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The hungry thief: Physiological deprivation and its effects on unethical behavior

Kai Chi Yam [a,*], Scott J. Reynolds [a], Jacob B. Hirsh [b,c]

[a] Department of Management and Organization, Michael G. Foster School of Business, University of Washington, USA
[b] Institute of Management and Innovation, University of Toronto Mississauga, Canada
[c] Rotman School of Management, University of Toronto, Canada

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ABSTRACT

We conducted five studies to examine the effects of physiological deprivation on unethical behavior. Consistent with predictions from Reinforcement Sensitivity Theory, we found that physiologically deprived participants engaged in unethical behavior related to obtaining physiological satiation. Contrary to models in which deprivation increases global unethical behavior, hungry and thirsty participants also engaged in less physiologically-unrelated unethical behavior compared to control participants (Studies 1–3). Studies 4 and 5 confirmed that the effects of physiological deprivation on both types of unethical behavior were mediated by a heightened engagement of the Behavioral Approach System (BAS). In addition, we found that the salience of an organizational ethical context acted as a boundary condition for the mediated effect. Participants reminded of the organizational ethical context were less likely to engage in need-related unethical behavior even when physiologically deprived. We conclude by considering the theoretical and practical implications of this research.

Introduction

Daily experience suggests that our behaviors are heavily influenced by physiological drives. We eat when we are hungry, drink when we are thirsty, and rest when we are fatigued. Positive changes in physiological states normally have a direct hedonic impact (Loewenstein, 1996) in that the satisfaction of such drives can be construed as a primary source of reward (Hull, 1943). Organizational life, however, particularly in times of economic or social crisis, can disrupt the fulfillment of such physiological drives. Stories of employees who were deprived or deprived themselves physiologically in the name of organizational productivity abound. In the developing world, it is common for underpaid factory and field laborers to work long hours with little concern for their physiological well-being. Even in developed nations, these basic bodily needs are sometimes neglected in order to meet work demands: a day trader needs to be engaged while the market is open and cannot afford to break for lunch; a busy bank teller remains dehydrated to avoid the disruption of frequent bathroom breaks. In such cases, the needs of the body are temporarily put aside in order to perform well at work.

In the current research, we examine the relationship between physiological deprivation and unethical conduct. Physiological deprivation is relevant for ethics because physiological drives, while entirely natural, are often in conflict with an individual's long-term interests. As examples, individuals who want to lose weight are often unable to resist the temptation to eat when hungry, and sexual excitement can lead to actions that would never be undertaken in a non-aroused state (Ariely & Loewenstein, 2006). More generally, states of physiological arousal can have a powerful effect on cognition and motivation, with important implications for unethical behavior. In particular, deprived individuals may engage in unethical behavior to fulfill their physiological needs, even when the behavior is in conflict with personally-valued long-term goals. To date, a great deal of research on unethical behavior has focused on higher-level processes, whether they be deliberate and rational cognitive processes or automatic and emotional responses (for recent reviews and discussions, see; Kish-Gephart, Harrison, & Treviño, 2010). Surprisingly, however, we know very little about the effects of fundamental physiological drives on unethical behavior.

To explore this relationship, we draw upon insights from Reinforcement Sensitivity Theory (Corr, 2008; Gray & McNaughton, 2000). This biopsychological theory explains general behavioral activities as a consequence of three neural systems, each with their own functions and objectives. We suggest that the theory

* Corresponding author.
E-mail addresses: kcyam@uw.edu (K.C. Yam), heyscott@uw.edu (S.J. Reynolds), jacob.hirsh@rotman.utoronto.ca (J.B. Hirsh).

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generates several interesting predictions about physiological deprivation and unethical behavior: (1) that physiological deprivation will be positively associated with unethical behavior, but only with behavior related to the satiation of the deprived physiological state; (2) that physiological deprivation will be *negatively* associated with unethical behavior unrelated to the deprived physiological state; (3) that a heightened drive state mediates this relationship; and (4) that the salience of an organizational ethical context can moderate this relationship. We test our hypotheses in five studies using a variety of methods and samples to maximize both internal and external validity. Ultimately, this research makes a contribution to the literature by providing a deeper scholarly understanding of when, how, and why physiological deprivation influences unethical behavior.

Theoretical background and hypotheses

Reinforcement Sensitivity Theory

Reinforcement Sensitivity Theory (RST) suggests that three primary systems, the Behavioral Inhibition System (BIS), the Behavioral Approach System (BAS), and the Fight–Flight–Freeze System (FFFS) interact to produce motivated behavior (Gray, 1982; Gray & McNaughton, 2000). The BIS is a system of brain structures involved in the slowing or cessation of behavior in response to goal-conflict, and represents the neural basis of anxiety. This conflict-related anxiety is distinct from fear, which reflects the operation of the FFFS to support the active avoidance of aversive stimuli (i.e., pure avoidance motivation with no conflicting goals). When uncertainty regarding the appropriate behavioral response to a situation exists (e.g., whether to approach or avoid an ambiguous stimulus), the BIS temporarily suppresses the conflicting behaviors and boosts arousal and environmental scanning so that the individual can identify the most appropriate response (Hirsh, Mar, & Peterson, 2012). In an organizational context, BIS may serve, as an example, to inhibit an employee's impulse to retaliate against a difficult colleague or to engage in counterproductive workplace behavior. In either case, it is the awareness of how such actions would conflict with other important goals (such as maintaining a positive reputation) that triggers the inhibition of the impulsive action.

The BAS, in contrast, is a brain circuit associated with the approach and pursuit of potential rewards, acting as the seat of approach motivation (Gray, 1978, 1982). The BAS supports appetitive movement toward a desired goal, and is often associated with positive affect (Gray, 1990; Watson, Wiese, Vaidya, & Tellegen, 1999). The BAS is instantiated by the mesolimbic dopamine system, which is the brain's primary reward system that supports incentive motivation and drive states (Berridge, 1996; Schultz, Dayan, & Montague, 1997; Wise, 2004). When the BAS is activated, the individual's attention tends to hone in on attaining the currently desired goal (Gable & Harmon-Jones, 2008). This narrowing of attention is mediated by dopaminergic activity in response to reward cues, and has been described as a "wanting" or "craving" state (Berridge, 1996). In extreme cases of wanting, such as addiction, the dopaminergic BAS comes to dominate an individual's actions, with attention being fully captured by the potential reward to the exclusion of all other concerns (Hyman & Malenka, 2001). Under normal situations, the narrowing of attention to potential rewards facilitates goal-directed behavior by eliminating distractions from competing goals (Gable & Harmon-Jones, 2008).

Importantly, the BIS and BAS are mutually antagonistic; as one system becomes more strongly activated, the other becomes less strongly activated (Corr, 2002; Hirsh, Galinsky, & Zhong, 2011). In other words, producing goal conflict by increasing the salience of alternative goals tends to increase the BIS and reduce the BAS. Conversely, strengthening the BAS so that only a single goal is salient will decrease goal conflict and the related BIS activity (Corr, 2002). In an organizational context, a disinhibited BAS could lead to beneficial outcomes such as motivated engagement with a work task, or detrimental outcomes such as the zealous pursuit of self-interest (which may ultimately lead to unethical behavior) with no concern for competing goals (Hirsh et al., 2011). In the following sections, we employ RST, focusing specifically on the consequences of BAS activation, as the theoretical foundation for our hypotheses.

Physiological deprivation and unethical behavior

Satiation of physiological needs (e.g., hunger, thirst) is critical for survival (Maslow, 1943). In classic behavioral research, food deprivation was established as a reliable way of inducing a motivated drive state, increasing the perceived value of food-related rewards (Hull, 1943). More recent developments in behavioral neuroscience have established that this deprivation-induced drive state is mediated by the mesolimbic dopamine reward system (Berridge, 1996; Lowe, Van Steenburgh, Ochner, & Coletta, 2009). Put differently, food deprivation increases activity in the BAS, strengthening goal pursuit by dramatically increasing the salience of actions that lead to food while rendering competing goals less salient. BAS activation has similarly been observed in response to other physiological drive states, such as sexual arousal (Janssen, Vorst, Finn, & Bancroft, 2002) and thirst (Dourish, 1983). Importantly, the outcome is the same regardless of the specific deprivation state, in that the individual primed by a physiological need develops a single-minded pursuit of achieving satiation (cf. Loewenstein, 1996). Because physiological needs are widely recognized to be the most fundamental of needs (e.g., Maslow, 1943), their deprivation can lead to a myopic state in which the individual ignores other conflicting goals until the need is satiated. This extreme focus on one particular goal-directed behavior is consistent with the function of the BAS in facilitating goal pursuit.

We suggest that unethical behaviors that are instrumental in reducing the deprived physiological state will be facilitated by BAS activation. To the extent that a physiological need is present and its satiation requires the individual to cause harm or violate a moral norm (i.e., to act unethically, Jones, 1991; Reynolds, 2006a), the BAS will drive the individual to do so by reducing the relative salience of competing goals. Such a response may be detrimental to the long-term interests of the individual, but as the BAS limits awareness of alternative goals (e.g., about maintaining a particular ethical standard). Thus, the individual would nevertheless commit the unethical behavior. One example of this process would be hungry restaurant employees stealing food from the kitchen instead of focusing on the moral injunction not to steal. Importantly, an increased chance of unethical behavior would only emerge when it provides a quicker route to satiating the deprived need than any other ethical options. It is worth pointing out, however, that unethical behaviors often provide a more direct and immediate path to a given goal compared to ethical actions, because they are less restricted by moral norms (e.g., cheating on an exam is easier than studying for it days in advance). Thus, we posit the following two hypotheses:

H1a. Physiologically deprived participants will engage in more need-related unethical behavior.

H1b. The effect of physiological deprivation on need-related unethical behavior will be mediated by increased BAS activation.

Whereas Reinforcement Sensitivity Theory suggests that physiological deprivation will lead to unethical behaviors that are associated with the deprived physiological need, it also suggests a

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different effect on need-unrelated unethical behaviors. Once activated, the BAS directs attention to attaining a goal, highlighting the salience of any instrumental actions. Because behaviors vary in their instrumentality for achieving satiation (e.g., when one is hungry, stealing food would satisfy the need), other potential unethical behaviors that do not directly address the physiological need are likely to be considered a distraction and thus made less salient or suppressed altogether. Imagine a thirsty office worker heading for the water foundation at work. On his way, he spies an unattended ten-dollar bill left on a colleague's desk. Though the opportunity to steal the money exists, Reinforcement Sensitivity Theory suggests that he would not engage in that unethical behavior. Having identified a means to satisfying the salient physiological need (i.e., going to the fountain), the person's BAS would effectively prevent him from considering and pursuing the money as an alternative goal because stealing money would be a distraction from the primary goal of satiating his thirst. Thus, the deprivation of a physiological need would produce a domain-specific effect on unethical behavior. On the one hand, it would promote unethical behaviors associated with the deprived need. On the other hand, it would suppress unethical behaviors unrelated to the deprived physiological need.

It is important to note that the predictions made by Reinforcement Sensitivity Theory are distinct from those made by at least one important theory of physiological deprivation's influence on ethical decision making. In particular, ego depletion theory argues that the self possesses a limited amount of cognitive resources and that self-control requires purposeful effort (Baumeister, Bratslavsky, Muraven, & Tice, 1998). Because the self's cognitive resources are limited, self-control and other behaviors are determined by the availability of cognitive resources at a given time. Empirical studies have largely supported the link between ego depletion and self-control (Hagger, Wood, Stiff, & Chatzisarantis, 2010). This depletion appears to be mediated by decreased activity in the brain's top-down attentional control networks (Robinson, Schmeichel, & Inzlicht, 2010), making it more difficult to actively suppress motivational impulses when in a depleted state. Consequently, ego depletion theory suggests a universally negative effect of depletion on unethical behavior because individuals who are depleted lack the self-control to overcome any temptations to engage in unethical behavior (Barnes, Schaubroeck, Huth, & Ghumman, 2011; Christian & Ellis, 2011; Gino, Schweitzer, Mead, & Ariely, 2011; Mead, Baumeister, Gino, Schweitzer, & Ariely, 2009).

A key distinction between the current research and studies in behavioral ethics that apply ego depletion theory is that the latter emphasize top-down cognitive depletion rather than the heightened drive states (i.e., bottom-up) that accompany physiological deprivation (e.g., Gino et al., 2011; Mead et al., 2009). Consequently, these studies have focused on the ethical implications of removing top-down cognitive control, demonstrating that a variety of unethical behaviors that are normally suppressed become more likely when individuals are in depleted states. For example, Barnes et al. (2011) found that sleep deprivation, which is known to deplete cognitive control resources (Pilcher & Huffcutt, 1996), has the effect of boosting a variety of unethical behaviors. Nevertheless, we suggest that inducing a BAS-mediated drive state through need deprivation (e.g., inducing hunger) should result in a different pattern of behavioral effects. Whereas ego depletion should increase unethical behavior across all domains (reflecting a decreased ability to inhibit salient temptations), the effects of physiological need states on unethical behavior should depend upon the specific choice domain. Researchers have recognized that human behavior emerges from the interaction of strong motivational impulses (the impulsive system) and reduced top-down control (the reflective system; Bechara, 2005). Whereas ego depletion research has examined the ethical impact of the latter, the current studies examine the impact of the former to provide a deeper understanding of the effect of physiological deprivation on unethical behavior. Specifically, while unethical behavior associated with the deprived need should become more likely as a result of BAS activation, unethical behavior unassociated with the deprived need should become less likely. Thus, we posit that:

H2a. Physiologically deprived participants will engage in less need-unrelated unethical behavior.

H2b. The effect of physiological deprivation on need-unrelated unethical behavior will be mediated by increased BAS activation.

The moderating role of organizational ethical context

Though the Reinforcement Sensitivity Theory suggests that physiological deprivation can lead to a single-minded focus on satisfying the deprived physiological need, we recognize that in organizations, deprivation is relative; in most modern organizations, employees are rarely deprived of fundamental physiological needs to the point where survival is a major concern. Consequently, the disinhibited goal-pursuit that characterizes extreme need states is less likely to be observed. Maslow (1954) acknowledged that individual needs are inter-related and can be pursued simultaneously; though an individual's needs may be deprived, attention to those needs can be contingent on other factors. When multiple needs or goals are made salient at the same time, the BAS does not narrow-mindedly direct behavior toward a single goal, but instead highlights behavioral strategies that simultaneously satisfy the parallel concerns (Hirsh et al., 2011). In the domain of ethical behavior, one of the competing goals that can temper single-minded BAS activation is the importance of maintaining ethical standards. We theorize that the contextual salience of the importance of ethical standards will thus play a moderating role between a deprivation-induced need state and unethical behavior. The contextual salience of ethical standards is a particularly important variable because it is a factor that managers can directly influence.

Organizational context refers to the environment in which a decision-maker operates (Johns, 2006). One important point on which organizational contexts can vary is the degree to which they encourage or discourage ethical behavior in organizations (Treviño, 1986; Treviño & Youngblood, 1990). As Treviño, Butterfield, and McCabe (1998) argued, organizational context can promote either ethical or unethical behavior through both formal and informal systems of behavioral control. Formal systems include organizational policies (e.g., code of ethics), programs, and structures (Treviño, Weaver, Gibson, & Toffler, 1999), whereas informal systems include organizational norms and implicit contextual cues (Kay, Wheeler, Bargh, & Ross, 2004). A strong organizational ethical context provides both explicit and implicit contextual cues that can alter the relative salience of unethical behaviors (Reynolds, Leavitt, & DeCelles, 2010). For instance, organizations that have strict codes of conduct have been found to observe lower levels of unethical behavior among their employees compared to organizations without such policies (McCabe, Treviño, & Butterfield, 1996).

Researchers have identified a relationship between contextual cues and both explicit and implicit ethical decision making processes. For example, Kay et al. (2004) found that physical items and even pictures of the items connoting competitiveness (e.g., business briefcase) influenced individual competitive behaviors. Similarly, Reynolds et al. (2010) found that instructions from a faux leader influenced the extent to which individuals acted on implicit

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beliefs about business and subsequently affected their unethical behaviors. Drawing from this interactionist perspective on ethical decision making (Treviño, 1986), we propose that physiological state will interact with the organizational ethical context in which a person is operating to shape unethical behavior. Specifically, we suggest that a salient organizational ethical context provides a means to overcome the single-mindedness associated with need-related BAS activation, allowing individuals to recognize the long-term consequences of their behavior and thus act consistently with ethical standards. Thus, to the extent that the organizational context draws attention to the moral domain, to the future consequences of actions and/or relevant moral norms, the individual's pursuit of the deprived physiological goal at the expense of ethical conduct may be tempered. In other words, a salient organizational ethical context will prevent the BAS from producing zealous pursuit of the deprived need at all costs, thereby reducing unethical behavior (see Fig. 1 for our full theoretical model). Therefore, we posit the following:

H3. Organizational ethical context will moderate the mediating effect of BAS activation such that the indirect effect of physiological deprivation on need-related unethical behavior via BAS activation will be stronger when organizational ethical context is low.

Overview of studies

We conducted five studies to test our hypotheses. In Studies 1 through 3, we first tested the main effects derived from Reinforcement Sensitivity Theory (i.e., H1a and H2a). Importantly, we manipulated participants' physiological states explicitly in Study 1 and implicitly in Study 2. In Study 3 we extended the external validity of our findings by employing a sample of working managers. In Study 4, we utilized a natural experimental design to constructively replicate our findings and to examine our full theoretical model (i.e., H1 to H3). Finally, in Study 5, we extended the findings to include a previously unconsidered domain of physiological deprivation.

Study 1

Participants and design

Participants were 68 undergraduate students at a large Western university (54% male; 57.4% Caucasian; M_{age} = 20.9). Participants were required to register for this study at least two days prior to the start of the experiment. Once registered, we instructed participants to either refrain from eating for 4 h or to have a full meal within 4 h prior to the experiment. In addition, we sent a reminder e-mail with the same instructions to each participant approximately 12–24 h prior to the scheduled time. We chose to manipulate hunger because it is a commonly experienced (e.g., delayed lunch hours due to busy work schedule), yet understudied, physiological state in the workplace that meets minimal ethical considerations (e.g., asking participants to refrain from drinking water is comparably more likely to jeopardize their health). In order to conceal the specific purpose of the experiment, we told participants that the current study was designed to measure the effect of hunger on cognitive performance.

To ensure that participants adhered to our experimental manipulation, we surveyed their current hunger level (1 = not at all to 7 = very hungry) and the last time they ate. Seven participants in the satiated condition and five participants in the hunger condition failed to adhere to instructions (e.g., some participants in the hunger condition ate right before the study) and were thus removed from further analysis. Thus, our final sample size was 56 (82.4% of the original 68 participants). Participants in the hunger condition reported being significantly hungrier (M = 5.57, SD = 1.16) than participants in the satiated condition (M = 4.24, SD = 1.62), $t(54) = 3.37$, $p < .01$. Although we had a reasonable completion rate, we conducted a series of t-tests to ensure that participants who failed to adhere to our experimental manipulation were no different from participants included in our sample. Participants who followed the experimental manipulation were no different than participants who failed to follow the experimental manipulation in terms of age, gender, or race ($ps > .60$).

Measure of unethical behavior

Unethical behavior was measured as cheating on a task for food or drink. In keeping with the premise of the study, we asked participants to complete several multiple-choice questions. We provided the following instructions prior to the task:

> Below are sample questions from 6th grade textbook test banks on the topics of geography and algebra. The questions are rather simplistic, but even so they provide an option for honest but uneducated students to mark "I don't know."
>
> We have hypotheses about the effects of having an "I don't know" option on these questions. It is difficult to test the hypotheses with educated adults, but in the event that you are unable to solve or answer any of the following questions, please feel free to indicate so by marking "I don't know."

We divided the questions into two parts of five questions each. In part one, participants were told that they would receive a free

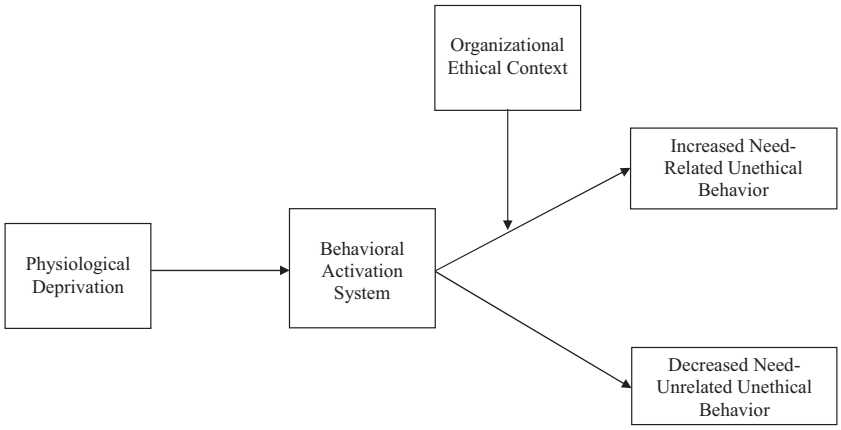

Fig. 1. Theoretical model of the current studies.

drink of their choice[1] should they be able to provide an answer to all of the questions. In part two, participants were told that they would receive a free snack bar of their choice should they be able to answer all of the questions. The drinks and snacks were both visible to the participants throughout the study. The presentation of the sections was counter-balanced. In reality, however, one question in each section was unsolvable. The first four solvable questions were extremely easy and obvious (e.g., $75 + 3X = 90$; $X = ?$), whereas the final unsolved question involved the use of nonsense symbols or words (e.g., $(3X - 5)Þ = 13$; $X = ?$). Given the instructions, the response "I don't know" was considered an honest answer for the two unsolvable questions. The two different types of unethical behavior (cheat-for-food and cheat-for-drinks) were thus coded as dichotomous variables in this study.

Results

We ran two separate sets of logistic regression models and dummy coded the experimental condition (0 = satiated; 1 = hunger). Reinforcement Sensitivity Theory suggests that participants who were hungry would be more likely to engage in unethical behavior associated with hunger reduction, and this was supported (H1a). Hungry participants were significantly more likely to cheat for food than participants who were not hungry ($b = 1.56$, $p < .05$). In addition, Reinforcement Sensitivity Theory suggests that participants who were hungry would engage in less unethical behavior that is unassociated with the deprived physiological need (H2a). Our results supported this hypothesis as participants who were hungry were actually less likely to cheat for drinks ($b = -1.42$, $p < .05$) than participants who were satiated.

Study 2

In Study 2, we attempted to manipulate physiological state using an implicit method. Although prior theorizing regarding the influences of physiological deprivation have focused on actual physiological experience, recent research suggests that imagined physiological states can also affect subsequent behavior. For example, participants who imagined eating a particular food later reduced actual food consumption (Morewedge, Huh, & Vosgerau, 2010). Per this research, we examined whether mere thoughts of hunger could trigger the behavioral responses we hypothesized. Another goal of Study 2 was to provide an additional cheating opportunity for participants. Although cheating for food and drinks were not correlated in Study 1 ($r = .22$, $p > .10$), it seems natural to conceptualize these two physiological needs as overlapping. In other words, hungry participants in Study 1 might have found cheating for drinks to be less attractive simply because they had more to drink during the fasting phrase. In order to provide stronger support for our hypotheses, we provided an additional opportunity for participants to behave dishonestly, this time without any associated material reward. Doing so eliminates the concerns that the food and drink rewards used in Study 1 satisfied overlapping needs. Finally, we sought to increase the external validity of the findings by testing our hypotheses with a sample of Master of Business Administration (MBA) and Evening MBA students.

Participants and design

Participants were 58 MBA ($n = 19$) and Evening MBA students ($n = 39$) at a large Western university (67.9% male; 73.2% Caucasian; $M_{age} = 27.46$). Two participants did not report demographic information. Trained research assistants randomly approached MBA or Evening MBA students in the business school building and solicited participation. At the end of the survey, we asked participants to guess the intent of the study. Two participants were removed for correctly guessing the study's purpose.

Participants were randomly assigned to one of the two priming conditions: hunger versus control. We employed a word completion task, a frequently used implicit priming method (Bargh & Chartrand, 1999; for a recent use of this task on behavioral ethics research, see Gino & Ariely, 2012), to psychologically manipulate the salience of hunger. In the hunger condition, participants were presented with hunger-related words (e.g., hu_ger) whereas participants in the control condition were presented with neutral words (e.g., tra_n). To conceal the true purpose of the study, all participants received six words and only three were hunger-related words in the experimental group. On average, participants in the hunger condition correctly solved 2.89 (out of three) hunger-related words. In addition, participants in the hunger condition ($M = 4.11$, $SD = 1.83$) reported to be significantly hungrier than participants in the control condition ($M = 2.76$, $SD = 1.80$), $t(54) = 2.79$, $p < .01$. Thus, our manipulation was successful in eliciting a state of experienced hunger.

Measure of unethical behavior

Unethical behavior was measured as in Study 1, with the addition of an extra section of questions. Thus, a total of three sections were presented to participants. Correct completion of the first two sections was rewarded with either a snack bar or a drink, whereas correct completion of the third section was not associated with any material reward. The ordering of the sections was again counterbalanced.

Results

We again conducted a series of logistic regression models to test the hypotheses. Participants who were primed to experience hunger were significantly more likely to cheat for food than participants who were in the control condition ($b = 1.74$, $p < .05$), supporting H1a. In addition, participants in the experimental condition were significantly less likely to cheat for drinks ($b = -1.88$, $p < .05$) and behave dishonestly in the absence of material rewards ($b = -1.73$, $p < .05$) than participants in the control condition, supporting H1b. These main effects replicate the results from Study 1 and provide additional support for our hypotheses.

Study 3

Results of Study 1 and Study 2 support the hypotheses derived from Reinforcement Sensitivity Theory. In these two studies, physiologically deprived participants engaged in more need-related unethical behavior but, contrary to the predictions of ego depletion theory, engaged in less need-unrelated unethical behavior. The goal of Study 3 was to increase the generalizability of these findings; therefore we recruited working managers as study participants and manipulated physiological deprivation in a more natural fashion.

Participants and design

Participants were working managers in a variety of industries (e.g., technology, retail, etc.). All participants were enrolled in a part-time MBA program and worked full-time at their respective organizations. During recruitment, we informed participants that the current study aimed to examine the effect of hunger on work

[1] The drinks used in Studies 1 and 2 are all diet sodas to avoid confounding with calorie intake.

performance. We contacted 95 working managers and asked them to complete an online survey at work. Eighty-eight working mangers completed the present study, yielding a response rate of 92.6%. Participants were randomly assigned to either complete the survey right before their lunch hours or right after their lunch hours. We surveyed participants' levels of hunger with a sliding scale (0 = not hungry at all; 100 = very hungry) as a manipulation check. As expected, participants who were instructed to complete the study prior to their lunch hours (M = 67.75, SD = 21.79) reported to be significantly hungrier than participants who completed the study after their lunch hours (M = 23.21, SD = 23.46), $t(84) = 8.39$, $p < .01$.

Measure of unethical behavior

We sought to triangulate our results using another measure of unethical behavior by adopting a task from previous research (Gino & Pierce, 2009). Participants were presented with two sections of cognitively demanding mathematical summation questions and were asked to choose the numbers with two decimal digits that would add up to ten (e.g., 2.45 + 3.55 + 4.00 = 10). In one section, participants were told that they could earn up to $10 worth of gift cards to a grocery store (i.e., cheat-for-food) depending on the number of questions they correctly solved. In the second section, participants were told that they could earn up to $10 worth of gift cards to an electronics store, depending on the number of questions they correctly solved. The presentation of the sections was counter-balanced. We told participants to use any computer system to aid their calculation. In each section, we specifically told participants to spend no more than 1 min in attempting the questions, but did not enforce this rule (i.e., the browser did not automatically close after 1 min). Unbeknownst to the participants, we recorded the amount of time they spent on the browser when trying to complete the math questions. Because it was impossible to finish all questions within 1 min and the reward was contingent on performance, spending more than the pre-specified amount of time to complete the task was used as a measure of unethical behavior. Participants who spent less than 1 min were coded as spending 60 s on the task (i.e., spending 40 s on the task was no more honest than spending 60 s).

Results

Consistent with the Hypotheses 1a and 2a, hungry participants cheated for food-related products (M = 81.13, SD = 22.24) significantly more than participants who were not hungry (M = 71.47, SD = 12.51), $t(86) = 2.44$, $p < .05$. Hungry participants also cheated for food-unrelated products (M = 66.38, SD = 7.75) significantly less than participants who were not hungry (M = 82.50, SD = 24.12), $t(86) = -4.37$, $p < .01$.

Study 4

Results from Studies 1–3 revealed a domain-specific effect of physiological deprivation on unethical behavior. As predicted by RST, participants who fasted, were primed with hunger, or completed the study before lunch engaged in less unethical behavior unrelated to the deprived need (i.e., H2a). In addition, we also found that physiologically-deprived participants engaged in more unethical behavior related to their deprived needs (i.e., H1a). Although we replicated these findings using different methods and samples, we did not examine the underlying mediating mechanism or potential boundary conditions of our theoretical model. Therefore, the aim of Study 4 was to conduct a test of the proposed causal mechanism (i.e., BAS activation) and to examine whether or not the indirect effect of physiological deprivation on unethical behavior associated with the deprived need would be decreased in the presence of a salient organizational ethical context. Using a natural experimental design, Study 4 therefore entailed a comprehensive test of our theoretical model. Finally, because we argue that physiological deprivation is a bottom-up process that influences unethical behavior, we controlled for state self-control resources to rule out this alternative top-down process explanation of our findings.

Participants and design

We recruited 146 undergraduate students (55% male; 56% Caucasian; M_{age} = 20.36) at a campus cafeteria from a large public university. The cafeteria was designed with a one-way entrance and a one-way exit to offset high traffic flow during lunch hours. Participants were recruited at the same time of the day either before they entered (hungry) or exited (satiated) the cafeterias. Trained research assistants approached participants to solicit participation in a five-min survey. We surveyed participants' levels of hunger prior to the study with one item (1 = not hungry at all to 7 = very hungry). Participants recruited at the cafeteria entrance (M = 5.72, SD = 1.09) reported feeling significantly hungrier than participants recruited at the cafeteria exit (M = 1.76, SD = .82), $t(144) = 24.63$, $p < .01$. This confirmed that the natural experimental setup was successful.

We then randomly assigned participants to one of the two organizational ethical context conditions. In the ethical context condition, we embedded an abbreviated version of the institution's academic honor code in the consent form:

> "Students at [authors' institution] are expected to maintain the highest standards of academic conduct. Please complete the following survey in accordance to [authors' institution] standards of academic integrity."

In the control condition, participants read a paragraph of similar length without mention of the institution's honor code. We reason that this mirrors the organizational setting, as most organizations have a set of honor codes or ethics guidelines, but the extent to which it is enforced or even known to the employees varies greatly.

Measures

BAS activation

To our knowledge, there is no existing survey measure designed to capture state-levels of BAS activation (cf. Carver & White, 1994 for a trait-level BAS measure). However, the social and cognitive neuroscience literatures suggest a behavioral method for assessing BAS activation: the Line Bisection Task (LBT; Nash, Mcgregor, & Inzlicht, 2010; Roskes, Sligte, Shalvi, & De Dreu, 2011). The LBT involves asking participants to identify the midpoints on a series of horizontal lines. Because each half of the visual field is processed by the opposite half of the brain, responses to the LBT can be used as an index of relative activity in the two cerebral hemispheres (Jewell & McCourt, 2000). Attentional biases to the left or right of the objective midpoints of the lines reflect stronger activation in the contralateral hemisphere (Milner, Brechmann, & Pagliarini, 1992). Relatively greater neural activity in the left compared to right prefrontal cortex is recognized as a neural indicator of BAS activation (Harmon-Jones, 2003; Harmon-Jones & Allen, 1998). Consequently, rightward biases in the LBT serve as an effective behavioral proxy for relative left prefrontal activity and BAS activation (Drake & Myers, 2006). Indeed, biases on the LBT have been directly validated against neural measures of BAS activation (e.g., electroencephalography; Nash et al., 2010). We thus employed the LBT as a reliable and validated behavioral measure of participants' BAS activation levels.

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We asked participants to estimate and mark the perceived center point of 10 staggered horizontal lines, each of which was 15 cm long. The distance from each line's true midpoint was measured in millimeters and leftward errors were coded as negative values. We averaged participants' estimates over the 10 trials to form an overall BAS activation score, with higher values (more rightward bias) indicating greater BAS activation. Consistent with meta-analytic findings that reveal an overall slight leftward tendency for neurologically normal individuals (Jewell & McCourt, 2000), participants in the control conditions demonstrated a slight leftward bias ($M = -1.29$, $SD = 1.47$).

Unethical behavior

Unethical behavior was measured with a similar mathematical summation task as in Study 3, except that the task was conducted via paper and pencil. We provided participants with calculators and scratch sheets and specifically told them to shred the scratch sheet and only provide a self-reported score. Therefore this measure provided an unambiguous continuous measure of unethical behavior. In each of the two sections of questions, one easy question was followed by five unsolvable questions. In the first section, participants were told that they would be rewarded with bag(s) of chips depending on the number of questions correctly solved. In the second section, participants were told that they would be rewarded with gift(s) of identical monetary value (e.g., notebooks, pens) depending on the number of questions correctly solved. Unethical behavior was thus operationalized as the number of questions reported to be correctly solved (out of five). All prizes were visible to participants throughout the study and the presentation of the two sections was counter-balanced.

Control variable

Although we argue that the findings thus far are driven by a heighted drive state (i.e., bottom-up) that accompanies physiological deprivation, we wanted to rule out the disruption of top-down processes suggested by ego depletion theory (Baumeister et al., 1998). Therefore, we controlled for state self-control resources with a five-item brief state self-control resources scale validated by prior research (Lanaj, Johnson, & Barnes, 2014). Sample items included "I feel like my willpower is gone" and "I feel drained" (1 = not at all to 5 = very much; $M = 3.93$, $SD = .68$, $\alpha = .75$). Consistent with our theorizing, participants' state self-control resources did not differ by condition, $t(144) = .37$, $p = .72$, which provides indirect support that physiological deprivations operate via bottom-up processes.

Results

Consistent with Hypothesis 1a and 2a, hungry participants cheated for food ($M = .62$, $SD = 1.21$) significantly more than satiated participants ($M = .29$, $SD = .75$), $t(44) = 2.02$, $p < .05$. In addition, hungry participants cheated for gifts ($M = .12$, $SD = .43$) significantly less than satiated participants ($M = .95$, $SD = 1.48$), $t(44) = -4.70$, $p < .01$. To test for the mediating role of BAS activation, we used a bootstrapping approach (for a review of the advantages of this approach over traditional methods, see Hayes, 2009). Using a bootstrapping procedure allowed us to compute a 95% confidence interval around the indirect effect (with 1000 resamples; Hayes, 2013). We ran two separate mediation models while controlling for state self-control resources. The experimental condition was entered as the independent variable and BAS activation, measured by the Line Bisection Task, as the mediator. In the first model, we entered cheat-for-food as the dependent variable and in the second model we entered cheat-for-gifts as the dependent variable.

In the first model, the coefficient for the indirect effect of physiological deprivation on cheat-for-food via BAS activation was significant (*indirect effect* = .62, $SE = .17$, 95% CI = .31 to .97), suggesting that increased BAS activity mediates the effect of hunger on cheating for food. In the second model, the coefficient for the indirect effect of physiological deprivation on cheat-for-gifts via BAS activation was also significant (*indirect effect* = −.49, $SE = .16$, 95% CI = −.85 to −.24), suggesting that increased BAS activity mediates the effect of hunger on cheating for gifts, but in the opposite direction. In other words, when BAS activity is increased as a result of hunger, participants cheated for food more but also cheated less for products unrelated to food. These results provide support for H1b and H2b.

To examine H3, we conducted a second-stage moderated mediation analysis following the bootstrapping-based analytic approach of Edwards and Lambert (2007) and the statistical software of Hayes (2013) to test for a conditional indirect effect (with 1000 resamples). We began by examining the nature of the interaction between BAS activation and organizational ethical context on unethical behavior (i.e., cheat-for-food) using hierarchical ordinary least square (OLS) regression. BAS activation, organizational ethical context, and state self-control resources were entered in Step 1; the interaction term was entered in Step 2. In Step 2, the interaction term was significant ($\beta = -.24$, $p < .01$) and explained significantly more variance than Step 1 ($\Delta R^2 = .07$, $p < .01$). Fig. 2 presents a graph of the interaction effect. We then utilized the methods of Hayes (2013) to test for second-stage conditional indirect effects, with organizational ethical context entered as a binary variable. When an organizational ethical context was not presented, the indirect effect of hunger on food-related unethical behavior through increased BAS activation was significant (*conditional indirect effect* = .95, $SE = .24$, 95% CI = .46 to 1.43). When an organizational ethical context was presented, the indirect effect of hunger on food-related unethical behavior through increased BAS activation was also significant but reduced significantly in effect size (*conditional indirect effect* = .27, $SE = .12$, 95% CI = .08 to .52). Additional analyses suggested that the two conditional indirect effects differed significantly from on another (*index of moderated mediation* = −.68, $SE = .23$, 95% CI = −1.15 to −.23). In other words, the effect of BAS activation on physiologically-related unethical behavior was stronger in the absence of an organizational ethical context, but weakened significantly when an organizational ethical context was presented. These results provide support for H3.

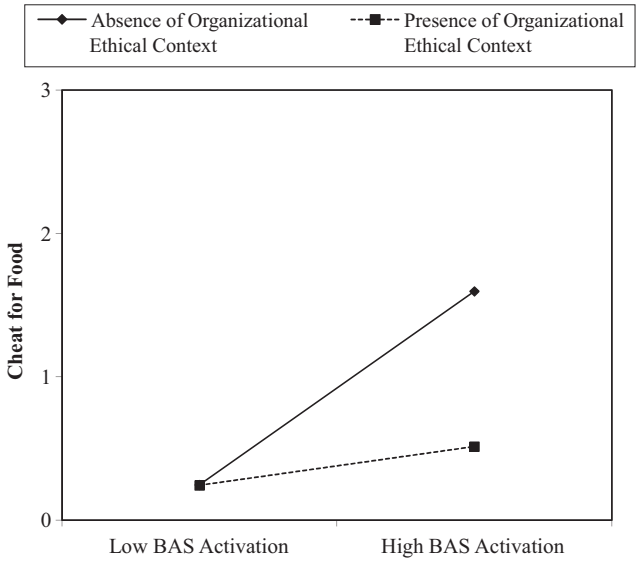

Fig. 2. The interactive effect of BAS activation and organizational ethical context on need-related unethical behavior (Study 4).

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Study 5

In our final study, we sought to extend these findings in two important ways. First, Studies 1–4 examined hunger as a specific form of physiological deprivation. However, our hypothesized theoretical model derived from RST also applies to other forms of physiological deprivation. Therefore, in Study 5, we examined thirst to extend the generalizability of our findings. Second, because we did not utilize a true experimental design in Study 4, factors such as handedness (Jewell & McCourt, 2000) might influence our findings. We therefore used an experimental design in Study 5 to examine all of our hypotheses.

Participants and design

Participants were 124 undergraduate students (51.6% female; 62.9% Caucasian; M_{age} = 21.23). Upon arrival to the laboratory, we first randomly assigned participants to the organizational ethical context or the control condition with the same manipulation as in Study 4. Participants either read a consent form with a short statement of the institution's honor code or a short statement unrelated to ethics. We then randomly assigned participants to the thirst or control condition. Participants were told to complete a consumer preference task in which they had to taste two different substances (in reality they only tasted the same substance in two different bowls). In the thirst condition, both of the bowls contained salt. In the control condition, both of the bowls contained an artificial sweetener (which contained no glucose). Afterward, participants were asked to rate which option they were more likely to purchase. After this manipulation, participants were asked not to consume any drinks for the reminder of the study (which lasted approximately 6 min). We manipulated thirst deprivation through this method because thirst often arises as a result of increased salt concentrations in the body. At the end of the study, participants were asked how thirsty they were (1 = not at all to 7 = very much). As expected, participants in the thirst condition reported being significantly thirstier (M = 5.67, SD = 1.32) than participants in the control condition (M = 2.33, SD = 1.13), $t(122) = 15.07$, $p < .01$.

Measures

BAS activation

As in Study 4, we used the Line Bisection Task to examine BAS activation. Again, consistent with meta-analytic findings (Jewell & McCourt, 2000), participants in the control conditions demonstrated a slight leftward bias (M = −1.34, SD = 1.06).

Unethical behavior

Unethical behavior was measured with a task similar to that used in Study 4. Participants were presented with the same two sections of the mathematical summation questions. One easy question was followed by five unsolvable questions in each section. In one section, participants were told that they would receive free drinks (soda, bottled water, juice) of their choice depending on the number of questions they correctly solved. In the second section, participants were told that they would be rewarded with gift(s) of identical monetary value (e.g., notebooks, pens) depending on the number of questions they correctly solved. The presentation of the sections was again counter-balanced.

Control variable

We controlled for state self-control resources with the same five-item measure for reasons outlined in Study 4 (M = 3.98, SD = .73; α = .81). Again, participants' state self-control resources did not differ by condition, $t(122) = .46$, $p = .65$, which provides indirect support that physiological deprivations operate via bottom-up processes.

Results

Consistent with H1a and H2a, thirsty participants cheated for drinks (M = 1.09, SD = 1.81) significantly more than non-thirsty participants (M = .52, SD = 1.56), $t(122) = 2.10$, $p < .05$. In addition, thirsty participants cheated for gifts (M = .25, SD = .64) significantly less than non-thirsty participants (M = .62, SD = 1.25), $t(122) = -2.07$, $p < .05$. We again used a bootstrapping procedure to compute a 95% confidence interval around the indirect effect (with 1000 resamples; Hayes, 2013). We ran two separate mediation models while controlling for state self-control resources. The experimental condition was entered as the independent variable and BAS activation, measured by the Line Bisection Task, as the mediator. In the first model, we entered cheat-for-drinks as the dependent variable and in the second model we entered cheat-for-gifts as the dependent variable.

In the first model, the coefficient for the indirect effect of physiological deprivation on cheat-for-drinks via BAS activation was significant (*indirect effect* = 1.08, SE = .52, 95% CI = .08 to 2.14), suggesting that increased BAS activity mediates the effect of thirst on cheating for drinks. In the second model, the coefficient for the indirect effect of physiological deprivation on cheat-for-gifts via BAS activation was also significant (*indirect effect* = −.90, SE = .31, 95% CI = −1.50 to −.30), suggesting that increased BAS activity mediates the effect of thirst on cheating for non-drinks products, but in the opposite direction. In other words, when BAS activity is increased as a result of thirst, participants cheated for drinks more but also cheated less for products unrelated to drinks. These results provide support for H1b and H2b.

To examine H3, we again began by examining the nature of the interaction between BAS activation and organizational ethical context on unethical behavior (i.e., cheat-for-drinks) using hierarchical OLS regression. BAS activation, organizational ethical context, and state self-control resources were entered in Step 1; the interaction term was entered in Step 2. In Step 2, the interaction term was significant (β = −.51, $p < .01$) and explained significantly more variance than Step 1 (ΔR^2 = .09, $p < .01$). Fig. 3 presents a graph of the interaction effect. We then utilized the methods of Hayes (2013) to test for second-stage conditional indirect effects, with

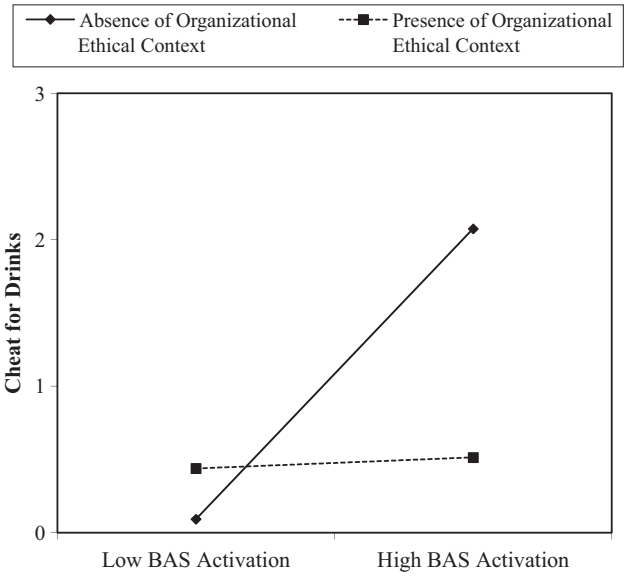

Fig. 3. The interactive effect of BAS activation and organizational ethical context on need-related unethical behavior (Study 5).

organizational ethical context entered as a binary variable. When an organizational ethical context was not presented, the indirect effect of thirst on thirst-related unethical behavior through increased BAS activation was significant (*conditional indirect effect* = 2.14, *SE* = .67, 95% CI = .91 to 3.60). When an organizational ethical context was presented, however, the indirect effect of thirst on thirst-related unethical behavior through increased BAS activation was not significant (*conditional indirect effect* = .50, *SE* = .46, 95% CI = −.38 to 1.45). In other words, the effect of BAS activation on thirst-related unethical behavior was strong in the absence of an organizational ethical context, but dissipated when an organizational ethical context was presented. A strong ethical context thus reduced the likelihood that BAS activation would result in unethical behavior, supporting H3.

General discussion

It seems plausible that severe physiological deprivation could lead to grossly unethical behavior. Indeed, real-life examples of the effect of physiological deprivation on unethical conduct can be easily identified. For instance, the Chilean miners who were trapped underground for more than two months reportedly considered cannibalism as a survival strategy (Fox News, 2011). Nevertheless, it also seems reasonable that when preoccupied with a physiological need, individuals have little interest in acting unethically in need-unrelated ways (e.g., none of the miners used the time to formulate ways to steal money from others). In this paper, we reported five studies that explored the relationship between physiological needs and unethical behavior and challenged the one-sided perspective of physiological deprivation's negative effects on unethical conduct that is currently growing in the literature. Below, we discuss the theoretical and practical implications of our findings.

Theoretical implications

Our research contributes to the literature on behavioral ethics. Across five studies, we found that physiologically deprived participants were more likely to act unethically in the direct pursuit of their needs, and that this relationship was mediated by increases in BAS activation. In addition, deprived participants engaged in less need-unrelated unethical behavior compared to non-deprived participants. In other words, deprivation of physiological needs did not increase overall unethical behavior. Rather, as predicted by Reinforcement Sensitivity Theory, physiological deprivation actually prevented individuals from engaging in need-unrelated unethical behavior. The current set of studies thus complements existing work on the effects of ego depletion on unethical behavior; while research on ego depletion demonstrates that a loss of domain-general self-control can produce unethical behavior in multiple domains (e.g., Barnes et al., 2011; Gino et al., 2011), we have demonstrated that BAS activation can produce divergent effects on unethical behavior depending on the need-instrumentality of the opportunity for unethical behavior. Thus, our findings challenge the conventional wisdom that portrays a universally negative effect of physiological deprivation on unethical behavior.

In addition, whereas prior research on need satisfaction has often assumed a direct effect from a deprived need to need-satisfying behaviors (e.g., Deci & Ryan, 2000), our research provides evidence to support the mediating role of BAS activation in this relationship. This finding is also in keeping with a growing interest in the neural basis of ethical decision making (e.g., Greene, Sommerville, Nystrom, Darley, & Cohen, 2001). In fact, activation of the BAS has recently been used to explain a host of other findings in organizational behavior research, from research on power to prosocial behavior (Hirsh et al., 2011). Relatedly, the current research also contributes to the generalizability of Reinforcement Sensitivity Theory, which has traditionally been applied mainly in the personality (Carver & White, 1994) and biopsychology literatures (Gray, 1982). The neurocognitive nature of the theory should be appealing to behavioral ethics researchers, as Reynolds (2006b) proposed that the widely popular dual-process model in ethical decision making has a strong neurocognitive basis. By introducing a relatively low-cost measure of BAS activation (i.e., Line Bisection Task) to organizational scholars, we hope future research can apply the lens of RST, and more specifically the effects of BAS activation, in organizational behavior research.

We also contribute to the behavioral ethics literature by incorporating organizational ethical context as a key boundary condition in our theoretical model. When an organizational ethical context was presented as a salient situational cue reminding participants of the importance of morality, deprived participants seeking satisfaction of their physiological need were less likely to act unethically than participants in contexts where such a cue was absent (Studies 4 and 5). This finding reaffirms the importance of an interactionist perspective of ethical decision making (Treviño, 1986), suggesting that even in situations of physiological deprivation, individuals can still uphold moral standards with the help of an ethical context.

More generally, within the field of behavioral ethics, scholars have continued to examine the effects of higher-level processes to the neglect of fundamental physiological drives and their impacts on unethical behavior. For instance, a recent comprehensive review in behavioral ethics made no mention of physiological drives and their effect on ethical decision making (Treviño, Weaver, & Reynolds, 2006). More recent approaches using the ego depletion model as a theoretical framework for investigating behavioral ethics have suggested a universally negative effect of deprivation states (Barnes et al., 2011; Christian & Ellis, 2011; Gino et al., 2011; Mead et al., 2009). Reinforcement Sensitivity Theory, however, predicted the current set of domain-specific results when physiological needs are produced without cognitive depletion. An interesting possibility is that cognitive depletion and deprivation-induced drive states mediated by the BAS may represent two distinct pathways by which physiological deprivation can influence unethical behavior, with dramatically different implications and empirical predictions. While the former is likely to produce domain-general increases in unethical behaviors, the latter is likely to produce domain-specific effects. Accordingly, our results suggest that scholars in behavioral ethics may thus benefit from considering both pathways when examining the impact of physiological drives and deprivation on unethical behavior.

Practical implications

The present findings hold practical implications for organizations, especially those in developing nations. Examining higher-order needs (e.g., psychological need for power) may be irrelevant to employees and managers in those regions because physiological needs are rarely met satisfactorily. Thus, we suggest that our research has significant practical implications as most of the world's workforce resides in these developing nations. In addition, we note that the current research also holds practical implications for employees in modern societies, as the physiological deprivations manipulated and measured in the current studies were mild and likely experienced by employees even in wealthy regions.

As unethical behavior in the workplace is costly to organizations, managers should be mindful of the physiological needs of their employees when considering work schedules and hours. Although prolonged work hours may increase productivity, the risk of unethical behavior as a result of physiological deprivation may

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outweigh the benefits. Nevertheless, from a utilitarian perspective, skeptical readers may suggest that higher levels of physiologically-related unethical behavior will be offset by lower levels of physiologically-unrelated unethical behavior, and may even conclude that it is practically useful to keep employees mildly deprived. However, we suggest that unethical behavior is not the only consequence of physiological deprivation, as it has also been shown to reduce job performance (Danziger, Levav, & Avnaim-Pesso, 2011). With the employees' well-being, the organizations' performance, and normative ethics in mind, we encourage organizations to schedule reasonable work hours in order to maximize the good for both the employees and the organizations. Finally, our findings suggest the importance of maintaining a positive ethical culture in the workplace. Organizations that strive towards a strong ethical culture can reduce employees' unethical behavior, even when they are physiologically deprived.

Limitations and future research

We recognize that this research is not without limitations. To begin, in Study 3, we used cheating for gift cards to a grocery store as a proxy for cheating for food. Although the food-related gift cards might have been the most salient goal-related behavior available at the moment, this dependent variable is at least one step removed from actual food consumption. Though we found support for our hypotheses, we encourage future research to replicate our theoretical model in field settings. Second, in each of our studies we stayed within a common range of what constitutes physiological deprivation and what constitutes satiation. It may be the case that the observed relationships change at higher or lower levels of deprivation and satiation. As long as researchers can guarantee participants' safety, this could be an interesting area to explore in future research. Third, this research focused on two physiological needs, hunger and thirst. While we have strong theoretical reasons to believe that our findings extend to other forms of need deprivation, we have no empirical evidence to offer and so we point to this as an area for future research. For example, while we know a great deal about the causes of sexual harassment (Pryor, LaVite, & Stoller, 1993), perhaps this kind of employee misconduct could be even more fully explained through the lens of RST and deprived physiological needs. Fourth, while exploring a contextual moderating factor can lead to actionable steps for managers to reduce the unethical behavior observed in the present studies, we encourage future research to also explore individual moderating factors to better understand the relationship between physiological deprivation and unethical behavior.

Fifth, as we alluded earlier in our introduction, physiological deprivation often occurs when employees are stressed. For example, a high workload is likely associated with both physiological deprivation (e.g., delayed lunch hours) and heightened stress (Krantz, Berntsson, & Lundberg, 2005). We therefore encourage future research to examine whether work stress exacerbates the negative effects of physiological deprivation on need-related unethical behavior. Relatedly, we exclusively focused on the deprivation of physiological needs and did not consider how this may relate to the deprivation of psychological needs. Whether physiological and psychological deprivation interact to influence unethical behavior awaits future empirical investigations.

Finally, a critical boundary condition that we did not examine is whether participants would prefer to satiate their deprived needs via ethical options. Although unethical behaviors often provide a more immediate path to a desired goal, it is reasonable to expect that in some circumstances deprived individuals will be able to satiate their needs more effectively through ethical routes. In such contexts, perhaps it is the ethical need-satisfying action that is likely to be engaged rather than the unethical one. Indeed, our research fails to examine this critical boundary condition and we encourage future research to explore when individuals are most likely to satiate their deprived needs using unethical versus ethical means (e.g., when the ethical means require minimal effort).

Conclusion

In this research, we found that physiological deprivation has a domain-specific relationship with unethical behavior. These findings support predictions from Reinforcement Sensitivity Theory regarding the relationship between deprivation-induced states and unethical behavior, challenging existing theoretical perspectives on the hungry thief. Although the results shed some light on the link between physiological needs and unethical behavior, we recognize that we have only taken one step towards exploring this relationship. Nonetheless, we believe that this research represents a promising first step in increasing our understanding of the relationship between physiological deprivation and unethical behavior.

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