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# Fast and Furious: The Influence of Implicit Aggression, Premeditation, and Provoking Situations on Malevolent Creativity

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Being intentionally harmful in original ways has been termed “malevolent creativity.” The empirical study of malevolent creativity is still in its infancy, so developing a strong foundation of its antecedents is paramount. Three factors were identified as potentially influencing the generation of malevolently creative ideas: implicit aggression, which is aggression that is beyond one’s conscious awareness; premeditation, a facet of impulsivity that pertains to the degree of planning and forethought an individual engages in before acting; and situations that condone or otherwise provoke the use of malevolent creativity. Consistent with our hypotheses, and in accordance with the theory of trait activation, a 3-way interaction among those factors was obtained. Specifically, the interaction indicates that individuals who are more implicitly aggressive and less premeditative are more likely to be malevolently creative in response to situations that provoke malevolent creativity.

**Keywords:** ethical impulse, implicit aggression, malevolent creativity, premeditation, provoking situation, trait activation

In academia and businesses alike, creativity is almost always assumed to be a good thing. To be creative is to be expressive, productive, progressive, pushing the boundaries, and thinking outside the box. However, a new and growing literature is supporting the notion that creativity can have a “dark side” (Cropley, Cropley, Kaufman, & Runco, 2010), and in particular can be used toward harmful ends (Cropley, Kaufman, & Cropley, 2008; James, Clark, & Cropanzano, 1999). Those harmful ends range from criminal activity (Cropley & Cropley, 2011, 2013; Eisenman, 2008) and terrorism (Gill, Horgan, Hunter, & Cushenbery, 2013; Gill, Horgan, & Lovelace, 2011; Jackson & Loidolt, 2013; Moghadam, 2013) to leadership influence tactics (Harris, Reiter-Palmon, & Ligon, 2014) and various forms of deception (Beaussart, Andrews, & Kaufman, 2013; De Dreu & Nijstad, 2008; Gino & Ariely, 2012; Gino & Wiltermuth, 2014; Mayer & Mussweiler, 2011; Walczyk, Runco, Tripp, & Smith, 2008). Being intentionally harmful in original ways has been termed “malevolent creativity” (Cropley et al., 2008), and empirical investigation of the antecedents of malevolent creativity is limited. This study attempts to build a strong foundation for the future study of malevolent creativity by

examining the degree to which situational and individual factors influence the generation of malevolently creative ideas.

### **Malevolent Creativity**

Suggesting that creativity can result in harmful outcomes is a rather recent phenomenon (e.g., McLaren, 1993; James et al., 1999). James et al. (1999) coined the term “negative creativity,” which is any instance in which a creative product unintentionally leads to a harmful outcome. Cropley et al. (2008) further distilled the idea of creativity leading to harmfulness by coining the term “malevolent creativity,” which is when creativity is used to achieve a harmful goal. That distinction is important because negative creativity pertains to harmfulness as a byproduct of creativity, whereas malevolent creativity (MC) pertains to harmfulness as an intended goal of creativity. Previous definitions of MC have focused on causing harm to other individuals or oneself (Cropley et al., 2008; Harris, Reiter-Palmon, & Kaufman, 2013), as well as property (e.g., buildings) and processes (e.g., public transportation) (Cropley et al., 2008). In discussing terrorist attacks, Horgan (2013) offered a typology of four target types: people, property, processes, and symbols (e.g., churches, statues, leaders). That fourth target type—symbol—is quite important because it suggests that the destruction of certain targets can be more culturally devastating than others, such as destroying a residential home versus destroying a village’s temple. As such, any formal definition of MC should include the potential symbolic significance of a target. Plucker, Beghetto, and Dow (2004) define creativity as “the interaction among aptitude, process, and environment by which an individual or product that is both novel and useful as defined within a social context” (p. 90), and for MC we add “wherein that perceptible product is intended deliberately to cause harm to people, property, processes, or symbols.”

There are numerous subsets of malevolently creative behaviors, such as novel instances of deception, bullying, sexual harassment, aggressive humor, theft, property destruction, and counterproductive work behaviors. In other words, any instance of malevolence can be viewed as malevolently creative as long as that behavior is also novel in some way; a behavior that is only harmful, but not original, cannot be considered to be malevolently creative. Harmfulness is the “usefulness” criterion in the case of MC because being harmful is what makes something useful for someone who intends to inflict harm (e.g., terrorists).

Due to its theoretical infancy, empirical studies of MC are scarce. To the best of our knowledge, only three such studies are currently published. First, Clark and James (1999) found that perceptions of unfair treatment enhanced instances of negative creativity whereas perceptions of fair treatment yielded more positive creativity. These results indicate that situational perceptions, such as justice and fairness, may influence the degree to which creative products are negative. Second, Lee and Dow (2011) had individuals generate creative uses for a brick and a pencil, and they found that MC was positively related to trait physical aggression and negatively related to conscientiousness. A gender effect was also found such that males were more

malevolently creative than females. The authors suggested that conscientiousness negatively correlated with MC because people higher in conscientiousness are typically more conforming, whereas those low in conscientiousness are more unconventional and therefore might be more willing to consider and list harmful uses for a pencil or brick. The gender difference was also not surprising because past research has shown that males are typically more physically aggressive and violent than females.

It must be noted that the operationalizations of negative creativity and MC in those two studies was questionable. First, Clark and James (1999) operationalized negative creativity as the most creative idea generated in response to a negatively valenced task (i.e., covertly providing defaming information about a competitor to a potential client). Second, Lee and Dow (2011) operationalized MC as the number of harmful ideas generated in response to a divergent-thinking task. The former operationalization disregarded the harmfulness of the ideas generated whereas the latter disregarded the uniqueness of the ideas generated. In an attempt to combine those two components, Harris et al. (2013) operationalized MC as an idea that was both negative and original, not just one or the other. Those authors found that emotional intelligence negatively related to MC in response to problem-solving tasks and divergent-thinking tasks, even when accounting for cognitive intelligence and task effects. These results indicate that individuals with lower emotional intelligence are more likely to respond to situations in malevolently creative ways, even in situations that do not have explicit emotional or social cues.

### **Implicit Aggression**

Because of its intentionally harmful nature, MC can in some ways be considered “aggressive creativity.” Although Lee and Dow (2011) found that trait physical aggression positively correlated with MC on a divergent-thinking task, their results are open to many interpretations. It is possible that physically aggressive individuals (a) are able to think of more harmful ways of using everyday objects, (b) are able to think more about harmful solutions in general, (c) are more likely to write down their harmful ideas, (d) have fewer inhibitions regarding the ideation or generation of harmful ideas, or (e) do not view their ideas as aggressive. That last option is particularly fascinating because of the implications that highly aggressive people may not view their behaviors as harmful, but rather logical and appropriate.

People use justification mechanisms to allow themselves to view their behavioral tendencies as rational and logical, thereby solidifying those tendencies as the preferred ways in which they interpret and react to the world around them (James, 1998). The use of different justification mechanisms is referred to as conditional reasoning, or essentially differences between people regarding which behaviors they find justifiable in certain contexts. Aggressive behaviors in particular might be difficult to rationalize as appropriate for most situations, but implicitly aggressive individuals may justify their aggressive behavior—which they likely do not view as aggressive—as being the most logical course of action.

Some examples of justification mechanisms for aggression include the following: an increased likelihood of seeing malevolent intent in others' actions, even in good or well-meaning actions; having unconscious desires to harm others; framing oneself as a victim, and framing others in terms of weakness and strength (James, 1998; James & LeBreton, 2010). Implicitly aggressive people are therefore more likely to interpret social interactions differently than implicitly prosocial people. This is not to say that nonaggressive individuals only rely on prosocial justification mechanisms and aggressive individuals only rely on aggressive justification mechanisms. Instead, it is likely the case that individuals who more strongly justify their aggressive acts have stronger dispositions to be aggressive (James, 1998). However, justification mechanisms are largely, if not entirely, unconscious (i.e., a mental phenomenon that is latent and unintended, with processes that people are unaware of; LeBreton, Barksdale, Robin, & James, 2007). Therefore, people are mostly unaware of the implicit (i.e., unconscious) prosocial or aggressive cognitions that drive their behavior.

Implicitly aggressive individuals are prone to viewing the world as a hostile place. They often preoccupy themselves with building self-defenses from assumed threats, perceiving others as strong or weak, dehumanizing the targets of their aggression, and justifying their aggression as appropriate for most if not all situations (James, 1998). Implicitly aggressive individuals frame their realities in hostile and competitive ways, so they likely spend considerable time and effort thinking about different types of aggressive behaviors, especially aggressive problem-solving tactics and strategies. These individuals are essentially experts in thinking aggressively; they are quite adept at thinking more flexibly when generating harmful ways of responding to certain situations. That flexibility may enhance their ability to generate more original ways of being harmful (i.e., being more malevolently creative). Thus, we propose our first hypothesis:

Hypothesis 1: Individuals who are more implicitly aggressive will generate a higher number of malevolently creative ideas than individuals who are less implicitly aggressive.

## **Premeditation**

Aggressive individuals typically have lower levels of premeditation (Derefinko, DeWall, Metze, Walsh, & Lynam, 2011; Joireman, Anderson, & Strathman, 2003), a facet of impulsivity that refers to the degree of planning, forethought, and anticipation of consequences an individual engages in before acting or making a decision (Whiteside & Lynam, 2001). Impulsivity in general has been found to relate to dysfunctional and distorted cognitions and workplace deviance (Henle, 2005; Mobini, Pearce, Grant, Mills, & Yeomans, 2006), and in particular, lower premeditation is associated with a variety of dysfunctional behaviors such as criminal behavior and alcohol-related problems (Jones & Lynam, 2009; King, Karyadi, Luk, & Patock-Peckham, 2011; Lynam & Miller, 2004). Individuals who are lower in premeditation do not strongly consider the consequences of their actions and may be unable or unwilling to weigh the advantages and

disadvantages of a particular behavior before acting on it (Whiteside & Lynam, 2001). As such, those individuals may be more prone to being malevolent because they are less likely to reflect on the possibility that their behavior may be unethical, inappropriate, or harmful. That lack of reflection might enhance MC because those individuals are seemingly not as constrained by the limitations that morality and norms place on certain behaviors. Thus, we propose our second hypothesis:

Hypothesis 2: Individuals who are less premeditative will generate a higher number of malevolently creative ideas than individuals who are more premeditative.

### **The Interaction Between Implicit Aggression, Premeditation, and Provoking Situations**

In a series of studies, De Dreu and Nijstad (2008) found that individuals with conflict-related cognitions, or cognitions that are part of a conflict set such as hatred, competition, or hostility, generated more competitive tactics, more competitive categories, and more original competitive tactics than did individuals with cooperative cognitions, especially in response to competitive situations. However, individuals with conflict-related cognitions had decreased originality and flexibility when placed within a cooperative context; people who endorse competitive strategies and tactics are more likely to think originally and flexibly when in highly competitive situations because of a congruence, or fit, between cognition and situation. As such, it also reasons that MC will depend on an interaction between implicit aggression and situational cues such that MC will be enhanced when individuals who are higher in implicit aggression respond to situations that provoke MC. Conversely, MC will likely decrease when individuals who are higher in implicit aggression respond to situations that provoke benevolent creativity because of a mismatch between cognition and situational cues.

Those propositions reflect a broader theoretical model: the theory of trait activation (Tett & Guterman, 2000). This theory delineates a trait-situation interaction model of personality to the extent that different personality traits are activated to varying degrees in response to different situations. In the case of the current investigation, trait activation will likely manifest via a two-way interaction between implicit aggression and situational cues. In other words, the aggressive cues of a situation that provokes MC will activate an individual's implicit aggression to influence MC, whereas the nonaggressive cues of a situation that provokes benevolent creativity will not activate an individual's implicit aggression to influence MC.

Although aggressive individuals typically have lower levels of premeditation (Derefinko et al., 2011; Joireman et al., 2003), they are less likely to be aggressive when they strongly consider the future consequences of their actions, particularly when those actions carry a future cost (Joireman et al., 2003). That consideration of future consequences can be likened to a controlled processing of ethical decision-making (Reynolds, 2006), whereas engaging in automatic ethical decision-making is often much

quicker and involves the use of rationalizing a course of action. As such, it reasons that implicitly aggressive individuals (i.e., people who quickly rationalize aggressive courses of action) will be more malevolently creative when they are also less premeditative, indicating a two-way interaction between implicit aggression and premeditation on MC.

Arguably, malevolent actions are necessarily unethical. Along those lines, Kish-Gephart, Harrison, and Treviño (2010) suggested that there is an “ethical impulse” with regard to unethical decisions. Kish-Gephart et al. (2010) speculated that individuals “default to a more automatic type of processing unless something in the situation triggers more controlled processing” (Kish-Gephart et al., 2010, p. 22). Cropley and Cropley (2013) likewise suggested that there is probably a difference between MC that is impulsive and violent and MC that is more resourceful and planned (e.g., “white collar” crimes). If aggressive situational cues activate implicit aggression to influence MC, then in correspondence with the notion of ethical impulses, it reasons that the amount of forethought and consideration an individual typically engages in may further influence MC; higher levels of premeditation (a controlled process) may inhibit the effects of implicit aggression (an automatic process) on MC, even in response to situations that provoke MC. Although implicit aggression is likely activated in situations that provoke MC, the tendency to consider the consequences of one’s actions may act as a buffering, self-monitoring, or self-regulatory mechanism to reduce the effects of implicit aggression on MC. With all of these possibilities considered, we propose a three-way interaction in our third and final hypothesis:

Hypothesis 3: A three-way interaction between implicit aggression, premeditation, and situation is hypothesized. Implicitly aggressive individuals will generate a higher number of malevolently creative ideas when they are lower in premeditation. Responding to situations that provoke MC (vs. situations that provoke benevolent creativity) will strengthen (vs. weaken) that relationship.

## **Method**

### **Procedure**

This study was administered online through the Qualtrics survey system. Participants first read an informed consent. They then either (1) completed a measure of implicit aggression (the Conditional Reasoning Test of Aggression; CRTA) and generated ideas in response to one of two problems (i.e., MC-provoking or benevolent creativity (BC)-provoking), or they (2) generated ideas first and then completed the CRTA; the order of administration between the CRTA and problem was counterbalanced. Participants then completed a measure of premeditation, a divergent-thinking task, and a demographic questionnaire.

### **Participants**

The sample consisted of 138 students from a university in the Midwestern United States, with 43 males (31%) and 93 females (67%). Participant ages ranged from 17 to 57 years ( $M = 24.79$ ,  $SD = 7.73$ ). Two participants did not indicate their gender or their age. Sixty-nine participants responded to the MC-provoking problem and 69 responded to the BC-provoking problem. Two participants who responded to the MC-provoking problem, and five participants who responded to the BC-provoking problem, did not follow instructions (i.e., they generated questions instead of actionable ideas), so their data were not included in relevant analyses.

## Stimulus Materials

**Problem-solving task in a pilot study.** Three problems were generated for potential use in the primary study. Those problems were tested in a pilot study, which consisted of 75 students from a university in the Midwestern United States, with 22 males (29%) and 53 females (71%). Participant ages ranged from 18 to 58 years ( $M = 21.95$ ,  $SD = 5.98$ ). Participants completed the study online via the Qualtrics survey system. After reading a consent form, participants were asked to read one of three randomly assigned problem vignettes. Participants then indicated their affective responses to the problem they read by completing a measure of affect.

The three problems were framed with two parallel aspects: social interactions with students who are class teammates and instructing that covert action be taken. The former aspect was included to enhance contextual familiarity for participants, and the latter aspect was included to promote the generation of original ideas (i.e., provoke a certain type of creativity). The MC-provoking problem was tailored to include cues such as overt hostility, anger, injustice, and retaliation. In contrast, the BC-provoking problem was tailored to include cues such as cooperation, assistance, and intellectual struggling. Refer to the Appendix for the three problems used in the pilot study.

Participants reported their affective responses to the problem they read by completing the PANAS-X (Watson, Clark, & Tellegen, 1988). The subscales of negative affect, hostility, and serenity were the most relevant to this study. Participants responded to a variety of affective words using a Likert-type scale, 1 (very slightly or not at all) to 5 (extremely), to indicate the extent to which they felt that particular emotion after reading one of the three problems. The subscale of negative affect ( $\alpha = .90$ ) included items such as nervous, distressed, and upset. The subscale of hostility ( $\alpha = .79$ ) included items such as angry, hostile, and irritable. Finally, the subscale of serenity ( $\alpha = .83$ ) included items such as calm, relaxed, and at ease.

Table 1 shows the ANOVAs that were conducted between the three problems with respect to negative affect, hostility, and serenity. T tests were also conducted just between the MC-provoking and BC-provoking problems. Effect sizes for the three ANOVAs and t tests are included in Table 1. Those results indicate that participants who read the MC-provoking problem (vs. the BC-provoking problem) felt more hostile, stronger negative affect, and less serene. Those two problems were therefore distinct



enough from one another to be included in the primary study. However, because the neutral problem elicited affective responses that were inconsistently or not significantly different from the other two problems, it was decided that the neutral problem would be not be used in the primary study.

**Problem-solving task in the primary study.** In the primary study, participants were asked to generate multiple ideas in response to either the MC-provoking problem or the BC-provoking problem that were used in the pilot study. The instructions that followed the MC-provoking problem were: “Generate as many creative ways of getting back at that classmate as you can, remembering that you do not want your retaliation to be discovered.” This situation was structured to be as malevolent as possible not only in terms of the number and severity of aggressive cues it contained, but also in the retaliatory nature of the instructions. To parallel the MC-provoking problem, the instructions that followed the BC-provoking problem are as follows: “Generate as many creative ways of helping your classmate as you can, remembering that you do not want your tutoring to be obvious.” This situation was structured to be as benevolent as possible not only in terms of the number of prosocial and cooperative cues it contained, but also in the helpful nature of the instructions.

## Measures

**Implicit aggression.** The CRTA is a measure of one’s implicit aggression by way of one’s aggressive justification mechanisms, administered in the form of a 25-question logic test (James, McIntyre, Glisson, Bowler, & Mitchell, 2004; James et al., 2005). Of those, 22 questions are factored into the scoring process and 3 of the questions are filler problems. Each question has four possible responses; two of the responses are illogical, one response indicates a nonaggressive justification mechanism, and another response indicates an aggressive justification mechanism. An example problem with its four response options are as follows: “Half of all marriages end in divorce. One reason for the large number of divorces is that getting a divorce is quick and easy. If a couple can agree on how to split their property fairly, then they can get a divorce simply by filling out forms and taking them to court. They do not need lawyers. Which of the following is the most logical conclusion based on the above? (A) People are getting older when they get married. (B) If one’s spouse hires a lawyer, then he or she is not planning to play fair. (C) Couples might get back together if getting a divorce took longer. (D) More men than women get divorced” (LeBreton et al., 2007).

Table 1  
Pilot Study Results of ANOVAs and T Tests

	MC-Provoking Problem		BC-Provoking Problem		Neutral Problem		<i>F</i>	$\eta^2$	<i>t</i>	<i>g</i> <sup>*</sup>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				
Hostility	13.56	4.53	9.60	3.63	9.92	3.81	7.54**	.17	3.41**	.96
Negative affect	19.96	7.45	16.24	6.67	16.44	6.98	2.21	.06	1.86 <sup>†</sup>	.52
Serenity	8.80	2.68	10.32	2.70	10.40	2.97	2.62 <sup>†</sup>	.07	-2.00 <sup>†</sup>	.56

Note. *N* = 74. Effect sizes for the t-tests having been calculated using Hedges’ bias-corrected estimate of mean differences (*g*<sup>\*</sup>).

<sup>†</sup> *p* < .10. \*\* *p* < .01.

The responses are scored such that an illogical response receives a score of 0, a nonaggressive response receives a score of 1, and an aggressive response receives a score of 1. Therefore, higher scores indicate greater implicit aggression. Past research suggests that the CRTA is a reliable test of implicit aggression ( $KR-20 = .76$ ) and valid with regard to its application across various samples (Bowler, Bowler, & Cope, 2013; James et al., 2004; LeBreton et al., 2007). The CRTA in this study had an acceptable internal consistency ( $\alpha = .67$ ).

**Premeditation.** Participants completed a subscale of premeditation from a larger measure of impulsivity (Whiteside & Lynam, 2001). Participants responded to the 11-item scale using a Likert-type scale, 1 (strongly disagree) to 5 (strongly agree), and it was found to have an acceptable internal consistency ( $\alpha = .76$ ). Higher scores indicate individuals who are more deliberate thinkers and consider the consequences of their actions. Example items include “My thinking is usually careful and purposeful” and “I tend to value and follow a rational, ‘sensible’ approach to things.”

**Ideational fluency.** It is possible that participants who generate a higher number of malevolently creative ideas in response to the problem-solving task are simply prone to generating more ideas in general, regardless of task or problem. As such, using ideational fluency from an independent creativity task as a control variable can ensure that the results are based on the hypothesized relationships and are not simply an artifact of an individual’s disposition to generate a higher number of ideas. In other words, some people are simply better divergent thinkers, which could be a potential confound when using a fluency-based operationalization of creativity (e.g., number of malevolently creative ideas). Participants were therefore asked to generate multiple consequences in response to the following nonvalenced, divergent thinking task: “What would happen if humans no longer needed to eat or drink?” (Guilford, 1967). Ideas were counted and summed; that total score was used as a control variable in all regression analyses. Other common factors of creativity (e.g., originality, flexibility) were not included as control variables because the inclusion of too many predictors could negatively influence the stability of the results.

**Ratings of dependent variables.** The ideas generated in response to the problem-solving task were rated by trained raters for valence and originality. Three raters were trained to rate the solutions for each construct for each problem (12 raters in total) using a modified consensual assessment technique (Amabile, 1982). Idea valence was rated using a valence rating scale, which has been used successfully in past studies (Harris et al., 2013). This rating scale is a Likert-type scale with 5 anchors, 1 (very negative) to 5 (very positive), and was used to assess the degree of negativity or positivity that each idea conveyed. Idea originality was rated on a scale of 1 (very unoriginal) to 5 (very original) and was used to assess the uniqueness of an idea compared to all other ideas generated in response to a specific problem. An idea was deemed negative if it had an average rating of less than a 3 on a 5-point scale, and an idea was deemed original if it had an average rating of higher than a 3 on a 5-point

scale. All interclass correlations exceeded .70, indicating acceptable agreement between each rater triad.

The primary dependent variable of interest for this study is the generation of malevolently creative ideas. In this study, MC is comprised of negativity and originality, so an idea was deemed malevolently creative if it was both negative and original. As such, two scores (i.e., negativity and originality) were combined to create a composite, singular score of MC. In other words, an idea was deemed to be malevolently creative if it was both negative (i.e., less than a 3 on the valence rating scale) and original (i.e., greater than a 3 on the originality rating scale). For this study, MC was operationalized in terms of the number of generated ideas that were malevolently creative.

It must be noted that all MC is negative (i.e., results in harmful or undesirable outcomes for one or more parties), but not all negative creativity is malevolent. In other words, to operationalize MC using negativity allows for negative outcomes that can be harmful or undesirable, so “negative” was chosen in this study to allow for a more inclusive set of possible ideas. This means that ideas that were not harmful, but were still negative (i.e., undesirable), did not have to be excluded.

## Results

Table 2 shows the descriptive statistics for, and correlations between, number of malevolently creative ideas, ideational fluency (from the divergent-thinking task), gender, problem type, implicit aggression, and premeditation. An additional correlation was calculated between task order and number of malevolently creative ideas to determine whether task order potentially influenced MC. Specifically, the CRTA could make aggressive responses more available in working memory when participants responded to the problem-solving task, and responding to the MC-provoking problem might have artificially enhanced the degree to which participants condoned aggressive responses in the CRTA. The correlation between task order and MC was not significant,  $r(131) = -.10, p = .13$ , indicating that task order had no effect on MC. As such, task order was not used as a control variable in any subsequent analyses.

Table 2  
Descriptive Statistics, Correlations, and Reliabilities for Variables of Interest

	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. MC	.40	.93	—					
2. Ideational fluency	6.59	4.40	.14 <sup>†</sup>	—				
3. Gender	.37	.93	-.16*	.12 <sup>†</sup>	—			
4. Problem	.00	1.00	-.30***	-.01	-.18*	—		
5. Implicit aggression	4.55	2.51	.35***	.13 <sup>†</sup>	-.15*	-.12 <sup>†</sup>	(.67)	
6. Premeditation	36.84	4.87	-.25**	.08	-.04	.09	-.04	(.76)

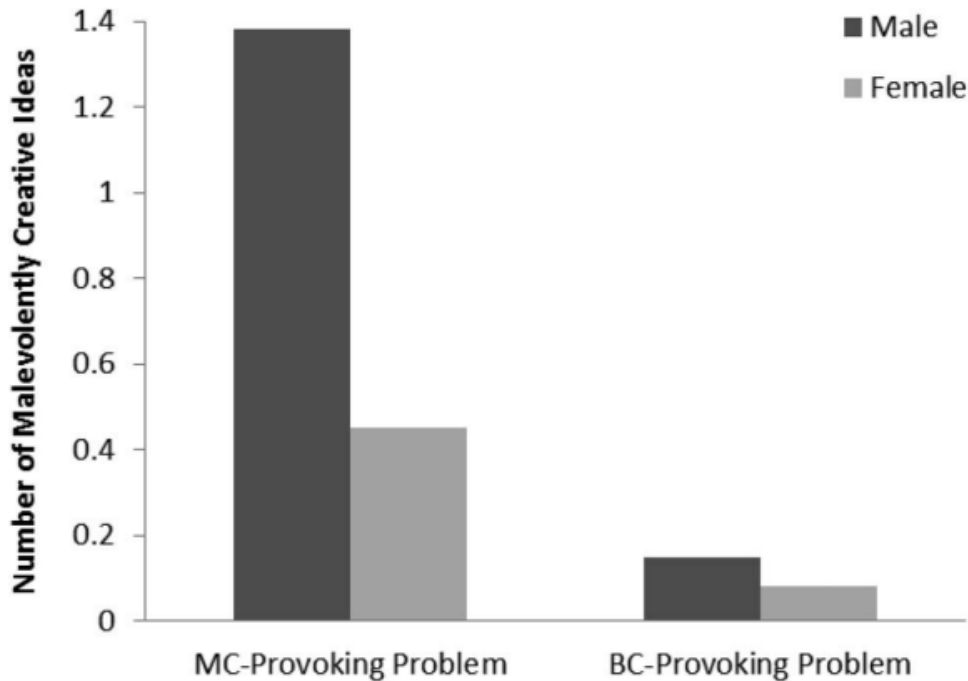
*Note.* Internal consistencies (Cronbach’s alpha) of the measures are in the diagonal. Gender was coded as -1 for males and 1 for females. Problem was coded as -1 for the MC-provoking problem and 1 for the BC-provoking problem.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$  (one-tailed).

Additionally, it is possible that the MC-provoking condition allowed for greater acceptance of the generation of risky ideas, which may have inadvertently encouraged the generation of more ideas in general (as compared to the BC-provoking condition).

Therefore, a *t* test was conducted to assess whether more ideas were generated in response to the MC-provoking situation. The results indicate that no significant difference in idea fluency existed between the conditions:  $M_{MC-Provoking} = 2.93$ ,  $SD_{MC-Provoking} = 1.63$ ;  $M_{BC-Provoking} = 3.06$ ,  $SD_{BC-Provoking} = 1.76$ ;  $t(129) = -.46$ ,  $p = .64$ ,  $g^* = .08$ .

Similar to the finding by Lee and Dow (2011), gender related to MC,  $r(129) = -.16$ ,  $p = .034$ . Using a *t* test, there was a marginally significant difference in the number of malevolently creative ideas that males and females generated ( $M_{Male} = .62$ ,  $SD_{Male} = 1.10$ ;  $M_{Female} = .30$ ,  $SD_{Female} = .82$ ;  $t(127) = 1.85$ ,  $p = .067$ ,  $g^* = .33$ ). These results, like those found by Lee and Dow (2011), indicate that males generate a higher number of malevolently creative ideas than females. That marginally significant difference for gender is across situational scenarios, but a difference is especially likely when context is included. As such, *t* tests were calculated for gender based on problem type with respect to their influence on MC (see Figure 1); an interaction was found between gender and problem type. Specifically, males and females differed from one another with respect to the number of malevolently creative ideas they generated in response to the MC-provoking problem ( $M_{Male} = 1.38$ ,  $SD_{Male} = 1.45$ ;  $M_{Female} = .45$ ,  $SD_{Female} = 1.03$ ;  $t(65) = 2.83$ ,  $p = .006$ ,  $g^* = .74$ ), but they did not differ from one another in response to the BC-provoking problem ( $M_{Male} = .15$ ,  $SD_{Male} = .37$ ;  $M_{Female} = .08$ ,  $SD_{Female} = .28$ ;  $t(60) = .86$ ,  $p = .40$ ,  $g^* = .21$ ). These results indicate that males generate a higher number of malevolently creative ideas than females when responding to situations that provoke MC, but no such gender difference exists when responding to situations that provoke benevolent creativity.



*Figure 1.* The influence of the interaction between problem type and gender on number of malevolently creative ideas.

The correlations shown in Table 2 offer initial support for Hypotheses 1 and 2. However, because gender significantly related to MC, and to factor out propensities for ideation, Hypotheses 1 and 2 were tested using hierarchical multiple regressions while controlling for gender and ideational fluency (from the divergent-thinking task). Likewise, to factor out variance accounted for by the problems that participants responded to, problem type was also controlled for in these analyses. In support of Hypothesis 1, implicit aggression significantly predicted MC while controlling for gender, ideational fluency, and problem type,  $\beta = .27$ ,  $t(128) = 3.32$ ,  $p = .001$ ,  $\Delta R^2 = .07$ ,  $F(4, 124) = 9.40$ ,  $p = .001$ . This indicates that individuals who are more (vs. less) implicitly aggressive generate a higher number of malevolently creative ideas. In support of Hypothesis 2, premeditation significantly predicted MC while controlling for gender, ideational fluency, and problem type,  $\beta = -.24$ ,  $t(128) = -3.04$ ,  $p = .003$ ,  $\Delta R^2 = .06$ ,  $F(4, 124) = 8.87$ ,  $p < .001$ . This indicates that individuals who are less (vs. more) premeditative generate a higher number of malevolently creative ideas.

To test Hypothesis 3, a hierarchical multiple regression was calculated to determine whether MC was influenced by a three-way interaction between problem type, implicit aggression, and premeditation while controlling for gender and divergent-thinking fluency (see Table 3). All continuous predictors (ideational fluency, implicit aggression, and premeditation) were mean-centered and both dichotomous predictors (gender and problem type) were effect-coded. In support of Hypothesis 3, the three-way interaction between problem type, implicit aggression, and premeditation was significant

in predicting the number of malevolently creative ideas that were generated while controlling for gender and ideational fluency,  $\beta = .32$ ,  $t(128) = 3.60$ ,  $p = .001$ ,  $\Delta R^2 = .06$ ,  $F(9, 119) = 9.78$ ,  $p = .001$ . That three-way interaction was probed according to the steps outlined by Aiken and West (1991) and Dawson and Richter (2006); Figure 2 shows the results of that probing procedure. These results indicate that individuals who are more implicitly aggressive and are less premeditative are more malevolently creative when responding to a situation that provokes MC yet are less malevolently creative when responding to a situation that provokes benevolent creativity.

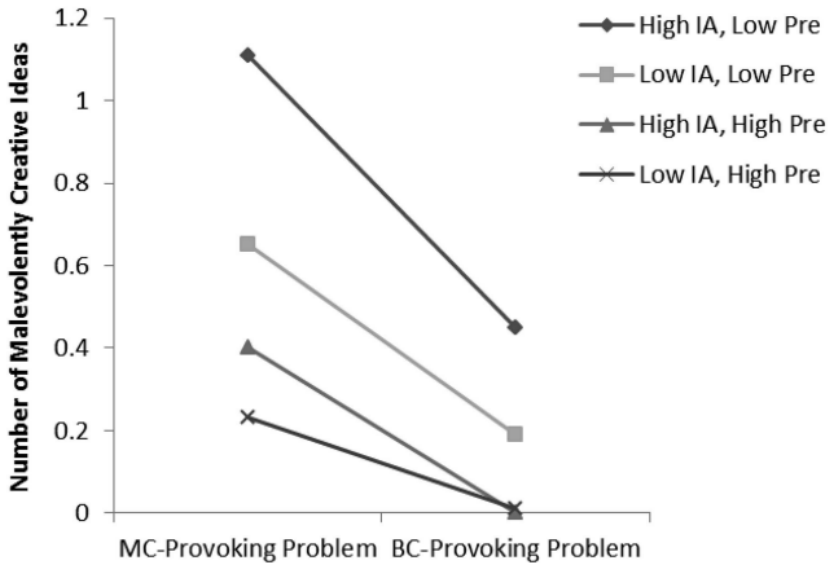
Table 3  
Influence of the Interaction Between Problem Type, Implicit Aggression, and Premeditation on Number of Malevolently Creative Ideas

Model	<i>b</i>	<i>SE</i>	<i>t</i>	$\beta$	<i>F</i>	<i>R</i> <sup>2</sup>	$\Delta F$	$\Delta R^2$	95% CI
Constant	.34	.08	4.48***		9.78***	.43	12.95***	.06	[.19, .49]
Fluency	.03	.02	1.76 <sup>†</sup>	.13					[−.003, .06]
Gender	−.19	.07	−2.56*	−.19					[−.33, −.04]
Problem	−.26	.07	−3.94***	−.28					[−.39, −.13]
IA	.04	.03	1.22	.10					[−.02, .10]
Pre	−.04	.01	−2.93**	−.21					[−.07, −.01]
Problem × IA	−.03	.03	−1.07	−.08					[−.09, .03]
Problem × Pre	.02	.01	1.23	.09					[−.01, .05]
IA × Pre	−.01	.01	−.84	−.06					[−.02, .01]
Problem × IA × Pre	.001	.000	3.60***	.32					[.000, .001]

Note. *N* = 128. CI = confidence interval; IA = Implicit Aggression; Pre = Premeditation.  
<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## Discussion

The effect of the interaction between problem type, implicit aggression, and premeditation on the generation of malevolently creative ideas is indicative of a trait-situation interaction and supports the theory of trait activation (Tett & Guterman, 2000); the problem that provoked malevolent creativity (MC) facilitated the degree to which the traits of implicit aggression and premeditation were expressed via MC, whereas the problem that provoked benevolent creativity (BC) inhibited that expression. Ethical impulses (Kish-Gephart et al., 2010) may therefore be highly dependent not only on individual differences such as implicit aggression and premeditation, but also on the types of provoking situational cues (e.g., toward malevolence or benevolence) present in the environment in which ethical decision-making is occurring. It is likely the case that fewer aggressive situational cues are needed to activate the implicit aggression of individuals with higher levels of implicit aggression, especially when MC is condoned. In other words, implicitly aggressive individuals probably have a lower sensitivity threshold with respect to the amount of provoking situational cues required to activate their implicit aggression. That activated implicit aggression then guides subsequent behavior. In sum, the MC-provoking problem contained several cues and indicators that could have more easily activated the implicit aggression of individuals with higher implicit aggression, so that kind of trait activation, when exacerbated by lower premeditation, resulted in the generation of a higher number of malevolently creative ideas.



*Figure 2.* The influence of the interaction between problem type, implicit aggression, and premeditation on number of malevolently creative ideas.  
*Note:* IA = Implicit Aggression and Pre = Premeditation

On the other hand, BC-provoking situations inhibited the generation of aggressive ideas, and therefore malevolently creative ideas, regardless of an individual's level of implicit aggression or premeditation. There were no overtly aggressive cues to potentially activate an individual's implicit aggression in the BC-provoking problem, so the generation of malevolently creative ideas was significantly dampened. It should be noted that people with lower levels of implicit aggression probably do not have highly aggressive thoughts even when they are in situations that provoke hostility; those people may attempt to resolve hostility in ways that are prosocial, or at least minimally harmful. It is possible that people with low implicit aggression do consider aggressive ideas when attempting to resolve certain problems, but those aggressive ideas are likely dismissed and not enacted or outwardly generated because those individuals do not condone or solve problems in aggressive ways.

As evidenced in this study, people can and do generate malevolently creative ideas in response to situations that lack overtly aggressive cues, and other studies have found that aggressive cues do not need to be present for implicitly aggressive individuals to engage in aggressive behaviors (Bowler, Woehr, Bowler, Wuensch, & McIntyre, 2011). However, in the current study, those malevolently creative responses seem to have been fueled more by premeditation than implicit aggression. Specifically, whether an individual's implicit aggression is activated likely depends on one's level of implicit aggression and the strength or amount of provoking cues in a situation, but the inclusion of premeditation adds a layer of complexity to that trait-situation interaction. In particular, participants with higher levels of premeditation were the least malevolently creative, regardless of their level of implicit aggression or the problem being responded

to (see Figure 2). This suggests that the situational activation of one trait (e.g., implicit aggression) may be further influenced by additional traits (e.g., premeditation).

Although implicit aggression was activated in the MC-provoking problem, the manifestation of that implicit aggression in the form of MC was dependent on one's level of premeditation. And regardless of the problem, lower levels of premeditation facilitated the degree to which implicit aggression influenced MC; individuals who do not actively anticipate the consequences of their actions may be more willing to impulsively generate ideas that are strongly guided by their implicit aggression, which again highlights the notion of ethical impulses (Kish-Gephart et al., 2010). On the other hand, higher levels of premeditation inhibited the degree to which implicit aggression influenced MC. Actively considering the consequences of one's actions may override the influence of implicit aggression, thereby subverting implicit aggression as a prominent guide to behavior—using one's forethought and cautiousness (i.e., higher level of premeditation) then becomes the prominent guide to behavior. Overall, this three-way interaction suggests that situational cues can enhance or buffer the influence of certain traits on behavior and that influence may be further affected by additional traits.

### **Theoretical and Practical Implications**

This study has a number of theoretical implications. The results of this study further explain MC with regard to situational and individual difference factors, thus building on findings from the three other known empirical studies of MC (Harris et al., 2013; Clark & James, 1999; Lee & Dow, 2011). Situations that provoke MC can strongly facilitate malevolently creative responses. But depending on an individual's cognitive and personality-based dispositions, even contexts that lack overtly aggressive cues can be responded to in malevolently creative ways. With that in mind, the three-way interaction offers support for the trait-activation theory of personality (Tett & Guterman, 2000) and the hypothesis of ethical impulses (Kish-Gephart et al., 2010), specifically with regard to an implicit process (i.e., implicit aggression) that relates to malevolent, unethical behavior. That implicit process was also facilitated or inhibited by a controlled process (i.e., premeditation), suggesting that controlled processes may override automatic processing in certain situations.

This study also has several practical implications. Negatively valenced working conditions can include toxic work environments, highly competitive or stressful work environments, aggressive organizational cultures, or departments and working units with leaders or coworkers who are hostile and abusive. Those kinds of working conditions may facilitate MC for a variety of reasons. For example, those conditions might promote the use of aggression by setting constrained parameters for acceptable behavior (e.g., employees in a specific department must be unethical to maintain a competitive edge). This may allow employees to conclude that harmful ideas, especially harmful and original ideas, are condoned as appropriate or perhaps even necessary; the narrow parameters for acceptable behavior could incidentally facilitate the



generation of original ways of being aggressive so employees can maintain a competitive edge or protect themselves from anticipated threats. Another possibility is that employees in aggressive working conditions might notice that certain unethical behaviors (e.g., company theft, bullying, cyber-loafing) incur little to no negative repercussions because of the ingenuity or covert nature in which those behaviors are perpetrated. As such, those behaviors might inadvertently foster a culture of MC by way of observational learning. Additionally, if employees engage in counterproductive work behaviors, then originality may be requisite for success so as to reduce the possibility that their malevolent behaviors are exposed or can be traced back to them.

Finally, aggressive working conditions could instill a strong sense of reactive aggression or retaliatory behaviors against a perceived injustice (e.g., abusive leadership). Perceived injustices are strong determinants of work place aggression (Baron, Neuman, & Geddes, 1999), and covert aggression is the most prevalent form of aggression in the work place (Baron & Neuman, 1998). This suggests that employees who perceive an injustice might be more likely to engage in covert aggression, which in some instances would require the use of MC. Because aggressive working conditions might facilitate MC among employees, managers and leaders should be especially vigilant in maintaining a prosocial work environment and framing problems in benevolent, cooperative ways that do not encourage hostility or aggression. One alternative could be to train and appoint “ethical hazards marshals” and committees to consistently and appropriately assess and respond to ethical hazards in organizations (Pendse, 2012). Finally, because higher levels of premeditation inhibit the effects of implicit aggression on MC, businesses may want to consider training programs that reduce impulsive types of unethical behavior via impulse control and self-regulation (Kish-Gephart et al., 2010) and mindfulness (Kiken & Shook, 2011, 2012). Lower levels of premeditation can result in negative outcomes that extend beyond MC (e.g., risky behaviors, aggression, violence), so training employees to consider the consequences of their actions may reduce a variety of negative behaviors. For example, self-control can inhibit aggression (DeWall, Finkel, & Denson, 2011), and self-control training can reduce anger and aggressive behaviors in highly aggressive individuals, even over a period as short as two weeks (Denson, Capper, Oaten, Friese, & Schofield, 2011). Likewise, enhanced mindfulness may reduce maladaptive cognitions (Kiken & Shook, 2012) such as implicit aggression or lower levels of premeditation, and enhanced emotional regulation can reduce aggressive behaviors (Calvete & Orue, 2012). In the case of the current investigation, focusing on impulse control, empathy, and appropriate forecasting skills could help individuals better anticipate how their behaviors might affect others, thereby increasing the chances that MC may be viewed less favorably, or not at all, as a viable response option to most problems (even problems that provoke malevolence).

## **Limitations**

This study had three primary limitations. First, the multiple hierarchical regression that was used to test Hypothesis 4 had a low n:k ratio (about 14:1), raising potential concerns that the coefficients are unstable, the reported effects are spurious, and that the results may not generalize to other samples. As such, future studies will need to be conducted to test the relationships in larger samples.

The second limitation of this study pertains to its generalizability. First, because this study was conducted online in response to vignettes of fictional situations, it is unknown how participants would respond to a similar situation in real life. The ways in which people respond to fictional problems and real-life problems are not always similar, nor are the underlying reasons always similar (Reis & Gosling, 2010). Second, the problems in this study could be perceived as overly easy with little thought needed to respond to them. Because the problems in this study were hypothetical, and the ideas generated in response to those problems were anonymous and had no consequences, participants did not have to consider the complexities of what it would mean to be caught or have their ideas enacted in real life.

Third, the problems used in the pilot study were likely not parallel in their content. First, the neutral condition did not include actions directed at another classmate, unlike the MC- and BC-provoking situations. Second, the secrecy that was promoted in the MC-provoking problem may have been substantially different from the secrecy that was promoted in the BC-provoking problem. More explicitly, the secrecy of not wanting one's tutoring to be obvious may have been less severe than the secrecy involved in not wanting one's retaliation to be discovered. As such, future studies will need to conduct similar assessments with problems that are more parallel in their target-based structure and general content.

## **Future Research and Conclusion**

The future of MC research can take many different directions. Based on the results of the current study, future research should assess the influence of different types, styles, and forms of aggression (e.g., instrumental, reactive, proactive, electronic, relational) on MC. It would be especially important to determine whether there exists a causal relationship between aggression and MC. Similarly, research should be conducted that tests the effects of empathy, mindfulness, impulse control, self-regulation, and forecasting skills on MC, especially in highly aggressive individuals and across different situations and contexts. With regard to personality, previous research indicates that conscientiousness negatively relates to MC (Lee & Dow, 2011). The results of the present research effort suggest that self-discipline and deliberation, which are overlapping factors between premeditation and conscientiousness (e.g., Thompson, 2008; Whiteside & Lynam, 2001), relate to MC. Future studies may therefore want to parse out the specific subfactors of conscientiousness that relate to the generation and implementation of malevolently creative ideas.

With regard to situational factors, it would be interesting to test whether certain settings influence MC in different ways. It might be the case that individuals are more willing to be malevolently creative in purely social situations because of perceptions of lax or malleable standards of morality and etiquette, whereas professionalism and more harsh repercussions may inhibit MC in organizational settings.

Based on the results of the analyses involving gender—and building on the results of Lee and Dow (2011)—this study suggests that males are more likely to be malevolently creative than females, especially in response to highly aggressive situations that condone MC. As such, it may be particularly important for future studies of MC to control for gender when conducting analyses with MC as a dependent variable. Likewise, future research needs to better distinguish why males may be more malevolently creative than females, and whether that distinction is consistent across all situations. For example, it may be the case the males are more malevolently creative in situations that require or condone the use of physical aggression, but females may be more malevolently creative in situations that require or condone the use of verbal or relational aggression.

MC can include spreading rumors on the playground and engaging in counterproductive work behaviors in the office to deceiving intimate partners and planning large-scale terrorist attacks. Considering the sheer number and variety of applications of MC, having a better understanding of the various individual-, group-, organizational-, and environmental-level factors that relate to MC is paramount. Harmful behavior is often highly damaging in its own right, but harmful behavior that is also original is a particularly dangerous combination because of the implication that such behaviors are more difficult to detect, anticipate, and respond to. A lack of proactive and reactive defenses against original instances of harm is concerning, especially when considering the severity of the negative consequences that may result from such combinations. The examination of MC is important, and this study hopefully provides a stepping stone for researchers and practitioners to develop a better understanding of the situational and individual factors that facilitate, condone, inhibit, or condemn the generation and use of MC.

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## **Appendix**

### **Problems Used in Pilot Study**

#### **MC-Provoking Problem**

You are walking to the library when you see a classmate jogging quickly in your direction. It's evident that the classmate does not see you, but before you can do anything, you two collide and both of you are knocked to the ground. You land hard on your backpack and hear something shatter. Your classmate, who is actually a member of your group for a class project, looks very angry at you. Your classmate quickly stands up, does not apologize, does not offer to help you up, and mentions that everything is your fault. As you stand up and look in your backpack, you realize that your laptop is ruined. You want to get back at that classmate for hitting into you, being rude, and especially for breaking your laptop, but you do not want to get caught.

#### **BC-Provoking Problem**

Over the past few weeks, you have been part of a group for a class project. All of the members have gotten along rather well and are doing their fair share of work, but you've noticed that one member in particular seems to be having difficulties learning and understanding the material. Other members of the group have tried helping, but that student seems rather sensitive about receiving any kind of tutoring. You want to help



your group member understand the material, but you want to do so without that member realizing that any form of tutoring is occurring.

### **Neutral Problem**

Over the past few weeks, you have been part of a group for a class project. You arrive at an important meeting and realize that you forgot all of your materials for that meeting. You want to have a productive meeting, but you do not want anyone to know that you forgot your materials.