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The Effect of Emotional Intelligence and Task Type on Malevolent Creativity

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Malevolent creativity (MC), or intending to inflict harm in original ways, is an aspect of creativity that has received little empirical attention. It reasons that generating malevolently creative products in response to a problem is dependent upon individual differences and environmental factors, especially with regard to the social and emotional content of a particular problem. A personality variable strongly associated with how individuals acknowledge and respond to such social and emotional content is emotional intelligence (EI). Individuals with higher EI often solve problems in cooperative, beneficial, and positive ways, which seems contrary to solving a problem with MC. In addition to testing whether EI is negatively related to MC in general, we analyzed whether that negative relationship would persist even after controlling for cognitive ability and task effects. Those questions were examined across two studies. Results suggest that individuals with lower EI are more likely to respond to different types of problems with increased instances of MC even when the social or emotional content of those problems are factored out. The implications and limitations of these studies, as well as future directions for the study of MC, are discussed.

Keywords:

malevolent creativity, emotional intelligence, task effect, creative problem solving

Creativity is often defined in terms of ideas and products that are original and valuable, especially if they are socially valuable (Mumford & Gustafson, 1988). However, consider ideas and products that are original but not socially valuable, or rather ideas that attempt to solve problems in original and harmful ways.

Malevolent creativity (MC) is defined as creativity that deliberately leads to harmful or immoral results (Cropley, Kaufman, & Cropley, 2008). The related construct of negative creativity allows for creativity to accidentally lead to undesirable outcomes (James, Clark, & Cropanzano, 1999). We believe that the definition of MC may be too broad, and for the purposes of this paper we would like to expand on a definition of creativity offered by Plucker, Beghetto, and Dow (2004). They define creativity as “the interaction among aptitude, process, and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social

context" (p. 90)—to which we add "that are intended to materially, mentally, or physically harm oneself or others."

Examples of MC include original instances of terrorism, spreading rumors, theft, spying, abuse, suicide, aggressive humor, and counterproductive work behaviors. Note that MC is not synonymous with any of those acts by themselves—although most of those examples are necessarily harmful, they are not always original.

The "dark side" of creativity has garnered much interest in recent years (e.g., Cropley, Cropley, Kaufman, & Runco, 2010). For example, attention is being given to the application of creativity in criminal activities and lawbreaking (Eisenman, 2008; Cropley & Cropley, 2011). Likewise, empirical evidence supports the notion that individuals who are better divergent thinkers are more creative liars (Walczyk, Runco, Tripp, & Smith, 2008) and creative individuals are more likely to be dishonest (Beaussart, Andrews, & Kaufman, 2012; De Dreu & Nijstad, 2008; Gino & Ariely, 2012). However, empirical research on the construct of MC is rather limited. Clark and James (1999) found that individuals will respond to unjust situations with MC. Situational justice was manipulated in their study through the use of lottery tickets. Participants were instructed to perform a mundane task and were told they would receive one to six lottery tickets that would go toward a $50 raffle, depending on their performance. Participants in the just condition received all six tickets whereas participants in the unjust condition received no tickets. After participants either received or did not receive their tickets, each participant responded to two problem-solving tasks. One task instructed participants to generate creative ways of raising funds for a nonprofit organization that was having financial problems; this problem was framed to be positive and beneficial. The other task instructed participants to generate creative ways of clandestinely giving a potential client defaming information about a competitor; this problem was framed to be negative and harmful. Ideas were deemed negatively (malevolently) creative if they were original solutions offered in response to the negative problem, and ideas were deemed positively creative if they were original solutions offered in response to the positive problem. Participants in the fair condition were more positively creative and participants who perceived their treatment to be unfair were more negatively creative. This study therefore offers evidence that MC is a genuinely distinct construct from creativity, and also that MC can be influenced by situational factors.

Lee and Dow (2011) found that certain individual differences are related to the number of malevolently creative ideas generated in response to divergent thinking tasks. The two tasks were to generate ideas for the uses of a brick or a pencil. Specifically, the results indicated that males were more malevolently creative than females, trait physical aggression positively related to MC, and conscientiousness was negatively related to MC. Ideas were deemed malevolently creative if they were harmful in some way, such as using a brick as a weapon. These results suggest that individual differences—specifically gender, trait physical aggression, and conscientiousness— can relate to one's ability or propensity to generate malevolently creative ideas.

Kaufman, Cropley, Chiera, and White (2012) studied how people perceive acts of varying malevolence. They presented many possible responses to scenarios that ranged in their degree of goodness versus evil (i.e., from peaceful protests to bombs). Kaufman et al. (2012) found that people believed morally complex or ambiguous actions to be more creative than more straightforward actions (either benevolent or malevolent).

These studies offer evidence that MC not only exists, but is also affected by situational factors and individual differences. However, the operationalizations of MC in the studies by Clark and James (1999) and Lee and Dow (2011) were problematic. Clark and James (1999) operationalized MC as an original solution offered in response to a negatively oriented problem, whereas Lee and Dow (2011) operationalized MC as a harmful idea offered in response to a divergent thinking task. We believe that operationalizing MC in those ways is not ideal. In the case of Clark and James (1999), it is possible that negatively oriented problems can be responded to in positive, albeit original, ways, which would not constitute being original in harmful ways. Similarly, positively oriented problems can be responded to in negative ways that are also original. Likewise, in the case of Lee and Dow (2011), just because an idea is harmful does not mean it is original. We therefore believe MC should be operationalized as an idea or solution that is both original and harmful.

MC is probably influenced by factors that affect how individuals interact with others and how socially oriented problems are solved. As evidenced by Lee and Dow (2011), MC is likely related to certain personality variables. A personality variable that might relate to MC, and also influences how people respond to social interactions and social-oriented problems, is emotional intelligence.

Emotional Intelligence

Emotional intelligence (EI) is defined as the ability to process one's own and others' emotions, or in other words the ability to tend to, understand, use, and manage emotions (Mayer, Salovey, & Caruso, 2004, 2008). People higher in EI can acknowledge, understand, and control their emotions better than people lower in EI (Fulmer & Barry, 2004). That emotional control may affect how problems are responded to; people with higher EI are more likely to respond to problems in positive and collaborative ways, whereas people with lower EI are more likely to respond to problems in negative or avoidant ways, both at the individual (Jordan & Troth, 2002a,2002b; Morrison, 2008) and team (Ayoko, Callan, & Härtel, 2008; Jordan & Troth, 2004) levels.

Children and adolescents with higher EI have been rated by their peers as more cooperative and less aggressive and were rated by teachers as more prosocial (Mavroveli, Petrides, Rieffe, & Bakker, 2007; Petrides, Sangareau, Furnham, & Frederickson, 2006). Lower EI was found to be related to problem and deviant behaviors, and poor interpersonal relationships (Brackett, Mayer, & Warner, 2004; Siu, 2009). EI was also found to be related to coping styles, with high EI being positively

related to adaptive coping styles but negatively related to maladaptive coping styles (Mavroveli et al., 2007; Mikolajczak, Petrides, & Hurry, 2009).

Several studies have explored the relationship between EI and creativity. EI was found to be related to higher readiness to create and innovate in a sample of employees from various organizations in the United Arab Emirates (Suliman & Al-Shaikh, 2007). In addition, Wolfradt, Felfe, and Köster (2002) found that self-perceived emotional intelligence, particularly a facet called emotional self-efficacy, positively related to creative performance and self-perception of creativity. Sánchez-Ruiz, Hernández-Torrano, Pérez-González, Batey, and Petrides (2011) also found that creative performance positively relates to EI. Finally, individuals with higher EI might prefer thinking styles that are more complex and creative (Murphy & Janeke, 2009). However, Ivcevic, Brackett, and Mayer (2007) did not find a significant relationship between EI and creativity. In those studies, creativity was divided into cognitive creativity and behavioral creativity. Cognitive creativity was operationalized with both a divergent thinking (consequences) task and the Remote Associates Test. Behavioral creativity was operationalized based on self-reported scales of artistic activity and artistic expression and appreciation. Overall, an individual's creativity might be positively related to, or even influenced by, his or her own EI only in certain contexts, especially socially oriented contexts with emotionally laden content.

Rationale for Study 1

As evidenced in the reviewed literature, people with higher EI often approach and solve socially oriented problems in positive ways. On the other hand, people who solve problems with the use of MC likely do so with the intent to harm others in some way. Although EI has been found to be positively related to creativity, the kind of creativity assessed in previous studies can be likened to positive or benevolent creativity. EI, a construct largely associated with prosocial and beneficial outcomes, is likely negatively related to MC, a construct largely associated with aggressive and harmful outcomes.

Individuals probably solve socially oriented problems based on, and in response to, the social and emotional content of the situation in which that problem is posed. Because of the positive ways in which people high in EI likely frame their social worlds, and the aggressiveness and negative cognitions that are likely required to respond to problems in malevolently creative ways, we think that EI negatively relates to MC even after social and emotional content is factored out. However, EI is a type of intelligence, and creativity is positively associated with cognitive intelligence. To further parcel out the strength of the relationship between EI and MC, we wanted to test that effect above and beyond cognitive ability. We hypothesize that EI is negatively related to MC even when controlling for cognitive ability and the specific content of a socially oriented problem-solving task.

Study 1

Method

Participants. One hundred ninety-two students from a Midwestern university received extra credit for participating in the study, with 65 males (34%) and 127 females (66%) having a mean age of 22.56 (SD = 5.00).

Procedure. Undergraduate students signed up to participate in this study in exchange for extra credit for their classes. When participants arrived in the designated testing room, they were given an informed consent sheet to read and sign. They were then given one of the three problem vignettes and were asked to generate as many solutions as possible in response to the problem they received. They then completed the BarOn EQ-I test and filled out a demographic survey. All materials were administered in paper-and-pencil format. Participants were then debriefed, thanked for their time, and assured that they would receive extra credit for their participation.

Measures.

Problem-solving task. Each participant generated multiple solutions in response to one of three randomly presented problems. The problems pertained to Sally, Brian, and ACME. Sally is a timid new student to a college and is assigned a roommate, who smokes marijuana, which makes Sally uncomfortable. However, despite her timidity, she is afraid that the situation will escalate if nothing is done about her roommate's behavior. Brian is an up-and-coming manager at a large bank who hired a friend's sister into his department. Although Brian's friend highly recommended his sister and she gets along well with coworkers, her work and meeting attendance have been substandard. Brian also has to consider that a majority of the employees in his department are men. Finally, ACME has an engineering department that has recently seen increased turnover and decreased productivity. Head-hunters are enticing potential engineers away from ACME, and the department has a hold on wage increases to a particular percentage. All three problems have been used in previous studies (e.g., Reiter-Palmon, Illies, Cross, Buboltz, & Nimps, 2009).

The three problems differed in their social and emotional content, likely due to the different values elicited within each problem (i.e., values and beliefs about smoking pot, handling troublesome employees, or the appropriate means by which to financially revive an organization). Sixty-four participants responded to Sally's problem, 62 participants responded to Brian's problem, and 66 participants responded to ACME's problem.

Emotional intelligence. The measure of EI used in this study was the BarOn EQ-I test (Bar-On, 1997). The measure contains 133 items with a 5-point response scale (*1= very seldom or not true of me, 5 = very true of me or true of me).* Bar-On (1997) found that the test–retest reliability of this scale was .85 after 1 month and .75 after 4 months. Using Cronbach's alpha, the reliability of the composite measure in this study was .96.

Cognitive ability. Self-reported college GPA has been found to be an adequate proxy measure for cognitive ability (Mumford, Supinski, Baughman, Costanza, &

Threlfall, 1997). As such, self-reported college GPA was used to measure cognitive ability.

Solution ratings. Solutions to the problems were rated for originality and negativity. A solution's originality was determined by how unique it was, how imaginative or humorous it was, and how structured it was by the problem. Originality was rated by two trained raters using a 6-point Likert-type scale. Each rater first scored the solutions individually, and then they reached consensus on their ratings (e.g., Reiter-Palmon et al., 2009). Solutions rated a 1, 2, or 3 were unoriginal, with 1 being very unoriginal, and solutions rated a 4, 5, or 6 were original, with 6 being very original. A solution was deemed original if it had a score higher than a 3.

A solution's negativity was determined by its harmful nature. A positive solution was one that attempted to solve the problem without using physical or mental harm against oneself or another party, including organizations, groups, or other individuals. On the other hand, a negative solution was one that attempted to solve the problem through the use of physical or mental harm to oneself or another party. Note that this rating is only for the negativity (i.e., harmfulness) of a solution, not its negative creativity. The negativity of the solutions was rated by using the Positivity versus Negativity Solution Evaluation Scale (PNSES), a rating scale created specifically for this study. The PNSES, like the originality scale, was used by two trained raters. The raters judged the solutions in three steps. First, the raters placed each solution into either a "positive" category or a "negative" category so as to have maximum agreement. Second, the raters gave each solution a score from the 6-point scale, with 1 being highly positive and 6 being highly negative. Third, and as with the originality ratings, the raters were asked to reach consensus regarding their ratings. A solution was deemed negative if it had a score higher than a 3.

After the solutions were rated on originality and negativity, those two scores were evaluated together to determine whether a solution was malevolently creative. A solution was deemed malevolently creative if it was both negative and original. The main dependent variable of this study was the number of malevolently creative solutions generated by each participant.

Results and Discussion

The correlations and descriptive statistics for GPA, EI, and the number of malevolently creative solutions generated are presented in Table 1. The positive correlation between MC and GPA, although marginally significant (r = .12, p = .065), suggests that there might be a relationship of some sort between cognitive ability and MC deserving further attention. The negative correlation between EI and MC, also marginally significant (r = - .11, p = .076), partially supports our hypothesis that people with higher EI generate fewer malevolently creative ideas. To test our hypothesis we used hierarchical multiple regression predicting number of malevolently creative solutions from GPA, problem type, and EI (see Table 2). Both control variables (GPA

and problem type) were found to be significant. EI was found to be marginally significant in predicting the number of malevolently creative solutions generated while controlling for cognitive ability and problem type (β = - .15, *p* = .064). Because of the marginal significance and small effect size of the relationship of interest, these results offer partial support for our hypothesis that EI is negatively related to MC even when controlling for cognitive ability and the specific content of a socially oriented problem-solving task.

Table 1
Descriptive Statistics and Correlations of GPA, EI, and Number of Malevolently Creative Solutions for Study 1

	M	*SD*	1	2	3	4	5	6	7
1. GPA	3.14	.50	—						
2. EI	439.57	56.15	.13	—					
3. Number of malevolently creative solutions	1.12	1.57	.12	−.11	—				

Note. *M* = Mean; SD = Standard deviation.

These results suggest that someone lower in EI might be more likely to generate malevolently creative solutions than someone higher in EI. It is important to note that EI, a construct seemingly dependent upon the social and especially emotional content of situations, predicted MC even after controlling for that content. These results indicate that EI may be related to MC not only because of the social and emotional content of a problem, but for other reasons as well. We therefore conducted a second study to test whether EI was also negatively related to MC even in response to a nonsocial, non-emotional task.

Study 2

Method

Participants. Seventy-nine students from a Midwestern university received extra credit for participating in the study, with 33 males (42%) and 46 females (58%) having a mean age of 24.50 (SD = 7.37).

Procedure. Undergraduate students signed up to participate in this study in exchange for extra credit for their classes. When participants arrived in the designated testing room, they were given an informed consent sheet to read and sign. They were then given two divergent thinking tasks and were instructed to generate as many ideas as possible or to be as original as possible when generating ideas to the tasks. Participants then completed an EI measure and filled out a demographic survey. All materials were administered in paper-and-pencil format. Participants were then debriefed, thanked for their time, and assured that they would receive extra credit for their participation.

Measures.

Divergent thinking task. Each participant generated multiple ideas for two divergent thinking tasks— generating uses for a brick and a shoe. When generating ideas to those two tasks, participants received instructions to either generate as many

ideas as possible or to be as original as possible. Thirty-nine participants responded to the tasks according to the instructions that emphasized generating as many ideas as possible, whereas 40 participants responded to the tasks according to the instructions that emphasized generating as many original ideas as possible. Each participant's ideas were combined across the two tasks because no significant differences were found between how participants responded to the uses for a brick versus a shoe.

Emotional intelligence. The measure of EI used in this study was developed by Schutte et al. (1998). The measure contains 33 items with a 5-point response scale (1 = *strongly disagree*, 5 = *strongly agree*). Across various studies, those authors found that the scale had a Cronbach's alpha of .87 and a test–retest reliability of .78 after 2 weeks. A different measure of EI was used in this study for two reasons. First, from a psychometric perspective, using a different measure can strengthen the generalizability of the relationship between EI and MC. Second, from a pragmatic perspective, this measure is much shorter and takes less time to complete than the Bar-On EQ-I measure. The scale's reliability in this study was found to be .86.

Table 2
Hierarchical Multiple Regression Predicting Number of Malevolently Creative Solutions From GPA, Problem Type, and Emotional Intelligence

Model	*b*	*SE*	*t*	β	*F*	R^2	ΔF	ΔR^2	95% CI
1 Constant	−.27	.90	−.30		2.34	.02			[−2.05, 1.52]
GPA	.43	.28	1.53	.13					[−.13, .99]
2 Constant	−.98	.85	−1.15		10.69**	.19	14.64**	.17	[−2.65, .70]
GPA	.47	.26	1.81	.14					[−.04, .98]
Brian's problem	.30	.31	.99	.09					[−.30, .91]
Sally's problem	1.57	.30	5.17**	.45					[.97, 2.17]
3 Constant	.77	1.25	.61		9.03**	.21	3.49	.02	[−1.71, 3.25]
GPA	.52	.26	2.03*	.16					[.01, 1.03]
Brian's problem	.19	.31	.62	.05					[−.42, .80]
Sally's problem	1.56	.30	5.18**	.44					[.97, 2.16]
Emotional intelligence	−.004	.002	−1.87†	−.15					[−.01, .00]

Note. $N = 144$. CI = Confidence interval.
† $p < .10$. * $p < .05$. ** $p < .001$.

Cognitive ability. Like the first study, students' self-reported college GPA was used as a proxy for cognitive ability.

Idea ratings. Ideas were coded for originality and negativity. Originality was rated by two trained raters using a 5-point Likert-type scale (1 = *very unoriginal*, 5 = *very original*). Interrater reliabilities for the originality ratings were adequate for the brick task (r_{wg} = .82) and the shoe task (r_{wg} = .79). An idea was deemed original if it had an average rating higher than 3.

The negativity of the ideas was again rated by using the PNSES. The PNSES was changed to a 5-point Likert-type scale to match the originality scale, and the valence was reversed (1 = *highly negative*, 5 = *highly positive*) because the raters in Study 1 indicated that such a reversal would facilitate the rating process by having a negative-to-positive spectrum rather than a positive-to-negative spectrum. Three trained raters rated the negativity of the ideas. Interrater reliabilities for negativity ratings were

adequate for the brick task (r_{wg} = .81) and the shoe task (r_{wg} = .84). An idea was deemed negative if it had an average rating lower than 3.

The criteria for establishing a malevolently creative idea were the same from the first study, and the number of malevolently creative ideas generated was again the dependent variable of interest.

Results and Discussion

The correlations and descriptive statistics for GPA, EI, and the number of malevolently creative ideas generated are presented in Table 3. In this study, MC and GPA were not correlated. However, a negative correlation between EI and MC was also found in this study (r = - .24, p = .022), which further supports our hypothesis that individuals with lower EI produce more malevolently creative ideas.

We again used hierarchical multiple regression to test our hypothesis, predicting the number of malevolently creative ideas from GPA, instructions, and EI (see Table 4). EI was found to be marginally significant in predicting the number of malevolently creative ideas generated while controlling for cognitive ability and instructions (β = -.25, p = .055). These results are even more interesting because EI predicted MC within a context that had no social problem-solving and was designed to elicit no emotions. Because of the marginal significance and small effect size, the results offer partial support for our hypothesis that EI is negatively related to MC even when controlling for cognitive ability and instructions in a nonsocial, non-emotional task.

General Discussion

These two studies tentatively indicate that EI predicts MC after controlling for cognitive ability and task effects. The results of the second study in particular suggest that EI can predict an individual's MC even in situations that are not social or emotionally laden. It must be noted that any implications drawn from the results of both studies must be done so with caution because both regression analyses were marginally significant with small effect sizes, suggesting only partial support of our hypotheses. A particular strength of the current investigation, however, is that consistent effects were found across two very different experimental contexts, which included two different creativity tasks and two different measures of EI; the relationship between EI and MC, while weak, may therefore be generalizable to other types of situations. The results indicate that people lower in EI might be more willing to disclose negative ideas, do not know such ideas are inappropriate, or perhaps are not concerned with how others perceive them. If people lower in EI are willing to generate negative solutions for others to see, then it is possible that those people are willing to act on such negative ideas.

Theoretically, the results from these two studies offer several points of interest. First, we have offered further evidence toward strengthening the notion that MC is a distinct type of creativity. These studies address a new area in the creativity literature

that is deserving of further attention. Second, we have offered a novel and refined definition and operationalization of MC. We expanded on the definition proposed by Cropley et al. (2008), defining MC as the interaction among aptitude, process, and environment by which an individual or group produces novel and useful ideas as defined within a social context that are intended to mentally, materially, or physically harm oneself or others (based on Plucker et al., 2004). We combined components proposed in previous studies and operationalized MC as a product that is both original and harmful. Those refinements will hopefully allow for more discerning and precise research in the area of MC. Third, MC has been further explained with regard to a personality-based antecedent. Finally, our results suggest that the relationship between EI and MC may not be related to, dependent on, or influenced by the social and emotional factors of a situation requiring problem-solving.

Practically, these results suggest that EI may allow us to identify people who are more likely to engage in malevolently creative behaviors. EI may therefore become an important variable to consider when hiring for certain occupations, such as those that are high-stress or those in which the utilization and self-knowledge of one's emotions is paramount to success and high performance. Similarly, employees with lower EI could be trained to enhance their EI so as to help minimize the chances of them engaging in malevolently creative acts. Even troubled students could receive such training; their increased capacity to recognize and manage their emotions might decrease their propensity to behave in malevolently creative ways in school.

Table 3
Descriptive Statistics and Correlations of GPA, EI, and Number of Malevolently Creative Ideas for Study 2

	M	*SD*	1	2	3	4	5	6	7
1. GPA	3.21	.54	—						
2. EI	123.85	11.59	.04	—					
3. Number of malevolently creative ideas	.51	1.08	.07	−.24*	—				

Note. *M* = Mean; *SD* = Standard deviation.
* $p < .05$ (2-tailed).

Table 4
Hierarchical Multiple Regression Predicting Number of Malevolently Creative Solutions From GPA, Instructions, and Emotional Intelligence

Model	*b*	*SE*	*t*	β	*F*	R^2	ΔF	ΔR^2	95% CI
1 Constant	.17	.70	.25		.11	.002			[−1.23, 1.57]
GPA	.07	.22	.33	.04					[−.36, .50]
2 Constant	.21	.71	.30		.29	.01	.47	.01	[−1.20, 1.62]
GPA	.06	.22	.27	.03					[−.38, .50]
Instructions	−.08	.11	−.68	−.09					[−.31, .15]
3 Constant	2.49	1.36	1.84		1.47	.07	3.81	.06	[−.22, 5.20]
GPA	.08	.21	.40	.05					[−.34, .51]
Instructions	−.02	.12	−.18	−.02					[−.25, .21]
Emotional intelligence	−.02	.01	−1.95†	−.25					[−.04, .00]

Note. $N = 67$. CI = Confidence interval.
† $p < .10$.

It must be noted that the originality component of MC is what makes MC particularly worrisome for employers, perhaps even more so than unoriginal acts of harm. We suggest this because original instances of harm are novel and therefore more

difficult to anticipate, detect, and respond to. Being unable to anticipate such harmful behaviors, let alone detect and respond to them, is likely far more damaging to organizations (with respect to both finances and personnel) than instances of harm that are easily detectable and can be readily responded to.

Limitations and Future Research

The studies had three main limitations. First, no causal conclusions can be derived from the current investigation because of its cross-sectional nature, even though inferring causality makes sense when framing EI as a trait. To offer evidence for causality, a longitudinal study could be conducted whereby EI and MC are measured at separate times. Second, the underlying process as to how EI relates to MC, both in general and when factoring out the cognitive ability and task effects, is unknown. In particular, nothing is known as to why EI relates to MC.

Third and finally, it is unknown how the results found in the current study translate to actual behavior; responses to fictitious situations may not be similar to responses in real life situations (Reis & Gosling, 2010). Participants might have had fewer inhibitions in offering malevolently creative solutions because the situations they responded to were fictitious, with no need to strongly consider repercussions or the consequences of their ideas. It would therefore be important to determine not only why people generate malevolently creative ideas in the first place, but also the extent to which responses to fictitious events translate to similar or dissimilar responses in real life events. In a related sense, self-reported GPA is not the same as actual GPA—participants may overestimate or inflate their GPA for many possible reasons. The measures of EI used were more personality-based and have been criticized as not being reflective of the cognitive aspect of EI (Brackett & Mayer, 2003).

Because the construct of MC is so new, exploring its antecedents and consequents can take many different directions. However, of highest import is to further refine how MC is operationalized. Operationalizing MC as an idea that is both original and harmful instead of just one or the other is a step in the right direction, but it is still short of fully encapsulating the theoretical complexity of MC. Other operationalizations could include ratings that are common within the creativity literature, such as flexibility and elaboration. These additional ratings would provide evidence as to whether different contexts and goals influence the type and amount of thought put into original and harmful ideas, as well as any variables that differentially predict complex ideas that are beneficial and original versus complex ideas that are harmful and original. Another possible approach would be to use historiometric analysis (e.g., Simonton, 2009). Past incidents of MC could be studied in terms of personal attributes of those who are more likely to engage in MC, or in terms of the eventual repercussions of such acts.

Also important is to study how MC relates to varying components of the creative process. This paper pertained only to idea generation, but future studies could examine the relationship between MC and problem construction, information searching, idea

evaluation, and idea implementation. Individuals who are planning to be harmful in some way might frame problems, and weigh goals and constraints, differently than people who are planning to be beneficial. Similarly, being harmful might require that individuals seek out information that vastly differs from information sought after when attempting to be beneficial. The evaluation and implementation of original ideas also likely depend on whether those ideas are beneficial or harmful.

The next step in research pertaining to MC, with its refined operationalization and a better understanding of how it relates to the creative process in general, is to determine which cognitive, affective, or motivational factors influence MC, at both the individual and team levels. Of particular interest would be to determine whether "malevolently creative individuals" exist, or rather people who generally seem to interpret and respond to the world in original, albeit harmful, ways. In the opposite light, a promising line of research would be to determine which individual differences, like EI, are negatively associated with MC. For example, our studies could be repeated using measures from positive psychology. Especially promising are constructs that influence more positive ways of thinking and framing the world, such as optimistic explanatory style (Peterson & Steen, 2009). After a nomological network regarding MC has been fleshed out, the contexts and situational factors that facilitate and promote, or likewise inhibit and condemn, MC must be elucidated. Knowing those individual differences and contextual factors could enhance school intervention programs, influence selection procedures, or even suggest which individuals might be more likely to be violent in original ways.

Continuing to study MC is crucial for the sake of saving resources such as time and money, but most importantly to possibly save lives and minimize suffering. If students or employees, for example, are original enough in their intent to harm, then they will encounter few or no countermeasures that can subdue or even anticipate their malevolent behavior. Such a lack of proper anticipation could cost companies millions of dollars or could likewise result in the loss of lives through extreme violence. Overall, the study of MC is an area of research that is not getting the attention it deserves, especially when considering what and who can be saved if MC is appropriately scrutinized.

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