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It's the Situation and Your Disposition: A Test of Two Honesty Hypotheses

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Abstract

Research has documented substantial individual differences in the proclivity for honesty or dishonesty and that personality traits meaningfully account for variations in honesty–dishonesty. Research also shows important situational variation related to deception, as situations can motivate or discourage dishonest behaviors. The current experiment examines personality and situational influences on honesty–dishonesty in tandem, arguing that their effects may not be additive. Participants ($N = 114$) engaged in an experimental task providing the opportunity to cheat for tangible gain. The situation varied to encourage or discourage cheating. Participants completed the HEXACO-100 and the Dark Triad of Personality scales. Both situational variation and personality dimensions predicted honesty–dishonesty, but the effects of personality were not uniform across situations. These results were also supported using public data from an independent, multilab sample ($N = 5,757$). We outline how these results inform our understanding of deception, situational influences, and the role of disposition in honesty.

Keywords

deception, situation, disposition, HEXACO, cheating

Across a variety of socially disapproved behaviors (e.g., lying, cheating), two reoccurring questions arise: Who are these unethical individuals and why are they doing these socially disapproved actions? Underlying these questions is the idea that understanding the antecedents of unethical actions will inform ways to encourage better social behavior, thereby preventing the harm caused by these actions and improving society.

The premise behind the current research is that the questions of who and why are intertwined. There are individual differences in the proclivity to lie and cheat (e.g., Serota & Levine, 2015; Weiss & Feldman, 2006), but there are also situational motivations and constraints (e.g., Levine, 2020; Markowitz & Hancock, 2019). While individual differences and situational constraints are predictive of bad behavior, they do not function independently. Different people respond to situations differently, but different people also put themselves into different situations (McCornack et al., 2014). Here, we take up the call by deception researchers to measure how psychological and situational characteristics interact to inform our understanding of deception (Gerlach et al., 2019; Nahari et al., 2019). We address the potential moderating role of personality—one's disposition as a fundamentally honest or dishonest person—in the proclivity to cheat, in situations varying in the facilitation of dishonest actions.

Dispositional and Situational Antecedents of Deceptive Behavior

Deception, or the act of intentionally misleading another person without forewarning (Vrij, 2008), is a goal-oriented phenomenon. Most people are purposeful liars instead of erratic liars (Ariely, 2012; Levine, 2020; McCornack et al., 2014). Research finds that people lie when the truth is problematic (Levine et al., 2010) and when the opportunity for lying is available (Bond et al., 2013), but deceptive behavior is not evenly distributed across the population. On any given day, most people are honest (e.g., they report telling zero lies), and only a few people tell a disproportionate number of lies (Abeler et al., 2019; Gerlach et al., 2019; Halevy et al., 2014; Markowitz & Hancock, 2018; Serota & Levine, 2015; Serota et al., 2010). If most people are honest, what characteristics can encourage or discourage dishonest behavior?

Two main hypotheses suggest why people are dishonest. The *dispositional honesty hypothesis* argues that certain people are intrinsically honest or dishonest, and personality largely determines their deception calculus. A personality structure by Lee and Ashton (2018) suggests that Honesty–Humility is a defining personality trait and largely orthogonal to traits such as openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism. Therefore, honesty is a

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personality characteristic of some individuals and not of others (Ashton et al., 2014; Hilbig et al., 2015).

People who are dispositionally honest are often described as "honest, sincere, fair, and modest versus greedy, conceited, deceitful, and pretentious" (Ashton et al., 2014, p. 140). They also tend to display predictably prosocial behaviors. For example, dispositionally honest people tend to give fairer allocations to others in a dictator game (Zhao et al., 2018), act cooperatively in organizations (Anglim et al., 2018), and display fewer counterproductive academic behaviors such as theft or plagiarism (de Vries et al., 2011). People who are dispositionally honest also display lower rates of Dark Triad traits such as Machiavellianism, psychopathy, and narcissism (Paulhus & Williams, 2002). Machiavellianism characterizes manipulative people, psychopathy characterizes low empathy and low anxiety individuals who also are thrill-seekers (Hancock et al., 2013), and narcissism characterizes people who believe they are entitled, dominant, and superior to others (Paulhus & Williams, 2002). Self-reported measures of Machiavellianism, psychopathy, and narcissism often correlate with deceptive behavior (Furnham et al., 2013). For example, when there is little risk of being caught cheating for a bonus, all Dark Triad measures predicted deceptive behavior in a coin-flipping task (Jones & Paulhus, 2017, study 1).

Taken together, the *dispositional honesty hypothesis* suggests people are honest, cooperative, and fair because of their psychological makeup. This individual differences argument proposes that honesty scores vary across people, and we can observe those who have a tendency to lie or cheat more than others.

Alternatively, the *situational honesty hypothesis* argues that people are invariably honest when the truth of a situation aligns with their goals and dishonest only when the truth is problematic (Levine, 2020; McCornack, et al., 2014). People lie to save face (Turner et al., 1975), prevent embarrassment, gain financial benefit, avoid punishment (Levine et al., 2016), amplify their attractiveness (DePaulo, 1992; Feldman et al., 2002; Toma et al., 2008), and to get out of an activity (Hancock et al., 2009; Levine et al., 2016; Markowitz & Hancock, 2018), along with other goal-oriented reasons. Therefore, people lie because honesty would interfere with the attainment of some goal and the situation facilitates an opportunity for deception (Levine et al., 2010).

The situational nature of honesty is reflected in many aspects of deception research (Gerlach et al., 2019). For example, context-related moderators account for much of the nonuniformity in how deception affects language (Hauch et al., 2015; Markowitz & Hancock, 2019). That is, the production mode (e.g., if a lie was written, typed, or spoken) affects how people communicate emotions when lying. Similarly, research has found that people are honest in situations where the truth aligns with communication goals and lie only when the truth of a situation is goal-inconsistent (Levine et al., 2010).

Providing perhaps the strongest evidence for the situation determining honesty, Bond et al. (2013) gave participants a strong incentive to either lie or tell the truth. All participants who were given an incentive to lie did so, while all participants in the honesty-incentive condition were honest. These results show that a powerful reason and opportunity for deception can make the situation deterministic.

Honesty is also situational using evidence from several cheating studies summarized in Ariely (2012). In one example, Gino et al. (2009) placed students in a room with a confederate dressed as an in-group member of their university (e.g., wearing a plain T-shirt). Others were placed with an out-group member (e.g., a student wearing the T-shirt of a rival university) who claimed to solve math problems in short time span. Participants claimed to solve more math problems with an in-group member than an out-group member, which suggests honesty can be affected by situational characteristics. Honesty may also be affected by external moral reminders (Mazar et al., 2008), as people who read the Ten Commandments and recycled their answers on a problem-solving task solved fewer problems than people who listed books they read in high school and recycled their answers. While replication attempts have questioned the reliability of this moral reminder finding (Verschuere et al., 2018), studies reported by Ariely (2012) and others suggest that people cheat because the situation facilitates an opportunity for dishonesty and a low probability of detection. Together, the *situational honesty hypothesis* argues that people will deceive given an opportunity and a reason for deception not because they are dispositionally prone to dishonesty.

A Hybrid Approach

A third, hybrid view suggests that the situation and one's disposition both affect behavior (e.g., Lewin, 1951) but do so in ways that may not be additive. The degree to which the dispositional and situational hypotheses interact is paramount in our research. For example, situations can constrain or enable dispositions. People who are dispositionally prone to dishonesty might only manifest their tendencies in situations where there is an opportunity to do so. For more honesty-disposed individuals, a mere opportunity may not matter. Alternatively, perhaps dispositionally dishonest people are less situationally constrained and more honest individuals are more sensitive to opportunity. In either case, situations and dispositions influence behavior, but not independently. Situational variation impacts how dispositional tendencies are manifest, and dispositions impact how individuals understand and respond to situational forces.

Our investigation makes several important distinctions from prior work. First, we explore how dispositional honesty relates to deceptive behavior that facilitates personal gain. Most of the research evaluating the role of dispositional honesty in cheating inspects how Honesty–Humility correlates with a prosocial outcome (Anglim et al., 2018; Zhao et al., 2017, 2018). We test whether dispositional honesty is linked to and can explain why people cheat for personal benefit. Second, we do not propose that the dispositional and situational honesty hypotheses compete or are at odds with each other. Instead, we view them as

complementary and sides of the same coin. Personality and situational characteristics contribute to deception though examinations of their interaction have been limited (e.g., however, see Geven et al., 2018; Gino & Ariely, 2012). In this study, we give some participants an opportunity to cheat and measure Honesty–Humility in order to disentangle their relationship directly.

Method

Participants and Power

Participants were recruited from the University of Oregon and compensated with extra credit. We drew on several studies for a power estimation: Mazar and colleagues (2008, study 1) obtained a medium effect size for moral reminders on cheating behavior (Cohen's $d = .48$), Jones and Paulhus (2017, study 1) obtained a medium effect size (average Cohen's $d = .42$) for the relationship between Dark Triad traits and cheating, and after controlling for lab site, Verschuere and colleagues (2018) obtained a medium effect size for cheating opportunity on claimed matrix scores (Cohen's $d = .61$; see Results). Our estimate averaged such effect sizes (Cohen's $d = .50$) for a one-tailed test with 80% power ($\alpha = .05$). We used a one-tailed test since we could not find research that suggests people cheat less after providing an opportunity for dishonesty. This required a minimum of 102 participants across our two-condition experiment to detect a cheating effect. Our experiment ($N = 114$) was approved by the first author's Institutional Review Board and advertised as a *Problem Solving Study*.

Most participants in our study were White (70/114; 61.4%) and female (75/114; 65.8%). The mean age was 20.8 years old ($SD = 3.15$). There were no systematic differences in ethnicity, $\chi^2(5) = 4.99$, $p = .417$; gender, $\chi^2(1) = 0.998$, $p = .318$; or age, $t(104) = 0.94$, $p = .347$, across conditions. Some participants ($n = 8$) did not provide their age.

Procedure

Participants first completed an informed consent procedure and were told that they would be asked to solve math problems. The packet of math problems, obtained from the authors of Verschuere et al. (2018), involved solving number matrices. Participants saw twenty, 4 (row) × 3 (column) grids, though only 10 grids had actual solutions, leaving an opportunity for cheating. Subjects were instructed to find two numbers that summed to exactly 10. Participants were given an example matrix for clarity: $6.19 + 3.81 = 10$.

Participants solved as many number matrices as possible in 4 min by circling the solutions and checking a "got it" box to indicate that they solved the problem. At the end of 4 min, an alarm sounded and participants were told to stop working. We also told participants that for each problem solved, they could earn $0.25. However, we told participants in the debriefing stage that one person would be randomly selected upon the study's completion to receive money based on their performance.

Participants randomly assigned to the *shredder* condition were told that the page of number matrices was their worksheet. After the alarm sounded, they should shred the piece of paper (a shredder was adjacent to the desk where participants sat) and report the number of solved matrices on a "collection slip," which was the last page in the packet of materials. Participants randomly assigned to the *nonshredder* condition had the same instructions without the shredder manipulation. We told these participants that we would collect the entire packet at the end of the 4-min task.

Finally, all participants responded to the HEXACO-100 Personality Inventory (Lee & Ashton, 2018), the Dark Triad of Personality (Jones & Paulhus, 2014), and demographic questions (e.g., age, gender). Questions within each scale were presented in random order. Participants were debriefed and then exited the study.

Measures

HEXACO-100. The HEXACO Personality Inventory (Lee & Ashton, 2018) is a 100-item questionnaire that measures several personality dimensions similar to other scales (e.g., extroversion, openness) but also includes a measure of Honesty–Humility. Participants rated their agreement with all 100 statements on a scale of (1) *strongly disagree* to (5) *strongly agree*.

There are 16 statements related to Honesty–Humility, divided into four subscales: (1) sincerity, (2) fairness, (3) greed-avoidance, and (4) modesty. Honest–Humility ($M = 3.32$, $SD = 0.53$; Q1 = 2.94, $Mdn = 3.31$, Q3 = 3.63; Cronbach's $\alpha = .80$) and its subscales (αs > .61) were calculated by averaging the items. Descriptive statistics and example items for the remaining self-report measures are located on the Open Science Framework out of space considerations (OSF: https://osf.io/s9zdv/).

Dark triad. We measured Dark Triad traits with the 27-item Dark Triad questionnaire (Jones & Paulhus, 2014), separated by subscales of narcissism, Machiavellianism, and psychopathy (Cronbach's αs > 0.65; see OSF). All Dark Triad measures were on 5-point scales from (1) *strongly disagree* to (5) *strongly agree*.

Cheating. Our dependent measure was the number of solved matrices, analyzed in two ways. First, consistent with Mazar et al. (2008), we compared the number of actually solved matrices in the nonshredder condition (based on the correct answers) to the number of self-reported or claimed matrices in the shredder condition. On average, participants solved 2.20 matrices across conditions ($SD = 1.73$; Q1 = 1, $Mdn = 2$, Q3 = 3, minimum = 0, maximum = 9).

A potential confound of the prior measure is that the number of solved matrices are on different scales across conditions (actual vs. claimed performance). Therefore, our second analysis compared claimed scores for all participants. Across conditions, participants claimed to solve an average of

2.46 matrices ($SD = 1.74$; Q1 = 1, $Mdn = 2$, Q3 = 4, minimum = 0, maximum = 9).

In the spirit of research transparency, the data are available on the OSF. A full correlation matrix of all measures in this study is located in Table 1.

Results

Experimentally Induced Situational Effects

Actual and claimed performance. Consistent with previous evidence (Ariely, 2012; Mazar et al., 2008), more matrices were reportedly solved in the shredder condition ($M = 2.65$, $SD = 1.60$) than actually solved in the nonshredder condition ($M = 1.80$, $SD = 1.75$; $t(112) = 2.68$, $p = .008$, Cohen's $d = .51$; see top panel of Figure 1).

The number of solved matrices was unrelated to age ($r = .049$, $p = .616$) but marginally associated with ethnicity, $F(5, 108) = 2.12$, $p = .069$, $\eta_p^2 = .089$. Males ($M = 2.64$, $SD = 1.69$) solved more matrices than females ($M = 1.97$, $SD = 1.72$; $t(112) = 1.98$, $p = .050$, $d = .39$). After controlling for gender and ethnicity as fixed effects, the main effect of situation (shredder vs. nonshredder) remained significant, $F(1, 106) = 5.19$, $p = .025$, $\eta_p^2 = .047$ and the controls became nonsignificant in the model, Fs < 1.65, ps > .185. Together, these findings offer evidence consistent with the *situational honesty hypothesis*. Providing opportunity increases dishonesty.

Claimed performance. Inconsistent with Mazar et al. (2008), but consistent with Verschuere et al. (2018), participants did not claim to solve significantly more matrices in the shredder condition ($M = 2.65$, $SD = 1.60$) than the nonshredder condition, ($M = 2.30$, $SD = 1.85$; $t(112) = 1.07$, $p = .288$, $d = .20$; see middle panel of Figure 1).

We also observed that two participants in the nonshredder condition reported uncharacteristically high scores on the matrix task (≥7 solved matrices, nearly 2.5 *SD*s higher than the mean across conditions). We therefore grouped the two cases into one level of an indicator variable called *extreme values*. Regressing the number of claimed matrices on the *situation* (reference group = nonshredder condition) and *extreme values* variables (reference group = nonextreme values) revealed that the outliers significantly influenced the results ($B = 5.90$, $SE = 1.13$, $t = 5.24$, $p < .001$, Cohen's $f^2 = .236$) and *situation* was marginally significant in the model ($B = 0.54$, $SE = 0.30$, $t = 1.84$, $p = .068$, Cohen's $f^2 = .021$). This test encouraged us to exclude the two data points. After exclusion, participants solved marginally more matrices in the shredder condition ($M = 2.65$, $SD = 1.60$) than the nonshredder condition ($M = 2.10$, $SD = 1.53$; $t(110) = 1.84$, $p = .069$, $d = 0.35$; see bottom panel of Figure 1).

Together, removing outliers nearly doubled the cheating effect size. Claimed performance was therefore largely consumed by the impact of two participants, and once they were excluded, the data provide tentative evidence in support of the *situational honesty hypothesis*. All results across measurements are summarized in Table 2.

Individual Differences

Correlations between the self-report measures and the number of problems solved, separated by actual and claimed performance across conditions, are provided in Table 3.

HEXACO-100. People who claimed to solve more matrices also self-reported as less dispositionally honest. This effect is particularly robust for those in the nonshredder condition as actual ($r = -.404$, $p = .001$) and claimed performance without outliers ($r = -.289$, $p = .028$) were negatively associated with self-reported honesty.

Most HEXACO subscales were not systematically related to matrix performance though *greed avoidance* often correlated with the number of problems actually solved and claimed across conditions. People who dispositionally avoid being greedy solved fewer matrices. When considering just claimed scores, the relationship was not significant for participants who had an opportunity to cheat ($r = -.179$, $p = .196$). Actual performance for participants in the nonshredder condition was also negatively associated with dispositional sincerity ($r = -.312$, $p = .015$), suggesting that without a cheating opportunity, people who solve more matrices also report as less genuine.

Together, dispositional honesty is complex and multifaceted as some measures failed to associate with cheating (e.g., modesty) or only partially associated with cheating behavior. Greed avoidance appears to be the dispositional trait most connected to levels of honesty–dishonesty at least for the present task.

The dark triad. People in the shredder condition who claimed to solve more matrices also reported having a less narcissistic personality ($r = -.280$, $p = .040$). People in the nonshredder condition who actually solved more matrices reported being more manipulative ($r = .269$, $p = .038$). Aside from these results, the Dark Triad measures were mostly unrelated to matrix scores (Table 3), which is largely inconsistent with prior work that suggests Dark Triad traits often associate with deceptive behavior (Furnham et al., 2013; Jones & Paulhus, 2017).

In three separate regression models, we evaluated Condition × Dark Triad trait interactions (Table 4). The data suggest that those high on narcissism tend to cheat less when cheating is undetectable. Those high on Machiavellianism tend to cheat marginally less when cheating is undetectable as well (top panel). Therefore, certain Dark Triad traits (e.g., narcissism, Machiavellianism) relate to cheating behavior and detectability more than others (e.g., psychopathy). This evidence is broadly consistent with other studies that suggest the Dark Triad traits are independent constructs that uniquely predict dishonest behavior (Furnham et al., 2014; Jones & Paulhus, 2017; O'Boyle et al., 2012).

Moderation Analysis

We assessed the moderating role of personality for the relationship between situational honesty and cheating behavior using the regression-based PROCESS approach (Hayes, 2018). The

Table 1. Overall Correlation Matrix of Study Variables (Two-Tailed).

	Pearson's Correlation Coefficients										
	Claimed vs. Actual	Claimed vs. Claimed	Claimed vs. Claimed[a]	Honesty–Humility	Fairness	Greed Avoidance	Modesty	Sincerity	Machiavellianism	Narcissism	Psychopathy
Claimed vs. Actual	—										
Claimed vs. Claimed	.874	—									
Claimed vs. Claimed[a]	.929	1.000	—								
Honesty–Humility	−.292	−.224	−.217	—							
Fairness	−.220	−.129	−.089	.706	—						
Greed avoidance	−.253	−.233	−.271	.709	.222	—					
Modesty	−.153	−.104	−.132	.664	.235	.491	—				
Sincerity	−.172	−.151	−.107	.684	.413	.267	.198	—			
Machiavellianism	.161	.084	.082	−.612	−.412	−.336	−.571	−.394	—		
Narcissism	−.045	−.061	−.047	−.432	−.139	−.375	−.533	−.191	.481	—	
Psychopathy	.058	−.018	−.015	−.503	−.475	−.208	−.501	−.216	.642	.253	—
p values											
Claimed vs. Actual	—										
Claimed vs. Claimed	< .001	—									
Claimed vs. Claimed[a]	< .001	< .001	—								
Honesty–Humility	.002	.016	.021	—							
Fairness	.019	.173	.349	< .001	—						
Greed avoidance	.007	.013	.004	< .001	.018	—					
Modesty	.105	.271	.166	< .001	.012	< .001	—				
Sincerity	.067	.109	.261	< .001	< .001	.004	.034	—			
Machiavellianism	.086	.372	.387	< .001	< .001	< .001	< .001	< .001	—		
Narcissism	.635	.519	.625	< .001	.140	< .001	< .001	.042	< .001	—	
Psychopathy	.541	.849	.879	< .001	< .001	.027	< .001	.022	< .001	.007	—

[a] Outliers removed in the nonshredder condition, see Results ($N = 112$).

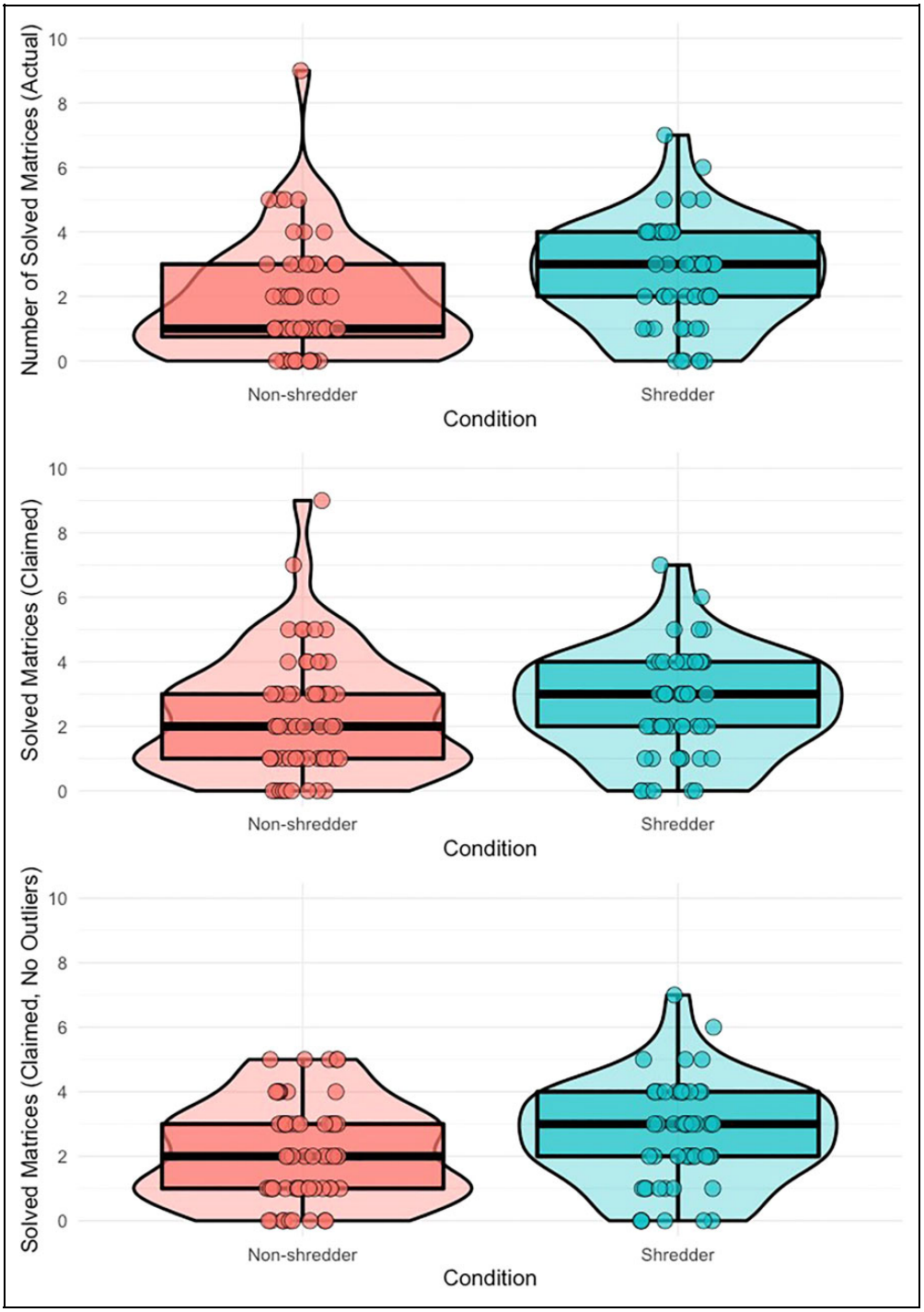

Figure 1. Violin plots displaying the number of solved matrices by condition. Top panel: actual performance in the nonshredder condition, claimed performance in the shredder condition; middle panel: claimed performance across both conditions; bottom panel: claimed performance across both conditions without outliers in the nonshredder condition. Dots represent individual participant scores and are off-center for interpretability.

Honesty–Humility composite score was mean-centered for the analysis. We first report the moderation analysis using actual (nonshredder) and claimed performance (shredder).

The model was significant, $F(3, 110) = 6.59$, $p < .001$, $R^2 = .152$, and Figure 2 displays simple slopes of the marginally significant interaction effect ($B = 1.15$, $SE = 0.59$, $t = 1.95$, $p = .054$, bootstrapped 95% CIs based on 10,000 resamples: [−0.05, 2.36]). Even among high dispositionally honest people, the situation can encourage people to cheat because they are given the opportunity. People who are

Table 2. Matrix Performance Across Conditions and Measurements.

	Shredder		Nonshredder				
Measurement	*M*	*SD*	*M*	*SD*	*t*	*p*	Cohen's *d*
Claimed (shredder) vs. actual (nonshredder) performance	2.65	1.60	1.80	1.75	2.68	.008	.51
Claimed (shredder) vs. claimed (nonshredder) performance	2.65	1.60	2.30	1.85	1.07	.288	.20
Claimed (shredder) vs. claimed (nonshredder) performance, no outliers	2.65	1.60	2.10	1.53	1.84	.069	.35

Note. Two outliers were removed from the nonshredder condition. These participants had a statistically meaningful impact on the result, as reported in the main text.

Table 3. Correlation Matrix of Measures and Number of Solved Matrices by Condition.

	Pearson's Correlation Coefficients						
	Claimed vs. Actual Performance			Claimed Performance		Claimed Performance[a]	
Self-Report Measure	Overall Effect	Shredder Condition	Nonshredder Condition	Overall Effect	Nonshredder Condition	Overall Effect	Nonshredder Condition
Honesty–Humility	−.292	−.103	−.404	−.224	−.307	−.217	−.289
Fairness	−.220	−.093	−.278	−.129	−.135	−.089	−.024
Greed Avoidance	−.253	−.179	−.259	−.233	−.253	−.271	−.320
Modesty	−.153	.026	−.233	−.104	−.172	−.132	−.230
Sincerity	−.172	−.031	−.312	−.151	−.269	−.107	−.184
Machiavellianism	.161	−.034	.269	.084	.157	.082	.149
Narcissism	−.045	−.280	.080	−.061	.070	−.047	.117
Psychopathy	.058	−.059	.120	−.018	−.002	−.015	.001
p values							
Honesty–Humility	.002	.459	.001	.016	.017	.021	.028
Fairness	.019	.504	.032	.173	.305	.349	.858
Greed Avoidance	.007	.196	.046	.013	.051	.004	.014
Modesty	.105	.851	.073	.271	.188	.166	.083
Sincerity	.067	.826	.015	.109	.037	.261	.167
Machiavellianism	.086	.807	.038	.372	.232	.387	.264
Narcissism	.635	.040	.545	.519	.596	.625	.383
Psychopathy	.541	.672	.359	.849	.990	.879	.993

Note. Bivariate correlations are between scores on the matrix task and each variable (two-tailed). Claimed scores in the shredder condition (with and without outliers) were not provided because this condition was unaffected by outliers.
[a]Outliers removed.

less dispositionally honest tend to cheat at a similar rate if they are given the opportunity or not.

There was no evidence of moderation using claimed scores across conditions without outliers ($B = 0.62$, $SE = 0.58$, $t = 1.08$, $p = .281$, bootstrapped 95% CIs based on 10,000 resamples: [−0.39, 1.50]), but the model was significant, $F(3, 108) = 2.92$, $p = .037$, $R^2 = .075$.

Comparison to Related Work

Verschuere and colleagues (2018) failed to replicate the moral reminders effect observed by Mazar and colleagues (2008), but their report offered an opportunity to test our hypothesis at scale. We extracted the public data from Verschuere et al. (2018) who gave participants an opportunity to cheat or restricted the opportunity to cheat across many laboratories. The labs measured cheating with matrices (claimed scores) and used the HEXACO-60 as a filler task. Note, the authors had over 7,000 participants in their investigation; our analysis included 5,757 participants after following our preregistered analytic process and exclusion criteria (see OSF).

After controlling for the lab site as a random effect in a mixed effects regression, the results support the *situational honesty hypothesis*: Participants who had an opportunity to cheat claimed to solve more matrices than those without an opportunity to cheat ($B = 0.18$, $SE = 0.07$, $t = 2.67$, $p = .008$, $R^2c = .085$; equivalent to Cohen's $d = 0.61$). The results are substantively identical after controlling for participant age and gender.

Consistent with our smaller scale experiment, Honesty–Humility did not moderate the relationship between condition and claimed performance ($B = -0.16$, $SE = 0.12$, $t = -1.34$, $p = .181$; bootstrapped 95% CIs based on 10,000

Table 4. Condition by Dark Triad Trait Interactions by Measurement.

	B	*SE*	*t*	*p*	R^2
Claimed (shredder) vs. Actual (nonshredder) Performance					
Condition	4.50	1.91	2.36	.020	.096
Narcissism	0.26	0.40	0.64	.521	
Condition × Narcissism	−1.22	0.63	−1.93	.057	
Condition	3.50	1.60	2.18	.031	.100
Machiavellianism	0.83	0.38	2.18	.032	
Condition × Machiavellianism	−0.92	0.53	−1.73	.086	
Condition	2.08	1.31	1.59	.116	.074
Psychopathy	0.38	0.40	0.96	.339	
Condition × Psychopathy	−0.55	0.58	−0.95	.343	
Claimed (shredder) vs. claimed (nonshredder) performance					
Condition	3.94	1.97	2.00	.048	.044
Narcissism	0.24	0.41	0.58	.566	
Condition × Narcissism	−1.20	0.65	−1.84	.069	
Condition	2.08	1.68	1.24	.217	.025
Machiavellianism	0.51	0.40	1.28	.203	
Condition × Machiavellianism	−0.60	0.56	−1.08	.283	
Condition	0.75	1.36	0.55	.582	.013
Psychopathy	−0.01	0.41	−0.01	.989	
Condition × Psychopathy	−0.17	0.60	−0.28	.782	
Claimed (shredder) vs. claimed (nonshredder), no outliers					
Condition	4.39	1.77	2.48	.015	.075
Narcissism	0.32	0.37	0.87	.384	
Condition × Narcissism	−1.28	0.58	−2.20	.030	
Condition	1.98	1.53	1.29	.200	.041
Machiavellianism	0.41	0.37	1.10	.275	
Condition × Machiavellianism	−0.50	0.51	−0.97	.333	
Condition	0.97	1.23	0.79	.434	.035
Psychopathy	0.003	0.37	0.01	.993	
Condition × Psychopathy	−0.17	0.54	−0.32	.748	

Note. Condition: 1 = shredder, 0 = nonshredder.

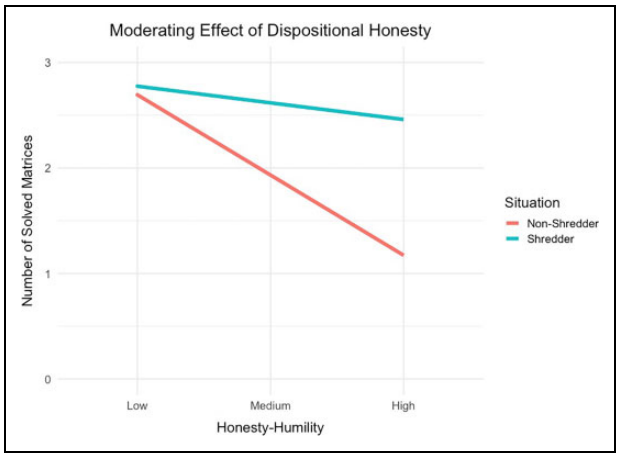

Figure 2. Interaction effect for Condition × Honesty–Humility using actual performance in the nonshredder condition and claimed performance in the shredder condition.

resamples: [−0.40, 0.09]), but the model was significant, $F(3, 5{,}753) = 14.13$, $p < .001$, $R^2 = .0073$. These results support the idea that providing opportunity can lead to cheating and personality—at least in this sample—fails to moderate person and situation interactions. We did not probe other possible relationships using these public data since this would have deviated from our research aim and preregistration.

Discussion

This experiment, supported by results from an independent dataset, provides evidence that situational and dispositional factors impact one's propensity to cheat. We observed that people who have an opportunity to cheat often take up that opportunity, and personality marginally moderates deceptive behavior though the effect is construct-dependent. Machiavellianism and narcissism most related to cheating in our task, but not psychopathy.

This article is important for several reasons. We tested two hypotheses that suggest the situation and one's disposition contribute to cheating behavior. These data are consistent with a trend in deception research that proposes honesty is affected by many aspects of a deception context and not one variable in isolation (Levine, 2020; Markowitz & Hancock, 2019). Second, consistent with recent work emphasizing the need to understand contextual and moderating variables in deception studies (Nahari et al., 2019) with a priori powered experiments

(Luke, 2019), our research explicitly tests how personality and situation variables interact. Since certain effects appear to be construct-specific, we encourage transparent reporting of deceptive behavior.

Third, most studies investigating the relationship between deception and personality consider how individual differences relate to deception production (Riggio et al., 1988; Vrij et al., 1997) and deception detection (Campbell & Porter, 2002; Vrij & Graham, 1997). As our evidence and others suggest (e.g., Jones & Paulhus, 2017), situational variables must be considered as well. We propose that individual differences and personality remain important aspects of deception, and along with situational variables, they both contribute to a person's deception calculus.

Relatedly, we observed that narcissism and Machiavellianism were the most consistent Dark Triad traits associated with cheating (see Table 3) though these effects were construct- and situation-dependent. Our evidence is supported by other work that suggests people who report being manipulative (high on Machiavellianism) tend to cheat or behave dishonestly (Baughman et al., 2014; Jones & Paulhus, 2017; Roeser et al., 2016). People in the nonshredder condition who actually performed well on the matrix task reported being more manipulative. This effect is reasonable because some level of cheating or carelessness in problem-solving may have occurred in the nonshredder condition. These individuals may have felt devious, like they were taking advantage of the experimenter, knowing that someone would discover whether they lied or made errors.

Together, the cheating and Dark Triad data highlight the fundamentally social nature of deception. Perhaps people do not lie without thinking about social and reputational consequences of deception (Cooper & Peterson, 1980; Jones, 2014). Even when they cheat, though, deceptive behavior is typically not egregious (Ariely, 2012).

Aside from the prior effects, cheating rates were unassociated with Dark Triad measures. Why did these relationships fail to obtain? One potential reason is that the financial incentives were relatively weak. Lee and colleagues (2013) suggest that people who score low on the Honesty–Humility and high on Dark Triad measures are often driven by a desire to be rich. Participants might have realized that their maximum gain, if they claimed to solve all problems ($5), was not motivating enough to lie excessively. The cheating effects might have also been suppressed by personal beliefs in math skills at the task's onset. If participants believed they were poor math students, this outlook might have affected their performance on the cheating task and how they responded to other self-report measures (e.g., Bandura, 2001). We encourage future investigations to evaluate these ideas as potential moderators.

Together, the observation that situational and dispositional variables both contribute to honesty is perhaps unsurprising. Empirical tests of these two hypotheses are limited, however, especially in a single experiment. Our article measures cheating in multiple ways, evaluates how disposition interacts with the situation, demonstrates that situational and dispositional aspects of a deception are nonadditive, and replicates the cheating effects at scale with public data. Given the proper motives and opportunity, the situation may facilitate dishonesty and personality can contribute to how much people cheat.

Our results are also consistent with evidence from Ariely (2012). The amount of cheating in our study was not erratic, and people did not try to maximize their financial gain. Our data support the general idea of the "fudge factor": People cheat to the degree that their actions match their deception goals and they can still be seen as a good person (Ariely, 2012). It would be unrealistic for participants to solve 20 matrices in 4 min, but a small amount of cheating can be beneficial, interpersonally believable, and intrapersonally palatable. The amount of deception in this study may seem trivial though the relative difference in cheating across conditions ranged from 14% to 38% depending on measurement. These differences are meaningful, especially in settings where the consequences of many people cheating *just a little bit* can be costly (e.g., health care, taxes).

Limitations and Future Directions

We evaluated how personality moderates situational honesty and cheating though other moderators may matter, including motivation (Hauch et al., 2015), the degree that lying is sanctioned (Sporer & Schwandt, 2007), and suspicion of detection (Burgoon, 2015). Future preregistered work should investigate how the situation and different moderators interact. Our data also suggest that high Honesty–Humility individuals tend to solve fewer matrices. While the current theory attributes this difference to cheating, it is also possible that such individuals are better puzzle solvers, in general. This alternative should be explored in future work.

The consequences of being caught cheating in our study were minor, and if participants were told that any cheating would be reported to a judicial committee, proclivity for deceptive behavior would likely be affected. Measuring the impact of perceived consequences relative to dispositional characteristics is likely an important line of research.

Finally, the actual (nonshredder) versus claimed (shredder) comparison was confounded as we could not obtain actual shredder performance. This raises the importance of our other comparisons and the independent multilab sample, which generally supported the *situational honesty hypothesis*. When the chances of deception detection increase, people still cheat given the opportunity (Ariely, 2012, pp. 20–21). Therefore, the situation can facilitate deception, overpower the threat of detection, and interact with dispositional honesty–dishonesty.

Conclusion

This paper provides evidence that largely supports the situational nature of deception. Given the proper motives and opportunity, people cheat and part of their deceptive behavior relates to dispositional honesty–dishonesty. Future research should explore other moderators and situational

characteristics to reveal deception and the circumstances chosen for personal gain.

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