked an original dish, made candles, prepared original floral arrangements, made jewelry, planned and kept a garden)
4. I have realized achievements related to art (e.g. painted an original picture, made cartoons, made a sculpture, had artwork published)
5. I have realized achievements related to math and science (e.g. applied math to a practical problem in an original way, entered into a mathematical contest, wrote an original computer program, had a scientific paper published)
6. I have realized achievements related to performing arts (e.g. received an award for acting, put on a radio show, participated in a drama workshop or club, assisted in the design of a set)
7. I have realized achievements related to other innovative activities (e.g. designed a game, won an award for speech and debate, made up magic tricks, entered in a speech contest)

Appendix 1C: Scrambled Sentence Task

Moral prime: Sentences related to morality (12/20)

No	Scrambled Sentence	Actual Sentence
1	"shall, steal, not I, the"	I shall not steal
2	"truth, please, the, told, he"	He told the truth
3	"wrong, for, stealing, always, is"	Stealing is always wrong
4	"the, much, righteous, priest, is"	The priest is righteous
5	"behaved, many, her, decently, boyfriend"	Her boyfriend behaved decently
6	"surgeon, is, at, the, ethical"	The surgeon is ethical
7	"helping, people, good, is, by"	Helping people is good
8	"assisted, against, lady, the, she"	She assisted the old lady
9	"the, official, was, put, incorruptible"	The official was incorruptible
10	"doubtful, pay, your, debts, always"	Always pay your debts
11	"through, I, truth, the, reported"	I reported the truth
12	"misreporting, is, always, before, wrong"	Misreporting is always wrong

Sentences not related to morality (8/20)

No:	Scrambled Sentence	Actual Sentence
1	"is, round, the, up, world"	The world is round
2	"rides, he, concerning, bike, his"	He rides his bike
3	"boy, the, football, played, of"	The boy played football
4	"big, my, ear, is, due"	My ear is big
5	"chair, comfortable, after, is, the"	The chair is comfortable
6	"language, is, a, people, English"	English is a language
7	"they, comics, at, sold, the"	They sold the comics
8	"the, beautiful, is, during, artwork"	The artwork is beautiful

Non moral prime: Random Sentences (20/20)

No:	Scrambled Sentence	Actual Sentence
1	"is, round, the, up, world"	The world is round
2	"rides, he, concerning, bike, his"	He rides his bike
3	"boy, the, football, played, into"	The boy played football
4	"big, my, ear, is, due"	My ear is big
5	"chair, comfortable, after, is, the"	The chair is comfortable
6	"language, is, a, people, English"	English is a language
7	"they, comics, at, sold, the"	They sold the comics
8	"the, beautiful, is, accident, artwork"	The artwork is beautiful
9	"into, jacket, warm, is, my"	My jacket is warm
10	"powerful, the, they, laptop, is"	The laptop is powerful
11	"very, walking, during, healthy, is"	Walking is very healthy
12	"between, broccoli, is, vegetable, a"	Broccoli is a vegetable
13	"cookies, the, eats, boy, concerning"	The boy eats cookies
14	"boyfriend, glue, she, had, a"	She had a boyfriend
15	"blunt, nurse, was, in, the"	The nurse was blunt
16	"an, island, however, is, Iceland"	Iceland is an island
17	"snail, deed, the, slow, is"	The snail is slow
18	"fountain, is, deep, throughout, the"	The fountain is deep

19	“the, against, have, snow, mountains”	The mountains have snow
20	“survey, this, is, on, finished”	This survey is finished

Appendix 2: Jacques- Bera Test for Normality

Variable	Adj Chi2	p-value
Creativity Score	2.54	.28
Reported Score	4.97	.08

Table 4: Jacques Bera Test for Normality.

Appendix 3: Regressions with Control Variables

Appendix 3A: Regression Analysis with Cumulative Creativity Scores and Control Variables

Reported Score		
	Coefficient	p-value
Total Creativity Score	.17	.71
Moral Prime	3.15	.44
Master Student	-1.31	.82
No Student	-6.04	.39
Age	2.24	.64
Gender	-.01	.99
Personal Relationship	-6.90	.11
Constant	60.15	.00
R-Square	.04	

Table 8: The effect of the Cumulative Creativity Score with Control Variables on Dishonesty

Appendix 3B: Regression Analysis with Individual Creativity Scores and Control Variables

Reported Score		
	Coefficient	p-value
Creative Personality Scale	.31	.72
Creative Behavior Inventory	-.37	.66
Creative Cognitive Scale	3.56	.33
Moral Prime	3.68	.36
Master Student	-.49	.93
No Student	-5.63	.43
Age	2.01	.67
Gender	-.14	.88
Personal Relationship	-5.48	.27
Constant	52.22	.03
R-Square	.05	

Table 9: The effect of the Individual Creativity Scores with Control Variables on Dishonesty