The Pennsylvania State University

The Graduate School

College of the Liberal Arts

THE DARK SIDE TO CREATIVITY:

TESTING AN INTERVENTION TO DETER DEVIANCE

A Thesis in

Psychology

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Science

August 2014

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ABSTRACT

Although creativity is commonly thought to be beneficial for businesses trying to maintain a competitive edge, a relationship has been found between creativity and deviance. Cognitive processes have been believed to be the connection between creativity and deviance, as creative people often possess the ability to think "outside of the box" and view situations differently than those who are less creative. Despite creative people having flexible thinking, however, not all engage in deviance. We sought to explore possible situational factors that may predict deviance in creative people and test an intervention aimed at deterring deviance. Results show that ambiguous ethical situations, where rules are unclear, provide more of an opportunity for creative people to engage in deviance. In ethically salient conditions, where rules are reinforced, deviance is reduced as creativity increases. Further, aspects of creativity seem to be unaffected or even slightly enhanced by ethically salient conditions. By implementing ethical saliency interventions, it may be possible to deter deviance while still allowing for creative expression.

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ACKNOWLEDGEMENTS

I would like to thank my advisor, Sam Hunter, foremost, for his guidance and support throughout the various stages of my thesis project. Additionally, I am grateful to both James LeBreton and Jonathon Cook for their time and expertise as committee members. Outside of academia, I am especially thankful for the love and support of my friends, parents, and sister. Finally, I would like to dedicate my master's thesis to my grandmothers, both who passed away while this paper was a work in progress. I love and miss them and know that they would have been proud to see me reach this milestone.

The Dark Side to Creativity: Testing an Intervention to Deter Deviants

"In all matters of creativity, rules are meant to be broken when necessary."

— Haley Langford

With the pressure to perform better with fewer resources, organizations are continually looking for a competitive advantage, a way to help their business succeed in a highly competitive marketplace. Over the last few decades, the idea of competitive advantage has shifted from a focus on effective and reliable execution to the ability to innovate and change (Lawler & Worley, 2006). In order to enable innovative thinking and actions, organizations need to hire employees with creative potential. Many popular press books tout the power of creativity and innovation through tales of exemplar organizations (Capodagli & Jackson, 2009; Florida, 2012) and academic literature provides support for these claims (Amabile, Schatzel, Moneta, & Kramer, 2004; Goldenberg & Mazursky, 2001; Hunter, Cushenbery, & Friedrick, 2012; Mumford & Gustafson, 1988).

Although effective problem-solving, adaptability, and overall organizational success have all been found to rely heavily on innovation resulting from creative potential, organizations need to be wary of creativity's potential dark-side (Cropley, Kaufman, & Cropley, 2008; Goldenberg & Mazursky, 2001; Mumford & Gustafson, 1988). Examples of malevolent creativity can be found in various settings. In cases of terrorism, for example, creativity has been used to design new improvised explosive devices (IEDs). In cases of crime, criminals have been found to use a great deal of creativity in order to break the law without being caught by the authorities (Eisenman, 2008; Ganman & Raein, 2010). Most central to the present effort, employees have used creativity in order to sabotage their employers at work (McLaren, 1993). The results of these studies strongly suggest that individuals with creative potential may be more likely to engage in destructively deviant behavior.

One of the possible mechanisms behind the creativity-deviance link involves cognitive processes. Research support has shown that cognitive processes are a significant driver of destructively deviant behavior in creative people (De Dreu & Nijstad, 2008; Gino & Ariely, 2012; Walczyk, Runco, Tripp, & Smith, 2008). A recent series of studies shows that the specific cognitive process of justification may play a role in the relationship between creativity and deviance (Gino & Ariely, 2012). When presented with the opportunity, individuals with higher creative potential were more likely to cheat on the task presented. The authors claim that creative people are better able to justify unethical behavior and are therefore more likely to engage in destructive deviance.

Although individuals with creative potential may have the cognitive processes that allow them to justify unethical behavior, we propose that situational influences are the driving force behind whether a creative person behaves unethically. Researchers in both the creativity and the deviance literature acknowledge that the situation can greatly motivate behavior, above and beyond individual differences (Gino & Ariely, 2012; Gutworth, Morton, & Dahling, 2013; Mumford et al., 2010). Although all creative people likely possess higher than average divergent thinking and other cognitive abilities, not all creative people actually behave deviantly. It may be that creative people only engage in destructive deviance when the situation allows for easier justifications of bad behavior.

Self-concept maintenance theory may offer some guidance on understanding the link between deviance and creativity. This theory highlights the role of the situation in the creativity-deviance connection. According to this theory, people experience two conflicting motivations when faced with an opportunity to engage in deviant behavior: a motivation to benefit the self and a motivation to preserve one's moral standards (Brief, Buttram, & Dukerick, 2001). When

this dilemma is experienced, creative people may be able to better justify their decisions in order to engage in deviant behavior. Further, ambiguous situations, where the distinction between rule-following and rule-breaking behavior is less clear, may be the most inviting for deviance. These situations may allow creative people to exercise strategies that enable them to justify unethical or deviant behavior.

As certain situations provide opportunities for deviant behavior, we are interested in seeing whether an environmental intervention can decrease deviant behavior in individuals with creative potential. By making aspects of the environment salient, such as ethical norms, it may be possible to reduce the dark sides effects of creative potential. Research on destructive deviance has found that the presence of an ethical climate can be effective in reducing deviant behaviors (Biron, 2010; Evans et al., 2011). Further, creativity researchers have suggested that investigating aspects of the environment may be necessary in order to better understand the conditions under which creative individuals engage in deviance (Gino & Ariely, 2012; Mumford et al., 2010).

In this paper, we seek to explore the role that ethical norms play in the creativity-deviance relationship by manipulating the ethical environment. We begin by explaining how the theory of self-concept maintenance creates dissonance in situations where the opportunity to deviate is present. We then describe a strategy that is often used to reduce this tension and how creative people may be better able to apply this strategy to justify destructively deviant behavior. Finally, we propose to test an intervention that may reduce the ability of creative people to apply this cognitive strategy and consequently engage in destructive deviance.

The Creativity-Deviance Relationship

Creativity is often associated with beneficial outcomes, however, nascent research has begun to recognize that creativity can also lead to dark behaviors. Creativity, defined as the production of high quality and original solutions to problems (Besemer & O'Quin, 1999; Mumford & Gustafon, 1988) could be applied in both benevolent and malevolent ways. Negative creativity, for example, is when creative products are used in negative ways (Clark & James, 1999; James, Clark, & Cropanzano, 1999). Further, the similar concept of malevolent creativity involves the application of creative thinking to accomplish a deliberately harmful or destructive act (Cropley et al., 2008).

Some examples of creativity applied in malevolent ways have been seen in studies of criminals. Eisenman (2008) observed how criminals often applied creative thinking and complex strategies in order to manipulate others, accomplish crimes without being caught, and establish social networks with others in order to gain power and status. These displays of deviant behavior are not, however, strictly limited to extreme cases. Cases of deviance in creative people have also been observed in both lab and workplace settings (Beaussart et al., 2012; Gutworth & Hunter, 2014; McLaren, 1993). In lab settings, creative individuals have been found to fail objective tests of their behavioral integrity. In workplace settings, employees have been found to apply their creative abilities in order to steal competitors' trade secrets, avoid having to do work, and use politics to advance their own malevolent agendas (James et al., 1999; McLaren, 1993).

The dark side of creativity has not only been observed by researchers. Creative people themselves have acknowledged the double-edged sword of creativity; Neihart (1998) claims that many artists have admitted to engaging in creative work in order to "work through their

destructive urges" (p. 49). Not all people who are creative, however, engage in deviance. Why is it that some creative people are more drawn to destructive behavior than others? Research suggests that the ability of creative people to justify their behavior may explain this relationship. In the next section we delve into the creative mind to see how cognitive processes may be the driving force behind the justification of deviant behavior.

For the purposes of our study, we are focused on the relationship between creativity and destructive workplace deviance. Although rule-breaking in the workplace has been conceptually defined in various ways, we refer to destructive workplace deviance as behavior that voluntarily violates organizational norms and in doing so threatens the well-being of the organization, its members, or both (Bennett & Robinson, 2000; Peterson, 2002; Robinson & Bennett, 1995). Conceptually, some researchers believe that violating norms is an inherent part of creativity and even include rule-breaking in the very definition of creativity (James & Drown, 2012; Sternberg & Lubart, 1996). Robinson & Bennett (1995)'s definition, however, suggests that not all creative behavior is deviant behavior. If the organizational norms include creative performance and creative thinking, then employees exercising their creative potential are not engaging in deviant behavior. However, if no organizational norm exists regarding creative performance, then exhibiting creativity may be considered destructive workplace behavior.

Creativity and Justification of Unethical Behavior

Creative performance is a complex phenomenon and numerous models have been created in order to better understand the creative process (De Dreu, Baas, & Nijstad, 2008; Paulus & Dzindolet, 2008). Factors contributing to creativity range from cognitive processes, to personality factors, to domain-specific expertise (De Dreu et al., 2008; Elsbach & Kramer, 2003; Hunter et al., 2012) Early research examining the creativity-deviance link, however, have

pointed to the cognitive processes of creative people as being one of the driving forces of deviant behavior (Gascon & Kaufman, 2010; Gino & Ariely, 2012).

Specifically, the two cognitive processes of divergent thinking and cognitive flexibility have been implicated as predictors of deviance in creative individuals (Carson, Peterson, & Higgins, 2003; Gino & Ariely, 2012; Guilford, 1968). Cognitive flexibility has been defined as "the ability to adaptively re-assemble diverse elements of knowledge to fit the particular needs of a given understanding or problem-solving situation" (Spiro & Jehng, 1990, p. 169). Those with high cognitive flexibility are able to easily adapt their way of thinking based on the specific situation. Similarly, divergent thinking is the ability to "think outside of the box" and view a situation from multiple perspectives (Thompson, 2008).

Using these cognitive abilities, creative individuals may be able to better justify behavior that may seem deviant or unethical to others (Gino & Ariely, 2012). Although creative people may value honesty, results have shown that some individuals engage in unethical behavior when given the opportunity (Beaussart et al., 2012; Brower, 1999; Gino & Ariely, 2012) . This suggests that although all people with creative potential may have better divergent thinking capabilities and/or cognitive flexibility, aspects of the situation may have a greater influence on whether creative people actually engage in deviance.

Creativity and Ethical Decision-Making

Recent literature on ethical decision making may provide a clearer picture of how context can play a role in the decision to engage in deviance. When making decisions with potential ethical implications, self-concept maintenance theory states that people face two motivations. One drive is the motivation for self-interest, where people decide to behave unethically because the potential benefits are greater than the consequences. The second drive is the motivation to

preserve one's own moral standards (Brief, Buttram, & Dukerick, 2001; Mazar, Amir, & Ariely, 2008). When the urge to preserve one's own moral standards is greater than self-interested urges, people are less likely to engage in deviant behavior.

Oftentimes, these two motivations conflict, such as when a person desires to steal from work in order to exact revenge but he/she feels conflicted because engaging in the act of stealing does not align with previously held moral standards. When this occurs, ethical dissonance, or an inconsistency between one's desired behavior and the need to maintain a moral standard, is felt (Barkan, Ayal, Gino, & Ariely, 2012). Research has shown that people generally want to view themselves as moral and that a sense of discomfort is felt when people are faced with the opportunity to act unethically for the benefit of the self (Aquino & Reed, 2002). This dissonance creates a tension in the individual which consequently needs to be reduced during the decision making process.

A common strategy used to reduce this tension is moral categorization. People can use categorization to rationalize their behavior in a way that becomes more justifiable. For example, a person who is deciding whether or not to steal from an organization may categorize the behavior as acceptable by thinking about the act as "minor" and focusing on the belief that the organization would not suffer from the loss of such a small object. This categorization reduces the ethical dissonance by enabling individuals to believe that their actions are in line with their moral standards while also fulfilling some degree of self-interest (Gur & Sackeim, 1979).

There are two conditions that must be met in order for categorization to be used as a strategy to reduce dissonance tension and consequently justify unethical behavior. The first is that the situation falls within the limits of situations that can be reasonably justified (Mazar et al., 2008). Categorization can likely only be used up until the point where a person can no longer

avoid the immorality of the act in question. The second condition, however, is malleability. Malleability is the degree to which people can reinterpret actions in a self-serving manner. Specifically, certain situations are more "malleable" than others and the situational ambiguity may influence the amount of categorization and consequently, unethical decision making that is being made (Mazar et al., 2008).

Although certain situations may be more malleable than others, it may also be that some people are better able to view situations as malleable than others. Preliminary research suggests that creative people are better able to justify engaging in unethical behavior and that they display unethical behavior for personal gain more so than people who are not as creative (Gino & Ariely, 2012). It may be, therefore, that creative people naturally view situations as more malleable and are therefore better able to use the strategy of categorization in order to justify their behavior. By having justifications for unethical behavior, people are better able to maintain a feeling of honesty and reduce tension from ethical dissonance (Shalvi, Dana, Handgraaf, & DeDreu, 2011).

This ability to better justify unethical behavior poses a dilemma for organizations. Companies believe that they are creating a competitive advantage by encouraging creativity when they may actually be populating their organization with employees who are more prone to deviance. As aspects of the situation seem to make justification easier for creative people, we propose a possible situational intervention. By manipulating the context surrounding the opportunity for deviance, it may be possible to capitalize on the benefits of creativity while also deterring deviant behavior.

Ethical Saliency as an Intervention

Creative individuals are more adept at using the categorization strategy in order to reduce ethical dissonance and maintain their self-concept (Baumeister, 1998; Mazar et al., 2008;

Schweitzer & Hsee, 2002). Being able to create justifications allows people to maintain a sense of honesty even while lying or engaging in deviant behavior. Ambiguous situations, with many opportunities to categorize behavior in self-serving ways, are therefore the most inviting circumstances for deviance. When norms and/or rules are not clearly defined, thinking and behavior in response to that context are more open to interpretation. In this study, we therefore test an ethical saliency intervention. In an ethically salient condition, the norms and rules of the organization are made clear to individuals such that little room is left for creative interpretation.

      Ethical saliency and deviance. Ethical saliency has been used in past studies in order to deter deviant behavior. For example, in a study using undergraduate students, participants were presented with an opportunity to cheat by overstating their performance on a task in which they had the potential to earn rewards (Mazar et al., 2008). The experimenters presented some participants with an honor code to read and sign before they participated in the task on which they had the opportunity to cheat. Results from this study and others indicate that the presence of ethical saliency in the form of an honor code can be effective in reducing dishonest behavior (Mazar et al., 2008; Shu, Gino, & Bazerman, 2011) Further, these results were duplicated when researchers asked participants to sign an honor code in addition to reading one before soliciting self-reported information on insurance policy informations and tax forms (Shu, Mazar, Gino, Ariely, & Bazerman, 2011).

      A central explanation for why this relationship may exist is the theory of objective self-awareness (Duval & Wicklund, 1972). According to this theory, the presence of ethical saliency, such as in the form of an ethics code, enables people to be more mindful of their own moral standards. Individuals becomes more aware of their self-concept and it becomes harder for them to then deviate from that image of their own moral identity. Having a greater moral self-

awareness has been found to not only lead to fewer instances of deviance, but also to greater adherence to societal norms (Diener & Wallbom, 1976; Ruedy & Schweitzer, 2010; Vincent, Emich, & Goncalo, 2013).

Based on the results of these studies, we seek to test the heuristic model shown in Figure 1. We hypothesize that implementing an intervention that makes ethics and/or norms salient will decrease deviant and dishonest behavior. When ambiguous situations arise, the presence of ethical saliency will likely make it harder for people to use the categorization strategy in order to justify unethical behavior. Even though the urge to engage in deviance will still be present, the motivation to be true to one's moral standards will be stronger than the self-motivated interests when ethics are made salient. We therefore pose the following hypothesis:

H1: Ethical saliency moderates the relationship between creative potential and deviance such that the relationship between creative potential and deviance is weakest when ethical saliency is present.

Ethical Saliency and Creativity. Although the goal of an ethical saliency intervention is to deter deviance, we are equally as interested in the effect that this manipulation will have on creativity. In principle, ethical saliency should be effective in reducing deviance among creative people. Not all creative people engage in deviant acts, but contextual factors such as an ethically ambiguous situation may entice certain creative people to justify unethical behavior (Gino & Ariely, 2012). It should therefore follow that by making ethical norms salient, ambivalence is reduced and the opportunity and motivation to engage in deviance is no longer present.

It may be the case, however, that this intervention is a double edged sword in that it reduces ambivalence but also reinforces a sense of conformity. By creating a culture of conformity, it may be that organizations are effectively reducing creativity in an attempt to

reduce deviant behavior. Past studies have shown that norms that reinforce conformity have been found to inhibit creativity in the workplace (Mumford, Scott, Gaddis, & Strange, 2002; Talbot, 1993; Woodman, Sawyer, & Griffin, 1993). In fact, some researchers even include the act of moving against conformity as part of the definition of creativity (Torrance, 1988).

Contrary to common advice about how to deter deviance, enforcing ethical norms may not be wholly beneficial. Many past studies have touted ethical norms as a preventative measure for deviance (Biron, 2010; Evans et al., 2011; Peterson, 2002). Our study, however, represents an initial consideration of the effects of this type of intervention on creativity, a phenomenon that most organizations highly value and encourage. Based on the findings of past creativity researchers, we pose the following hypothesis:

> **H2**: Ethical saliency moderates the relationship between creative potential and creative performance such that the relationship is negative under conditions of ethical saliency and positive under conditions of ethical ambiguity.

Methods

Design and Participants

To test the effects of an ethics manipulation on deviance and creativity, we manipulated the environment. Participants completed an experimental design in a supervised lab setting and were recruited from a large northeastern university through the psychology department's subject pool. In exchange for participation, students received course credit. The study's sample consisted of 216 participants with ages ranging from 18 to 24 years old and representing a wide variety of academic majors. The sample was 77% female and 76% Caucasian with 107 participants in the salient experimental condition and 109 participants in the ambiguous experimental condition.

To begin the study, participants entered the lab and logged on to an online survey platform. Before being allowed to participate in the study, participants agreed to a statement of informed consent approved by the university's institutional review board. First, participants answered basic demographic questions. After the demographic information was collected, participants were then asked to complete assessments designed to measure creative potential.

Next, participants were randomly assigned to one of two conditions: the ethically salient condition or the ethically ambiguous condition. A passage about the university's academic code of conduct was read to participants that corresponded to the experimental condition assigned. Participants were then presented with a set of matrix puzzles and were discreetly provided with the opportunity to cheat on this task.

Before leaving the lab, participants were also asked to complete a self-report survey of deviant workplace behavior and a 5-minute open-ended problem-solving task designed to measure creative performance. Finally, participants were given a manipulation check and a set of exploratory open-ended questions about their actual deviant behavior and/or their desires to engage in dishonesty on the task previously presented to them. Participants were presented with a debriefing form upon completion of the entire study.

Measures

Deviance. In order to test the effects of the ethical intervention on deviance, we used a behavioral deviance task. In this task, participants were presented with puzzle matrices to solve and an opportunity to be dishonest by lying about the number of problems that they solved. Some researchers believe that self-report measures of deviance do not fully capture potential deviant behavior of participants due to social desirability bias (Fox, Spector, Goh, & Bruursema, 2007; Randall & Fernandes, 1991). This mathematical problem-solving task, however, has been

shown in past studies to successfully serve as an objective deviance measure in lab settings and was therefore be used in this study (Gino, Krupka, & Weber, 2012; Mazar et al., 2008; Mead, Baumeister, Gino, Schweitzer, & Ariely, 2009).

In the matrices task, participants were provided with a test sheet and an answer sheet. The test sheet consisted of twenty matrix problems (Mazar et al., 2008). Each puzzle consisted of a 3 x 4 matrix with numbers rounded to two decimal places. In order to solve each matrix, participants had to identify two numbers from the matrix that added up to ten. An example of a matrix from this task is shown in Figure 2. Participants were told that they would be given one raffle ticket for every matrix puzzle completed and that they could later put their earned raffle tickets in a drawing in order to win a gift card. Additionally, participants were informed that, at the end of the allotted time, they would be asked to place their answer sheet into a garbage can located in the lab and write in the number of puzzles that they completed on the separate answer sheet provided. Participants were informed that only the answer sheet would be collected at the end of the study. In order to increase fidelity, completed puzzle sheets with randomly assigned boxes circled were placed in the trash can in the lab before participants entered the room. This was to better provide a false sense of anonymity for participants and to reinforce the opportunity to cheat, as they could assume that the sheets were left from previous participants.

Once the instructions were explained, participants were left alone in the room and given five minutes to complete as many matrix problems as they could. Each participant was placed in a room with only a desk and a trash can in order to avoid any outside influences that may have disrupted the study. After being given the appropriate amount of time, the research assistant collected the answer sheet only and instructed the participant to throw out the test sheet if he/she had not already done so. Each matrix puzzle sheet was discreetly marked with an identifier that

enabled the researchers to match the puzzle sheet with the answer sheet in order to determine if cheating had taken place. These identifiers were unknown to participants.

In addition to the behavioral deviance task, we also collected a self report measure of workplace deviance. Bennett and Robinson's scale of Interpersonal and Organizational Workplace Deviance (2000) was used as a subjective measure. Although this measure is more subject to social desirability bias, it provides a direct measure of intentional rule-breaking to complement the objective behavioral measure in this study. Further, creativity is often encouraged and valued by organizations and we therefore wanted to test for explicit undesirable effects of creative ability that may occur in a workplace setting. A link between creativity and self-reported workplace deviance can also contribute to the nascent malevolent creativity research.

The workplace deviance scale consists of 19 items. Responses to these items were made on a 7-point scale (1= Never, 7= Daily). Participants were asked to indicate the frequency in which they engage in specific workplace behaviors and sample items include, 'Made fun of someone at work' and 'Dragged out work in order to get overtime'. Reliability for this scale was $\alpha = .88$.

Creative performance. Although the main focus of this paper is to test an intervention that deters deviance in creative people, it is also important to test the possible effects that the intervention may have on creative performance. To do so in this study, we used an open-ended problem-solving task to measure creative performance as an outcome. By requiring participants to complete a free-form response task, we were better able to capture multiple aspects of creativity (Sternberg, 2006). Further, some researchers believe that open-ended tasks are vital to capturing creative performance since the task lacks one simple and obvious solution (Amabile &

Mueller, 2008). In the prompt, participants were asked to design a way to increase school spirit following football game losses. Participants were instructed that they could design either a prank, rally, or other program in order to increase school spirit.

Qualitative responses to this prompt were coded by four independent raters for quality, and originality, as these components have together been found to comprise creativity (Besemer & O'Quin, 1999). ICC(2, 4) for open-ended quality was .75 and ICC(2, 4) for open-ended originality was .74. The purpose of this prompt was two-fold. First, the prompt only required knowledge that we can reasonably assume was held by all participants in our sample, enabling us to effectively measure quality and originality. Second, the responses were additionally coded for deviance, providing a qualitative measure of deviant behavior to complement our objective and subjective quantitative measures. ICC(2,4) for deviance was .85.

Creative Potential. In order to test the effect of the manipulation on creative performance, we collected a baseline measure of creative potential. Creative potential has been found to consist of a combination of skills, abilities and other attributes such as motivation (Hunter, Cushenbery, Friedrick, 2012). Creative potential in our study was therefore measured through scales designed to measure these attributes, including intrinsic motivation and divergent thinking.

To measure intrinsic motivation, we used 15 items from the Work Preference Inventory (WPI; Amabile, Hill, Hennessey, & Tighe, 1994). Respondents were asked to indicate the extent to which each item described them on a seven-point Likert scale ranging from strongly disagree to strongly agree. Reliability for this scale was $\alpha = .82$.

Participants were also administered a divergent thinking task. This task was adapted from Guilford (1967). In the prompt, participants were asked to think of as many different uses

for a water bottle as they possibly could within the time limit of ten minutes. In accordance with other researchers (Kim, 2006; Madjar, Oldham, & Pratt, 2002) responses to this task were coded by four independent raters for fluency, flexibility, and (divergent thinking) originality. These raters were not involved in the study design or data collection process in order to reduce possible experimenter bias. Additionally, these coders participated in approximately 20 hours of benchmarking and rater training in order to ensure conceptual understanding of the constructs and the rating scales.

Divergent thinking abilities have been found to be conceptualized by three attributes: fluency, flexibility, and originality (Guilford, 1967; Kim, 2006; Madjar et al., 2002). Fluency is defined as the number of non-repetitive responses provided. As this construct consists of simply adding up the number of non-repetitive responses, only one rater was used to rate fluency of responses. Flexibility is measured in Guilford's divergent thinking task as the amount of variation in the categories of responses that were provided. For example, if a person indicated that a water bottle could be used as a toy and as a plant holder, these answers represent two distinct categories of possible objects. ICC(2) analyses were conducted (James, 1982; LeBreton & Senter, 2008). All four raters provided a flexibility rating for each participant and reliability analyses revealed ICC(2,4) = .94. Divergent thinking originality was defined as the degree to which the ideas provided were novel or surprising. All four coders provided an originality rating for each response provided by each participant. Divergent thinking originality ratings were then averaged by participant. ICC(2,4) = .88.

Experimental Manipulation

In this study we were interested in manipulating the ethical context surrounding a potential deviance opportunity. In order to measure the effects of this type of manipulation, we

randomly assigned participants to one of two conditions: an ethical saliency condition or an ethical ambivalence condition. The ethical manipulation involved the presentation of an excerpt from the university's current Code of Conduct. The excerpt focused on the importance of academic integrity. An example line from this Code of Conduct follows, "Academic integrity includes a commitment not to engage in or tolerate acts of falsification, misrepresentation, or deception."

The use of a Code of Conduct to increase ethical saliency was chosen based on multiple studies that have used similar manipulations (Bowers, 1964; Mazur, Amir, & Ariely, 2008; McCabe & Treviño, 1993). Previous study results have shown that honor codes are effective in reducing cheating among college students. Further, the presence of an ethics code has not only been linked to decreased deviance in college settings, but in the workplace as well. McCabe, Treviño, & Butterfield (1996) found that the presence of an organizational code of ethics decreased dishonest behavior at work. By using a Code of Conduct in our lab study intervention, it is possible, therefore, that the intervention may be more generalizable to and effective in the workplace as well as in the lab.

In the ethical saliency condition, the research assistant read the excerpt from the academic code of conduct immediately before leaving the participant alone in the lab room to complete a matrix puzzles task. In this condition, the research assistant verbally emphasized the importance that the code plays in the research process and the academic success of the university. The research assistant then instructed the participant on how to complete the puzzles tasks and then left the room.

In the ethical ambivalence condition, participants were read the same excerpt before the matrix puzzles task, but instead of having the research assistant emphasize the importance of the

written document, the assistant read the honor code in a sarcastic tone of voice and also read an additional line in the script, "I know that you have heard this before in all your classes, but we have to read it to you anyway before we proceed."

The position of the research assistant in this manipulation follows the widely used definition of ethical ambivalence. In order for ethical ambivalence to be present, the behaviors, attitudes, or norms of stakeholders must conflict with the behaviors, attitudes, or norms of the organization (Jansen & Von Glinow, 1985). In our manipulation the ethics code represents the norms of the organization (the university) and the tone of the student researcher represents the norms, beliefs, and attitudes of a stakeholder.

Manipulation Check

To determine if participants' interpretations of our manipulations were in accordance with our intended design, questions were asked about the perception of the ethical environment. These questions were asked after all dependent measures are collected. Our manipulation check consisted of asking participants about Penn State's attitude toward ethics and about the researcher's attitude toward ethics. As the goal of our manipulation was to create a discrepancy between these two attitudes, we measured the difference that participants reported between Penn State's attitude and the researcher's attitude. Results show a statistically significant difference between conditions ($t = -2.48$, $p < .05$) with the ambiguous condition reporting higher ambiguity ($M = .29$, $SD = .39$) than the salient condition ($M = .15$, $SD = .46$).

Qualitative Exploratory Questions

A set of open-ended questions were asked at the end of the study for exploratory purposes. Questions focused on participants' motivations to engage in deviance. Although preliminary research suggests that the cognitive processes of creativity are the primary drivers of

deviance, we wished to explore this relationship further. Qualitative research provides researchers with the ability to explore and better understand processes and ideas that may not have been previously expected (Bluhm, Harman, Lee, & Mitchell, 2011; Bryman, Bresnen, Beardsworth, & Keil, 1988; Conger, 1998). As the relationship between creativity and deviance is still somewhat novel, we employed this design in order to potentially capture aspects of the creativity-deviance link that have yet to be conceptualized.

Additionally, an individual's motivation to engage in deviance is very much internal and hard to capture through external observation. One of the reasons to use qualitative research is to better understand a phenomenon from the perspective of the actors involved (Ospina, 2004; Parry & Mumford, 2014). By learning more about participant's actual motivations, we can better understand the relationship between creativity and deviance. Open-ended responses can enable researchers and practitioners to gain a more detailed perspective of this phenomenon.

Analyses

We tested our hypotheses using ordinary least-squares moderated regression (Aiken & West, 1991). In order to analyze the effects of the experimental condition, we dummy coded the conditions. The ethical saliency condition was coded as one and the ethical ambiguity condition was coded as zero. As both of our hypotheses posed interactions, all predictor variables except the dummy coded condition variable were mean centered and interaction terms were created using the mean centered variables. Simple slopes analyses were also conducted to further probe significant interaction effects.

All analyses were run controlling for agreeableness as a personality variable. Agreeableness is a personality trait associated with being kind, sympathetic, and warm (McCrae & Costa, 1986). This personality trait has been found to have a negative relationship with

creativity, with lower agreeableness linked to greater creative expression (Feist, 1998; King, Walker, & Boryles, 1996). Additionally, low agreeableness has been connected with an increase in criminal and vengeful behavior (Bellah, Bellah, & Johnson, 2003; Miller & Lynam, 2001). As agreeableness potentially influences both creativity and deviance, the main dependent variables in this study, we included agreeableness as a control variable. All analyses were re-run controlling for all Big 5 personality variables, however, regression results were mostly unaffected as agreeableness seemed to be the only Big 5 personality variable that was consistently related to the measures of our dependent variables.

Results

Table 1 reports the means, standard deviations, and correlations between study variables. Particularly of note is the significant correlation between the open-ended outcome measure of originality and deviance coded from the open-ended responses. This significant correlation of .20 further supports the relationship between aspects of creative expression and deviance (Cropley, Kaufman, & Cropley, 2008; James, Clark, & Cropanzano, 1999).

Although fluency and flexibility are widely believed to represent different aspects of divergent thinking abilities (e.g., Abedi, 2002; Kim, 2006; Runco, Dow, & Smith, 2006), these variables were highly correlated ($r = .87$, $p < .01$). As researchers have found that the unique variance from divergent thinking originality and flexibility scores are reliable for predicting creative performance even if fluency is controlled for, we decided to focus on the creative potential measures of flexibility, originality, and intrinsic motivation (Runco, 2008; Runco & Albert, 1986). Further, divergent thinking originality was included in our initial analyses, however, this creative potential measure was found to be non-significant both at the main effect and interaction level. In order to maximize degrees of freedom and reduce potentially spurious

findings, we focused on creative potential measures of flexibility and intrinsic motivation in our final analyses.

For our first hypothesis, we posited that ethical saliency would moderate the relationship between creative potential and deviance such that the relationship between creative potential and deviance would be weakest in the presence of ethical saliency. We therefore tested these hypotheses using two creative potential measures (flexibility and intrinsic motivation) and three deviance measures (number lied by on the matrix puzzles task, self reported deviance, and deviance coded from the open-ended prompt responses). Finally, all analyses were conducted after controlling for agreeableness.

Interactions relating to our first hypothesis are depicted in figures $3 - 5$. When using flexibility as a predictor of creative potential, we did not find a significant interaction between condition and flexibility in predicting self report deviance or objective deviance measured from the puzzles task, but we did find a significant interaction predicting deviance coded from the open-ended prompt (B = -.07, $p < .05$). The amount of variance predicted in open-ended deviance was 6% ($R^2\Delta = .02$, $p > .05$). We found a significant slope for the ambiguous condition ($t = 2.43$, $p < .05$), and a non-significant slope for the salient condition. When using intrinsic motivation as a measure of creative potential, we did not find a significant interaction between intrinsic motivation and condition predicting deviance coded from the open-ended prompt, but we did find a marginally significant interaction predicting self report deviance (B = -.19, $p = .07$). The full model predicted 20% of the variance in self report deviance ($R^2\Delta = .02$, $p < .10$). We also found a significant interaction between intrinsic motivation and condition in predicting objective deviance measured from the puzzles task (B = -.30, $p < .05$). The variance predicted by the full model was 5% ($R^2\Delta = .02$, $p < .10$). Although simple slopes analyses reveal that both

slopes are non-significant in the interaction predicting self report deviance, the lines are still trending in the same pattern formed by the other creative potential measures. For the interaction between intrinsic motivation and condition in predicting deviance measured from the puzzles task, the ambiguous slope was positive and significant ($t = 2.48$, $p < .05$) but the salient condition is again non-significant.

Graphing the interactions, it becomes clear that results follow a similar pattern across three predictors of creative potential (flexibility, and intrinsic motivation) and three measures of deviance (objective, subjective, and qualitative). In each of these graphs, the pattern shows that when ethical saliency is present and rules are clearly reinforced, deviance decreases as creativity increases. These results suggest that creating an ethically salient environment is a potentially successful intervention for deterring deviant tendencies in people with creative potential.

Although ethical saliency may be effective in reducing deviance in creative people, it may be possible that this type of intervention unintentionally deters creativity as well. When conformity to norms and rules is reinforced, creativity may be inhibited (Mumford et al., 2002; Woodman et al., 1993). We therefore hypothesized a negative relationship between creative potential and creative performance in the salient condition and a positive relationship in the ambiguous condition. To test this hypothesis, condition was again dummy coded (1 = ethical saliency condition, 0 = ethical ambiguity condition) and all interaction terms except this dummy coded variable were mean centered.

Moderated regression analyses were again conducted using two measures of creative potential (flexibility and intrinsic motivation). Creativity as an outcome was measured using an average of ratings of open-ended quality and open-ended originality across four independent raters. ICC(2) analyses were conducted and results were greater than .7 for both aspects of

creativity which justified averaging rater responses to result in a single quality and a single open-ended originality score for each participant. Quality and originality have been found to be two components of creativity (Besemer & O'Quin, 1999). We therefore analyzed our regression results using the dependent variables of quality and originality to examine whether the ethical saliency intervention deterred creativity.

Interactions are depicted in figures 6 – 7. When first focusing on open-ended originality as a creative output outcome, we found no significant interactions between condition and either of the creative potential measures. When focusing on quality as an outcome, however, we found a significant interaction between flexibility and condition in predicting quality of open-ended responses (B = .21, $p < .05$). Variance explained in quality by the full model was 13% ($R^2\Delta =$ .05, $p <.01$). Simple slopes reveal that the slope for the salient condition was positive and marginally significant ($t = 1.80$, $p = .07$) and the slope for the ambiguous condition was non-significant. Although we found no significant interaction between intrinsic motivation and condition in predicting quality of open-ended responses, the shape of the interaction follows the same pattern as the significant interaction between flexibility and condition in predicting quality.

Both of these interactions with quality as the outcome variable follow a similar pattern. Contrary to our hypothesis, these interaction graphs suggest that there is no significant relationship between creative potential and original idea generation when rules are ambiguous. When rules are salient, there is actually a slight positive relationship between creative potential and quality of ideas. These results fail to support our second hypothesis but suggest that an ethical saliency intervention does not deter creative expression and may in fact slightly improve the expression of quality ideas as creative potential increases.

Finally, we examined the responses to our exploratory follow-up qualitative questions and the pattern of responses that were obtained support the findings from the quantitative analyses. For example, one of the exploratory questions asked participants if they were tempted to cheat, even if they did not actually do so. For those in the ambiguous condition, 18.35% reported that they were tempted while only 13.08% of participants in the salient condition indicated that they were tempted. When asked to explain why he/she was tempted to cheat, the reason most often cited in the ambiguous condition was "I could not have gotten caught" (45% of those who reported being tempted), while the reason most often cited in the salient condition was "I wanted to win the gift card" (36% of those who reported being tempted). These results further support self-concept maintenance theory in that the ambiguous condition may have enabled people to better justify unethical behavior in order to benefit themselves while also maintaining a certain moral standard. Situations in which rules and norms are "gray" may be more inviting for deviant behavior as these situations are more malleable, or easier for people to reinterpret their actions in a self-serving manner.

Discussion

As the relationship between creativity and deviance receives more research support, it is important to consider interventions that may be implemented in order to sever the connection between the potentially beneficial effects of creativity and the potentially harmful effects of rule-breaking. This study served not only to better understand the mechanisms behind the creativity-deviance relationship, but also to test an intervention to address this dilemma. The results of this study complement the findings of previous researchers (Gino & Ariely, 2012) who find that, when presented with the opportunity, creative individuals are likely to engage in deviance.

Although this finding has been replicated, it has been unclear as to why this phenomenon occurs. In this study, we posited that creative people are better able to employ moral categorization, or a justification for unethical behavior that enables oneself to maintain moral standards while still maintaining self-interested behavior (Gur & Sackeim, 1979). The pattern of results in our study suggest that, as perceptions of ethical ambiguity increased, creative individuals were more likely to justify and engage in deviant behavior. These results therefore provide support for the mechanisms underlying the creativity-deviance relationship.

As it seems that an ethically ambiguous context is the most inviting for those with creative potential to engage in deviant behavior, we sought to test an intervention where ethics of the organization are reinforced. In our study, we tested the creation of an ethical saliency intervention meant to reinforce rules and reduce ethical ambiguity. Results across multiple measures of creative potential, deviance, and aspects of creative expression, support the potential effectiveness of an ethical saliency intervention. When rules are reinforced and ambiguity is reduced, there is a null relationship between creative potential and deviance and a positive or null relationship between creative potential and quality, an aspect of creativity. This suggests that, under conditions of ethical saliency, deviant behavior in creative people is reduced and creativity is either unaffected or possibly even enhanced.

Implications

The results of our study have theoretical and practical implications. For researchers, our study adds to the nascent literature acknowledging the potential downsides of creativity. Although some researchers have theorized about deviance and other malevolent behavior (e.g. Cropley et al., 2008; James et al., 1999), little empirical research has been conducted analyzing

this relationship. Our study provides further support for the fact that creative people may be more inclined to engage in deviant behavior when presented with the opportunity to do so.

This study also furthers the theory that context serves as the primary motivating force for deviant behavior in creative individuals. As the ethical saliency manipulation proved to be a successful intervention, it may be that the ability of creative individuals to categorize unethical behavior as ethical was reduced. By increasing ethical saliency, creative individuals may have been less able to justify deviant behavior and therefore refrained from engaging in deviance when provided with the opportunity.

As more researchers are beginning to explore the creativity-deviance link, the need for a solution to this problem arises. Creativity has long been touted as being solely beneficial without consideration of the possible dark side effects. Consequently, the need for an intervention designed to deter these effects has become more pressing. Our study contributes to the solution of potential creative deviants by testing an intervention intended to reduce deviant behavior. The effects observed as a result of this ethics intervention can help researchers to better understand the motivations behind creative people engaging in deviance. With more detailed knowledge about this phenomenon, future research can more effectively design and test other possible ways to reduce undesirable behaviors.

Additionally, our research has important practical implications. With companies placing a growing emphasis on creativity and innovation amongst their employees, organizations may soon begin to see an increase in problems such as workplace deviance. Most organizations believe that creativity is the key to having a competitive advantage and are even selecting for creativity when hiring employees (Capodagli & Jackson, 2009; Florida, 2012). As the problem of potential workplace deviance in creative individuals comes to light, organizations will need to

implement changes to reduce the dark behaviors that creative people may be more inclined to engage in.

Our research is an initial step in the quest to find a way to capitalize on benevolent creative outputs while simultaneously deterring deviant behavior. By implementing an ethical saliency intervention, it may be that organizations can capture the benefits of creativity and deter some of the dark side effects. Further, this intervention is cost effective and may save organizations time and money by simply reinforcing norms and reducing ethical ambiguity.

Limitations

Although our study has practical and theoretical implications, it is not without limitations. First, our study is cross-sectional and our results therefore need to be interpreted with caution. Future research should test both the mechanisms underlying the creativity-deviance relationship and the ethical saliency intervention longitudinally. It may be that other aspects that develop over time, such as organizational commitment, influence the relationship between creativity and deviance and longitudinal research may therefore shed more light on the link between these two constructs.

Additionally, the participants in our study are not full-time employees and our findings may not generalize to employees with longer tenure. Future research should test this intervention in an organizational setting in order to see if the intervention is truly effective in reducing deviance while still capturing creativity in full-time workers. Additionally, testing the relationship between creativity and deviance using an organizational sample may help to better capture organization-specific situational aspects that influence the expression of deviance in creative employees.

Finally, our results suggest that the context of the situation is influential in the decision to engage in deviance in the workplace. Although our study focused on ambiguity and ethics, it

may be that other situational factors also influence the creativity-deviance relationship. For example, future research could investigate the potential effects of organizational culture on the expression of deviance in creative individuals. It may be that certain aspects of the organizational culture send cues to employees that lead to greater expression of deviant behavior. This study represents a preliminary test of a creativity-deviance relationship and future research should continue to explore the mechanisms underlying this link in order to devise other, potentially even more effective interventions.

Conclusion

Our findings further support the notion that creative individuals may be more prone to engage in deviant behavior when presented with an opportunity. Ethical saliency, or the reinforcement of rules and norms, may serve to effectively deter deviant behavior by reducing the ability of creative people to justify rule-breaking. It may be that, by creating an ethically salient environment, businesses may be able to capture the benefits of creativity while deterring the potential dark side effects. We hope that researchers will continue to further our understanding of the relationship between creativity and deviance. With a better understanding of this phenomenon, the expression of creative performance can be appreciated while the suppression of possible dark side behavior can be managed.

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Appendix A: Tables

Table 1. *Means, Standard Deviations, and Correlations of Study Variables*

	M	SD	1	2	3	4	5	6	7	8	9	10
1. Condition (1= Salient, 0=Ambiguous)	.50	.50	--									
2. Agreeableness	3.93	.62	.16*	.83								
3. Fluency	10.91	5.04	-.02	-.07	--							
4. Flexibility	6.82	2.49	-.01	-.10	.87**	.94						
5. Open-Ended Originality	2.43	.48	-.14*	-.16*	.41**	.59**	.88					
6. Intrinsic Motivation	5.05	.73	.07	.26**	.13*	.19**	.13	.82				
7. Quality	2.96	.63	.09	.15*	.20**	.20**	.07	-.01	.75			
8. Originality (Divergent Thinking)	3.06	.63	.00	.07	.16*	.18**	.22**	.09	.43**	.74		
9. Open-Ended Deviance	1.07	.27	-.12	-.13	.11	.10	.13	.00	-.12	.20**	.85	
10. Self Report Deviance	1.58	.60	-.06	-.42**	.07	.07	.08	-.10	-.09	-.08	.05	.88
11. Number Lied By	.32	.74	-.10	.00	.04	.05	.06	.10	-.11	-.01	.04	.09

Note. *p <.05; **p <.01. Alphas reported on the diagonal.

Table 2. *Regression Table for Deviance Outcomes*

	Open-Ended Deviance		Self Report Deviance		Number Lied By	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
Constant	1.27**	1.28**	3.18**	3.16**	.43	.40
Agreeableness	-.04	-.05	-.41**	-.40**	-.01	.00
Condition	-.06	-.06	.01	.01	-.16	-.16
Flexibility	.01	.03*	.01	.02	.01	.01
Intrinsic Motivation	.00	-.02	.00	.10	.11	.26*
Condition x Flexibility		-.07*		-.07		-.02
Condition x Intrinsic Motivation		.04		-.19†		-.30*
R^2	.04	.06	.18**	.20	.02	.05
$R^2 \Delta$		.02		.02†		.02†

Note. All regression weights are unstandardized. $^{\dagger}p < .10$; *$p <.05$; **$p <.01$. To examine the possibility that interaction results were spurious and occur only when controlling for the second interaction term, models were also run separately (i.e., each interaction term analyzed with main effects but independent of the other). Results were consistent when these terms were run together or separately. Thus, to minimize family-wise type 1 error and allow for more parsimonious presentation, the combined results are presented here.

Table 3. *Regression Table for Creativity Outcomes*

	Quality		Originality	
	Model 1	Model 2	Model 1	Model 2
Constant	2.14**	2.14**	2.74**	2.75**
Agreeableness	.19**	.20**	.08	.08
Condition	.08	.07	-.03	-.03
Flexibility	.06**	.02	.05*	.05†
Intrinsic Motivation	-.09	-.17†	.04	-.05
Condition x Flexibility		.21*		.01
Condition x Intrinsic Motivation		.17		.17
R^2	.08*	.13	.04†	.05
$R^2 \Delta$		.05**		.01

Note. All regression weights are unstandardized. $^\dagger p < .10$; $*p < .05$; $**p < .01$. To examine the possibility that interaction results were spurious and occur only when controlling for the second interaction term, models were also run separately (i.e., each interaction term analyzed with main effects but independent of the other). Results were consistent when these terms were run together or separately. Thus, to minimize family-wise type 1 error and allow for more parsimonious presentation, the combined results are presented here.

Appendix B: Figures

Figure 1. Heuristic Model.
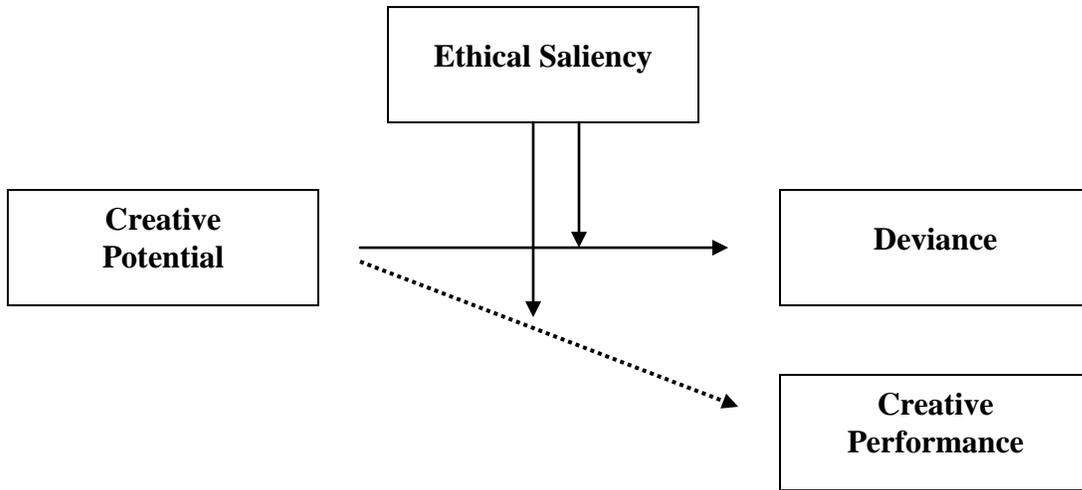
Figure 2. Example of a Matrix from the Matrix Puzzle Deviance Task

1.69	1.82	2.91
4.67	3.81	3.05
5.82	5.06	4.28
6.36	6.19	4.57

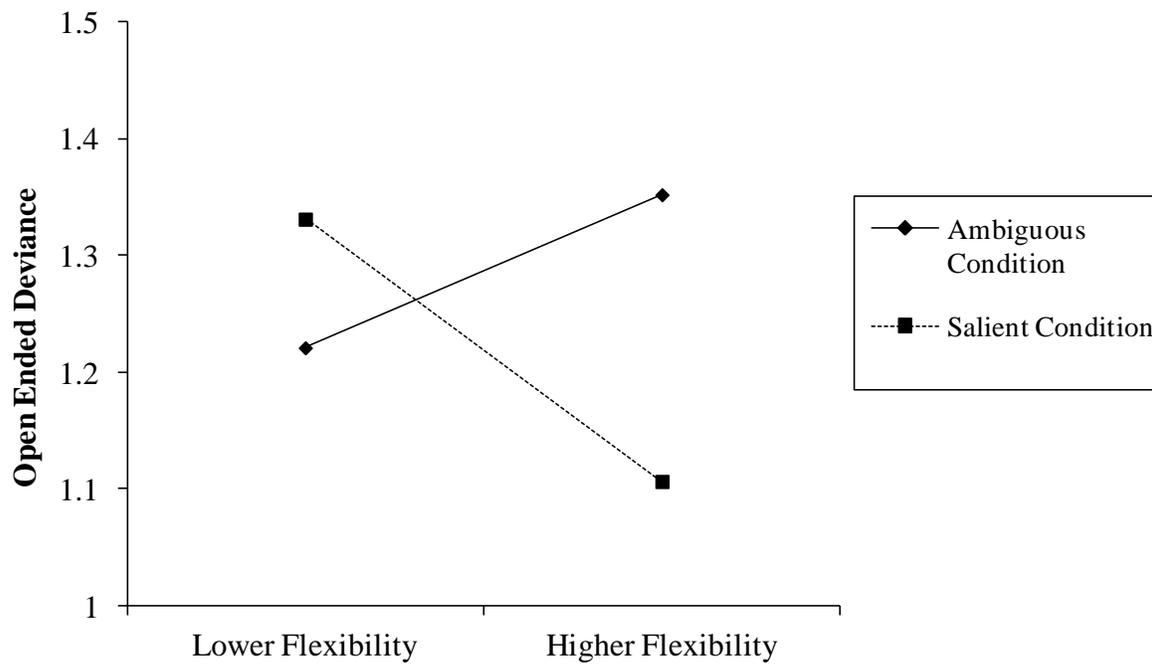Figure 3. Interaction Between Flexibility and Condition on Open-Ended Deviance

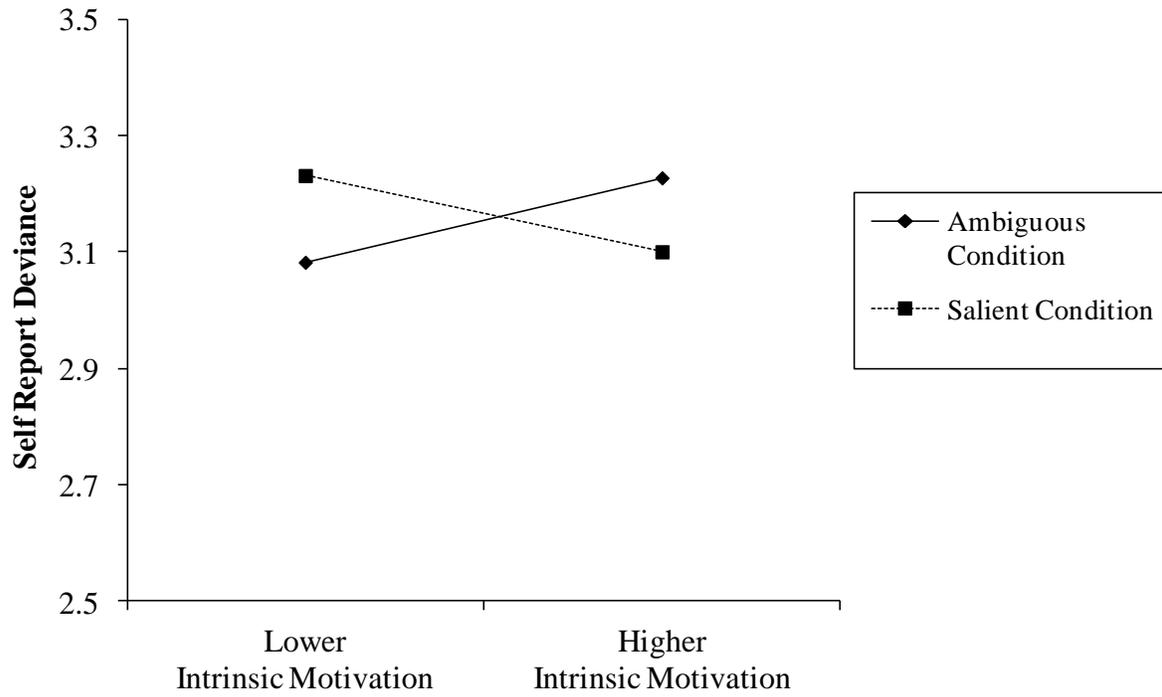Figure 4. Interaction Between Intrinsic Motivation and Condition on Self Report Deviance

Figure 5. Interaction Between Intrinsic Motivation and Condition on the Number of Boxes Lied
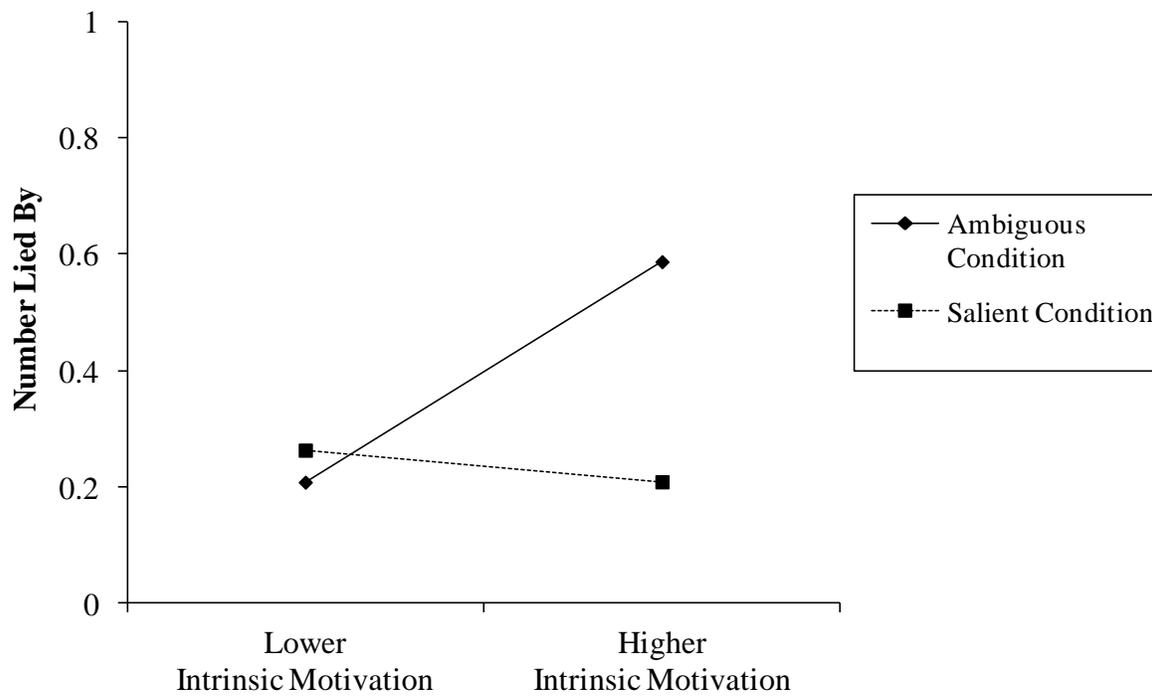
By On Matrix Puzzles Task

Figure 6. Interaction Between Flexibility and Condition on Quality of Open-Ended Responses
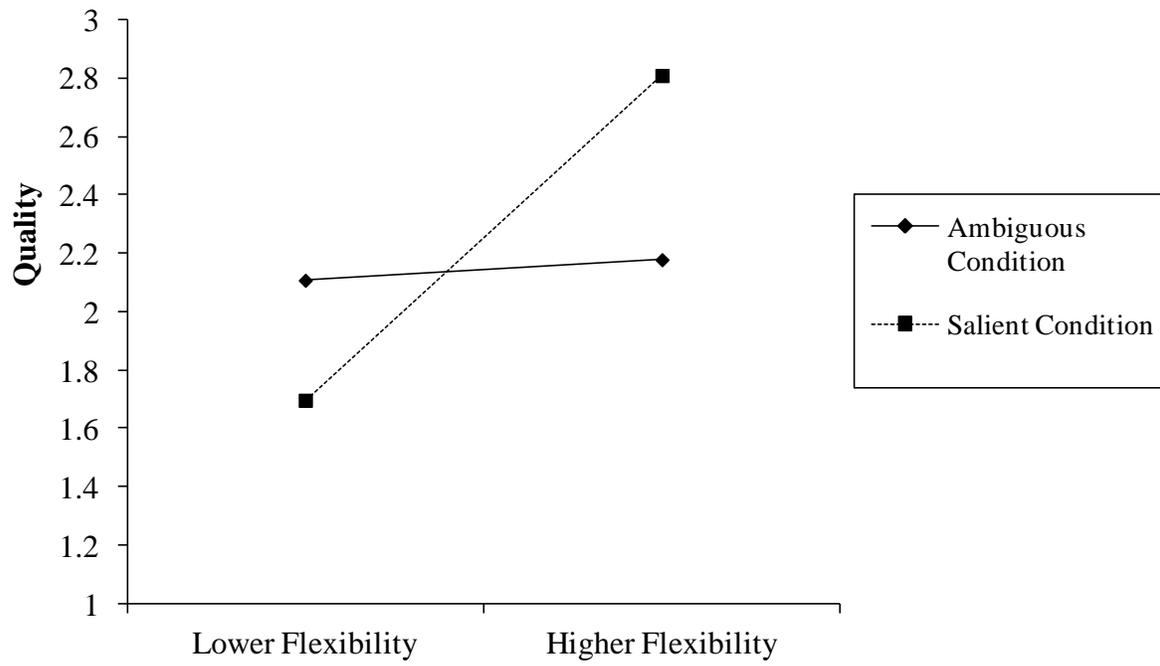
Figure 7. Interaction Between Intrinsic Motivation and Condition on Quality of Open-Ended
Responses