RUNNING HEAD: Counterfactual Sins

The Unhealthy Road Not Taken:

Licensing Indulgence by Exaggerating Counterfactual Sins

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Abstract

This research examined two hypotheses: 1) Reflecting on foregone indulgences licenses people to indulge, and 2) To justify future indulgence, people will exaggerate the sinfulness of actions not taken, thereby creating the illusion of having previously foregone indulgence. In Study 1 (a longitudinal study), dieters induced to reflect on unhealthy alternatives to their prior behavior (compared to dieters in a control condition) expressed weaker intentions to pursue their weight-loss goals – and one week later, they said that they had actually done less and intended to continue doing less to pursue such goals. In Study 2, weight-conscious participants who expected to eat cookies (compared to those merely shown cookies) inflated the unhealthiness of snack foods that they previously declined to eat, and exaggerated the extent to which dieting concerns explained why they had declined these snacks. Implications for moral behavior, self-control, and motivated construal processes are discussed.

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Justifying indulgence is often easy even for individuals committed to avoiding it. For example, dieters will relax their resolve to avoid unhealthy foods when they can point to progress towards their weight-loss goals (Fishbach & Dhar, 2005), or when they can frame indulgence as a reward (de Witt Huberts, Evers, & de Ridder, 2012; Kivetz & Zheng, 2006). More broadly, being able to point to virtuous past actions can license people to act less-than-virtuously in the future (Conway & Peetz, 2012; Effron, Cameron, & Monin, 2009; Jordan, Mullen, & Murnighan, 2011; Mazar & Zhong, 2010; Monin & Miller, 2001).

We propose that even when individuals lack salient past virtues, they can still justify indulgence by pointing to foregone sins. A dieter might justify eating cake by reflecting on how she previously ate fewer cookies than she could have. Building on the idea that imagined alternatives to reality (i.e., *counterfactual thoughts*) exert a powerful influence on how people evaluate their own and others' misdeeds (Mandel & Dhami, 2005; Miller, Visser, & Staub, 2005; Niedenthal, Tangney, & Gavanski, 1994), we posit that reflecting on *counterfactual sins* (i.e., less-virtuous alternatives to one's past behavior) licenses people to act less virtuously. By imagining the sinful road not taken, individuals can reassure themselves of their virtue without having done anything actively virtuous – and can thus license future indulgence.

Unfortunately for individuals wishing to indulge, it is sometimes difficult to imagine how one's behavior plausibly could have been worse. The dieter may wish to use uneaten cookies to justify eating cake, but perhaps no cookies were previously

available. In such situations, we propose, the motivation to indulge can lead people to distort their evaluations of their foregone behaviors. The dieter may convince herself that it would have been unhealthy to eat some low-fat crackers that she previously declined. We propose that when people are tempted to indulge, they will exaggerate the sinfulness of foregone actions, thereby creating the illusion that they previously refrained from bad behavior.

The present research tested these two hypotheses. First, we propose that people are more likely to relax their pursuit of "virtuous" self-control goals when they can point to counterfactual "sins" (i.e., goal-inconsistent behavior that they could have performed, but did not). Second, we propose that when people are tempted to indulge, they will strategically exaggerate the "sinfulness" of the road not taken.

Study 1 (a longitudinal study) examined whether inducing dieters to reflect on "sinful" alternatives to their prior actions would weaken their commitment to "virtuous" dieting/exercise behavior over the course of a week. Study 2 examined whether the temptation to eat an unhealthy food could lead participants to exaggerate the unhealthiness of foods that they had previously declined to eat. Because our hypotheses focus on individuals who feel uncomfortable indulging in unhealthy food without justification, our studies examined participants who expressed a desire to lose weight.

Study 1: License to Exercise Less Self-Control

Time 1 Method

Participants. Participants were 77 members of a non-student subject pool (48 females, 29 males; M_{age} = 37.09, SD = 11.57) who said in a prescreening survey that their

actual weight was higher than their ideal weight.[1] They completed Study 1 on the Web for a chance to win a $20 gift card to amazon.com.

Procedure. ***Baseline measure and threat induction.*** After again reporting their actual and ideal weights, participants saw 20 blanks in which to list "everything [they] did in the last week to try to lose weight." The number of blanks they completed provided a baseline for a dependent measure described below. To make participants feel that they would require a license to relax their pursuit of their weight-loss goals, we also used this task to make participants feel that they had fallen short of such goals: We expected few participants to complete all 20 blanks, which we thought would make them feel that they had done little to pursue their weight-loss goals (Schwarz et al., 1991); we told participants, "If you did not do very much [to try to lose weight], you may leave some of the blanks empty;" and we asked them to describe "any unhealthy things [they] did in the last week that interfered with the goal of losing weight" in a single text-entry box.

Manipulation. Participants randomly assigned to the *counterfactual sin* condition then described "how [their] behavior in the last week could have been less healthy than it actually was," wrote about any "unhealthy things [they] could have done, but decided not to do, that could have made [them] gain weight," explained "why [they] decided not to do these unhealthy things," and rated how much these behaviors would have "interfered with the goal of losing weight." Participants in a control condition instead described

[1] The prescreening survey also contained a measure of restrained eating (Stunkard & Messick, 1985). Neither it nor gender moderated the results, though we note that sampling individuals with weight-loss goals restricted the range of scores on the restrained eating scale.

"something fun [they] did last week," explained why they had decided to do it, and rated how much they had enjoyed it.

Perceptions of prior behavior. It is possible that counterfactual sins license less virtuous future behavior merely because they make one's past behavior appear more virtuous in contrast. To test this potential contrast effect, we asked participants to rate their behavior from the previous week: how consistent or inconsistent it had been with a weight-loss goal, how healthy or unhealthy it had been, and how satisfied or dissatisfied they were with its healthiness (averaged for analyses; $\alpha = .86$). Response options ranged from extremely negative (e.g., *Extremely dissatisfied*; -3) to extremely positive (e.g., *Extremely satisfied*; +3).

Intended weight-loss behaviors. Participants next saw 20 blanks in which to list "everything that [they planned] to do in the next week" to work towards their weight-loss goals. The number of behaviors listed was our primary dependent measure. Participants also assessed their subjective intentions to lose weight in the next week compared to the prior week using a three-item scale ($\alpha = .95$): "How much do you plan to do" and "How hard do you plan to work" to lose weight, and "How healthy will your behavior be" (-3 = *Much less next week*; +3 = *Much [more/harder/healthier] next week*).

Other measures. As a late addition to the study design, we asked the final 32 participants to rate the helpfulness for weight-loss of each of the intended behaviors they had previously listed (1 = *Not at all*; 5 = *Extremely*). Finally, participants rated the ease of completing the manipulation (-3 = *Extremely difficult*; 3 = *Extremely easy*).

Time 1 Results

We excluded participants who, despite their prescreening responses, now said that their actual weight did not exceed their ideal weight (n = 7), who provided incomplete or uninterpretable data (n = 3; e.g., wrote numbers instead of listing behaviors), who took exceptionally long to complete the study (i.e., > 4 *SD*s above the mean time; n = 2), or who filled in all 20 blanks on the baseline behavior-listing task (i.e., 5.56 *SD*s above the mean; n = 1). Exclusions did not differ significantly by condition, χ^2 (1, N = 77) = .21, p = .65, and left 34 participants in the control condition and 30 in the counterfactual sin condition.

We predicted that imagining less-healthy alternatives to their recent behavior would weaken participants' commitment to weight-loss. Consistent with this prediction, participants listed fewer intended weight-loss behaviors in the counterfactual sin condition (M = 3.27, SD = 1.86) than in the control condition (M = 4.47, SD = 2.77), F(1, 61) = 5.93, p = .02 in an ANCOVA controlling for the number of behaviors listed at baseline, d = .51 based on unadjusted means.[2] (A t-test with dfs adjusted for heteroskedasticity was also significant, t[58.06] = 2.07, p < .05). As illustrated in Figure 1, participants in the control condition said they wanted to do more to lose weight next week compared to the prior week – an unsurprising result given that our threat induction in both conditions was intended to make participants feel that they had fallen short of their weight-loss goals. By contrast, participants who had reflected on unhealthy alternatives to their earlier behavior showed no such inclination to improve.

The three-item scale measuring subjective weight-loss intentions showed the same pattern as the behavior-listing measure. Compared to participants in the control

[2] In this and all subsequently reported ANCOVAs, the correlation between the covariate and the DV did not differ between conditions (ps > .51).

condition (M = 1.43, SD = .96), participants in the counterfactual sin condition expressed weaker intentions to improve their weight-loss behavior (M = .80, SD = 1.16), $t(62)$ = 2.38, p = .02, d = .60.

Alternative explanations. These results strongly support our hypothesis that reflecting on counterfactual sins would license participants to relax their commitment to pursuing weight-loss goals. The data also allowed us to rule out several potential alternative explanations. First, it was not the case that participants in the counterfactual sin condition listed fewer intended behaviors merely because they perceived each behavior as more helpful for losing weight: Participants rated intended behaviors, on average, as equivalently helpful in both conditions, $F(1, 30)$ =.03, p = .86, controlling for the number of behaviors listed at baseline (p = .75 without this covariate). Second, any fatigue that may have arisen from generating counterfactual sins did not explain participants' reduced commitment to their dieting goals: The ease of completing the manipulation was not a significant covariate in the analyses of weight-loss intentions reported previously, Fs < 1.46, ps > .23. Finally, reflecting on foregone unhealthy behaviors did not make actual behaviors seem healthier in contrast: Both groups reported equivalently favorable perceptions of their prior behavior overall ($M_{\text{counterfactual}}$ = .44 vs. M_{control} = .12, SDs = 1.18 and 1.50, respectively), $F(61)$ = 1.60, p = .21, controlling for the number of behaviors listed at baseline (p = .34 without this covariate).

Time 2 Method

Participants. One week after participants had completed the Time 1 measures, we invited them to complete a second study for a chance to win a $20 gift card. Fifty-one participants complied (i.e., 80%; 27 in the control condition, 24 in the counterfactual sin

condition). (One additional respondent could not be linked to any participants from Time 1). Compared to people who participated at Time 2, those who declined to participate had stronger intentions to improve their weight-loss behavior, as assessed at Time 1 by both by the behavior-listing measure, $F(1, 61) = 9.60$, $p < .005$ controlling for the number of behaviors listed at baseline, and by the 3-item rating scale, $t(62) = 1.80$, $p = .08$. Importantly, however, there were no condition differences in either the number of participants lost to attrition, $p = .95$, or in the Time 1 responses of lost participants, ps > .16. Thus, although participants at Time 2 may be only partially representative of participants from Time 1, attrition should not have biased estimates of the manipulation effect.

Procedure. Without completing a manipulation or viewing their prior responses, participants completed versions of the dependent measures administered at Time 1: Participants listed weight-loss behaviors they had *actually* performed in the past week, and used a three-item scale to rate the general improvement in their weight-loss behavior in the past week (e.g., "How much did you do in the last week to work towards a goal of losing weight, relative to how much you did in the week before that?" $\alpha = .92$). Then, participants listed weight-loss behaviors that they *intended* to perform in the coming week, and used the three-item scale to rate in general how much they intended to improve their weight-loss behavior in the coming week compared to the prior week (e.g., "How much do you plan to do in the next week to work towards a goal of losing weight, relative to how much you did in the last week?" $\alpha = .95$). As a late addition to the study, the final 29 participants were also asked to rate the helpfulness for weight-loss of the specific behaviors they had listed (28 participants provided responses).

Time 2 Results

We analyzed the number of weight-loss behaviors listed using ANCOVAs that controlled for the number of behaviors listed at baseline (i.e., before the manipulation at Time 1). As predicted, and consistent with the Time 1 results, participants in the counterfactual sin condition, compared to those in the control condition, said that they had actually performed fewer such behaviors in the past week (*M*s = 2.42 and 4.22, *SD*s = 1.82 and 2.47), $F(1, 48) = 7.88$, $p < .01$, and that they intended to perform fewer during the following week (*M*s = 2.67 and 3.96, *SD*s = 1.81 and 2.03), $F(1, 48) = 4.36$, $p = .04$ (see Figure 1). No support was found for the possibility that the fewer behaviors listed by participants in the counterfactual sin condition were more helpful for losing weight. In fact, in the counterfactual sin condition, helpfulness ratings of actual and intended behaviors (respectively, *M*s = 2.18 and 3.22; *SD*s = .92 and .75) were somewhat lower on average than in the control condition, (*M*s = 2.99 and 3.88, *SD*s = .83 and 1.02), *F*s > 2.95, *p*s < .10 in the ANCOVA model described previously (*p*s < .07 when the covariate was omitted).

The 3-item scale assessing subjective evaluations of general weight-loss behavior (e.g., "How much did you do to try to lose weight?") showed comparable results to the behavior-listing measure. In the counterfactual sin condition, compared to the control condition, participants reported having made smaller improvements to their behavior in the week since Time 1 relative to the week before Time 1 (*M*s = -.29 and .70, *SD*s = 1.35 and 1.02), $t(49) = 2.98$, $p < .005$. They also expressed weaker intentions to further improve their behavior during the coming week relative to the past week ($M_{\text{counterfactual}}$ = .33, $M_{\text{control}} = 1.05$, *SD*s = 1.31 and 1.27), $t(49) = 1.98$, $p = .05$.

Discussion

In the control condition, participants expressed a desire to improve their weight-loss behavior (see Figure 1), which we had encouraged by prompting them to reflect on their unhealthy behaviors. But this desire was significantly diminished among participants who also had subsequently been induced to imagine "sinful" alternatives to their recent behavior. This effect showed at least moderate endurance: One week after participants were exposed to the manipulation, they reported that they actually had done less to improve their dieting behavior, and they continued to express weaker intentions to improve in the future. These results demonstrate that reflecting on the unhealthy road not taken can license weight-conscious individuals to exert less dietary self-control.

We found no support for the possibility that this effect arose merely because participants perceived their recent behavior as healthier when contrasted with the unhealthy alternative behaviors they were asked to imagine. Instead, participants acted as if the fact that they had not performed these unhealthy behaviors was itself an act of virtue. The sinful road not taken may thus license less virtuous behavior without affecting perceptions of the road one actually took.

Study 2: Exaggerating Foregone Foods' Unhealthiness

In Study 2, we sought to determine whether the temptation to make an indulgent food choice can lead people to evaluate previously foregone foods as less healthy. Such strategic evaluation would presumably increase comfort succumbing to temptation. Participants in this study chose one of two sets of unhealthy snacks to eat. Later – after only some participants were led to expect an opportunity to choose a tempting dessert over an unpalatable alternative – they rated the unhealthiness of the two sets of snacks

and explained why they had selected their chosen snack. We hypothesized that the temptation posed by the dessert would motivate participants to rate the unchosen (but not the chosen) snack as less healthy, and would increase their willingness to attribute their snack choice to health concerns.

Method

Participants. Fifty-eight participants (mostly students; 35 females and 23 males) completed the study in the laboratory.

Procedure. ***Preliminary tasks.*** The study was presented as examining "how consumers judge different products" such as food. Participants first completed a measure of restrained eating (Stunkard & Messick, 1985),[3] completed filler tasks (rating advertisements), indicated their current weight-loss goals (forced choice: *lose weight, maintain weight, gain weight*, or *no goal*), and, if they said that they wanted to lose or maintain their weight, described any unhealthy behaviors that had recently interfered with this goal. Then participants examined a plate with one bite-sized Snickers bar, two chocolate-covered pretzels, four corn chips, four cheese puffs, two Milano cookies, two chocolate-chip cookies, and two raw garlic cloves. Participants rated how appealing they found each food, how tasty they thought each would be, and how much they liked each in general (1 = *Not at all*, 5 = *Extremely*; averaged to form a *liking* composite for each food).

Choice among target foods. Next, participants learned that the remainder of the study would involve eating some of the foods, merely examining others, and providing

[3] This measure did not moderate the results.

additional ratings of each. Participants chose which of two "menus" of *target foods* (i.e., Snickers and chips vs. pretzels and cheese puffs) they wished to eat.

Temptation Manipulation. Participants randomly assigned to the *temptation* condition learned that later, they would also choose between eating either both cloves of raw garlic, or all four cookies (i.e., two chocolate-chip cookies, which had been baking nearby and exuding a mouth-watering aroma, and two Milano cookies), and would then rate each food. A pilot study suggested that participants would expect to choose the cookies, but would anticipate feeling guilty about doing so. Participants in the control condition were also exposed to the smell of baking cookies, and also expected to rate the cookies and the garlic, but were told that they would merely examine and not eat these foods.

Dependent measures. *Unhealthiness of target foods*. Participants used four items to rate the subjective unhealthiness of the target foods they had already chosen among (i.e., Snickers, chips, pretzels, and cheese puffs): unhealthy, bad for you, indulgent, and fattening (1-5 scale: *Not at all*, *Slightly*, *Moderately*, *Very*, *Extremely*). Other items rating the foods' objective unhealthiness (e.g., grams of trans fat) were insensitive to the manipulation and are not discussed further.[4] Participants ate and rated the two target foods they had chosen, and rated the two unchosen foods without eating them (order counterbalanced).

[4] The disjunction between these results and the results for the measures of subjective unhealthiness (see Results) comports with work suggesting that subjective evaluations of the past are more mutable than more objective evaluations (Ross, McFarland, Conway, & Zanna, 1983).

Attributions about choice of target foods. Participants rated their prior decision about which pair of target foods to eat (-3 = *Extremely unhealthy*; +3 = *Extremely healthy*). Then they indicated the extent to which this decision had been influenced by a motivation to (a) lose or maintain their weight, and (b) to be healthy (1 = *Not at all*, 5 = *Extremely*).

All participants then chose whether to eat the cookies or the garlic (even though control participants had been told they would eat neither), provided demographics, responded to open-ended suspicion probes (no one guessed the hypothesis), and learned that they were not actually required to eat the cookies or garlic.

Results

Exclusions. We excluded data from one participant who had completed a pilot version of the study. We report analyses of the 46 participants (24 in the temptation condition, 22 in the control condition; 33 females) who indicated that they wished to lose (n = 29) or maintain (n = 17) their weight, but results were identical when we included participants with a weight-gain goal (n = 7) or no weight-related goals (n = 4).

Study 2's results were not moderated by the specific pair of foods chosen (i.e., Snickers and chips vs. pretzels and cheese puffs), the order in which the pairs of foods were rated, or gender, ps > .21.

Appeal of cookies vs. garlic. Supporting the expectation that participants would be tempted by the cookies, they said they liked raw garlic (M = 1.19, SD = .30) much less than Milano cookies (M = 3.57, SD = 1.10) and chocolate-chip cookies (M = 3.93, SD = 1.04), and overwhelmingly chose to eat cookies (91%) instead of garlic (9%).

Perceived unhealthiness of chosen vs. unchosen target foods. For each of the four target foods (i.e., Snickers, pretzels, chips, and cheese puffs), we averaged the four items measuring subjective unhealthiness (αs > .85). For each participant, we then converted the resulting scales to *z*-scores and averaged them into one aggregate rating of the two chosen foods (e.g., Snickers and chips), and one rating of the two unchosen foods (e.g., pretzels and cheese puffs). To test the hypothesis that temptation would increase the perceived unhealthiness of the unchosen but not the chosen foods, we submitted these ratings to a 2 (food type: chosen vs. unchosen) X 2 (condition: temptation vs. control) ANOVA with repeated-measures on the first factor. Results revealed a marginally significant main effect of condition, $F(1, 44) = 3.65$, $p < .07$, qualified by the predicted interaction, $F(1, 44) = 4.45$, $p = .04$, partial $\eta^2 = .09$ (see Figure 2). We decomposed this interaction with one-way ANOVAs that used the pooled error term from the repeated-measures ANOVA (following Howell, 2002). As hypothesized, the unchosen foods were rated as unhealthier in the temptation condition ($M = .28$, $SD = .91$) than in the control condition, ($M = -.30$, $SD = .64$), $F(1, 44) = 5.75$, $p = .02$, $d = .72$. No such condition difference was observed in the ratings of the chosen foods, (Ms = .14 and -.17, SDs = .94 and .71), $F(1, 44) = 1.66$, $p = .20$, $d = .39$.[5]

We found complementary results when we examined the proportion of participants in each condition who rated the unchosen foods as subjectively unhealthier

[5] Consistent with our theory, participants in the temptation condition tended to rate the unchosen foods as unhealthier than the chosen foods, although this difference was not significant, $F(1, 48) = 2.07$, $p = .16$. The reverse trend appeared in the control condition (perhaps without the threat of eating cookies, participants tended to prefer more indulgent-seeming foods), but was not significant either, $F(1, 44) = 2.55$, $p = .13$. (Decomposing the interaction this way required the use of unpooled error terms; Howell, 2002).

than the chosen foods, and vice versa (no one rated both types of food as equally unhealthy). These proportions differed significantly by condition, χ^2 (1, N = 46) = 4.21, p = .04. In the control condition, 45% of participants rated the unchosen foods as unhealthier than the chosen foods – approximately what would be expected by chance, p = .83 by a sign test. By contrast, a full 75% of participants in the temptation condition rated the unchosen foods as unhealthier than the chosen foods – a greater proportion than chance would predict, p = .02. Thus, only when participants were tempted to eat an unhealthy food in the future did they tend to think that they had declined to eat a relatively unhealthy food in the past.

Attributions. Participants in both conditions tended not to rate their decision among target foods as particularly healthy ($M_{temptation}$ = -.46, $M_{control}$ = -.36, where 0 = *Neither healthy nor unhealthy*, *SD*s = 1.06 and .73, respectively), t(44) = .35, *ns*, probably because all target foods were indeed somewhat unhealthy. More importantly, however, the two items assessing how participants explained why they had made this decision showed the predicted results. Because participants' responses to these two items clearly deviated from a normal distribution (59% chose the lowest point on both scales, i.e., did not attribute their choice to dieting goals), it was inappropriate to perform parametric analyses. Instead, we conducted a non-parametric analysis on a binary variable that coded whether participants responded above the lowest scale point on at least one measure (i.e., claimed that they did consider health concerns). Results revealed that participants were 2.5 times more likely to attribute their choice at least partially to health/weight-loss considerations in the temptation condition (58%) than in the control

condition (23%), χ^2 (1) = 6.00, p = .01.[6] Thus, the majority of tempted participants seem to have convinced themselves that their choice had been at least somewhat virtuously motivated. The fact that the temptation manipulation was presented *after* participants had chosen the snack foods suggests that it biased how participants *explained* their choice rather than how they *made* their choice.

Discussion

Participants who were tempted to eat cookies imbued their previous snack choice with a virtuous motive: the desire to avoid an unhealthy food. Compared to control participants, tempted participants rated foods they had previously declined as subjectively unhealthier, and attributed this choice more often to diet-related goals. It seems that these participants exaggerated the unhealthiness of the snacks not eaten in order to invent a justification for indulging in the cookies.

Also as predicted, participants did not exaggerate the unhealthiness of the snacks they *had* eaten, presumably because such exaggeration would not serve the goal of licensing them to eat the cookies. Although one might have expected tempted participants to exaggerate the *healthiness* of these chosen foods, convincing oneself that foods like cheese puffs are healthy may have proven too challenging. Apparently, it was easier for participants to inflate the unhealthiness of what they avoided eating than to inflate the healthiness of what they had eaten.

General Discussion

[6] We also performed a Wilcoxon-Mann-Whitney rank-sum test (adjusted for ties) on the average of the two items without transforming them to a binary variable (r = .69). Results confirmed that participants in the temptation condition were more likely to attribute their decision to diet-related concerns than participants in the control condition (M_{ranks} = 26.81 and 19.89, respectively), Z = 1.961, p < .05.

As evidenced by the large majority of dieters who fail to lose weight and keep it off (Crawford, Jeffery, & French, 2000; Wing & Phelan, 2005), it is challenging to stick to a diet in the face of tempting "sins" (e.g., desserts) and unpalatable "virtues" (e.g., tasteless health foods). Compounding this challenge is the mind's skill at justifying indulgence. The present research reveals how people use counterfactual sins to create such justifications. In Study 1, participants induced to generate unhealthy alternatives to their prior behavior (compared to control participants) expressed weaker intentions to pursue their dieting goals – and, one week later, said they had actually done less to pursue such goals. In Study 2, participants who faced the temptation of eating cookies rated foods they had previously declined to eat as subjectively less healthy, and were more likely to attribute this decision to dieting concerns. Together, these studies reveal an important source of flexibility in self-regulation. By exaggerating the "sinfulness" of actions not taken, people can create the illusion that they avoided indulgence, thereby licensing themselves to succumb to future temptations.

Theoretical Advances

Moral behavior. The present research focused on the domain of dieting, but a similar process likely shapes how individuals regulate their moral behavior. People may feel justified acting less ethically when they can point to counterfactual transgressions – that is, to unethical behaviors that they could have performed, but did not (Effron, Miller, & Monin, in press). Whereas prior research demonstrates how doing good can license people to act in morally dubious ways (for reviews, see Merritt, Effron, & Monin, 2010; Miller & Effron, 2010; Zhong, Liljenquist, & Cain, 2009), the present research suggests that merely reflecting on how one's prior behavior "could have been worse" is sufficient

to provide a moral license. Moreover, in their strategic pursuit of such license (Bradley-Geist, King, Skorinko, Hebl, & McKenna, 2010; Merritt et al., 2012), people may distort their evaluations of the past to create the illusion that they passed up opportunities to transgress.

Self-control. The present research sheds new light on self-control failures. An influential theory paints self-control as a limited resource that gets depleted when used (Baumeister, Bratslavsky, Muraven, & Tice, 1998; Baumeister, Vohs, & Tice, 2007; Vohs & Heatherton, 2000). In this view, resisting one temptation renders people *less capable* of resisting subsequent temptations. By contrast, the present research suggests that foregoing one temptation can decrease resistance to subsequent temptations by making people *feel licensed* to succumb. Reflecting on counterfactual sins in Study 1 should not have depleted self-control; rather, it seems to have given participants a justification for pursuing their weight-loss goals less vigorously.

Motivated construal. Whereas research shows that people will inflate the virtuousness of their past actions in response to self-image threats (e.g., by exaggerating how vigorously they exercised; Ross, et al., 1983; Ross, McFarland, & Fletcher, 1981), the present research suggests that this self-serving strategy extends to inflating the negativity of foregone behaviors. These findings also advance research on how construal processes facilitate self-control (see Fishbach & Converse, 2010). People will evaluate a particular temptation as more harmful when motivated to resist it (Fishbach, Zhang, & Trope, 2010; Zhang, Huang, & Broniarczyk, 2010). For example, when faced with the temptation of an unhealthy food, participants with salient weight-loss goals exaggerated that food's unhealthiness, apparently because such exaggeration helped them resist the

temptation (Zhang, et al., 2010, Study 3). The present research suggests that when people are instead motivated to *succumb* to temptation, they will strategically exaggerate how bad *alternatives to their prior behavior* were, because such exaggeration makes them feel licensed to give in.

Conclusion

Reflecting on counterfactual sins may allow people to enjoy harmless indulgences without too much guilt, but can also enable indulgence in short-term pleasure at the expense of long-term goals. The progress we make on the virtuous path towards such goals thus depends on the sinful paths we have chosen not to tread – even if those paths were not actually as sinful as we imagine them to have been.

References

Baumeister, R. F., Bratslavsky, E., Muraven, M., & Tice, D. M. (1998). Ego depletion: Is the active self a limited resource? *Journal of Personality and Social Psychology, 74*(5), 1252-1265. doi: 10.1037/0022-3514.74.5.1252

Baumeister, R. F., Vohs, K. D., & Tice, D. M. (2007). The strength model of self-control. *Current Directions in Psychological Science, 16*, 351-355.

Bradley-Geist, J. C., King, E. B., Skorinko, J., Hebl, M. R., & McKenna, C. (2010). Moral credentialing by association: The importance of choice and relationship closeness. *Personality and Social Psychology Bulletin, 36*, 1564-1575.

Conway, P., & Peetz, J. (2012). When does feeling moral actually make you a better person? Conceptual abstraction moderates whether past moral deeds motivate consistency or compensatory behavior. *Personality and Social Psychology Bulletin, 38*(7), 907-919. doi: 10.1177/0146167212442394

Crawford, D., Jeffery, R. W., & French, S. A. (2000). Can anyone successfully control their weight? Findings of a three year community-based study of men and women. *International Journal of Obesity and Related Metabolic Disorders, 24*(9), 1107-1110. doi: 10.1038/sj.ijo.0801374

de Witt Huberts, J. C., Evers, C., & de Ridder, D. T. D. (2012). License to sin: Self-licensing as a mechanism underlying hedonic consumption. *European Journal of Social Psychology, 42*(4), 490-496. doi: 10.1002/ejsp.861

Effron, D. A., Cameron, J. S., & Monin, B. (2009). Endorsing Obama licenses favoring Whites. *Journal of Experimental Social Psychology, 45*, 590-593.

Effron, D. A., Miller, D. T., & Monin, B. (in press). Inventing racist roads not taken: The licensing effect of immoral counterfactual behaviors. *Journal of Personality and Social Psychobgy*.

Fishbach, A., & Converse, B. (2010). Walking the line between goals and temptations: Asymmetric effects of counteractive control. In R. R. Hassin, Y. Trope & K. Ochsner (Eds.), *Self Control in Brain, Mind, and Society* (pp. 389-407). New York: Oxford University Press.

Fishbach, A., & Dhar, R. (2005). Goals as excuses or guides: The liberating effect of perceived goal progress on choice. *Journal of Consumer Research, 32*(3), 370-377.

Fishbach, A., Zhang, Y., & Trope, Y. (2010). Counteractive evaluation: Asymmetric shifts in the implicit value of conflicting motivations. *Journal of Experimental Social Psychology, 46*(1), 29-38. doi: 10.1016/j.jesp.2009.09.008

Howell, D. C. (2002). *Statistical Methods for Psychology*. Pacific Grove, CA: Duxbury.

Jordan, J., Mullen, E., & Murnighan, J. K. (2011). Striving for the moral self: The effects of recalling past moral actions on future moral behavior. *Personality and Social Psychology Bulletin, 37*, 701-713.

Kivetz, R., & Zheng, Y. (2006). Determinants of justification and self-control. *Journal of Experimental Psychology: General, 135*(4), 572-587. doi: 10.1037/0096-3445.135.4.572

Mandel, D. R., & Dhami, M. K. (2005). "What I did" versus "what I might have done": Effect of factual versus counterfactual thinking on blame, guilt, and shame in

prisoners. *Journal of Experimental Social Psychology, 41*(6), 627-635. doi: 10.1016/j.jesp.2004.08.009

Mazar, N., & Zhong, C.-B. (2010). Do green products make us better people? *Psychological Science, 21*, 494-498.

Merritt, A. C., Effron, D. A., Fein, S., Savitsky, K., Tuller, D. M., & Monin, B. (2012). The strategic pursuit of moral credentials. *Journal of Experimental Social Psychology, 48*, 774-777.

Merritt, A. C., Effron, D. A., & Monin, B. (2010). Moral self-licensing: When being good frees us to be bad. *Social and Personality Psychology Compass, 4*, 344-357.

Miller, D. T., & Effron, D. A. (2010). Psychological license: When it is needed and how it functions. In M. P. Zanna & J. M. Olson (Eds.), *Advances in experimental social psychology* (Vol. 43, pp. 117-158). San Diego, CA: Academic Press/Elsevier.

Miller, D. T., Visser, P. S., & Staub, B. D. (2005). How surveillance begets perceptions of dishonesty: The case of the counterfactual sinner. *Journal of Personality and Social Psychology, 89*(2), 117-128.

Monin, B., & Miller, D. T. (2001). Moral credentials and the expression of prejudice. *Journal of Personality and Social Psychology, 81*(1), 33-43.

Niedenthal, P. M., Tangney, J. P., & Gavanski, I. (1994). "If only I weren't" versus "If only I hadn't": Distinguishing shame and guilt in conterfactual thinking. *Journal of Personality and Social Psychology, 67*, 585-595.

Ross, M., McFarland, C., Conway, M., & Zanna, M. P. (1983). Reciprocal relation between attitudes and behavior recall: Committing people to newly formed

attitudes. *Journal of Personality and Social Psychology, 45*(2), 257-267. doi: 10.1037/0022-3514.45.2.257

Ross, M., McFarland, C., & Fletcher, G. J. (1981). The effect of attitude on the recall of personal histories. *Journal of Personality and Social Psychology, 40*(4), 627-634. doi: 10.1037/0022-3514.40.4.627

Schwarz, N., Bless, H., Strack, F., Klumpp, G., Rittenauer-Schatka, H., & Simons, A. (1991). Ease of retrieval as information: Another look at the availability heuristic. *Journal of Personality & Social Psychology, 61*(2), 195-202.

Stunkard, A. J., & Messick, S. (1985). The three-factor eating questionnaire to measure dietary restraint, disinhibition and hunger. *Journal of Psychosomatic Research, 29*, 71-83.

Vohs, K., & Heatherton, T. F. (2000). Self-regulatory failure: A resource-depletion approach. *Psychological Science, 11*(3), 249-254.

Wing, R. R., & Phelan, S. (2005). Long-term weight loss maintenance. *American Journal of Clinical Nutrition, 82*(1), 222S-225S.

Zhang, Y., Huang, S.-C., & Broniarczyk, S., M. (2010). Counteractive construal in consumer goal pursuit. *Journal of Consumer Research, 37*, 129-142.

Zhong, C.-B., Liljenquist, K., & Cain, D. M. (2009). Moral self-regulation: Licensing and compensation. In D. De Cremer (Ed.), *Psychological Perspectives on Ethical Behavior and Decision Making* (pp. 75-89). Charlotte, NC: Information Age Publishing.

Figure Captions

Figure 1. Study 1: Mean number of weight-loss behaviors reported and intended over time (± *SE*), by condition. *At baseline, participants in both conditions were asked to reflect on how they had recently fallen short of their weight-loss goals. As expected, control participants subsequently said they wanted to improve their weight-loss behavior whereas participants who had reflected on counterfactual sins did not. This difference persisted one week later at Time 2.*

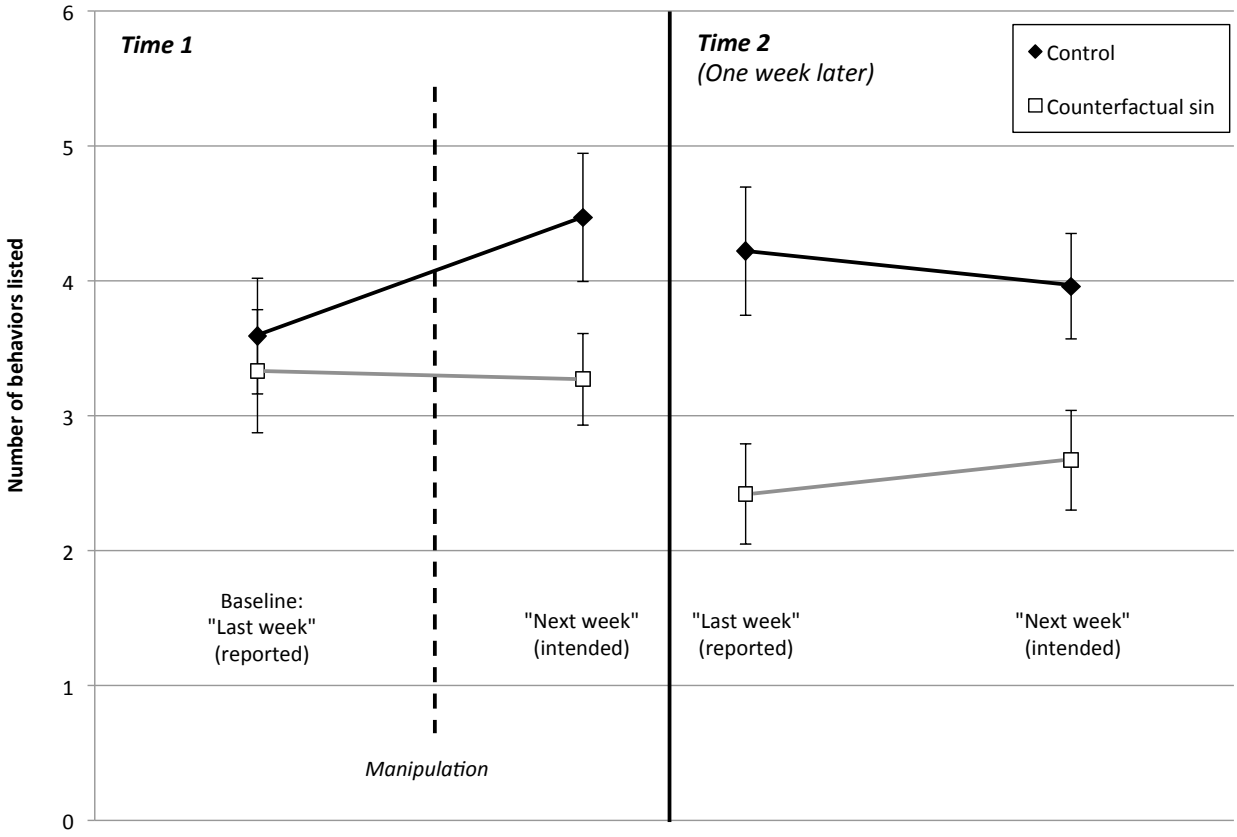
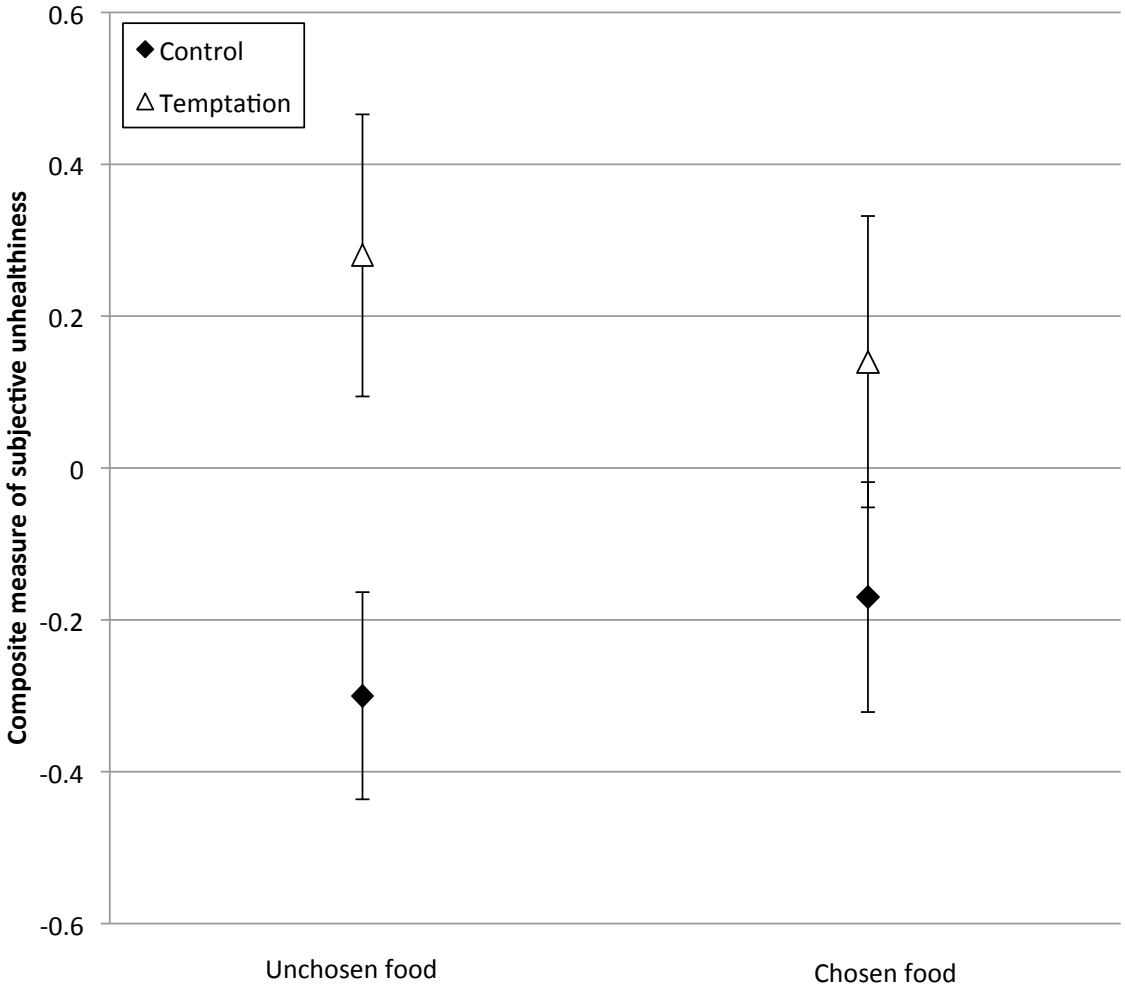


Figure 2. Study 2: Mean ratings of chosen and unchosen foods' subjective unhealthiness (± *SE*) by condition. *As predicted, tempting participants with cookies increased the perceived unhealthiness of the foods they had declined, and not the foods they had chosen.*



Note: The factor displayed on the x-axis was manipulated within subjects. Ratings of individual foods were converted to z-scores before being averaged into the composite measure displayed on the y-axis.