

Creativity and Unethicality: A Systematic Review and Meta-Analysis

Martin Storme

IESEG School of Management and LEM-CNRS 9221

Pinar Celik

Solvay Brussels School of Economics and Management

Nils Myszkowski

Pace University

A growing line of research suggests that creativity and unethicality are intrinsically related to one another. However, the idea has been challenged both by theoretical arguments and by heterogeneous empirical findings. In the present work, we review the literature to reconcile seemingly opposed theoretical views on the relationship between creativity and unethicality. We then conduct a meta-analysis to clear up confusion about heterogeneous empirical findings in the literature ($k = 36$, $N = 6783$). We find a weak positive correlation between the 2 constructs ($r = .09$, 95% confidence interval [.01, .17], $t = 2.24$, $p < .05$). Consistent with social desirability response bias theory (Randall & Fernandes, 1991), we find that the correlation is significant in studies that rely upon objective measures of unethicality—that is, behavioral measures or other-reports—but not in studies that rely upon self-reports of unethicality. Altogether, our work suggests that creativity and unethicality are positively related as predicted by theory, and that some studies have failed at finding it because they used self-reports to assess unethicality rather than objective measures. Theoretical, methodological, and practical implications are discussed.

Keywords: creativity, unethicality, meta-analysis

Creativity is considered one of the most important skills for the 21st century (Trilling & Fadel, 2009) because it is the source of many technological and social advances (Shen, Yuan, Yi, Liu, & Zhan, 2019). However, there are also many examples of the dark side of creativity (Shen et al., 2019), leading some researchers to wonder whether creativity is intrinsically linked to unethicality (Gino & Ariely, 2012; Gino & Wiltermuth, 2014). Indeed, research suggests that being creative tends to give a strong sense of entitlement, helps finding justifications, and facilitates a rule breaking mindset, which all can lead, in turn, to unethical behaviors (Vincent & Goncalo, 2014; Gino & Ariely, 2012; Gino & Wiltermuth, 2014).

Nevertheless, the idea that creativity and unethicality are intrinsically related has been challenged both theoretically—by research arguing that creativity is positively related to prosocial tendencies


(Xu & Mehta, 2015; Grant & Berry, 2011)—and empirically—by heterogeneous findings across studies that investigated the phenomenon. Researchers are thus left with many interrogations. Are there valid theoretical objections to the idea that creativity and unethicality are positively related? What could explain empirical studies yielding seemingly different conclusions? Eventually, such interrogations lead researchers to the ultimate question: Is creativity really positively related to unethicality?

In the present work, we start by reviewing theoretical frameworks arguing that creativity and unethicality are positively related. We then review the literature that argues that creativity is positively related to prosocial tendencies and we present the ethical dissonance theoretical framework (Barkan, Ayal, & Ariely, 2015; Barkan, Ayal, Gino, & Ariely, 2012) as a way to reconcile the seemingly contradictory relationships between creativity, prosocial tendencies, and unethicality. Finally, we provide a meta-analytic estimate of the correlation between creativity and unethicality, and we investigate the moderating role of methodological factors to explain the heterogeneity in findings.

Defining Creativity and Unethicality

Creativity and ethicality are regularly considered crucial qualities for the 21st century. For example, the National Research Council (2013) has cited both creativity and ethical decision making abilities in its list of the 21st century knowledge and skills that should be taught to children as a priority issue. Creativity and ethicality are also important outcomes in the business world.

This article was published Online First June 29, 2020.

 Martin Storme, People, Organizations, and Negotiation, IESEG School of Management, and Individus, Organisations et Société, LEM-CNRS 9221; Pinar Celik, Centre Emile Bernheim, Solvay Brussels School of Economics and Management; Nils Myszkowski, Department of Psychology, Pace University.

All authors declare that they have no conflict of interest.

Correspondence concerning this article should be addressed to Martin Storme, People, Organizations, and Negotiation, IESEG School of Management, 3 Rue de la Digue, Lille 59000, France. E-mail: martinstorme@gmail.com

Creativity is highly valued by organizations as it can give them an advantage to outperform competitors in highly uncertain and competitive markets (Jiménez-Jiménez & Sanz-Valle, 2011; H. Lee & Choi, 2003). Ethicality is also valued by organizations, because it is at the core of trust relationships and it facilitates harmonious interactions both within and between organizations (Ruppel & Harrington, 2000; Six & Sorge, 2008).

Creativity is defined as the ability to produce ideas and artifacts that are novel and useful (Amabile, 1983; Sternberg, Kaufman, & Pretz, 2002). Previous literature emphasizes the role of divergent thinking as an important cognitive process underlying creative thinking (Guilford, 1967). Divergent thinking refers to the ability to imagine many solutions to a given problem (Guilford, 1967). Divergent thinking requires cognitive flexibility, which can be defined as the ability to change perspective on a given object or idea (Guilford, 1967). For example, a fork can be thought as a tool to eat food, but individuals with high cognitive flexibility will also be able to think about it as a metallic object that can be melted to create a completely different object (Gilhooly, Fioratou, Anthony, & Wynn, 2007). Creative individuals are therefore characterized by their ability to look at the same thing from different perspectives, which helps them to think outside the box and imagine creative solutions to solve problems.

Ethicality can be broadly described as the quality of what is consistent with moral rules or norms of appropriate conduct (Treviño, Weaver, & Reynolds, 2006). Behaving ethically implies that one regulates his or her selfish tendencies to facilitate social life (Haidt, 2008; Shen et al., 2019). One can do so by not engaging in unethical behaviors—such as lying, cheating, stealing, and so forth, or by engaging in prosocial behaviors such as helping someone in need or donating to charity. (Treviño et al., 2006). At the core of ethicality lies the tendency to conform to rules that are prescribed by the group (Gino & Wiltermuth, 2014), but also the ability to take others' perspective to understand their needs (Cohen, 2010; Mencl & May, 2009). As a result, individuals who engage in ethical behaviors tend to be characterized by higher levels of conformity (e.g., MacDonald, 1971), but also by higher levels of empathy (e.g., Mencl & May, 2009).

Relationship Between Creativity and Unethicality

Early creativity researchers considered creativity an almost divine principle and thought it to be exclusively directed toward ethical goals (Cropley, Cropley, Kaufman, & Runco, 2010). However, when creativity researchers began to think about creativity as a source of economic value creation, and not only as a necessary ability to survive in the art world, perspectives on its relationship with morality started to evolve (Cropley et al., 2010). They acknowledged that creativity could be misused, for example, to sell dangerous products, promote hatred in society, or develop weapons of mass destruction (McLaren, 1993). To distinguish intentionally "evil" from intentionally "good" uses of creativity, researchers introduced the term *malevolent creativity* (Cropley, Kaufman, & Cropley, 2008; McLaren, 1993).

Malevolent creativity can be defined as the ability to generate ideas or products that are novel and useful to inflict harm (Cropley et al., 2008). In other words, malevolent creativity is the form of creativity that serves unethical goals (Cropley et al., 2008; McLaren, 1993). Research on this concept has investigated both

dispositional and situational predictors of malevolent creativity. Among dispositional predictors are traits such as physical aggression, conscientiousness, and emotional intelligence (S. A. Lee & Dow, 2011; Harris, Reiter-Palmon, & Kaufman, 2013). Malevolent creativity can also be triggered by situational factors. For example, research has shown that unfair contexts tend to elicit malevolent creativity (Clark & James, 1999).

Malevolent creativity measures are very similar to traditional creativity measures, with the notable difference that the degree of malevolence of an idea is assessed next to its degree of originality. An example is the coding of the level of malevolence of ideas generated in traditional alternate uses tasks (Lee & Dow, 2011). Suggesting to hit someone with a brick when asked to generate alternate uses for a brick is a manifestation of malevolent creativity. By design, malevolent creativity measures capture a mixture of creativity and unethicality.

Because of this property, malevolent creativity measures are not really suited to investigate whether creativity, in general, is related to unethicality. For example, empirical studies on malevolent creativity have revealed that individuals who find the most original ideas in divergent thinking tasks are also those who tend to generate the most malicious ideas (Dumas & Strickland, 2018; Hudson, 1968), which suggests that creativity and unethicality are related. But it is possible that a common method bias is at the origin of the observed correlation, because the same task or method is used to assess both the level of creativity and the level of unethicality of participants. To test thoroughly the intrinsic relationship between creativity and unethicality, it is crucial to use designs in which creativity and unethicality are measured in different tasks or with different scales. This approach has led to a line of research that is relatively independent from the malevolent creativity research line.

Researchers interested in the link between creativity and unethicality have introduced several theoretical arguments to make a case for the positive relationship between the two constructs. A first argument is that creative individuals tend to have a strong sense of entitlement when anticipating the high value of their future realization, which makes them more willing to cross the lines to reach their goal (Vincent & Goncalo, 2014). When creating, individuals foresee the benefits of the product that they are about to make, which has the effect of legitimating unethical actions that could facilitate the attainment of the goal. In other words, creative individuals tend to think that the end justifies the means.

A second argument is that being creative helps finding justifications for unethical behaviors, which increases, in turn, the likelihood of engaging in unethical behaviors (Gino & Ariely, 2012). In ethical dilemmas, most people are tempted to cheat and try to find justifications for why they cheated to maintain a positive self-image (Ayal & Gino, 2011; Gino, Ayal, & Ariely, 2009). When finding justifications for unethical behaviors is easy, people are more likely to engage in unethical behaviors (Schweitzer & Hsee, 2002; Shalvi, Dana, Handgraaf, & De Dreu, 2011). Creative people are better at finding justifications for unethical behaviors because of their heightened cognitive flexibility abilities that allow them to look at a problem from numerous different perspectives (Gino & Ariely, 2012). Gino and Ariely (2012) have shown that participants who were induced to be creative found more easily

justifications to a possible dishonest behavior when performing a task, which increased in turn their tendency to cheat in the task.

A third argument supporting the hypothesis of a positive relationship between creativity and unethicality is that both constructs involve rule breaking and nonconformist processes (Gino & Wiltermuth, 2014). In a series of experiments, Gino and Wiltermuth (2014) found that people who were led to behave dishonestly performed better in subsequent creative tasks. They found that the feeling of being unconstrained by rules mediated the effect of dishonesty on creative performance. According to this argument, creativity and unethicality are positively related because they partly rely on the same cognitive processes.

The Two Faces of Creativity

At first sight, the idea that creativity and unethicality are positively related seems to contradict another line of research that has argued that creativity is positively related to prosocial tendencies (Grant & Berry, 2011; Xu & Mehta, 2015). For example, Grant and Berry (2011) proposed that creativity is related to prosocial motivation because other-focused psychological processes lead individuals to consider ideas that are new and useful to others, which ultimately improves the creative quality of ideas. More recently, Xu and Mehta (2015) reasoned that divergent thinking requires an open mindset that allows taking different perspectives, including the perspective of others. Because creative individuals are better able to adopt the perspective of others, they are more likely to engage in altruistic behaviors, and therefore regulate their selfish behavioral tendencies. Xu and Mehta (2015) found indeed that divergent thinking is associated with higher likelihood to donate money.

Creativity being positively related to both antisocial/unethical and prosocial tendencies is not necessarily a contradiction when one realizes that antisocial and prosocial tendencies are not the two ends of one continuum, and that the same individual can theoretically engage to the same extent in antisocial and in prosocial behaviors (Dalal, 2005). Ethical dissonance theory provides a way to explain this apparent contradiction (Barkan et al., 2012, 2015). Inspired by cognitive dissonance theory (Festinger, 1957), ethical dissonance theory posits that individuals aspire to maintain a moral self-image. When tempted to profit or when profiting from unethical behavior, individuals experience an unpleasant feeling caused by ethical dissonance. This unpleasant feeling motivates them to compensate for the unethical behavior and restore their sense of morality (Barkan et al., 2015).

Reduction of ethical dissonance can be accomplished through various mechanisms, among which attitude bolstering (Barkan et al., 2012). Attitude bolstering consists in compensating a misconduct in one situation by behaving more ethically in other situations (Barkan et al., 2012). Previous research on moral regulation has provided evidence for such compensatory behaviors by showing that a threat to the moral self increases prosocial intentions and reduces unethical behaviors (Jordan, Mullen, & Murnighan, 2011). Moral regulation processes can thus cause people to switch from unethical behavior to ethical behavior. This suggests that individuals who have very strong unethical tendencies might also have, in parallel, very strong ethical tendencies to compensate and restore a positive self-image. This idea is supported by empirical evidence showing, for example, that counterproductive work behaviors di-

rected toward the organization are positively related to organizational citizenship behaviors directed toward coworkers (Dalal, Lam, Weiss, Welch, & Hulin, 2009).

Altogether, creativity could facilitate simultaneously antisocial/unethical and prosocial/ethical behaviors by activating an ethical dissonance reduction process. More specifically, creativity could initially facilitate unethical behaviors, and lead subsequently to prosocial behaviors via attitude bolstering as means to reduce ethical dissonance. The fact that creativity has been argued to be positively related to prosocial tendencies is therefore not contradictory with the idea of a positive relation between creativity and unethicality. Creativity might simply have two faces.

Explaining the Heterogeneity in Empirical Findings

Objections to the idea that creativity and unethicality are positively related are not only theoretical, but also empirical. When reading the empirical literature, one quickly notices heterogeneous findings across studies that investigated the relationship between creativity and unethicality. Several studies have found that creative individuals are more likely to lie, to be dishonest, and to engage in counterproductive work behaviors than less creative individuals (Beaussart, Andrews, & Kaufman, 2013; Chan, Tan, & Tan, 2016; Vincent & Kouchaki, 2016). However, in parallel, several empirical studies have failed to find a positive relationship between creativity and unethicality (e.g., Gutworth & Hunter, 2017; Kapoor & Khan, 2017; Luksyte, 2011; Morgan, 2016; Mumford et al., 2010; Walczyk, Runco, Tripp, & Smith, 2008). The inconstancy in findings leaves the reader with a doubt about the relationship between creativity and unethicality.

An important factor that could explain heterogeneous findings across studies is the way constructs were measured. Setting aside experimental manipulations, we can distinguish two ways of assessing creativity and unethicality. The first way consists in relying on self-reports. For example, creativity was measured in some studies through self-reports of creative personality traits or creative behaviors (Antoniou, 2015; Dymit, 2015; Gino & Ariely, 2012; Mai, Ellis, & Welsh, 2015; Mumford et al., 2010), or self-reports of creative performance at work (Luksyte, 2011; Zhang, LePine, Buckman, & Wei, 2014; Zheng, Qin, Liu, & Liao, 2019). Unethicality was measured in some studies through self-reports of counterproductive work behaviors (Barratt, 2015; Gino & Ariely, 2012; Luksyte, 2011), self-reports of deviant work behaviors (Zhang et al., 2014; Zheng et al., 2019), self-reports of moral disengagement (Zheng et al., 2019), or self-reports of deception tendencies (Dymit, 2015).

The second way of assessing creativity and unethicality consists in relying on more objective measures. For example, some studies assessed creativity through other-reports of creative performance at work (Gino & Ariely, 2012; Zhang et al., 2014), or through performance in objective creativity tasks such as Mednick's (1962) Remote Associates Test (Barratt, 2015; Beaussart et al., 2013), Torrance's (1972) divergent thinking tasks (Antoniou, 2015; Gutworth & Hunter, 2017; Kapoor & Khan, 2017; Walczyk et al., 2008), or Duncker and Lees' (1945) candle problem (Chan et al., 2016). Unethicality was measured in some studies through other reports of counterproductive work behaviors (Gino & Ariely, 2012; Vincent & Kouchaki, 2016), or directly observed in behaviors such as lying or cheating in experimental settings (Antoniou,

2015; Beaussart et al., 2013; Chan et al., 2016; Gino & Ariely, 2012; Gutworth & Hunter, 2017; Mai et al., 2015; Vincent & Kouchaki, 2016; Walczyk et al., 2008).

Due to social desirability response bias—that is, the tendency to modify one's behavioral response to present oneself in a favorable light to enhance self-esteem or to create a positive impression on others (Randall & Fernandes, 1991)—relying on self-reports can be problematic both for the measurement of creativity (Park, Chun, & Lee, 2016; Kaufman, 2019) and for the measurement of unethicity (Randall & Fernandes, 1991). Regarding creativity, several researchers have argued that it is difficult for individuals to assess their own level of ability without being affected by motivational factors such as, for example, the motivation to maintain a positive image of the self (Kaufman, 2019).

Social desirability can greatly bias self-reports of unethicity as well (Randall & Fernandes, 1991). For both creativity and unethicity, research suggests that other-reports by a manager or co-worker tend to be more accurate than self-reports (Park et al., 2016; Zuber & Kaptein, 2014). Directly observing an individual's creative and unethical behaviors in test situations (Park et al., 2016; Gino & Ariely, 2012) is another way to counter social desirability response bias. Differences in methodologies could explain why different studies reported different effect sizes. Studies relying on self-reports might report lower correlations than studies relying on objective measures, because the former are more contaminated by social desirability response bias than the latter.

In what follows, we report the results of a meta-analysis conducted with the aims (a) to estimate the overall correlation between creativity and unethicity and (b) to investigate what contributes to heterogeneity in findings across studies, notably regarding the way creativity and unethicity are measured. Because objective measures of creativity and unethicity are arguably less biased by social desirability than self-reports, they can be expected to be more informative regarding the true relationship between creativity and unethicity. To investigate the generalizability of the findings, we additionally explore the potentially moderating impact of sample characteristics such as the age and gender of participants, and the type of population that is under investigation (students vs. workers).

Method

Search Strategy

We conducted a systematic literature search until December 2019 in relevant databases. More specifically, we searched published studies through Science Direct, PsycINFO, and Google Scholar. Unpublished studies were searched through ProQuest Digital Dissertations and Theses, Trove and Thesis Canada Portal, which are master's and doctoral dissertation repositories in the United Kingdom, Australia, and Canada. Search key terms included general terms such as *creativ**, *ethical**, and *moral**, and more specific terms such as *divergent thinking*, *remote associates*, *Torrance*, *counterproductive behavior*, *deviant behavior*, *dishonesty*, *cheating*, *lying*, *evil*, *malicious*, or *dark*. We also searched the reference sections of relevant literature reviews (e.g., Shen et al., 2019; Harari, Reaves, & Viswesvaran, 2016) and articles for additional references.

Criteria for Inclusion

To be included in the meta-analysis, each study had to meet the following criteria: (a) manipulate or include a measure of creativity, (b) manipulate or include a measure of unethicity, (c) report enough statistical information to compute an effect size, and (d) involve adult participants, not children. Based on screening of the title and the abstract of identified studies, we identified 36 studies—across 19 published articles or unpublished dissertations—that met our inclusion requirements. As a result, the meta-analysis includes 36 studies conducted on independent samples.

Importantly, we did not include empirical studies on malevolent creativity in the present meta-analysis. Including them in the present meta-analysis would be a source of confusion as it would be impossible to disentangle the part of the effect size explained by the true correlation between creativity and unethicity, and the part explained by the fact that both constructs are assessed using a common method.

Coding of Studies

Studies' characteristics were coded independently by two of the authors on the basis of a common coding guide. Demographic information—such as participant numbers, mean participant age, percentage of female participants in the sample—was coded for each study. Characteristics of the studies—such as document date, measures used to assess the main variables of interest, document (published or not) – were also coded. Regarding the measurement type, objective measures—other-reports and tests—and self-reports were distinguished for both creativity and unethicity. The two coders compared the results of their independent work. Because all coded information was objective, all divergences were eliminated through discussion and verification.

We collected the effect sizes and sample sizes of all included studies. We used the correlation coefficient as a common measure for the effect sizes of the studies. In the main meta-analysis, when a study reported several effect sizes for tasks that were equivalent—for example, correlations with different creativity tests—we simply averaged the effect sizes. All reported effect sizes were converted into correlation coefficients with the formulas described by Cooper, Hedges, and Valentine (2009). An overview of all studies included in the meta-analyses is presented in Table 1.

Statistical Procedure

We used a meta-analytic model with a three-level structure (Cheung, 2014). This is because we included several papers that reported two or more studies, which likely violates the traditional assumption of independence of the effect sizes in two-level structures (Cheung, 2014). In all analyses, we relied on restricted maximum likelihood estimations (Viechtbauer, 2010), and on the Knapp and Hartung (2003) adjustment for the test of coefficients. All analyses—including moderation analyses—were conducted with the “*rma.mv*” function of the “*metafor*” R package (Viechtbauer, 2010).

Regarding the heterogeneity of effects, we used the R implementation of Cheung's formula introduced by Assink and Wibbelink (2016) to compute the proportion of variance explained by each level, and conducted likelihood ratio tests to determine

Table 1
Overview of Studies Included in the Meta-Analyses

Study	N	r	Average age	% Female
Walczyk, Runco, Tripp, and Smith (2008)	89	.26	24.57	68.54
Beaussart et al. (2013)	566	.16	23.00	85.69
Luksyte (2011)	215	-.04	—	—
Gino and Ariely (2012)				
A	99	.30	33.48	59.60
B	97	.32	21.00	53.61
C	111	.30	23.27	53.15
D	145	.29	22.41	60.69
E	159	.29	25.38	19.81
F	108	.21	21.94	50.93
Mumford et al. (2010)	258	-.09	28.00	60.64
Gino and Willemuth (2014)				
A	153	.43	30.08	41.00
B	99	.26	21.48	61.00
C	129	.21	27.72	42.00
D	178	.31	28.59	53.00
E	208	.22	21.66	44.00
Zhang, LePine, Buckman, and Wei (2014)	339	-.23	—	49.70
Antoniou (2015)	102	.17	19.70	92.15
Barratt (2015)	300	-.05	34.20	45.70
Dymit (2015)	203	-.05	19.60	81.30
Mai, Ellis, and Welsh (2015)				
A	97	.18	21.90	46.00
B	178	.22	21.70	51.00
C	158	.11	35.68	55.70
Chan, Tan, and Tan (2016)	97	.33	21.40	72.16
Kapoor and Khan (2017)	169	.31	24.04	30.18
Morgan (2016)	341	-.07	19.80	78.89
Vincent and Kouchaki (2016)				
A	131	.17	19.41	54.20
B	153	.29	27.50	43.79
C	202	.18	28.00	38.61
D	83	.31	36.30	20.00
Gutworth and Hunter (2017)	216	.05	21.00	77.00
Zheng et al. (2019)				
A	460	.06	29.06	74.00
B	347	.08	25.22	31.00
Keem, Shalley, Kim, and Jeong (2018)				
A	171	-.17	36.10	18.20
B	211	-.25	21.00	44.00
Petrou et al. (2018)				
A	83	.25	41.80	41.00
B	128	.22	36.70	42.00

whether the within-paper variance (Level 2), and the between-paper variance (Level 3) were significant (Assink and Wibbelink, 2016). The fact that there is significant variance at a given level justifies that random effects are added at the given level (Assink and Wibbelink, 2016).

We relied on the funnel plot test to investigate the presence of a potential publication bias (Fernández-Castilla et al., 2019). This test consists in regressing the effect size on the sample size in a metaregression model. A nonsignificant test suggests that there is no substantial publication bias (Fernández-Castilla et al., 2019).

Moderation analyses were conducted with the metaregression method, which is available in the “rma.mv” function of “metafor” R package (Viechtbauer, 2010). However, for the moderating effect of the measurement type, it was not possible to conduct a proper moderation analyses as in many cases the same paper would report several studies in which several effect sizes—some with objective measures of creativity, some with

self-reports—would be reported. Instead, we report separate three-level meta-analyses per type of measurement and compare the 95% confidence intervals (CIs) of estimates to draw conclusions.

Results

Participant and Study Characteristics

Overall, the meta-analysis included 6,783 participants across 36 studies. The overall percentage of female participants was 52.58%. The overall participants' average age was 26.26 years old. Participants were students in 21 studies out of 36, and workers in 15 studies out of 36. Of all studies included, 31 were found in published articles and 5 were found in unpublished dissertations. The included studies were published between 2008 and 2019. The sample sizes ranged from 83 to 566.

Creativity and Unethicality

The main analysis revealed a weak positive correlation between creativity and unethicality ($r = .09$, 95% CI [.01, .17], $t = 2.24$, $p < .05$). The analysis of heterogeneity revealed that most of the variance (85.53%) was at the third level (between-paper variance), which was corroborated by a significant likelihood ratio test at Level 3, $\chi^2(1) = 23.60$, $p < .001$. There was no variance at the second level. This means that the effect sizes reported in different papers tend to be different, whereas effect sizes reported within the same paper tend to be of similar magnitude.

We then tested for the presence of a publication bias with the funnel plot test. The funnel plot test consists in adding the sample size as a moderator in a metaregression model. The test was marginally significant, $F(1,34) = 4.01$, $p = .05$, which indicates the presence of a slight publication bias.

Analyses by Measurement Types

The separate analyses by measurement types (objective vs. self-report) are reported in Table 2. All 95% CIs overlap which makes it difficult to draw firm conclusions. However, there seems to be an interesting trend as creativity and unethicality were only significantly correlated in studies that relied on objective measures of unethicality, and not in studies that relied on self-reports of unethicality.

Additional Moderation Analyses

None of the other moderators—the age of participants, $F(1,32) = 1.10$, $p = .68$, the percentage of women in the sample, $F(1,33) = 0.67$, $p = .42$, the population type (students vs. workers), $F(1,34) = 0.02$, $p = .90$, or the type of publication (published vs. unpublished), $F(1,34) = 2.42$, $p = .13$ —significantly affected the relationship between creativity and unethicality. It seems therefore that all these factors have a negligible impact on the relationship between creativity and unethicality.

Discussion

The hypothesis of a positive link between creativity and unethicality has received a lot of support in the past 10 years, but has also been challenged both theoretically and empirically. With the present work, our aim was to address these challenges by reconciling seemingly opposed theoretical perspectives and by summarizing the available empirical evidence through a meta-analysis. Our analyses revealed overall a weak positive correlation between

creativity and unethicality. Importantly, the analyses per measurement type—objective measures versus self-reports of unethicality—suggested that creativity and unethicality were positively correlated in studies that relied on objective measures of unethicality (other-reports or objective behaviors in test situations), but not in studies that relied on self-reports of unethicality. Because objective measures of unethicality are less biased by social desirability, correlations observed in studies that relied on objective measures of unethicality are more likely to approximate the true correlation between creativity and unethicality. Our findings thus confirm the existence of a weak positive link between creativity and unethicality. The way creativity was measured—with objective measures or self-reports—did not appear to affect the reported relationship between creativity and unethicality. None of the other moderators—the age and gender of participants, and type of population, and the type of publication—moderated the relationship between creativity and unethicality, suggesting that the relationship between creativity and unethicality is relatively independent from demographic characteristics such as age, gender, or socioeconomic status.

Theoretical and Methodological Implications

The positive correlation that we found between creativity and unethical supports the idea that being creative tends to give a strong sense of entitlement, helps finding justifications, and facilitates a rule breaking mindset, which leads, in turn, to unethicality (Vincent & Goncalo, 2014; Gino & Ariely, 2012; Gino & Wiltermuth, 2014). A limitation of our meta-analysis is that we did not directly test the underlying processes linking creativity to unethicality. This is because there were too few available studies to conduct meta-analytic process analyses. Further research is needed to replicate seminal studies, which would allow future meta-analytic insights on the psychological processes connecting creativity and unethicality.

In the present work, we focused on unethicality and did not look at prosocial tendencies. As explained in the introduction, one should not infer from our findings that creativity is negatively related to prosocial tendencies. Ethical dissonance theory (Barkan et al., 2012, 2015) would suggest on the contrary that creativity is also positively related to prosocial tendencies. Indeed, unethicality induced by creativity could lead to prosocial behaviors in an attempt to reduce ethical dissonance. Future research could investigate this hypothesis.

From a methodological point of view, our findings suggest that objective measures of unethicality are more likely to yield positive estimates of the relationship between creativity and unethicality than self-reports. This finding is in line with the idea that self-reports of unethicality are contaminated by social desirability and are consequently less accurate than behavioral measures. The way creativity is measured does not appear to moderate the relationship between creativity and unethicality. Our findings suggest that researchers interested in measuring unethicality in relation with creativity should rely on objective measures rather than self-reports. Note however that the small number of empirical studies has prevented us from conducting a rigorous analysis of the moderating effect of the type of measure on the relationship between creativity and unethicality, which limits the scope of our conclusions. Further research is needed to better understand the

Table 2
Main Meta-Analyses

Variable	<i>k</i>	<i>N</i>	<i>r</i>	<i>p</i>	[95% CI] of <i>r</i>
Overall estimate	36	6,783	.09	<.05	[.01, .17]
Objective measure of unethicality					
Self-report of creativity	9	969	.24	<.01	[.15, .33]
Objective measure of creativity	5	1,121	.25	<.05	[.06, .43]
Self-report of unethicality					
Self-report of creativity	8	1,626	.00	.95	[−.17, .18]
Objective measure of creativity	9	2,491	.11	.17	[−.06, .28]

Note. CI = confidence interval.

extent to which the type of a measure affects the observed correlation between creativity and unethicity.

Practical Implications

Our findings could guide evidence-based practices regarding innovation management. Our meta-analysis confirms overall the conclusions of previous work that established that creativity is positively related to unethicity (Beaussart et al., 2013; Chan et al., 2016; Gino & Ariely, 2012; Gino & Wiltermuth, 2014; Vincent & Kouchaki, 2016), but it also extends them by providing a more precise estimate of the strength of the relationship. When looking at meta-analytic estimates of the correlation in studies that relied on objective measures of unethicity, the relationship appears to be positive but weak. Therefore, managers of innovative teams should be aware that creative employees might tend to engage slightly more in unethical behaviors than less creative employees, but they should not overestimate this tendency.

More research is needed to uncover mitigators of the relationship between creativity and unethicity, not only for theoretical reasons but also for practical reasons. Better understanding what weakens the link between creativity and unethicity could be used by managers to foster creativity without encouraging unethical behaviors. Mai et al. (2015) have shown that the relationship between creative personality and unethicity is stronger when the creative trait is activated. This suggests that creative individuals engage in unethical behaviors especially when the fact that they are creative individuals is salient. Making creative traits less salient could be a way to reduce unethical tendencies. Future research should investigate implementations of this idea in a work context, but should also verify that such implementations are not detrimental to creativity as a side effect.

Environmental characteristics have also been shown to moderate the relationship between creativity and unethicity. For example, Chan et al. (2016) found that the relationship between creativity and unethicity was stronger in enriched environments—environments that are decorated—than in scarce environments. On the basis of previous research (Ten Brinke, Khambatta, & Carney, 2015), Chan et al. (2016) reasoned that enriched environments tend to make people more confident, which makes them in turn more likely to engage in selfish behaviors. Enriched environments tend to increase the likelihood of behaving dishonestly especially among individuals who are already more likely to be dishonest—that is creative individuals (Chan et al., 2016). Making work environments less rich could be a way to mitigate the relationship between creativity and unethicity on the workforce.

On a different note, Gutworth and Hunter (2017) showed that when ethical rules are made salient, creative individuals are less likely to engage in deviant behaviors while remaining equally creative. This suggests that reminding creative individuals of ethical rules might be a simple solution to limit the risk of unethical behaviors while maintaining creative performance. This is in line with Baucus, Norton, Baucus, and Human's (2008) series of recommendations on how to foster creativity in organizations without encouraging unethical behaviors. Their first recommendation is to raise awareness in the organization that creative behaviors can be related to unethical behaviors, because common processes underlie both types of behaviors. Their second recommendation is to encourage discussions in the organization about the possible ethical

consequences of new behaviors to foster a conversation culture that could limit the risks of engaging too far in unethical behaviors. Future research should investigate whether such strategies to mitigate negative side effects of creativity are effective in inhibiting unethical behaviors without inhibiting creativity too much.

Conclusion

Altogether, the present work clarifies what we know about the relationship between creativity and unethicity, by reconciling seemingly contradictory theoretical views on the relationship between the two constructs, and by shedding light on the source of heterogeneity in empirical findings. Our findings suggest that creativity is positively related to unethicity, but that the correlation is weak. We hope that our work will encourage further research on this important topic with many theoretical and practical implications.

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Received May 15, 2019

Revision received March 26, 2020

Accepted April 15, 2020 ■