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The dark side of experiencing job autonomy: Unethical behavior

Jackson G. Lu[a,*], Joel Brockner[a], Yoav Vardi[b], Ely Weitz[b]

[a] Columbia Business School, Columbia University, NY, United States
[b] Department of Labor Studies, Tel Aviv University, Israel

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ABSTRACT

To date, job autonomy has been conceptualized as a job characteristic that elicits positive outcomes. In contrast, the present studies unveiled a potential dark side of experiencing job autonomy: unethical behavior. Using field surveys on Israeli employees, Studies 1 and 2 found that experienced job autonomy not only positively predicted job satisfaction (thus replicating past research), but also positively predicted unethical behavior. Using experimental designs, Studies 3a and 3b drew on actual job autonomy policies from real-world corporations to prime American employees to experience different levels of job autonomy. Compared to participants in the low-autonomy or autonomy-unrelated control conditions, participants in the high-autonomy condition were more likely to behave unethically because they felt less constrained by rules. Moreover, the relationship between experienced job autonomy and unethical behavior was moderated by the importance that participants assigned to having job autonomy, such that the experience of high job autonomy was less likely to elicit unethical behavior from participants for whom having job autonomy was more important. In addition to replicating all of these findings, Study 4 revealed that the experience of high job autonomy simultaneously increased unethical behavior and creativity, further demonstrating job autonomy to be a double-edged sword. Theoretical and practical implications are discussed.

Casual dress code, personalized workstations, flexible work hours, freedom to work from home, unlimited vacation time… (Gargiulo, 2011; Harrison, 2014). Contemporary organizations are increasingly implementing policies of job autonomy to enhance employees' work motivation, performance, job satisfaction, and creativity (Hoskins, 2014). As an example of this trend, a large-scale survey by the Confederation of British Industry showed that whereas 13% of British employers offered teleworking in 2006, this number rose to 59% in 2011 (Ryan, 2013). Similarly, the percentage of Japanese companies that adopted teleworking increased from 11.4% in 2014 to 16.2% in 2015 (Ministry of International Affairs and Communications, 2016, p. 19).

1. The bright side of experiencing job autonomy

Job autonomy refers to the extent to which individuals have discretion over when, where, and how to do their work (Hackman & Oldham, 1976, 1980). According to the Job Characteristics Model (Hackman & Oldham, 1976, 1980), job autonomy is a core *job characteristic* that can lead to the *psychological state* of experienced responsibility, which in turn can elicit favorable work attitudes and behaviors (for a review, see Deci, Olafsen, & Ryan, 2017). For instance, a field experiment by Deci, Connell, and Ryan (1989) found that machine technicians were more satisfied with their jobs and more trusting of top management when they were granted more autonomy. Similarly, investment bankers who experienced greater job autonomy had higher work engagement, greater well-being, and superior performance ratings (Baard, Deci, & Ryan, 2004). What is more, job autonomy has been shown to enhance workplace creativity, which is critical to the success of individuals and organizations (e.g., Amabile & Gryskiewicz, 1987; Greenberg, 1992; Liu, Chen, & Yao, 2011).

2. The dark side of experiencing job autonomy

The vast majority of theory and empirical research inspired by the Job Characteristics Model has presumed job autonomy to be a form of work enrichment (Deci et al., 2017; Hackman & Oldham, 1976; Vansteenkiste, Sierens, Soenens, Luyckx, & Lens, 2009). Thus, past work has focused on its positive consequences, rather than on its potential negative effects. This omission is puzzling given that the rampancy of workplace misconduct in recent decades has been partly attributed to high levels of job autonomy. For example, an important antecedent of the global financial crisis was individual financiers' excessive discretion in mortgage lending. As pointed out by the Nobel Laureate of

* Corresponding author at: Columbia Business School, Columbia University, 3022 Broadway, New York, NY 10027, United States.
E-mail address: jackson.guannan.lu@gmail.com (J.G. Lu).

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Economics, Paul Krugman (2009), "in the decade leading up to the current crisis politicians in both parties bought into the notion that New Deal-era restrictions on bankers were nothing but pointless red tape." As a consequence of relaxed rules and regulations, bankers had the autonomy to dole out loans in their own ways to "subprime" borrowers who were unable to repay them, thereby inciting a chain reaction that almost caused the world's economy to collapse (The Economist, 2013).

Despite the trend of offering more job autonomy to employees, Yahoo's CEO Marissa Mayer decided to end its work-from-home policy in 2013, because Yahoo's virtual private network (VPN) data suggested that employees who worked from home were not working as much (Carlson, 2013). As Yahoo employees themselves pointed out, "many workers were milking the company" (Hindman, 2013).

Although the notion that job autonomy may increase unethical behavior is plausible, little *empirical* research has examined this possibility. Accordingly, the present studies were designed to evaluate whether, why, and when the experience of job autonomy may elicit unethical behavior. In so doing, we speak to matters of theoretical and practical importance. At a theoretical level, if the experience of job autonomy were shown to engender unethical behavior, it could lead to a more expanded view of the construct of job autonomy (Vardi & Weitz, 2016). More specifically, the possibility that the experience of job autonomy may *also* induce unethical behavior would lead to a more nuanced and balanced way of understanding job autonomy, that is, as a double-edged sword. At a practical level, if the experience of job autonomy were shown to increase unethical behavior, it may give pause to organizations that follow the trend of providing employees with greater job autonomy. At the very least, organizations would need to consider how to offer job autonomy in a way that maximizes its benefits (e.g., job satisfaction, creativity) and minimizes its unintended costs (i.e., unethical behavior).

3. Theory and hypothesis development

The present research aims to extend self-determination theory (SDT) by positing that experiencing a high level of job autonomy may increase unethical behavior. According to SDT, the need for autonomy is conceptualized as the "universal urge to be causal agents, to experience volition, to act in accord with their integrated sense of self (i.e., with *their interests* and values)" (Deci & Vansteenkiste, 2004, p. 25). Therefore, when individuals experience job autonomy, they will experience agency and volition. Importantly, the experience of agency and volition not only can engender positive attitudes and behaviors (Deci et al., 2017; Hackman & Oldham, 1976, 1980), but also may induce individuals to feel unconstrained to act in accord with "*their interests*" (Deci & Vansteenkiste, 2004, p. 25)—even in the form of self-serving unethical behaviors (Lu, Zhang, Rucker, & Galinsky, in press; Shalvi, Gino, Barkan, & Ayal, 2015), such as lying about work hours, slacking off, and abusing organizational resources to benefit oneself. For example, when a research assistant is paid to work on a literature review task at home, he or she not only may feel satisfied by having the autonomy to work at home, but also may feel psychologically unconstrained to slack off (e.g., watch YouTube videos) during paid work hours. Indeed, recent research has shown that feeling unconstrained by rules is positively associated with people's tendency to behave unethically (Gino & Wiltermuth, 2014). Hence, we propose that experiencing a high level of job autonomy can increase unethical behavior by inducing people to feel unconstrained by rules.

3.1. Theoretical considerations

3.1.1. Distinguishing job autonomy from feeling unconstrained by rules

Although the experience of job autonomy and feeling unconstrained by rules are related, they are conceptually distinct. According to the tenets of the Job Characteristics Model (Hackman & Oldham, 1976, 1980), perceived characteristics of the job give rise to certain psychological states, which in turn influence people's work attitudes and behaviors. Thus, in the language of the Job Characteristics Model, whereas job autonomy is a *job characteristic*, feeling unconstrained by rules is a *psychological state* that may be elicited by the experience of job autonomy.

3.1.2. Distinguishing job autonomy from organizational surveillance

The experience of job autonomy and the sense of organizational surveillance are not simply the opposite ends of the same continuum; they are conceptually distinct constructs. Whereas job autonomy refers to the extent to which employees have discretion over their work (Hackman & Oldham, 1976, 1980), organizational surveillance refers to the extent to which employees are watched and monitored by the organization (Sewell & Barker, 2006). A high level of job autonomy does not necessarily mean a low level of organizational surveillance. Whereas certain job autonomy policies entail less organizational surveillance and thus provide more opportunities for unethical behavior (e.g., permitting employees to work at home could enable slackers to reduce their work hours), other job autonomy policies do not. For example, allowing employees to wear whatever they want or to personalize their desks does not provide any direct opportunities for unethical behavior via low surveillance. However, the experience of high job autonomy in these instances can still induce a sense of being unconstrained by rules and thereby lead to an increase in unethical behavior.

3.1.3. The experience of job autonomy as an enabler (rather than a motivator) of unethical behavior

In keeping with the distinction between ability and motivation (Vroom, 1964), we view the experience of job autonomy more as an enabler than as a motivator of unethical behavior. We propose that the experience of job autonomy makes individuals feel unconstrained by rules, which frees them up to behave unethically. We are not suggesting that the experience of job autonomy necessarily motivates people to behave unethically, in the sense of making them *want* to behave unethically. Indeed, people who experience high job autonomy may be less apt to behave unethically when there are motivational forces against them doing so, a point that we will return to in the General Discussion section.

3.2. A moderator of the link between experienced job autonomy and unethical behavior: The importance of having job autonomy

It is not only theoretically important to understand *why* the experience of high job autonomy elicits unethical behavior, but also *when* this is more versus less likely to be the case. Accordingly, the present research evaluates the moderating influence of the importance that individuals assign to having job autonomy. Identifying moderating influences is also practically important because it may provide insight into how organizations can maximize the positive effects of experienced job autonomy while minimizing its negative effects.

We propose that the experience of high job autonomy is *less* conducive to unethical behavior when individuals assign greater importance to having job autonomy. When employees do not value job autonomy, they may be more likely to exploit it in unethical ways when it is available (e.g., playing computer games at work). In contrast, when employees value job autonomy, they may be more likely to put it to good use when it is experienced (e.g., leading a creative initiative) as opposed to abuse it by behaving unethically. Indeed, abusing high autonomy may threaten its very continuation, which would be more bothersome to individuals who value job autonomy.

Another basis for this prediction is theory and research showing that when there is a fit between what people value and what they experience, it leads them to "just feel right," including right in a moral sense. For example, Camacho, Higgins, and Luger (2003) had people read a persuasive appeal that was presented in a way that either fit or did not

fit with their regulatory focus. When presented in a way that fit, the appeal was seen as more *morally* correct than when it was presented in a way that did not fit. As another example of the effects of fit on morality-related cognitions, Carter, Bobocel, and Brockner (2017) found that when an explanation was given for a course of action that fit with people's level of construal (Trope & Liberman, 2010), the course of action was seen as fairer than when the same explanation did not fit with people's level of construal. Extending these findings to the present study, we posit that the experience of high job autonomy may give rise to a greater sense of fit among those who assign greater importance to having job autonomy. The heightened sense of morality among those who experience greater fit may, in turn, serve as an antidote to behaving unethically.

In summary, the above reasoning gives rise to the following hypotheses:

Hypothesis 1. (H1): Experiencing a high level of job autonomy increases unethical behavior.

Hypothesis 2. (H2): Experiencing a high level of job autonomy increases the extent to which individuals feel unconstrained by rules.

Hypothesis 3. (H3): The extent to which individuals feel unconstrained by rules mediates the relationship between experienced job autonomy and unethical behavior set forth in Hypothesis 1.

Hypothesis 4. (H4): The effect of experienced job autonomy on unethical behavior set forth in Hypothesis 1 is weaker for individuals for whom having job autonomy is more important.

4. Overview of studies

These hypotheses were tested across five studies. Studies 1 and 2 tested Hypothesis 1 with two field surveys. An additional purpose of Studies 1 and 2 was to evaluate whether job autonomy could function as a double-edged sword. Hence, we also included a measure of job satisfaction in Studies 1 and 2. Studies 3a and 4 employed an experimental method high in internal validity to evaluate the causal relationship between experienced job autonomy and unethical behavior (Hypothesis 1). In addition, to understand the "why" question, Studies 3a, 3b, and 4 examined the causal effect of experiencing job autonomy on the proposed mediator: feeling unconstrained by rules (Hypotheses 2 and 3). To explore *when* the effect of high job autonomy on unethical behavior might be more versus less pronounced, Study 3a also examined *the importance of having job autonomy* as a potential moderator (Hypothesis 4). Finally, Study 4 aimed to not only replicate all of Studies 3a and 3b's findings, but also to test whether the experience of a high level of job autonomy can simultaneously lead to increased unethical behavior and heightened creativity. Thus, as in Studies 1 and 2, we evaluated in Study 4 whether the experience of high job autonomy may function as a double-edged sword. Table 1 summarizes the hypotheses tested in each study.

Below we report all the studies that we have conducted on the relationship between the experience of job autonomy and unethical behavior. In each study, we report all measures, manipulations, and exclusions. In order to power each study at over 80%, we used G*Power to determine the requisite sample sizes based on estimated medium-sized effects (Cohen, 1992).

5. Study 1: Preliminary field evidence that job autonomy predicts unethical behavior

5.1. Participants

The sample was comprised of 250 employees (46.4% female; age range: 23–35) from diverse organizations in Israel. Participants held a variety of jobs, including sales (13%), computers (10.8%), engineering (16%), economics (8.4%), clerks, human resources, and advertising (about 52%).

5.2. Materials and procedure

The data were collected anonymously in a large personnel center in Israel. All constructs were measured in a paper-and-pencil survey instrument in carefully translated and back-translated Hebrew (Brislin, 1970). Participants were asked to respond to all questions in the context of their current jobs.

5.2.1. Job autonomy

To indicate the level of job autonomy they experienced at their current jobs, participants responded to nine items adopted from Breaugh (1985). Sample items included, (1) “I can decide how to do my work”, (2) “My work allows me to decide when to do each action”, and (3) “I can choose what goals and tasks to accomplish and complete” (1 = *not at all*, 7 = *to a very large extent*; $\alpha = 0.93$; $M = 4.69$, $SD = 1.39$).

5.2.2. Unethical behavior

Participants responded to 11 items of self-reported unethical behavior that were adapted from Robinson and Bennett (1995). Sample items included, “To what extent do you lie about your work hours?”, and “To what extent do you waste work time on private phone calls?” (1 = *not at all*, 7 = *to a very large extent*; $\alpha = 0.88$; $M = 1.86$, $SD = 0.40$).

5.2.3. Job satisfaction

We also evaluated whether job autonomy was positively related to job satisfaction. This enabled us to examine whether job autonomy could simultaneously have a positive effect (increased job satisfaction, which has been found in previous research; e.g., Baard et al., 2004) and a negative effect (increased unethical behavior) in the context of the same study. Job satisfaction was assessed with the General Motors Faces Scale (Kunin, 1955), which asked participants to choose one of five generic faces arranged in a row showing varying levels of content or discontent (1 = *least satisfied*, 5 = *most satisfied*; $M = 3.85$, $SD = 0.96$). Importantly, this single-item measure has been demonstrated to be as reliable as multiple-item measures of job satisfaction (Saari & Judge, 2004).

Table 1
Hypotheses tested in each study.

	Hypothesis 1	Hypothesis 2	Hypothesis 3 (mediation)	Hypothesis 4 (moderation)	Additional dependent variable
Study 1	✓				Job satisfaction
Study 2	✓				Job satisfaction
Study 3a	✓	✓	✓	✓	
Study 3b		✓			
Study 4	✓	✓	✓	✓	Creativity

5.3. Results

In support of Hypothesis 1, job autonomy was positively correlated with unethical behavior ($r = 0.26$, $p < 0.001$). This relationship between job autonomy and unethical behavior remained significant when controlling for job satisfaction in an OLS regression ($B = 0.08$, $SE = 0.02$, $t = 4.92$, $p < 0.001$).

Consistent with previous studies (e.g., Baard et al., 2004), job autonomy was also positively correlated with job satisfaction ($r = 0.14$, $p < 0.05$). This relationship remained significant when controlling for unethical behavior in an OLS regression ($B = 0.14$, $SE = 0.04$, $t = 3.37$, $p < 0.001$).

5.4. Discussion

Study 1 provided initial empirical evidence linking job autonomy to the negative consequence of unethical behavior in a field setting. At the same time, it replicated the well-established relationship between job autonomy and job satisfaction. By showing that job autonomy was positively related to both unethical behavior and job satisfaction in the context of the same study, we demonstrate that job autonomy can function as a double-edged sword.

6. Study 2: Additional field evidence that job autonomy predicts unethical behavior

Study 2 sought to replicate and extend the generality of Study 1's findings by: (1) surveying participants from a different industry (high-tech), (2) using a different measure of job satisfaction, and (3) evaluating whether the results would be robust to the inclusion of various control variables (e.g., years of education, whether subject held a managerial role).

6.1. Participants

The sample was comprised of 140 employees (36.4% female; age range: 22–57) from high-tech companies in Israel. Participants worked in a variety of occupations, including administration, finance, infrastructure, operations, product development, and sales. Among the participants, 19.3% held a managerial role.

6.2. Materials and procedure

All constructs were measured in an anonymous paper-and-pencil survey instrument in carefully translated and back-translated Hebrew (Brislin, 1970). Participants were recruited with the help of the Human Resources representative at each company, who facilitated the distribution of the survey on site. Participants were asked to respond to all questions in the context of their current jobs.

6.2.1. Job autonomy

We measured job autonomy with the same nine-item scale used in Study 1 (Breaugh, 1985; $\alpha = 0.96$).

6.2.2. Unethical behavior

We measured unethical behavior with the same 11-item scale used in Study 1 (Robinson & Bennett, 1995; $\alpha = 0.73$).

6.2.3. Job satisfaction

We measured job satisfaction with the scale developed by Schnake (1983), which asked participants to rate how satisfied they were with each of 13 dimensions of their jobs (e.g., financial rewards, workload, support from others; 1 = *least satisfied*, 7 = *most satisfied*; $\alpha = 0.79$).

6.2.4. Control variables

We assessed the following demographic and occupational control variables: age, gender, years of education, whether the participant held a managerial role, and the number of employees within the company.

6.3. Results

Descriptive statistics and bivariate correlations are displayed in Table 2.

Consistent with Hypothesis 1 and Study 1's findings, job autonomy positively predicted unethical behavior ($B = 0.10$, $SE = 0.04$, $t = 2.22$, $p = 0.028$; Table 3, Model 1). This effect remained significant when controlling for job satisfaction ($B = 0.11$, $SE = 0.05$, $t = 2.15$, $p = 0.033$; Table 3, Model 2) and when further controlling for age, gender, years of education, managerial role, and number of employees within company ($B = 0.12$, $SE = 0.06$, $t = 2.10$, $p = 0.037$; Table 3, Model 3).

Replicating Study 1's findings, job autonomy also positively predicted job satisfaction ($B = 0.25$, $SE = 0.04$, $t = 6.59$, $p < 0.001$). This effect remained significant when controlling for unethical behavior

Table 3
Linear Regression Analyses on Unethical Behavior (Study 2).

Variables	Model 1	Model 2	Model 3
Job autonomy	0.10* (0.04)	0.11* (0.05)	0.12* (0.06)
Job satisfaction		− 0.04 (0.10)	− 0.02 (0.10)
Age			0.01 (0.01)
Gender (1 = male, 0 = female)			0.10 (0.13)
Years of education			− 0.02 (0.04)
Manager (1 = yes, 0 = no)			− 0.33† (0.19)
Number of employees			0.00 (0.00)
R^2	0.03	0.04	0.10
Overall F	4.92*	2.55†	2.20*

Note. Unstandardized regression coefficients are displayed, with standard errors in parentheses.
† $p < 0.10$.
* $p < 0.05$.

Table 2
Descriptive Statistics and Correlations (Study 2).

Variables	*M*	*SD*	1	2	3	4	5	6	7
1. Job autonomy	4.48	1.37							
2. Unethical behavior	1.99	0.72	0.19*						
3. Job satisfaction	4.51	0.71	0.49**	0.06					
4. Age	33.66	7.66	0.46**	0.19*	0.19*				
5. Gender (1 = male, 0 = female)	0.64	0.48	0.00	0.09	− 0.01	0.04			
6. Years of education	14.59	1.70	0.21*	− 0.04	0.08	0.12	0.03		
7. Manager (1 = yes, 0 = no)	0.19	0.40	0.51**	− 0.02	0.38**	0.38**	0.07	0.28**	
8. Number of employees in company	836.51	752.03	0.01	0.17*	0.06	0.17*	0.18*	− 0.06	0.03

* $p < 0.05$.
** $p < 0.01$.

($B = 0.26$, $SE = 0.04$, $t = 6.54$, $p < 0.001$) and when further accounting for the control variables ($B = 0.23$, $SE = 0.05$, $t = 4.71$, $p < 0.001$).

6.4. Discussion

Study 2 replicated Study 1's findings with a different participant sample from the high-tech industry. Job autonomy positively predicted both unethical behavior and job satisfaction, and these effects were robust when accounting for various control variables. As in Study 1, job autonomy was again demonstrated to be double-edged.

Despite the robustness of the findings on the relationship between job autonomy and unethical behavior, Studies 1 and 2 have a number of limitations. First, the correlational nature of the study design makes it difficult to infer causality. For example, an alternative interpretation of the results is that those who reported behaving more unethically might have *inferred* post hoc that they had greater autonomy (Salancik & Pfeffer, 1978). Second, job autonomy and unethical behavior were both measured with self-reports, which raises the possibility of common-method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Third, the study was conducted in Israel, which raises the question of whether the observed relationship between job autonomy and unethical behavior is generalizable to other cultural settings.

7. Study 3a: Experienced job autonomy increases unethical behavior

Study 3a was designed to address these three limitations of the first two studies. First, to examine the *causal* effect of experiencing job autonomy on unethical behavior, Study 3a employed an experimental design. We randomly primed participants to experience different levels of job autonomy and subsequently assessed their tendency to behave unethically. Second, the experimental design in Study 3a precluded common-method bias, as the independent variable was a priming manipulation of job autonomy and the dependent variable consisted of a behavioral measure of unethicality. Third, we conducted the study in the United States to assess the generalizability of the hypothesized relationship between job autonomy and unethical behavior to a different cultural setting.

Importantly, Study 3a also aimed to shed light on the questions of *why* and *when* job autonomy leads to unethical behavior. To address the "why" question, we examined the hypothesized mediator of the relationship between job autonomy and unethical behavior: feeling unconstrained by rules. To address the "when" question, we examined the hypothesized moderator of the relationship between job autonomy and unethical behavior: the importance that individuals assign to having job autonomy.

7.1. Participants and design

We recruited 407 participants from Amazon Mechanical Turk (MTurk) to ostensibly pretest a number of verbal tasks. To ensure high-quality participation, participants qualified only if they were current employees, native speakers of English, located in the United States, and had an approval rate above 98% for their previous "Human Intelligence Tasks" (HITs) on MTurk. Among them, 80.1% self-identified as White, 8.6% as Black/African American, 4.9% as Asian, 3.2% as Hispanic/Latino, and the rest as Other. Six participants were excluded for not following instructions on the task that operationalized autonomy, leaving 401 participants for the purpose of data analysis (65.8% female; $M_{age} = 39.63$, $SD_{age} = 13.06$).

Participants were randomly assigned to one of four experimental conditions: low autonomy, moderate autonomy, high autonomy, or autonomy-unrelated control.

7.2. Materials and procedure

Fig. 1 depicts the experimental procedure. Participants first were randomly assigned to experience one of four levels of job autonomy, next engaged in an anagram task designed to measure unethical behavior, then responded to a measure of feeling unconstrained by rules (the proposed mediator), and finally completed a measure of the importance of having job autonomy (the proposed moderator) embedded among a list of demographic variables.

7.2.1. Job autonomy prime

To prime different levels of job autonomy, we employed a 15-item sentence-unscrambling task. Numerous studies have successfully employed the sentence-unscrambling task to temporarily activate the experience of autonomy (e.g., Hodgins, Brown, & Carver, 2007; Levesque & Pelletier, 2003; Weinstein, Deci, & Ryan, 2011; Weinstein & Hodgins, 2009; Weinstein, Hodgins, & Ryan, 2010). For example, Weinstein et al. (2010) showed that autonomy-primed dyads interacted more constructively and positively, thereby performing better than their control-primed counterparts on creativity tasks.

During the five-minute task, all participants had to rearrange randomly positioned words into grammatically correct statements. In the low-autonomy condition, participants unscrambled ten sentences that conveyed a low degree of job autonomy (e.g., "office in work you must the" ➔ "You must work in the office"), plus five filler sentences that were unrelated to job autonomy (e.g., "there books are on desk the" ➔ "There are books on the desk"). In the moderate-autonomy condition, participants unscrambled ten sentences that conveyed a moderate degree of job autonomy (e.g., "remotely work with you permission can" ➔ "You can work remotely with permission"), plus the same five filler sentences. In the high-autonomy condition, participants unscrambled ten sentences that conveyed a high degree of job autonomy (e.g., "whenever home you work wish from" ➔ "Work from home whenever you wish"), plus the same five filler sentences. In the control condition, participants unscrambled 15 autonomy-unrelated filler sentences (including the same five filler sentences used in the other three conditions). In each condition, we randomized the order of the 15 sentences. The number of words in each sentence was the same across the four conditions. Importantly, all of the autonomy-related sentences had ecological validity in that we created them on the basis of actual autonomy policies in contemporary workplaces (see Appendix A for the complete list of sentences). For example, high-autonomy organizations like Dell often encourage their employees to "work from home whenever you wish" (Bort, 2013), whereas low-autonomy organizations stipulate, "You must work in the office."

In line with previous research, we did not include a check on the manipulation of autonomy because the efficacy of the prime was contingent upon participants' unawareness of it (e.g., Bargh, 1992; Hodgins et al., 2007). As discussed above, however, the sentence-unscrambling task that we used has repeatedly been shown to be a reliable way to manipulate the experience of varying degrees of autonomy (Hodgins et al., 2007; Weinstein & Hodgins, 2009; Weinstein et al., 2010; Weinstein et al., 2011). At the end of the study we probed what

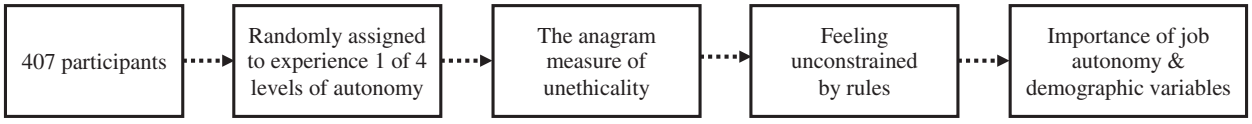

Fig. 1. The experimental procedure of Study 3a.

Fig. 2. Images used to assess the degree to which participants felt unconstrained by rules (Images a, b, c for Study 3a; Images a, b, d for Studies 3b and 4).

participants thought the study was about; none of them correctly guessed the true purpose of the study.

7.2.2. Unethical behavior

Next, we assessed unethical behavior with a widely-used anagram task (e.g., Lu, Quoidbach, et al., 2017; Pierce, Kilduff, Galinsky, & Sivanathan, 2013; Pitesa, Thau, & Pillutla, 2013; Thau, Derfler-Rozin, Pitesa, Mitchell, & Pillutla, 2015). In particular, we instructed participants to complete another "verbal task," in which they attempted to solve four anagrams ("CRKO," "LABEVE," "DSLIE," and "FTOEER") in 2 min, with the incentive of a $0.25 bonus for every anagram they solved correctly. After 2 min had elapsed, we asked participants to self-report which of the four anagrams they had solved correctly (without having to type out their answers). The first and third anagrams were relatively easy in that each had two solutions ("ROCK," "CORK"; "IDLES," "SLIDE"), but the second and fourth anagrams had no solution. Therefore, as in previous studies (e.g., Kilduff & Galinsky, 2017; Pierce et al., 2013), participants who claimed to have solved either or both of the insoluble words were coded as having behaved unethically.

7.2.3. Feeling unconstrained by rules

Thereafter, we assessed the extent to which participants felt unconstrained by rules with the same measure used by Gino and Wiltermuth (2014) (Study 4; see Fig. 2, Images a, b, & c). Specifically, we presented them with three pictures in which a stated rule was explicitly violated. For each of the three pictures, participants responded to the question, "If you were in the situation depicted in the picture, how likely would you care about following the rules?" (1 = *very unlikely*, 7 = *very likely*). To compute a measure of feeling unconstrained by rules, we reverse-coded and averaged across the three items for each participant (α = 0.79).

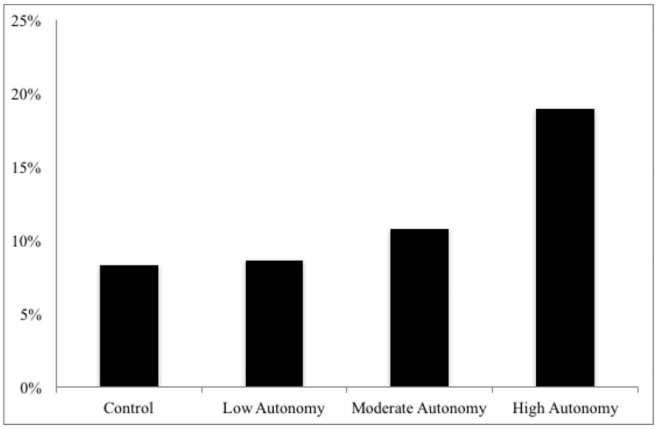

Fig. 3. Percentage of cheating on the anagram task by condition (Study 3a, N = 401).

7.2.4. The importance of having job autonomy

At the end of the study, alongside various demographic variables, participants indicated the extent to which having job autonomy was important to them based on a three-item scale developed by Hackman and Oldham (1980; e.g., "It is important that I can decide on my own how to go about doing my work"; 1 = *strongly disagree*, 7 = *strongly agree*; α = 0.95). We randomized the order of the three items.[1]

[1] The experimental manipulation did not affect participants' importance of having job autonomy, $F(3, 397) = 0.10$, $p = 0.96$.

7.3. Results

7.3.1. Unethical behavior (Hypothesis 1)

A chi-square test of association suggested that the four conditions differed in cheating rate, $\chi^2(3, N = 401) = 7.19$, $p = 0.06$. Consistent with Hypothesis 1, the level of cheating in the high-autonomy condition (18.9%) was significantly higher than in the control condition (8.3%; $\chi^2[1, N = 203] = 4.94$, $p = 0.026$) and in the low-autonomy condition (8.6%; $\chi^2[1, N = 200] = 4.60$, $p = 0.032$), and somewhat higher than in the moderate-autonomy condition (10.8%; $\chi^2[1, N = 188] = 2.49$, $p = 0.11$) (Fig. 3).[2] The levels of cheating in the control, low-autonomy, and moderate-autonomy conditions were not significantly different from one another (all $ps > 0.25$); hence, we combined them into a single condition named "control-low-moderate."

7.3.2. Feeling unconstrained by rules (Hypothesis 2)

QQ-plots and Shapiro-Wilk normality tests revealed that the variable "feeling unconstrained by rules" was positively skewed (rather than normally distributed) in all four experimental conditions due to a possible floor effect, whereby most participants indicated that they would be likely to follow the rules in the hypothetical situations. Therefore, we used non-parametric tests to compare the four conditions. A Kruskal-Wallis test revealed that the four conditions differed significantly in feeling unconstrained by rules, $\chi^2(3) = 9.91$, $p = 0.019$. Consistent with Hypothesis 2, participants in the high-autonomy condition (median = 2.67) felt significantly more unconstrained by rules than those in the control condition (median = 2, $Z = 2.88$, $p = 0.004$), the low-autonomy condition (median = 2, $Z = 2.58$, $p = 0.010$), and the moderate-autonomy condition (median = 2, $Z = 1.99$, $p = 0.047$).[3] Again, there was no significant difference among the control, low-autonomy, and moderate-autonomy conditions (all $ps > 0.25$).

7.3.3. Mediation by feeling unconstrained by rules (Hypothesis 3)

Since the extent to which participants felt unconstrained by rules was positively correlated with cheating ($r = 0.27$, $p < 0.001$), we tested whether the former mediated the effect of primed job autonomy on unethical behavior. Consistent with Hypothesis 3, a bootstrapping analysis with 5000 iterations (Preacher & Hayes, 2008) contrasting the high-autonomy condition with the control-low-moderate condition established the mediating effect of feeling unconstrained by rules, as the bias-corrected 95% confidence interval for the indirect effect did not include zero [0.0555, 0.4495].

7.3.4. Moderation by the importance of having job autonomy (Hypothesis 4)

When included in a logistic regression, the interaction between primed job autonomy and the importance of having job autonomy (mean-centered based on the mean of the entire sample) was significant ($B = -0.62$, $SE = 0.30$, $Wald = 4.23$, $p = 0.040$), such that the tendency for high job autonomy to elicit unethical behavior was weaker among participants for whom having job autonomy was more important.

7.4. Discussion

Conceptually analogous to the results of Studies 1 and 2, Study 3a provided causal evidence that the experience of a high level of job autonomy increased people's tendency to behave unethically. Consistent with our theoretical model, the sense of being unconstrained by rules mediated this effect. Confirming Hypothesis 4, the importance of having job autonomy emerged as a moderator of this effect, such that high job autonomy was less likely to elicit unethical behavior from participants who viewed having job autonomy as more important.

8. Study 3b: Experienced job autonomy increases feeling unconstrained by rules

Although Study 3a lent support to the mediating role of feeling unconstrained by rules, the mediator was measured after unethical behavior was assessed. Thus, one alternative explanation is that participants who behaved unethically might have inferred post hoc that they were feeling unconstrained *because* they had just behaved unethically. To address this shortcoming, in Study 3b we manipulated job autonomy in the same way as in Study 3a, and measured directly thereafter how much participants were feeling unconstrained by rules. This provided a cleaner test of the relationship between the independent variable and the mediating variable (Hypothesis 2). Thus, "feeling unconstrained by rules" served as our only dependent variable in Study 3b; the tendency to behave unethically was not assessed in Study 3b.

8.1. Participants and design

We recruited 264 participants from MTurk to ostensibly pretest a cognitive task. As in Study 3a, participants qualified only if they were current employees, native speakers of English, located in the United States, and had an approval rate above 98% for their previous HITs on MTurk. Among them, 82.8% self-identified as White, 5.7% as Black/African American, 4.2% as Asian, 3.8% as Hispanic/Latino, and the rest as Other. Three participants were excluded because one attempted the survey twice with two different MTurk IDs and the other two did not complete the sentence-unscrambling task as instructed, leaving 261 participants for the purpose of data analysis (55.9% female; $M_{age} = 35.70$, $SD_{age} = 10.33$).

Since Study 3a found no significant difference between the moderate-autonomy and low-autonomy conditions, we dropped the moderate-autonomy condition in Study 3b. Thus, participants were randomly assigned to one of three experimental conditions: low autonomy, high autonomy, or autonomy-unrelated control.

8.2. Materials and procedure

As in Study 3a, participants first completed the sentence-unscrambling task designed to prime different levels of job autonomy. Next, we measured the extent to which they felt unconstrained by rules. We only re-used two of the three pictures from Study 3a due to the concern that the third picture (Fig. 2, Image c) is more about a dangerous venture (i.e., cliff diving) than about a rule-breaking activity. We replaced it with a safety-unrelated picture wherein the rule of "sitting on stairways is strictly prohibited" was violated (see Fig. 2, Image d).

On an exploratory basis, we evaluated whether different levels of experienced autonomy might influence individuals' emotional state and thereby influence their tendency to behave unethically. Thus, after indicating the extent to which they felt unconstrained by rules, participants completed the Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988). Specifically, they reported the extent to which they were feeling each of the following 10 positive affects (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, active; $\alpha = 0.90$) and 11 negative affects (resentful, distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid; $\alpha = 0.90$).

[2] Since the pairwise comparisons between the high-autonomy condition and each of the other three conditions were directional and planned a priori, *p*-values were not adjusted for multiple comparisons (Pagano, 2013, p. 422).

[3] Independent samples *t*-tests also confirmed that participants in the high-autonomy condition ($M = 2.82$, $SE = 1.34$) felt more unconstrained by rules than those in the control condition ($M = 2.39$, $SE = 1.39$, $p = 0.02$), the low-autonomy condition ($M = 2.40$, $SE = 1.34$, $p = 0.02$), and the moderate-autonomy condition ($M = 2.48$, $SE = 1.30$, $p = 0.07$).

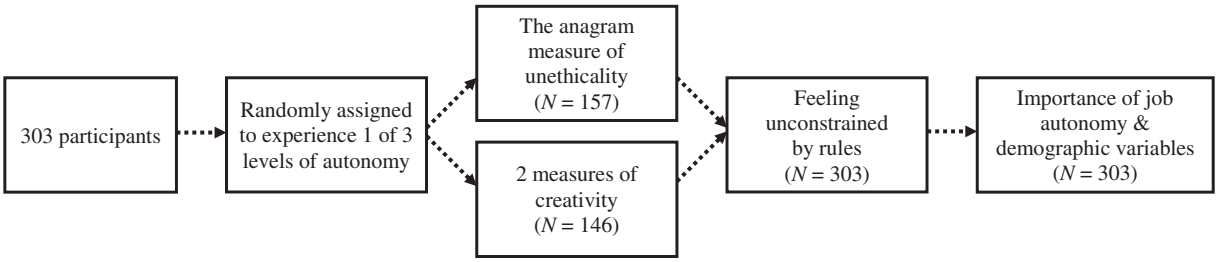

Fig. 4. The experimental procedure of Study 4.

8.3. Results

8.3.1. Feeling unconstrained by rules

As in Study 3a, because the variable *feeling unconstrained by rules* was positively skewed, we used non-parametric tests to compare the three conditions. A Kruskal-Wallis test revealed that the three conditions differed significantly in feeling unconstrained by rules, $\chi^2(2) = 8.48$, $p = 0.014$. Consistent with Study 3a and Hypothesis 2, participants in the high-autonomy condition (median = 2.33) felt more unconstrained by rules than both those in the low-autonomy condition (median = 1.67, $Z = 2.80$, $p = 0.005$) and the control condition (median = 2.00, $Z = 2.04$, $p = 0.041$).[4] There was no significant difference between the low-autonomy and control conditions ($Z = -0.89$, $p = 0.38$).

8.3.2. Positive and negative affect

One-way ANOVA tests revealed that the high-autonomy condition did not significantly differ from the other two conditions on overall positive affect, overall negative affect, or on any of the individual affect items (all $ps > 0.05$).

8.4. Discussion

Consistent with Study 3a and Hypothesis 2, Study 3b provided direct evidence that experiencing a high level of job autonomy led individuals to feel less constrained by rules—that is, even when unethical behavior was not assessed in between the manipulation of autonomy and the measure of how much participants felt unconstrained by rules. Furthermore, because the three conditions did not differ in levels of positive or negative affect, Study 3b ruled out the possibility that the sentence-unscrambling task influenced participants' unethical behavior by altering their emotional states.

9. Study 4: Experienced job autonomy increases unethical behavior and creativity

The goals of Study 4 were two-fold. First, we employed a similar experimental design to test whether Study 3a's findings were replicable (i.e., the main effect of experienced job autonomy on unethical behavior, the mediating effect of feeling unconstrained by rules, and the moderating effect of the importance of having job autonomy). Second, Study 4 further evaluated the validity of the manipulation of the experience of job autonomy by ascertaining whether participants in the high-autonomy condition showed greater creativity. Prior research has established that priming people with a high level of autonomy enhances their creativity (e.g., Weinstein et al., 2010). If our prime indeed influenced the level of job autonomy that participants experienced, then the same prime should increase both unethical behavior and creativity. Hence, in Study 4, after priming participants to experience different levels of job autonomy, we randomly assigned half of them to do the same anagram task that served to measure unethical behavior, and the other half to complete two measures of creativity. This enabled us to causally test for both a downside and an upside of job autonomy in the context of a single study.

9.1. Participants and design

We recruited 306 participants from MTurk to ostensibly pretest a number of cognitive tasks. As in Studies 3a and 3b, participants qualified only if they were current employees, native speakers of English, located in the United States, and had an approval rate above 98% for their previous HITs on MTurk. Among them, 81.7% self-identified as White, 6.2% as Hispanic/Latino, 4.6% as Black/African American, 3.3% as Asian, and the rest as Other. No participant suspected the actual purpose of the study. Three participants were excluded for their incomplete answers on the sentence-unscrambling task, leaving 303 participants for the purpose of data analysis (62.7% female; $M_{age} = 37.28$, $SD_{age} = 13.35$).

As in Study 3b, participants were randomly assigned to one of three experimental conditions: low autonomy, high autonomy, or autonomy-unrelated control.

9.2. Materials and procedure

Fig. 4 depicts the experimental procedure. Participants first were randomly assigned to experience one of three levels of job autonomy, next were randomly assigned to complete either the anagram task measuring unethical behavior or two creativity tasks, then responded to a measure of feeling unconstrained by rules (the proposed mediator), and finally completed a measure of the importance of having job autonomy (the proposed moderator) embedded in a list of demographic variables.

9.2.1. Job autonomy prime

First, all participants completed the same sentence-unscrambling manipulation used in Study 3b (low autonomy, high autonomy, and autonomy-unrelated control).

9.2.2. Unethical behavior and creativity

Next, we randomly assigned half of the participants to complete the same anagram task used in Study 3a that assessed unethical behavior ($N = 157$), and the other half to perform two tasks that measured creativity ($N = 146$).

Two critical aspects of creativity are divergent thinking and convergent thinking (Lu, Akinola, & Mason, 2017). Divergent thinking occurs when the subject generates *multiple* creative ideas in diverse directions (Guilford, 1967). To measure divergent thinking, we employed the most commonly used Alternative Uses Task (AUT; Guilford, 1967), in which participants generated as many creative uses as they could for a newspaper within 1 min (Gino & Wiltermuth, 2014). Two independent raters blind to the experimental conditions coded responses for fluency (i.e., the total number of non-repeated uses; $ICC_{fluency} = 0.99$), flexibility (i.e., the total number of unique categories

[4] Independent samples *t*-tests also confirmed that participants in the high-autonomy condition ($M = 2.68$, $SE = 1.32$) felt more unconstrained by rules than both those in the low-autonomy condition ($M = 2.17$, $SE = 1.14$; $t[171] = 2.74$, $p = 0.007$) and the control condition ($M = 2.25$, $SE = 1.05$, $t[170] = 2.36$, $p = 0.020$).

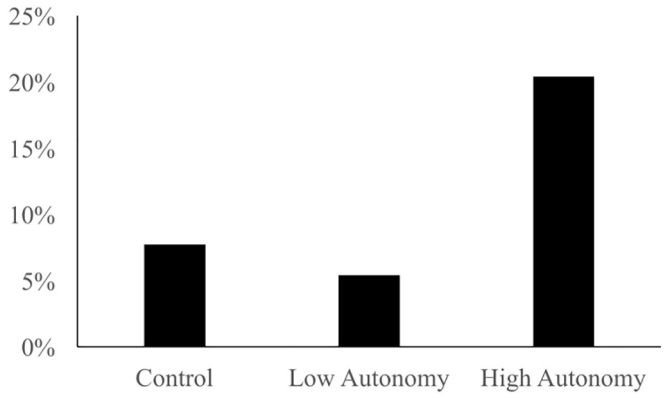

Fig. 5. Percentage of cheating on the anagram task by condition (Study 4, $N = 157$).

Table 4
Performance on the Creativity Measures (Study 4).

	Alternative Uses Task			Remote Associates Test
Condition	Fluency	Flexibility	Novelty	Number of RAT items solved
Control	5.91 (2.20)	4.47 (1.52)	2.68 (0.39)	7.33 (2.85)
Low autonomy	5.86 (1.83)	4.69 (1.49)	2.60 (0.46)	7.26 (2.51)
High autonomy	6.99 (2.41)	5.45 (1.65)	2.89 (0.47)	8.63 (2.66)

Note. The values in parentheses are standard deviations.

of uses; $ICC_{flexiblity} = 0.91$), and novelty (i.e., how novel a use is, $IC-C_{novelty} = 0.79$). In contrast, convergent thinking occurs when the subject identifies the *unique* or *best* solution to a clearly defined problem (Cropley, 2006). In order to solve problems that require convergent thinking, the subject applies rules and logic to make associations among related elements to arrive at the "Aha!" moment (Kershaw & Ohlsson, 2004). We measured convergent thinking with the widely-used Remote Associates Test (RAT; Baas, De Dreu, & Nijstad, 2011; Lu, Hafenbrack, et al., 2017; Mednick, 1962; Roskes, De Dreu, & Nijstad, 2012; Zhong, Dijksterhuis, & Galinsky, 2008). Participants had a maximum of 5 min to attempt 15 RAT items (Appendix B) from Lu, Akinola, and Mason (2017); the more RAT items participants solved, the greater their creativity. For each item, they were presented with three cue words and were required to generate a fourth word that was logically associated with each of the three words (e.g., chocolate, fortune, tin ➔ cookie). The order in which participants completed the AUT and RAT was counterbalanced.

9.2.3. Feeling unconstrained by rules

After completing either the anagram task or the two creativity tasks, all participants responded to the same measure of feeling unconstrained by rules used in Study 3b.

9.2.4. The importance of having job autonomy

Finally, alongside various demographic variables, all participants completed the same measure used in Study 3a (Hackman & Oldham, 1980) to indicate the extent to which having job autonomy was important to them.[5]

[5] Consistent with Study 3a, the experimental manipulation did not affect participants' importance of having job autonomy, $F(2, 300) = 0.44$, $p = 0.65$.

9.3. Results and Discussion

9.3.1. Unethical behavior (Hypothesis 1)

A chi-square test of association suggested that the three conditions differed significantly in cheating rate, $\chi^2(2, N = 157) = 6.92$, $p = 0.031$. Replicating the findings of Study 3a, the level of cheating in the high-autonomy condition (20.4%) was higher than in both the control condition (7.7%; $\chi^2[1, N = 101] = 3.42$, $p = 0.065$) and the low-autonomy condition (5.4%; $\chi^2[1, N = 105] = 5.46$, $p = 0.019$) (Fig. 5). As in Study 3a, there was no significant difference between the control and low-autonomy conditions ($\chi^2[1, N = 108] = 0.24$, $p > 0.25$), so we combined them into a single condition named "control-low."

9.3.2. Creativity

One-way ANOVA tests indicated that the three conditions differed significantly on each of the creativity measures (AUT fluency: $F[2, 143] = 4.18$, $p = 0.017$; AUT flexibility: $F[2, 143] = 5.32$, $p = 0.006$; AUT novelty: $F[2, 143] = 5.47$, $p = 0.005$; correct RATs: $F[2, 143] = 3.96$, $p = 0.021$). Consistent with prior studies (Weinstein et al., 2010), independent samples t-tests revealed that on each creativity measure, the high-autonomy condition outperformed both the control condition (AUT fluency: $t[97] = 2.32$, $p = 0.022$; AUT flexibility: $t[97] = 3.07$, $p = 0.003$; AUT novelty: $t[97] = 2.38$, $p = 0.019$; correct RATs: $t[97] = 2.33$, $p = 0.022$) and the low-autonomy condition (AUT fluency: $t[93] = 2.57$, $p = 0.012$; AUT flexibility: $t[93] = 2.35$, $p = 0.021$; AUT novelty: $t[93] = 3.03$, $p = 0.003$; correct RATs: $t[93] = 2.58$, $p = 0.012$; see Table 4).

9.3.3. Feeling unconstrained by rules (Hypothesis 2)

As in Studies 3a and 3b, since the variable "feeling unconstrained by rules" was positively skewed, we used non-parametric tests to compare the three conditions. A Kruskal-Wallis test revealed that the three conditions differed significantly in feeling unconstrained by rules, $\chi^2(2) = 14.15$, $p < 0.001$. Consistent with Studies 3a and 3b and Hypothesis 2, participants in the high-autonomy condition (median = 2.67) felt significantly more unconstrained by rules than both those in the control (median = 2, $Z = 3.25$, $p = 0.001$) and low-autonomy (median = 2, $Z = 3.29$, $p = 0.001$) conditions.[6] As before, there was no significant difference between the control and low-autonomy conditions ($Z = 0.22$, $p > 0.25$). The heightened sense of being unconstrained by rules in the high-autonomy condition emerged for both those who completed the anagram task ($\chi^2[2] = 9.02$, $p = 0.011$) and those who completed the creativity tasks ($\chi^2[2] = 5.73$, $p = 0.057$).

9.3.4. Mediation by feeling unconstrained by rules (Hypothesis 3)

9.3.4.1. Unethical behavior. Consistent with Study 3a, a bootstrapping analysis with 5000 iterations contrasting the high-autonomy condition with the control-low condition confirmed the mediating effect of feeling unconstrained by rules, as the bias-corrected 95% confidence interval for the indirect effect did not include zero [0.1425, 1.5987]. As in Study 3a, high autonomy led individuals to feel less constrained by rules, which in turn led to more unethical behavior.

9.3.4.2. Creativity. Following Gino and Wiltermuth (2014), we standardized the four creativity measures and then averaged them to create a composite measure. Feeling unconstrained by rules did not mediate the effect of primed job autonomy on creativity, as it was not correlated with any of the four individual creativity measures or with

[6] Independent samples t-tests also confirmed that participants in the high-autonomy condition ($M = 2.85$, $SE = 1.28$) felt more unconstrained by rules than both those in the low-autonomy condition ($M = 2.26$, $SE = 1.24$, $t[198] = 3.33$, $p = 0.001$) and the control condition ($M = 2.28$, $SE = 1.20$; $t[198] = 3.21$, $p = 0.002$).

the composite measure (all $ps > 0.25$).

9.3.5. Moderation by the importance of having job autonomy (Hypothesis 4)

Consistent with Study 3a and with Hypothesis 4, the interaction between primed job autonomy and the importance of having job autonomy (mean-centered based on the mean of the entire sample) was significant ($B = -1.20$, $SE = 0.57$, $Wald = 4.49$, $p = 0.034$), such that the tendency for high job autonomy to elicit unethical behavior was weaker among participants for whom having job autonomy was more important.

For exploratory purposes, we also evaluated whether the importance of having job autonomy moderated the effect of primed job autonomy on any of the creativity measures. In fact, it did not (all $ps > 0.25$).

10. General discussion

Taken together, the present studies provide evidence that experiencing a high level of job autonomy can foster unethical behavior. The relationship between experienced job autonomy and unethical behavior was robust across multiple methods and cultures. Using a field survey on Israeli employees, Studies 1 and 2 provided correlational evidence that experienced job autonomy positively predicted unethical behavior. Extending Studies 1 and 2, Study 3a employed an experimental design that was high in internal validity. American participants who were primed to experience a high level of job autonomy were significantly more likely to cheat on a subsequent task. Additional results from Study 3a suggested that the effect of experienced job autonomy on unethical behavior was mediated by a heightened sense of being unconstrained by rules. Moreover, Study 3b confirmed that a higher level of experienced job autonomy led participants to feel less constrained by rules. To answer the "when" question, Study 3a further revealed that the effect of job autonomy on unethical behavior was moderated by the importance that participants assigned to having job autonomy, such that the experience of high job autonomy was less likely to elicit unethical behavior among participants for whom having job autonomy was more important. Study 4 replicated all of Studies 3a and 3b's results, demonstrating the reliability of our findings. Moreover, the significant effect of primed autonomy on creativity in Study 4 provided converging evidence of the validity of the job autonomy prime.

Importantly, Studies 1, 2, and 4 not only illustrated a downside of experiencing high job autonomy (i.e., unethical behavior), but also replicated its well-established upsides (i.e., heightened job satisfaction and creativity). It is noteworthy that each of these studies demonstrated the experience of high job autonomy to be double-edged in the context of *the same study*. For instance, if the experience of job autonomy had increased unethical behavior in one study and increased creativity in a different study, it would be less clear if these results were due to differences between the two studies (e.g., differences in participant samples, differences in the weather when the two studies were administered, etc.). Thus, the fact that each of Studies 1, 2, and 4 provided *simultaneous* evidence of both a downside and an upside of experiencing job autonomy suggests that it was the experience of job autonomy that was responsible for the current findings, rather than some other between-study differences.

10.1. Theoretical contributions

By illuminating the dark side of experienced job autonomy, the present findings offer a notable extension to its conceptualization, thus contributing to job design theories. Traditionally, job autonomy has been widely touted for its positive effects on people's work attitudes (e.g., job satisfaction) and behaviors (e.g., creative performance; Deci et al., 2017; Hackman & Oldham, 1976). Overlooked in these works is the possibility that the experience of job autonomy can induce a sense of being unconstrained by rules and thereby increase unethical behavior. In addition to broadening the conceptualization of job autonomy, Studies 3a, 3b, and 4 serve the theoretically and practically important purposes of delineating: (1) *why* the experience of job autonomy has a negative effect on ethicality (experiencing greater job autonomy leads people to feel less constrained by rules, which, in turn yields more unethical behavior), and (2) *when* this effect is more versus less pronounced (the effect is weaker among individuals for whom having job autonomy is more important).

In the economics literature on autonomy, researchers have found that individuals may value autonomy so much that they are willing to sacrifice some of their own economic benefits in exchange for it (e.g., Bartling, Fehr, & Herz, 2014; Fehr, Herz, & Wilkening, 2013). Extending this result, the present studies examined an important consequence of *variation* in how much people value having job autonomy. In particular, the effect of job autonomy on unethical behavior was weaker for participants who valued having job autonomy. This might have occurred because the experience of fit (between how much one values having job autonomy and how much job autonomy one actually felt) served as an antidote to behaving unethically in response to experiencing high autonomy (Camacho et al., 2003).

10.2. Practical implications

Modern organizations are increasingly providing their employees with higher levels of job autonomy. Prominent firms such as Google often boast about how much autonomy their employees enjoy and how such autonomy has benefitted their organization and even the world. For example, the innovation of Gmail owes its origin to Google's "20% time" policy, whereby employees are free to devote one day a week to side projects that they are passionate about (Mediratta, 2007). At the same time, Google has been consistently ranked among America's happiest companies to work for (www.careerbliss.com). Focusing on these positive consequences of job autonomy, many organizations are following suit, yet they may have overlooked the potential dark side of job autonomy.

If the experience of job autonomy fosters unethical conduct among employees, is it possible for organizations to capture the benefits of experienced job autonomy without the unintended cost of unethicality? The present research provides an answer to the question by uncovering the moderating effect of the importance of having job autonomy. Specifically, both Studies 3a and 4 revealed that the experience of job autonomy was less likely to elicit unethical behavior among individuals for whom having job autonomy was more important. At the workplace, if an employee values having job autonomy, then providing it may enhance his or her job satisfaction and creativity (e.g., devoting the "20% time" to innovative projects); in contrast, if an employee does not value job autonomy, then he or she may abuse it when it is available (e.g., wasting the "20% time" to play computer games). Hence, high-autonomy organizations could attenuate the potential ethical costs of job autonomy by hiring individuals who value having job autonomy, as well as by creating organizational conditions in which high autonomy is not only experienced but also valued.

10.3. Limitations and directions for future research

10.3.1. The importance of having job autonomy

Whereas Studies 3a and 4 showed that the importance that individuals assign to having job autonomy moderated the effect of experienced autonomy on the tendency to behave unethically, it remains for future research to delineate the mechanism responsible for this moderating influence. The present findings are consistent with prior research showing that the experience of fit heightens people's sense of morality (Camacho et al., 2003; Carter et al., 2017), which may have served as an antidote to behaving unethically in response to experiencing high autonomy. Nevertheless, further research is needed to

evaluate this possibility more directly.

10.3.2. Other potential moderators and mediators

While the present research showed that the importance of having job autonomy moderated the effect of experienced job autonomy on unethical behavior, future research should explore other potential boundary conditions. Such research is not only important on theoretical grounds, but also critical for organizations seeking to harvest the benefits of job autonomy without the unintended cost of unethicality. It is well accepted that behavior, unethical or otherwise, is a function of people's ability as well as motivation to engage in it (Vroom, 1964). The present studies were based on the notion that job autonomy was an *enabler* of unethical behavior (by inducing a sense of being unconstrained by rules) rather than a *motivator* of unethical behavior in and of itself. Indeed, the moderating effect of the importance that individuals assigned to having job autonomy (on the relationship between job autonomy and unethical behavior) is consistent with this possibility. When people value high job autonomy, they are less likely to behave unethically in response to experiencing high job autonomy, perhaps so as not to jeopardize its very continuation.

Future research also needs to examine how other factors that motivate or make people want to behave ethically may interact with their experience of autonomy to influence their tendency to behave ethically. For instance, moral identity, which refers to how important being moral is to people's sense of self-identity (Aquino & Reed, 2002), may also moderate the relationship between the experience of job autonomy and unethical behavior. Characterized by high self-regulation, individuals with a strong moral identity are motivated to behave consistently with their internal moral compass (Aquino & Reed, 2002; Blasi, 1980). Thus, much like those who assigned greater importance to having job autonomy in Studies 3a and 4, those higher in moral identity may be less likely to behave unethically when experiencing job autonomy, relative to their counterparts lower in moral identity (Gino, Schweitzer, Mead, & Ariely, 2011).

Furthermore, whereas Study 4 replicated previous research showing that high autonomy yielded greater creativity (Liu et al., 2011), the relationship between autonomy and creativity was not mediated by how much participants felt unconstrained by rules. Perhaps a broader sense of intrinsic motivation (Amabile, 1983) or harmonious passion (Liu et al., 2011) might have played a mediating role in the context of Study 4. Future research is needed to examine these possibilities.

10.3.3. Priming vs. providing job autonomy

One limitation of Studies 3 and 4 is that job autonomy was primed rather than provided. Although priming individuals with job autonomy is not the same as providing them with actual job autonomy, we believe that this concern is considerably allayed for several reasons. First, as discussed in Study 3a, past studies have shown that priming autonomy produces similar effects as providing actual autonomy (e.g., Hodgins et al., 2010; Weinstein & Hodgins, 2009; Weinstein et al., 2010; Weinstein et al., 2011). For example, as pointed out by Weinstein et al. (2011), "experimental work has shown that both individual-difference and primed autonomy lead to increased use of personalizing pronouns…" (p. 529). Second, consistent with past findings that providing individuals with actual job autonomy increases creativity (Liu et al., 2011), Study 4 found that participants who were primed with a high level of job autonomy exhibited the highest creativity (see also Weinstein et al., 2010). Therefore, we speculate that providing individuals with actual job autonomy would have produced similar effects (i.e., increased unethical behavior and creativity) as did our job autonomy prime. This possibility awaits future investigation.

10.3.4. What happens if existing job autonomy is taken away?

It would be important for future research to explore what happens when a high level of job autonomy is first given and then taken away (as in the case of Yahoo). Numerous studies (e.g., research on the endowment effect; Kahneman, Knetsch, & Thaler, 1991) have supported the notion that "losses loom larger than gains" (Kahneman & Tversky, 1979). Therefore, when employees' existing job autonomy is reduced or removed, they not only may experience less job satisfaction and exhibit less creativity, but also may retaliate against their organization by engaging in counterproductive and unethical behaviors (e.g., leaking confidential company information; Rousseau, 1989; Skarlicki & Folger, 1997).

While these and other questions await future research, for now it can be concluded that under certain conditions there may well be a dark side of experiencing high degrees of job autonomy: the unleashing of unethical behavior.

Acknowledgments

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Appendix A. Stimuli used in the sentence-unscrambling task (Studies 3a, 3b, & 4)

Autonomy-Unrelated Control	Low Job Autonomy	Moderate Job Autonomy	High Job Autonomy
You have arrived at the school gate.	You must arrive to work at 8am.	You can arrive to work around 8am.	You can arrive to work whenever convenient.
I often eat lunch with soda or lemonade.	You should eat lunch between 12pm and 1pm.	You can eat lunch between 11am and 3pm.	You can eat lunch any time you prefer.
You worked on the project today.	You must work in the office.	You can work remotely with permission.	Work from home whenever you wish.
She is dressed in white today.	Please dress formally while at work.	Please dress appropriately while at work.	Please dress comfortably while at work.
There are books on the desk.	Your desk should always be clean.	Try keeping your desk reasonably organized.	Feel free to personalize your desk.
He often exercises in the afternoon.	Do not exercise during work hours.	You may exercise during lunch break.	You may exercise whenever you want.
He took a nap because he felt sleepy.	You should never take any naps at work.	You can take a short nap after lunch.	You may take naps whenever it is necessary.
This morning he talked about the product with the customers.	You can have up to 10 vacation days every year.	You may have up to 30 vacation days every year.	You may have as many vacation days as you wish.

This ID tag was designed by Staples last year.	You must wear the standardized ID tag every day.	You can choose your ID tag from our designs.	You can design and wear your own ID tags.
He is listening to classical music with his headphones.	You may not listen to any music at work.	You may listen to music if you wear headphones.	You can play music at work at any time.
They are ready to leave their home.	They are ready to leave their home.	They are ready to leave their home.	They are ready to leave their home.
We met for coffee in the morning.	We met for coffee in the morning.	We met for coffee in the morning.	We met for coffee in the morning.
He replied to a Facebook message.	He replied to a Facebook message.	He replied to a Facebook message.	He replied to a Facebook message.
His parents have three dogs at home.	His parents have three dogs at home.	His parents have three dogs at home.	His parents have three dogs at home.
You drank some water because you were thirsty.	You drank some water because you were thirsty.	You drank some water because you were thirsty.	You drank some water because you were thirsty.

Note. The sentences listed in the column "High Job Autonomy" represent actual job autonomy policies used by real-world corporations.

Appendix B. Remote Associates Test (Study 4)

Word 1	Word 2	Word 3	Solution
Blank	White	Lines	Paper
Magic	Red	Floor	Carpet
Thread	Pine	Magnetic	Needle
Stop	Petty	Sneak	Thief
Envy	Golf	Beans	Green
Chocolate	Fortune	Tin	Cookie
Barrel	Root	Belly	Beer
Broken	Clear	Eye	Glass
Gun	Salt	Fall	Water
Chamber	Staff	Box	Music
Sharp	Blue	Cake	Cheese
Hall	Car	Swimming	Pool
Square	Cardboard	Lunch	Box
High	Book	Foot	Note
Gold	Stool	Tender	Bar

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