

SOCIAL SELF-CONTROL:
CO-INDULGING IMPACTS POST-INDULGENCE EMOTIONS AND MOTIVATION

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ABSTRACT OF THE DISSERTATION

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Despite having long-term goals and being motivated to achieve them, people sometimes give in to temptations that conflict with their goals. A dieter enjoys a delicious treat. A student watches a movie instead of studying. Most existing research on self-control measures the self-control decisions people make alone (i.e., independently from other people). In reality, people spend much of their daily lives in social environments and many daily experiences are shared with other people. My dissertation tests whether indulging in temptations together differs from indulging alone.

In my dissertation research, I explored whether, when, and why sharing indulgent experiences with a peer (i.e., “co-indulging”) has different affective and behavioral consequences relative to indulging alone. First, I tested whether shared vs. solo goal-violations differ in the extent to which they produce negative emotions. Across studies, I found that people felt less negative about their indulgent behaviors when they indulged with someone compared to when they did so alone, even when the indulgence itself was

exactly the same. Next, I tested whether indulging with a peer led to differences in downstream consequences for goal pursuit, including goal progress monitoring (Study 2) and motivational outcomes (Study 3). Participants who co-indulged felt less negative about the indulgence which led them to believe the same behavior was less harmful for their goals and they were less motivated to engage in goal-consistent action. Next, I tested two possible mechanisms to explore why co-indulgence decreases negative feelings, including whether co-indulging shifts goal priorities (Study 4) and/or minimizes personal feelings of responsibility (Study 6). Across studies, I found that deprioritization of the target goal and decreased feelings of personal responsibility were both processes through which co-indulgence minimized negative feelings. In Study 5, I explored a boundary condition of the co-indulgence effect by testing whether sharing versus not sharing a goal with a peer impacts experience. I found evidence that sharing the *goal*, versus simply sharing the *experience*, decreased feelings of personal responsibility to a greater extent, suggesting that goal-seekers may find additional emotional reprieve when their co-indulging peers are similarly violating their goals. Finally, in Studies 6 & 7, I sought to replicate and extend this work in real-world behavioral contexts.

Across studies, I found that sharing an indulgent experience compared to indulging alone shifted people's feelings about the indulgence, leading them to feel less guilty about an objectively identical behavior and leading them to feel less motivated to repair the failure. Though shared indulgent experiences can boost positive affect and lead to interpersonal closeness, this work suggests that goal-seekers need to be mindful as to how these experiences impact their long-term goals. This work fits into a broader theoretical framework for a model of subjective self-regulatory experience.

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Introduction

Jenny just started a new diet regimen. In order to lose weight, she has committed to eating healthy and avoiding desserts. Despite this goal, Jenny is exhausted after a long day of work and is craving something sweet. She knows she has a box of chocolate chip cookies in her pantry. She feels torn—should she eat the delicious cookies, or forego them to stay committed to her dieting goal?

In their daily lives, people are bombarded with opportunities to act in goal-inconsistent ways. A dieter walking past the candy aisle may feel the urge to grab a tasty treat. A student with an upcoming test may feel tempted to go to a party instead of staying home to study. Indeed, long-term goals are frequently threatened by salient and tempting rewards readily available in the environment. This type of dilemma represents a common and relatable scenario among goal-seekers known as a self-control conflict. When a person is pulled between two competing motives: one that fulfills an immediate craving (e.g., delicious high-calorie foods) and another that favors a long-term goal (e.g., weight-loss), a prototypical self-control conflict arises (Ainslie, 1992; Fishbach & Converse, 2010; Fishbach & Shen, 2014; Metcalfe & Mischel, 1999; Mischel, 1974; Loewenstein, 1996; Trope & Fishbach, 2000). Critically, in this binary choice, the two motives are mutually exclusive; acting on the temptation precludes progress toward the goal and acting in line with the goal involves foregoing the immediate pleasures of the temptation (Fishbach & Shah, 2006; Fujita, 2011).

Social Self-Control

Much existing research on self-control studies the decisions individuals make on their own (i.e., independently from other people). For example, to assess self-control, a

participant in the lab is given a choice between a healthy or unhealthy snack (e.g., Fishbach & Shah, 2006; Khan & Dhar, 2006; Wilcox et al., 2011), or an individual provides a report about their temptation resistance that day (e.g., Hofmann, Baumeister, Förster & Vohs, 2012; Milyavskaya, Inzlicht, Hope, & Koestner, 2015; Veilleux, Hill, Skinner, Pollert, Spero & Baker, 2017). Researchers have accumulated a wealth of knowledge about *individual* self-control and associated psychological processes.

In reality, we know people are not independent goal seekers. Instead, people are immersed in world that is inherently social, and many goal-relevant decisions are made with and around other people. Although studying individual self-control has provided an important foundation, existing models of self-control can be improved by incorporating a consideration of social factors. As other researchers have aptly stated, “no model of self-regulation that starts and ends with the individual goal pursuer is a complete model of self-regulation” (Fitzsimons & vanDellen, 2015, p. 273).

Indeed, in recent years, researchers have begun to explore interpersonal aspects of self-regulation (e.g., Finkel & Fitzsimons, 2011; Fitzsimons, Finkel, & vanDellen, 2015; Fitzsimons & vanDellen, 2015; Laurin et al., 2016). Whether or not they realize it, people’s goal-directed behaviors are frequently influenced by the presence of others. For example, in general people tend to eat more when they are with other people compared to when they are alone, a phenomenon known as the social facilitation of eating (Herman, 2015; Higgs & Thomas, 2016). Dieters are more tempted to overeat, and do actually overeat more, when they are in social settings (Burke et al., 2016). Moreover, people model the eating behavior of others; when eating in the presence of others who either eat a lot or a little, individuals—including dieters—tend to also eat either a lot or a little (for

review see Herman, Roth, & Polivy, 2003; Rosenthal & Marx, 1979). Additionally, people tend to adapt their behaviors to norms that guide socially appropriate behavior, even when these norms are not explicitly stated (Higgs, 2015; Vartanian, Sokol, Herman, & Polivy, 2013). For example, one study found when there was an established norm to eat chocolate (e.g., empty chocolate wrappers in a bowl), the number of chocolates taken by visitors was higher, compared to when there was no visible evidence of eating, regardless of dieting goal strength (Prinsen, de Ridder, & de Vet, 2013). Indeed, people tend to adapt their behaviors to social expectations and succumb to norms, even when this hinders their own self-regulatory success (Herman, Roth, & Polivy, 2003).

Moreover, emerging research and theory go beyond simply suggesting that individuals' goal-relevant behaviors can be influenced by others. Rather, Transactive Goal Dynamics theory proposes close others are often so tightly intertwined that the partners can be conceptualized as "interdependent subparts of one self-regulating system" (Fitzsimons, Finkel, & vanDellen, 2015, p. 1). In other words, this theoretical perspective suggests that when with close others, the unit of the self-regulator actually shifts from the individual to the relationship dyad.

As a result, close others often facilitate effective self-regulation. One way this occurs is when goals are mutually held, for example, when both Jason and his workout buddy have exercise goals for themselves and for each other. In such cases, peers with shared goals can coordinate a decision that is mutually beneficial and results in goal-consistent action for both parties (Finkel, & Fitzsimons, & vanDellen, 2015; Fitzsimons & Finkel, 2015; Luchies, Finkel & Fitzsimons, 2011). Indeed, one study found spouses with mutual goals for their own health and for each other's health were more likely to

enact healthy behaviors together, such as cooking a healthy meal (Fitzsimons & Finkel, 2015). Another way close others can encourage goal pursuit is through providing social support. Across multiple goal domains, perceived support has been shown to aid motivation and increase goal-consistent action (e.g., Brunstein, Dangelmayer, & Schultheiss, 1996; Fitzsimons & Finkel, 2010; Lee & Ybarra, 2017). Additionally, peers that serve as positive role models can directly and indirectly motivate goal-consistent behavior (Lockwood, Jordan & Kunda, 2002).

In contrast, other studies have found close others can deter self-regulatory success. For example, partners with mutual goals can feel their self-regulatory resources are shared, which can sometimes lead people to over-rely on their partner's support. This results in a decrease in *individual* effort toward goal-consistent behavior (Fitzsimons & Finkel, 2011; Shea, Davisson, & Fitzsimons, 2013). Individuals who are low in self-control are particularly likely to depend on others instead of relying on their own efforts (Shea, Davisson, & Fitzsimons, 2013). Taken together, research suggests close others are integrated in processes that can lead to goal-consistent and -inconsistent action.

The majority of existing models of goal interdependence consider interpersonal influences on the goal-consistent and -inconsistent choices people make (e.g., Baumeister, Heatherton & Tice, 1994; Brunstein, Dangelmayer, & Schultheiss, 1996; Finkel & Fitzsimons, 2011; Finkel, Fitzsimons, & vanDellen, 2015; Fitzsimons & Finkel, 2011; Fitzsimons & Finkel, 2010; Lockwood, Jordan & Kunda, 2002). In other words, researchers have typically explored social influences involved in the decisions themselves. Much less research has explored what happens *after* people make their decisions, including studying the affective and behavioral consequences of making those

decisions alone or with others. The present work aims to add to the growing body of work on interpersonal self-regulation by suggesting that, in addition to influencing behavioral choices in the first place, social experiences also influence how individuals feel *after* they engage in goal-inconsistent action and how those feelings impact future motivation.

Feelings after Indulging

Despite their best intentions, people do sometimes succumb to temptations and make goal-inconsistent choices. People trying to eat healthy give in to a craving for dessert. People committed to getting in shape decide to skip the gym and stay home. One study found even when actively trying to resist desires, people gave in to temptations nearly 20% of the time they experienced them (Hofmann, Baumeister, Förster, & Vohs, 2012).

How do people typically feel after giving in to temptations? Emotional experiences associated with goal-inconsistent action can be multifaceted. While goal-inconsistent choices are often enjoyable in the moment, succumbing to temptation can lead to prevailing negative emotions such as guilt, regret, and disappointment (e.g., Carver & Scheier, 1998; Giner-Sorolla, 2001; Ramanathan & Williams, 2007; Soman & Cheema, 2004; Tangney, 1995; Tice & Bratslavsky, 2000; Wilcox et al., 2011). Specifically, negative emotions are often experienced when individuals recognize the chosen option was less favorable for long-term outcomes than the non-chosen option (Bagozzi, Baumgartner, Pieters & Zeelenberg, 2000; Yi & Baumgartner, 2004; Tsiros & Mittal, 2000; Zeelenberg & Pieters 2007). Moreover, feelings of discomfort and dissonance can emerge from reflecting on a behavior that did not align with a valued

long-term goal (Bonsu & Main, 2006). However, various aspects of the situation have been shown to influence the extent to which people actually feel bad about their behavior, such as when hedonic indulgences are planned (Coelho do Vale, Pieters & Zeelenberg, 2016) or justified with excuses (De Witt Huberts, Evers & De Ridder, 2014). The present work explores how indulging *with* someone (i.e., “co-indulging”), rather than indulging alone, affects negative feelings that follow a goal violation.

Co-Indulgence

“Co-indulgence” occurs when an individual and a peer indulge in a temptation together (Lowe & Haws, 2014). For example, co-indulgence occurs when two friends who hold healthy eating goals decide to eat pizza together rather than a healthier choice. This definition assumes the goals are “parallel” goals wherein both peers share a similar goal for themselves (Finkel, Fitzsimons, & vanDellen, 2015).

Past research exploring co-indulgence has primarily focused on how indulging together affects the relationship between individuals. For example, across a series of studies, co-indulgence increased feelings of similarity to the other person, increased feelings of liking, and led to affiliation and social bonding (Lowe & Haws, 2014). Similarly, other work has found that engaging in risky (i.e., unhealthy) eating with friends led to greater excitement than eating alone, which contributed to feelings of interpersonal closeness (Cummings & Tomiyama, 2018). In other work, similar food choices, even among strangers, generated feelings of trust and closeness (Woolley & Fishbach, 2017), while dissimilar food choices generated feelings of loneliness and separation (Woolley, Fishbach, & Wang, 2019). Together, past research suggests sharing

indulgent experiences with peers can lead to feelings of camaraderie and social connection.

The present work expands the research on co-indulgence to explore how a co-indulgent experience impacts how people feel about the *behavior* itself. Specifically, I test whether indulging in a temptation with a peer (vs. alone) makes an individual feel less negative about the indulgence and subsequently affects their beliefs about their progress toward their overarching goal.

Mechanisms

Why might indulging with a peer (vs. alone) minimize negative feelings about the indulgence? Below I outline several possible mechanisms through co-indulgence may decrease negative feelings about goal-inconsistent behavior relative to indulging alone.

Shared Responsibility. First, co-indulgence may lead people to shift some of the responsibility for their choice away from themselves and onto their peer(s). Transactive Goal Dynamics (Fitzsimons, Finkel, & vanDellen, 2015) provides an excellent framework to draw from to identify why individuals might feel less responsible about shared self-regulatory blunders. Specifically, if the individuals are functioning as one self-regulatory unit then they are collectively responsible for self-regulatory missteps. Thus, we might expect co-indulging individuals will feel *less personally responsible* for their actions than individuals indulging alone.

Indeed, past work has shown collective decisions diffuse feelings of individual responsibility for behaviors that would otherwise cause distress (El Zein, Bahrami, & Hertwig, 2019; Leary & Forsyth, 1987). Moreover, evidence from the morality literature supports the notion that when people share responsibility for transgressions, they

experience reduced guilt (Baumeister, Stillwell, & Heatherton, 1994). In one study, after inflicting ostensible shocks onto others, the extent to which individuals perceived shared responsibility with other transgressors predicted their feelings of guilt (Li, Yu, Zhou, Kalenscher, & Zhou, 2019). Thus, because decisions made together can reduce feelings of personal responsibility and the extent to which people hold themselves responsible for their actions can impact how negative they feel, decreased feelings of responsibility may explain why co-indulgence minimizes negative feelings.

Goal Shifting. Second, co-indulgence might lead to minimized feelings of guilt through momentary goal shifting. People are typically working toward multiple goals in their daily lives, and sometimes these goals conflict with one another. In such cases, individuals can flexibly shift which goal is prioritized in the moment in order to choose which goal to pursue (Carver & Scheier, 2004; Kung & Scholer, 2020; Orehek & Vazeou-Nieuwenhuis, 2013; Scholer, 2014). When indulging with friends, other goals may take a back seat while social or hedonic goals take priority. As a result, a decision to indulge may be less likely to elicit negative feelings because the goal for which the violation occurred was deprioritized in the moment. The behavior may even be experienced as a goal-*consistent* decision that satisfies social goals rather than as a goal-*inconsistent* choice to give in to a temptation (Scholer, 2014). While a behavior can objectively be goal-inconsistent for one goal, if it is not inconsistent for the currently prioritized goal, negative feelings may not arise because individuals do not view the action as a goal violation in the moment.

Boundary Condition: Shared vs. Unshared Goals

In addition to exploring mechanisms, the current research will seek to identify a boundary condition for co-indulgence effects. In the extant literature, co-indulgence involves two peers sharing the same goal and “failing” together (i.e., “parallel” goals). An open question is the extent to which the effects of co-indulgence require a shared *goal* (and subsequent violation) or if the effects would emerge simply from the shared *experience*. In other words, in the context of the present research, I ask whether people still experience minimized guilt if they indulge with someone who does not have the same goal to begin with.

Some existing work suggests simply engaging in any positive behavior with someone, even without discussing the experience, makes the experience more enjoyable (Boothby, Clark, & Bargh, 2014). This is especially the case for peers in closer relationships (Boothby, Smith, Clark, & Bargh, 2016). This work leads to predictions that relative to indulging alone, indulging together would result in less negative feelings by enhancing the enjoyment of the indulgence itself.

Yet there may be an additional buffering effect when individuals share the goal. When close peers share a goal, Transactive Goal Dynamics theory suggests they are functioning—and failing—as a single self-regulating unit (Fitzsimons, Finkel, & vanDellen, 2015). In other words, when the experience is shared among an interdependent set of peers, they may feel a stronger identity as a unit (e.g., we, us) than as individuals (e.g., me, I). This may influence the extent to which the individuals interpret the goal violation as their own personal doing or something more reflective of

the combined unit. Being able to shift some of the responsibility for a mutual goal violation to their peer may further buffer against post-indulgence guilt.

In the present work, I explore whether negative feelings are differentially impacted by whether co-indulgers engage in a shared goal deviation—when both indulgers violate their goal—or just a shared experience—when only one of the two peers is actively violating a goal.

Outcomes for Goal Pursuit

Goal pursuit does not begin and end with any one self-control decision. Rather it involves repeated opportunities to make goal-consistent or -inconsistent choices over time. Indeed, after every goal-inconsistent behavior, individuals have subsequent opportunities to act towards their goal. Thus, it is important to understand how goal-inconsistent actions can influence subsequent goal pursuit.

When people feel negative emotions about goal-inconsistent action, it can be functional for sustained goal pursuit. According to the feelings-as-information theory, people attend to their feelings as a source of information for subsequent judgments and behaviors (Schwarz, 1990; Schwarz & Bohner, 1996). Moreover, when subjective feelings are tied to a particular experience (e.g., feelings of guilt after indulgence), they are especially likely to be used as information about the current situation and dictate subsequent actions. Thus, in line with the feelings-as-information theory, feeling guilty after behavior can provide information that goal progress has been harmed.

Further, evidence from research on goal monitoring suggests when individuals perceive goal progress has been harmed or slowed, they identify the need to repair the setback with goal-consistent action (Baumeister & Heatherton, 1996; Dhar & Simonson,

1999; Fishbach, Eyal, & Finkelstein, 2010; Zemack-Rugar, Corus, & Brinberg, 2012). Therefore, if feeling negative is recognized as a consequence of the goal-inconsistent behavior (Baumeister, Vohs, DeWall, & Zhang, 2007), these feelings can functionally fuel subsequent motivation toward the long-term goal by encouraging participants to “get back on track” towards goal success (Allard & White, 2015; Carver & Scheier, 1998; Hofmann & Fisher, 2012; Webb, Chang & Benn, 2013). Indeed, a primary method for minimizing guilt following goal-inconsistent action is to employ motivational resources for reparatory behavior (Allard & White, 2015; Baumeister, Vohs, DeWall, & Zhang, 2007; Dahl, Honea & Manchanda, 2003; Fishbach & Labroo, 2007; Hofmann & Fisher, 2012; Nelson, Malkoc & Shiv, 2018; Zemack-Rugar, Bettman & Fitzsimons, 2007).

Taken together, this suggests feelings of guilt after an indulgence may lead to evaluations of goal harm, which subsequently yield increased motivation and reparatory goal-consistent intentions. If co-indulgence minimizes negative feelings associated with the indulgence, this may interfere with peoples’ abilities to “accurately” track detriments to their goal progress, ultimately leading to decreased motivational intentions.

The Present Work

Past work has established that co-indulgent experiences impact social relationships; they increase bonding and closeness among peers. This dissertation adds to the literature by exploring novel questions about whether sharing an indulgent experience impacts how people feel about the behavior itself, why this might be the case, when this might be the case, and consequences for motivational outcomes.

Across a series of seven studies spanning multiple goal domains, I test whether, when, and why sharing indulgent experiences with a close peer impacts the extent to

which a goal-inconsistent behavior produces negative emotions and impacts downstream consequences for goal pursuit (See Figure 1 for conceptual model). First, I test whether co-indulging (vs. solo-indulging) minimizes negative feelings about the indulgence (Study 1). Next, I explore whether people's emotional responses influence downstream consequences for pursuit, including goal progress monitoring (Study 2) and motivational outcomes (Study 3). Then, I explore why co-indulgence may minimize negative feelings, testing whether minimized feelings of personal responsibility and/or decreased goal prioritization are two possible mechanisms influencing feelings (Study 4). Next, I explore one boundary condition of the co-indulgence buffering effect, exploring whether individuals need to experience a shared goal violation or just a shared experience in order for co-indulgence to impact goal-relevant outcomes (Study 5). Finally, I replicate and extend this work in real-world behavioral contexts (Studies 6 & 7).

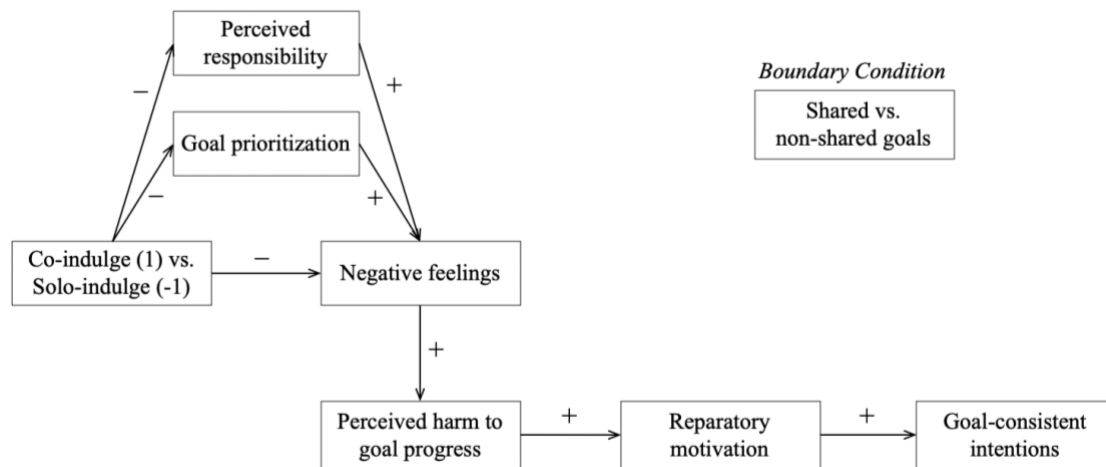


Figure 1. Conceptual model wherein co-indulgence (vs. solo-indulgence) minimizes negative feelings through decreased feelings of personal responsibility and/or decreased prioritization of the target goal, leading co-indulgers to feel the behavior was not as harmful to their goal progress, decreasing their motivation to repair the setback, and thus decreasing their subsequent intentions to behave goal-consistently.

Study 1: Impacts of Co-indulging (vs. Solo-indulging) on Post-Indulgence Feelings

In Study 1, I sought to experimentally assess whether experiencing a self-control failure together with a friend versus alone impacts how people feel after their indulgence. Participants imagined a scenario in which they experienced a self-control conflict either together with a friend or alone. In both conditions, participants imagined giving in to the temptation. To ensure effects were not specific to a particular type of indulgence, I explored three different scenarios, two involving unhealthy eating and one involving exercise. I predicted that co-indulgers compared to solo-indulgers would report thinking they would feel less negative (e.g., guilty) about the very same indulgent behavior.

Methods

In exchange for \$0.25, 343 Amazon Mechanical Turk participants were recruited to complete an online survey. The sample size was set with the goal to attain 50 participants per six experimental groups (Simmons, Nelson, & Simonsohn, 2013) and oversampling for an expected 10% data loss from failed attention checks. Fifty-three participants (15%) were excluded from analysis for failing to correctly answer at least one of two attention check questions. The final sample included 290 participants ($M_{age} = 36.01$, $SD = 12.26$, 151 women, 1 participant did not report gender).

Participants first read and completed an informed consent. All participants were randomly assigned to imagine themselves in one of three hypothetical scenarios where they experienced a self-control conflict. Participants assigned to each scenario were then assigned to one of two versions of the conflict. In the *co-indulgence* conditions, participants imagined they experienced the self-control conflict together with a friend; they both had long-term goals to be healthy and they both decided to instead indulge. In

the *solo-indulgence* conditions, participants imagined they experienced the self-control conflict alone. Full scenarios for all studies are presented in Appendix A.

Conflict Scenario 1: Healthy eating goals vs. eating ice cream. Participants imagined they had recently started a new diet plan that involved eating only healthy foods and avoiding sweets. Despite their health goals, they experienced a strong craving for an ice cream while they were alone ($n = 45$) or with a friend who similarly was on a diet and was also craving ice cream ($n = 51$). In both conditions, they grappled with the desire to indulge in the temptation—it would taste good and they would enjoy it, but it was not a healthy choice. All participants imagined they decided to give in to the temptation and eat an ice cream sundae. In the co-indulgence condition, participants imagined their friend also ate their own ice cream sundae.

Conflict Scenario 2: Healthy eating goals vs. eating cheesy fries. Participants imagined they had recently started a new diet plan that involved eating only healthy foods and avoiding unhealthy foods. Despite their health goals, they experienced a strong craving to order cheesy fries instead of a healthier meal. Participants either felt the conflict alone ($n = 42$) or together with a friend who similarly was on a diet but was also craving an unhealthy food ($n = 51$). In both conditions, they grappled with the desire to indulge in the temptation—it would taste good and they would enjoy it, but it was not a healthy choice. All participants imagined they decided to give in to the temptation and eat a plate of cheesy fries. In the co-indulgence condition, participants imagined their friend also ate their own plate.

Conflict Scenario 3: Exercise goals vs. relaxing. Participants imagined they had recently started a new exercise plan that involved regular exercise at the gym. Despite

their plans to exercise, they experienced a strong desire to stay home to relax instead of going to the gym. Participants either felt the desire alone ($n = 48$) or together with a friend who was also planning on exercising but wanted to stay home ($n = 53$). In both conditions, they grappled with the desire to skip the gym—it would be more enjoyable, but it was not the goal-consistent choice. All participants imagined they decided to give in to the temptation and skip the gym. In the co-indulgence condition, participants imagined their friend also skipped going to the gym.

Feelings about the indulgence. Next, participants reported how they would be feeling about the indulgence. On a scale from 0 (*not at all*) to 10 (*completely*), participants reported how much they would be feeling guilt, regret, disappointment, failure, joy, happiness, enjoyment, and fulfillment. I reverse coded the positive items and averaged the eight items into a single scale where greater numbers indicated feeling worse about the indulgence ($\alpha = .91$).

Results

To examine the effect of condition and scenario on negative feelings about behavior, I conducted a 2 (co-indulgence vs. solo-indulgence) x 3 (scenario: ice-cream, fries, exercise) ANOVA. Means for all groups are depicted in Figure 2. As predicted, there was a significant main effect of condition on negative feelings, $F(1, 284) = 34.01, p < .001, \eta^2_p = 0.11$. Despite the indulgence itself being exactly the same between conditions, participants in the co-indulgence conditions reported feeling less negative ($M = 3.86, SD = 1.98$) about their behavior than participants in the solo-indulgence

conditions ($M = 5.24$, $SD = 2.13$).¹ There was also a significant main effect of scenario on negative feelings, such that participants who imagined failing to exercise felt significantly worse ($M = 5.17$, $SD = 2.38$) than those who ate fries ($M = 4.54$, $SD = 2.02$), and those who ate fries felt significantly worse than those who ate ice cream ($M = 3.78$, $SD = 1.82$), $F(2, 284) = 12.36$, $p < .001$, $\eta_p^2 = 0.08$. There was no significant interaction between condition and scenario, $F(2, 284) = 1.93$, $p = .147$ suggesting the same pattern of results emerged in each indulgence scenario.

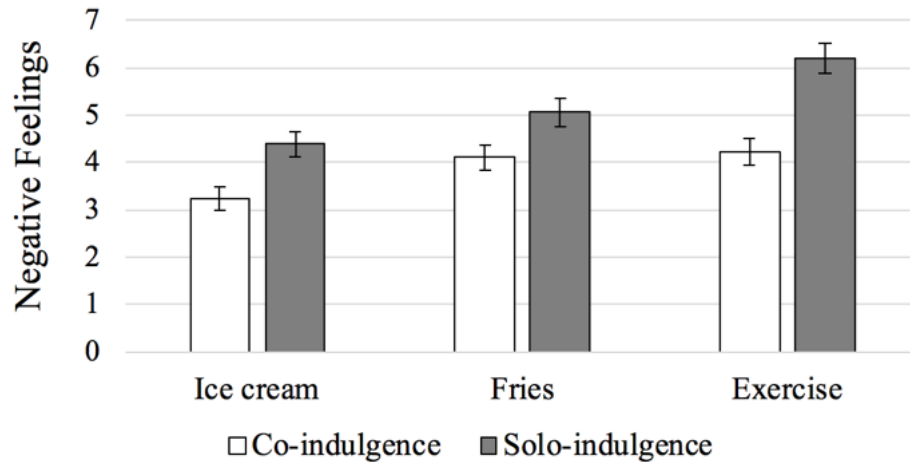


Figure 2. Results from Study 1. Across three scenarios, participants who imagined co-indulging (light bars) felt significantly less negative about the indulgence than those who imagined solo-indulging (dark bars).

1. I report the aggregate measure of negative and reverse-coded positive emotions, however analyzing positive and negative emotions separately produces the same pattern of results. When analyzed individually, compared to solo-indulgers, co-indulgers exhibited both increased positive feelings, $t(171) = 6.88$, $p < .001$, and decreased negative feelings, $t(171) = -4.54$, $p < .001$, indicating that, compared to traditional (solo) self-control failure, co-indulgence amplified positive *and* minimized negative feelings.

Study 2: Implications for Goal Progress Monitoring

In Study 1, participants who imagined indulging with friends reported they would feel less negative (e.g., less guilty, less regretful, more fulfilled) about their indulgent behavior compared to participants who imagined indulging alone. In Study 2, I tested the consequences of these tempered negative emotions for goal-related outcomes. Specifically, I tested whether people used their post-indulgence emotions as information about how much the behavior took them “off-track” from their goal.

Participants in a dieting context imagined a scenario in which they experienced a self-control conflict and decided to indulge, either with a friend or alone. I selected the ice cream scenario as it was an unambiguously unhealthy indulgence among those with goals to avoid desserts. In addition to assessing people’s feelings about the indulgence, I explored if how people felt about the behavior impacted how much participants thought the behavior had impacted their goal progress. I predicted people who co-indulged versus solo-indulged would feel less negative about their behavior, leading them to downplay the extent to which the behavior harmed their health goal progress.

Methods

In exchange for \$0.50, 112 Amazon Mechanical Turk participants ($M_{age} = 39.46$, $SD = 12.50$, 65 women) completed an online survey. The sample size was set *a priori* to ensure a minimum of 50 participants per cell of the design.

Participants first read and completed an informed consent. All participants imagined themselves in the same hypothetical scenario from Study 1, in which they had goals to eat healthy but experienced a craving for ice cream. As in Study 1, all participants imagined they decided to give in to the temptation to have ice cream.

Participants were randomly assigned to one of two groups. In the *co-indulgence* condition ($n = 60$), participants imagined they experienced the self-control conflict together with a friend and both decided to eat an ice cream sundae. In the *solo-indulgence* condition ($n = 52$), participants imagined they experienced the self-control conflict alone. Otherwise, the scenarios were exactly the same.

Feelings about the indulgence. Next, participants reported how they would feel about eating the ice cream despite their health goals. On a scale from 0 (*not at all*) to 10 (*completely*), participants reported how much they would be feeling guilt, regret, disappointment, joy, and happiness. I reverse coded the positive items and averaged the 5-items into a single scale where greater numbers indicated feeling worse ($\alpha = .89$).²

Impact on goals. Lastly, participants reported in what way eating the ice cream would impact their healthy eating goals, on a scale from 1 (*extremely positive impact*) to 7 (*extremely negative impact*). Finally, participants were thanked and debriefed.

Results

Feelings about the indulgence. To test if condition impacted participants' negative feelings about eating the ice cream, I conducted an independent samples t-test. As predicted, participants in the co-indulgence condition reported feeling significantly less negative about the indulgence ($M = 5.02$, $SD = 2.30$) than participants in the solo-indulgence condition ($M = 6.60$, $SD = 2.00$), $t(110) = -3.81$, $p < .001$, $d = 0.73$.

Consequences for goal-progress monitoring. To explore the consequences of co-indulging for assessments of goal harm, I tested a model where the social context affected

2. Based on pilot testing, items included in the affective measure varied slightly between studies. For each study, all items that were asked of participants are included in analyses.

negative affect following the indulgence, which predicted beliefs about goal progress. I conducted a mediation analysis using a bootstrapped estimate of the indirect effect of condition on goal impact through feelings. Using 10,000 resamples, the indirect effect was significant, 95% CI [0.07, 0.31]. Participants in the co-indulgence condition felt significantly less negative about the indulgence, which led them to report eating the ice cream was not as harmful to their goal (Figure 3).

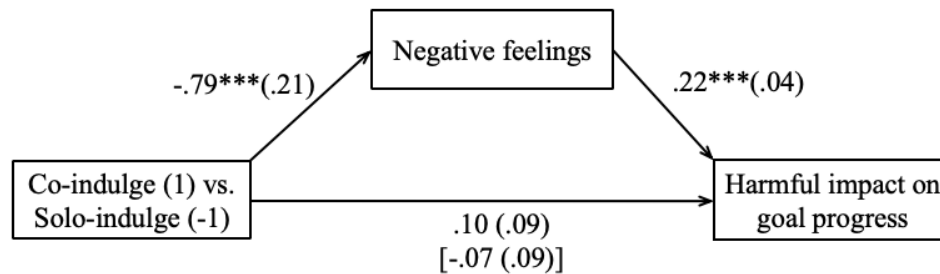


Figure 3. Unstandardized regression coefficients (and standard errors) from the mediation model in which participants in the co-indulgence condition (coded as 1) felt less negative, which led them to report the ice cream was less harmful to their goal progress. Values in brackets represent the direct associations; values without brackets represent associations when all variables are included in the model.

*** $p < .001$, ** $p < .01$, * $p < .05$.

In sum, participants who imagined engaging in a goal-inconsistent behavior with a peer felt less negative about their indulgence than participants who imagined doing so alone. These feelings impacted participants' beliefs about how harmful their behavior was to their health goal; feeling worse led participants to think eating the ice cream was more detrimental to their goals. Thus, taken together, those who indulged with a peer felt less negative, and in turn thought the indulgence was less detrimental for their health goal than those who indulged alone.

Study 3: Motivational and Behavioral Outcomes

In Study 3, I sought to replicate and extend the findings from Study 2 by testing additional motivational and behavioral outcomes that stem from the varied social context. Evidence from research on goal monitoring suggests when individuals perceive goal progress has been harmed or slowed, they identify the need to “get back on track” towards goal success (Baumeister & Heatherton, 1996; Dhar & Simonson, 1999; Fishbach, Eyal, & Finkelstein, 2010; Zemack-Rugar, Corus, & Brinberg, 2012). Thus, in Study 3, I tested whether co-indulgence vs. solo-indulgence ultimately impacted subsequent motivation for goal-consistent action, such as intentions to eat healthy foods after a dieting goal violation. Specifically, I tested a serial mediation model predicting participants who imagined co-indulging versus solo-indulging would feel less negative about the indulgence which would lead them to believe the indulgence was less harmful to their goals, decreasing their motivation to eat healthy the next day, and leading to weaker intentions to eat healthy foods.

Methods

In exchange for course credit, 281 undergraduate students were recruited through the psychology subject pool to participate in a lab study ($M_{age} = 19.24$, $SD = 1.16$, 130 women, 3 did not report gender). Since our primary goal in this study was to replicate and extend the mediation model from Study 2, this sample size was set *a priori* to attain a minimum of 260 participants based on the effect from the model tested in Study 2, calculated using the online power tool provided in Schoemann, Boulton & Short (2017). I oversampled to account for additional planned analyses to extend the effects as well as to account for expected attrition from an attention check question. One attention check

question assessed whether participants had read and comprehended significant details.

Participants who failed to correctly respond ($n = 14$) were eliminated from analyses. The final sample included 267 participants ($M_{age} = 19.25$, $SD = 1.17$, 120 women, 3 did not report gender).

Participants first read and completed an informed consent. As in Study 2, all participants imagined they had recently started a new healthy eating plan but experienced a craving for ice cream and decided to give in. With the exception of using a different picture of the ice cream, the scenario was the same as it was in Study 2. Participants were randomly assigned to imagine a *co-indulgence* ($n = 132$) or *solo-indulgence* ($n = 135$). After reading the scenario, participants responded to the following items.

Feelings about the indulgence. On a scale from 0 (*not at all*) to 10 (*completely*), participants reported how much they would be feeling guilt, regret, disappointment, joy, and happiness. I reverse coded the positive items and averaged the 5-items into a single scale where greater numbers indicate feeling worse ($\alpha = .86$).

Impact on goals. Next, participants reported in what way eating the ice cream would impact their goals to eat healthy, on a scale from 1 (*extremely positive impact*) to 7 (*extremely negative impact*).

Motivations to eat healthy. Next, participants responded to “How important would it be to eat healthy the next day?” and “How likely would you be to eat healthy the next day?” on a scale from 0 (*not at all*) to 10 (*extremely*), ($\alpha = .84$).

Intentions to eat healthy. Finally, participants indicated the likelihood they would eat specific healthy and unhealthy foods by responding to the item “Please indicate the likelihood that you would eat or avoid each of the following snacks the next day.” On a

scale from 1 (*definitely would not eat*) to 8 (*definitely would eat*), participants reported the likelihood that they would eat 12 snack foods the following day, including healthy foods (carrots, veggies, granola, yogurt, healthy nuts, fruit) and unhealthy foods (French fries, candies, chocolate, pizza, ice cream, dessert). I reverse coded the unhealthy foods for a combined measure of intentions to eat healthy ($\alpha = .85$). Following all measures, participants were thanked and debriefed.

Results

Feelings about the indulgence. To test if the social context impacted negative feelings about eating the ice cream, I conducted an independent samples t-test. As predicted, participants in the co-indulgence condition reported feeling significantly less negative about the indulgence ($M = 4.70$, $SD = 1.77$) than participants in the solo-indulgence condition ($M = 5.68$, $SD = 2.03$), $t(265) = -4.17$, $p < .001$, $d = 0.51$.

Consequences for goal-related outcomes

Next, to explore the consequences of co-indulging for motivational outcomes, I tested a serial mediation model where the social context affected negative affect following the indulgence, which predicted beliefs about goal progress, which predicted motivations to enact future goal-consistent behavior, and predicted subsequent intentions to eat healthy. Using 10,000 resamples, the indirect effect of condition on intentions to eat healthy through negative feelings, perceptions of goal harm, and motivations to eat healthy was significant, 95% CI [0.01, 0.005]. First, replicating the results of Study 2, participants in the co-indulgence condition felt significantly less negative about the indulgence which led them to report the behavior was less harmful to their goal pursuit.

This subsequently led them to report less motivation to eat healthy in the future and form fewer intentions to eat healthy foods (Figure 4).

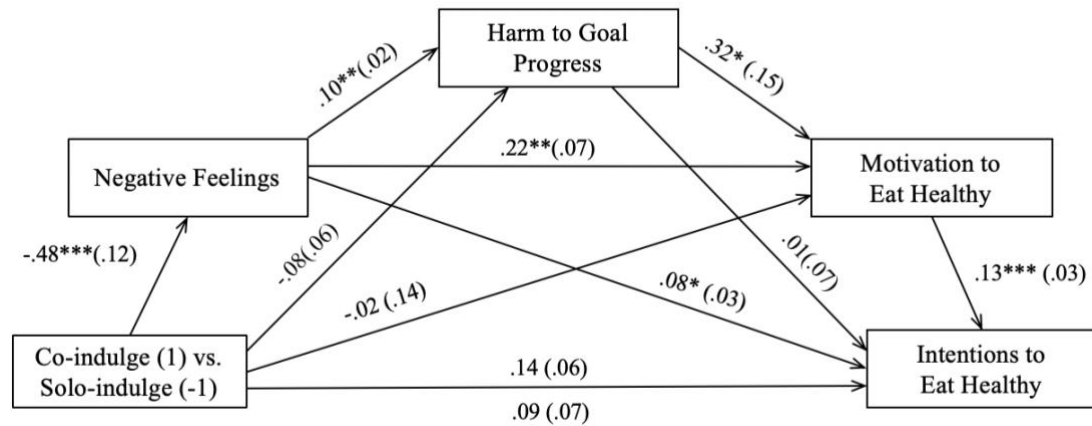


Figure 4. Unstandardized regression coefficients (and standard errors) from the serial mediation model in which participants in the co-indulgence condition (coded as 1) compared to the solo-indulgence condition (-1) felt less negative about their behavior, which led them to feel their choice was less harmful to their goal pursuit, which led them to report being less motivated to eat healthy in the future, which led them to report minimized intentions to eat healthy. $***p < .001$, $**p < .01$, $*p < .05$.

In sum, participants who imagined engaging in a goal-inconsistent behavior with a peer felt less negative about their indulgence than participants who did so alone. These feelings impacted participants' beliefs about how harmful their behavior was to their health goal. Furthermore, this led participants to feel less motivated to eat healthy and to form fewer intentions to eat healthy. This suggests after a goal violation, participants reflect on their own emotions to assess the severity of their behavior and inform the extent to which they need to make up for the behavior in the future.

Study 4: Exploring Why Co-indulgence Minimize Negative Feelings

Thus far, I have explored the direct impact of social context (co-indulgence vs. solo-indulgence) on peoples' negative feelings about their indulgent behavior. However, it is unclear *why* indulging with a peer rather than alone minimizes negative post-indulgence feelings. In Study 4, I tested two possible mechanisms through which co-indulgence minimizes negative feelings. First, I explored whether co-indulgence leads to feeling less personally responsible for the decision compared to solo-indulging. Indeed, the extent to which people hold themselves responsible for their actions may impact how negative they feel (McGraw, 1987). Second, I explored whether co-indulgence leads people to shift their goal priorities in the moment by deprioritizing the importance of their healthy eating goal. As people are typically working toward several goals in their daily lives, they can flexibly shift which goal is prioritized in the moment (Carver & Scheier, 2004; Scholer, 2014). Deprioritizing a healthy eating goal might suggest other goals (e.g., social/hedonic) took precedence. In Study 4, I assessed each of these mechanisms—shifting responsibility and shifting goal prioritization—independently.

Methods

In exchange for \$0.50, a total of 231 participants were recruited from Amazon Mechanical Turk for an online study. The sample size was set *a priori* to attain a minimum of 100 participants per condition and oversampling for expected exclusions from three attention check questions. Participants had an opportunity to re-read the scenario twice before responding to the attention check questions. A total of 35 participants were eliminated from analyses for incorrectly responding to at least one of

the three attention check questions. The final sample included 196 participants ($M_{age} = 38.63$, $SD = 12.77$, 92 males, 103 women, 1 participant did not report gender).

Participants first read and completed an informed consent. As in previous studies, all participants imagined they had recently started a new healthy diet plan but experienced a craving for ice cream. As in previous studies, participants learned they grappled with the temptation in light of their goals to eat healthy, and ultimately decided to give in. Participants were randomly assigned to a *co-indulgence* condition ($n = 99$) or a *solo-indulgence* condition ($n = 97$).

Goal prioritization. To assess whether the healthy eating goal was deprioritized in the moment, participants rated the prioritization of various goals. Just before participants learned about their ultimate decision to indulge in the ice cream, they reported how prioritized each of four different goals—healthy eating, social experiences, relaxation, and financial—would be to them in the current moment. Participants reported “the extent to which you currently feel your *healthy eating* [*social experiences, relaxation, financial*] goals would be prioritized in the moment” from 1 (*not at all*) to 7 (*extremely*).

Responsibility for the decision. After learning about the ultimate decision to indulge in the ice cream, participants next reported the extent to which they were personally responsible for the goal-inconsistent decision. Participants responded to the item, “How personally responsible were you for the decision to eat ice cream?” on a scale from 0 (*not at all*) to 10 (*completely*).

Feelings about the indulgence. Each on a scale from 0 (*not at all*) to 10 (*completely*), participants reported how much they would be feeling disappointed, guilty, frustrated, regretful, uncomfortable, happy, relieved, satisfied, confident, and relaxed. I

reverse coded the positive items and averaged the 10-items into a single scale where greater numbers indicate feeling worse ($\alpha = .90$).

Impact on goals. Participants reported in what way eating the ice cream would impact their goals to eat healthy, on a scale from 1 (*extremely positive impact*) to 7 (*extremely negative impact*).

Motivation. Participants responded to four items to assess motivation to enact healthy behaviors, including “How important would it be for you to eat healthy the next day,” “How important would it be for you to exercise the next day,” “How motivated would you be to eat healthy the next day,” and “How likely would you be to eat healthy the next day,” each from 0 (*not at all*) to 10 (*extremely*), ($\alpha = .89$). Participants were thanked and debriefed.

Results

Feelings about the indulgence. To test if condition impacted negative feelings about the indulgence, I conducted an independent samples t-test. As predicted, and replicating the first three studies, participants in the co-indulgence condition reported feeling significantly less negative about the indulgence ($M = 4.22$, $SD = 2.03$) than participants in the solo-indulgence condition ($M = 5.31$, $SD = 1.95$), $t(194) = 3.82$, $p < .001$, $d = 0.55$.

Responsibility. To test whether co-indulgence led participants to feel less personally responsible for their actions than solo-indulgence, I conducted an independent samples t-test. Participants in the co-indulgence condition felt significantly less responsible for their behavior ($M = 8.01$, $SD = 2.42$) than participants in the solo-indulgence condition ($M = 9.12$, $SD = 2.08$), $t(193) = 3.45$, $p = .001$, $d = 0.49$.

To test the hypothesis that co-indulgence leads participants to feel less negative by making them feel less personally responsible for their actions than solo-indulgence, I conducted a mediation analysis using 10,000 resamples. The indirect effect was not significant, 95% CI [-0.01, 0.16]. Although participants in the co-indulgence condition felt significantly less responsible for their behavior than participants in the solo-indulgence condition, decreased personal responsibility was not related to feeling less negative about the indulgence.

Although feelings of responsibility were not related to emotions, they were significantly correlated with goal-relevant outcomes, including goal progress monitoring, $r(194) = .15, p = .040$, and motivation, $r(194) = .30, p < .001$. Specifically, feeling less responsible for the behavior was associated with feeling the behavior was less harmful for health goals and with reduced motivation to eat healthy.

Health goal prioritization. Participants across both conditions indicated other goals were prioritized in addition to healthy eating (e.g., relaxation, social experiences) (Figure 5), however, the primary comparison of interest is how condition influenced prioritization placed on the focal goal to eat healthy. To test whether co-indulgence led participants to devalue their healthy eating goal in the moment, I conducted an independent samples t-test. Participants in the co-indulgence condition deprioritized their healthy eating goal ($M = 4.06, SD = 1.68$) relative to participants in the solo-indulgence condition ($M = 5.56, SD = 1.73$), $t(193) = 6.13, p = .001, d = 0.87$ (Figure 5).

Next, to test the hypothesis that co-indulgence leads to less negative emotion because participants who indulge with others deprioritize their healthy eating goals in the moment, I conducted a mediation analysis using the single item of healthy eating goal

prioritization as the mediator. Using 10,000 resamples, the indirect effect was significant, 95% CI [-0.30, -0.02]. Participants in the co-indulgence condition deprioritized their healthy eating goal relative to participants in the solo-indulgence condition, which led them to feel less negative about the indulgence (Figure 6).

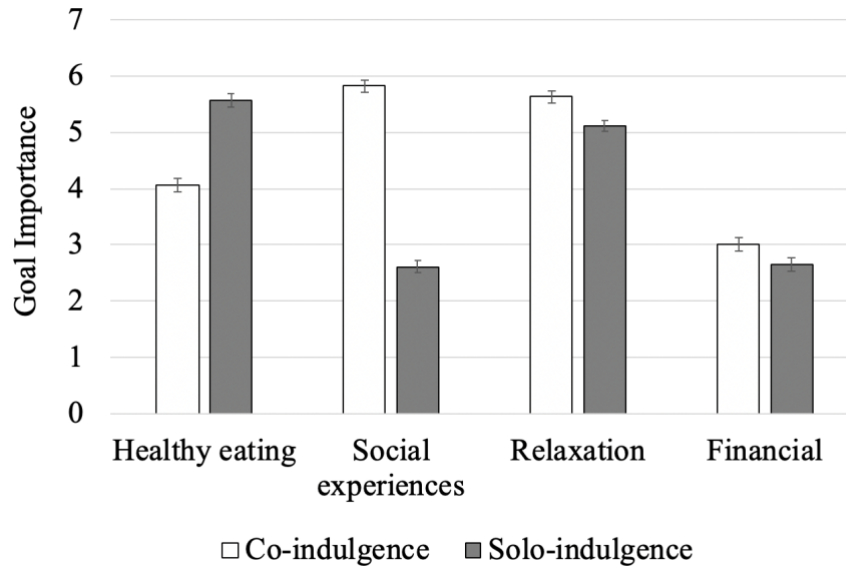


Figure 5. Participants' reported goal prioritization presented by condition. Error bars represent standard error.

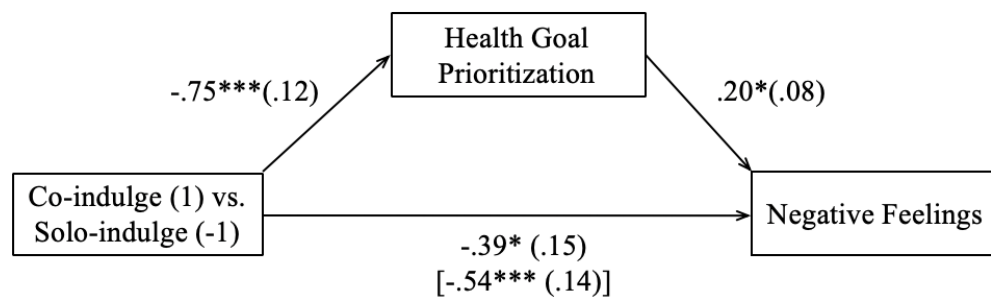


Figure 6. Unstandardized regression coefficients (and standard errors) from the mediation model in which participants in the co-indulgence condition (1) vs. solo-indulgence condition (-1) reported their health goal was less prioritized, which led them to report feeling less negative about their health goal-inconsistent behavior. Values in brackets represent the direct associations; values without brackets represent associations when all variables are included in the model. *** $p < .001$, ** $p < .01$, * $p < .05$.

Consequences for goal-related outcomes

Next, I tested a broader serial mediation model to assess the following predictions: 1) co-indulgence vs. solo-indulgence would lead participants to feel less negative through deprioritizing their health goals in the moment; 2) feeling less negative would lead participants to feel as though the behavior was less harmful to their goals, and 3) perceptions of goal progress would impact the extent to which participants would feel motivated for future goal-consistent action. Using 10,000 bootstrap resamples, the indirect effect of condition on motivation through health goal prioritization, negative feelings, and perceptions of goal harm was significant, 95% CI [-0.04, -0.01]. Participants who imagined co-indulging versus solo-indulging deprioritized their healthy eating goals in the moment, which led to feeling less negative about the indulgence, which reduced beliefs that their behavior was harmful to their goals, which led to weaker motivations for reparatory goal-consistent action (Figure 7).

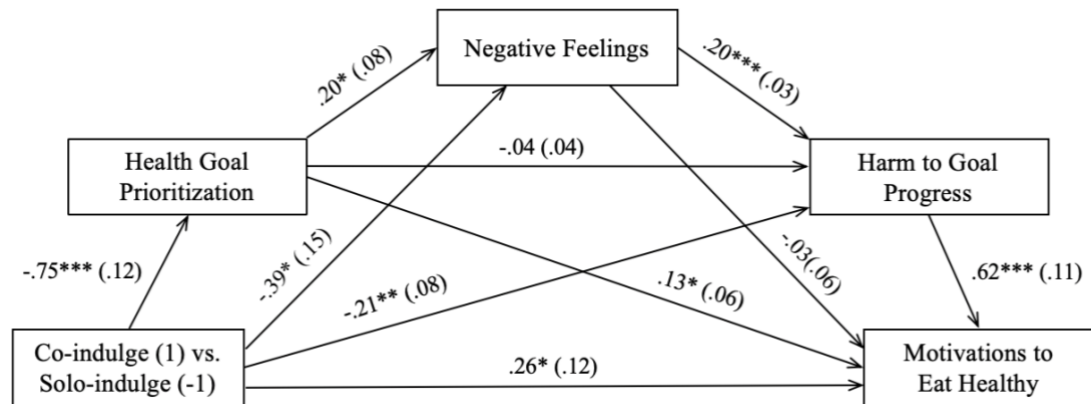


Figure 7. Unstandardized regression coefficients (and standard errors) from the serial mediation model in which co-indulgence led participants to deprioritize their health goals, leading them to feel less negative about their behavior, leading them to feel eating the ice cream was less harmful to their goal progress, which in turn led participants to feel less motivated to eat healthy in the future. $^{***}p < .001$, $^{**}p < .01$, $^{*}p < .05$.

In sum, in Study 4, I found that reduced healthy eating goal prioritization significantly mediated the relationship between co-indulgence and minimized negative feelings. Moreover, replicating the results of Study 3, participants who imagined co-indulging versus solo-indulging felt less negative about the indulgence, which led to beliefs that their behavior was less harmful to their goals, and led to weaker motivations for reparatory goal-consistent action. In addition, there were significant differences between conditions on feelings of responsibility; co-indulgers felt significantly less responsible for their actions. Though feelings of responsibility did not mediate the relationship between condition and negative feelings, responsibility was associated with motivational outcomes.

Study 5: Non-Shared Goals as a Boundary Condition

In the extant literature as well as the present studies thus far, co-indulgence has involved two peers sharing the same goal and “failing” together. An open question is the extent to which the effects of co-indulgence require both people have these “parallel” goals. Specifically, it is unclear whether shared goal failure buffers against negative feelings above and beyond merely shared experience. In Study 5, I explored the extent to which minimized guilt stems from sharing the goal *violation* or just sharing the *experience*. Moreover, in Study 5, I sought to establish domain generalizability by exploring co-indulgence in the fitness domain, given that Study 1 indicated exercise goal violations elicit significant affective differences between groups.

Participants imagined a scenario in which they had a goal to exercise, felt tempted to relax and watch TV instead, and ultimately gave in to the temptation. Participants learned they made the decision either with a friend who also had a goal to exercise

(shared goal co-indulgence), with a friend who did not have a goal to exercise (unshared goal co-indulgence), or alone (solo-indulgence). I predicted participants who co-indulged with a peer who shared their goal to exercise would feel the least negative about their decision compared to the other conditions.

Moreover, I tested several mechanisms to explain why shared goals may reduce negative feelings about indulging. Specifically, as in Study 4, I explored the extent to which participants deprioritized their fitness goals in the moment and the extent to which participants felt personally responsible for their decision as mediators. In addition, in this study I also conducted some exploratory analyses using text analysis software (Pennebaker, Booth, & Francis, 2007) to test whether people with shared goals thought of themselves more as an interdependent unit than an individual (e.g., Gardner, Gabriel, & Lee, 1999; Singelis, 1994).

Methods

In exchange for \$0.50, 310 participants were recruited from Amazon Mechanical Turk to participate in an online study. This sample size was set *a priori* to attain a minimum of 260 participants based on the average effect from the mediation models tested in Studies 3 and 4 with 80% power, calculated using the online power tool provided in Schoemann, Boulton & Short (2017). I oversampled by 20% to account for additional planned analyses from one added condition and to account for expected data loss based on exclusions of participants who failed either of two attention check questions about the scenario. Participants had an opportunity to re-read the scenario twice before responding to the attention check questions. A total of 98 participants were eliminated from analyses for incorrectly responding to at least one of the two attention

check questions.³ The final sample included 212 participants ($M_{age} = 35.86$, $SD = 11.90$, 98 men, 113 women, one person did not report gender).

Participants first read and completed an informed consent. All participants imagined a scenario in which they had a goal to stick with a fitness plan that involved exercising in the evenings with a home exercise video. As in previous studies, participants learned they grappled with a decision: they knew they wanted to be healthy and stay committed to the exercise plan, but they felt tempted to skip the workout, relax, and watch TV instead. In all conditions, participants learned they ultimately decided to watch TV instead of doing their workout. Participants were randomly assigned to read one of three versions of the scenario, described below.

- *Shared goal co-indulgence* ($n = 72$). Participants imagined they made the decision together with a friend who was over for dinner. The friend also had exercise goals, and they were planning to do the exercise video together. Both individuals decided to watch TV together instead.
- *Unshared goal co-indulgence* ($n = 69$). Participants imagined they made the decision together with a friend who was over for dinner. The friend did not have exercise goals. Both individuals decided to watch TV together, but the participant was the only one who had been intending to exercise that evening.

3. Although this number was higher than expected, the number of participants who failed attention checks did not significantly differ by condition, $F(2,307) = 0.57$, $p = .565$, including $N = 30$ from the shared goal co-indulgence condition, $N = 38$ from the unshared goal co-indulgence condition, and $N = 30$ from the solo-indulgence condition.

- *Solo-indulgence* ($n = 71$). Participants imagined they made the decision alone.

A friend came over for dinner and left after. Then, the participant alone made the decision to watch TV instead of completing the workout.

Goal prioritization. To assess whether their fitness goal was deprioritized in the moment, participants rated the prioritization of various goals. As in Study 4, just before participants learned about their ultimate decision to watch TV instead of doing their exercise, participants reported how prioritized each of four different goals—fitness, social experiences, relaxation, and financial—would be to them in the current moment. Participants reported “the extent to which you currently feel your *health and fitness* [*social experiences, relaxation, financial*] goals would be prioritized in the moment” from 1 (*not at all*) to 7 (*extremely*).

Recalled scenario. Participants learned about the ultimate decision to watch TV instead of exercising. After reading the scenario and moving on to the next page, participants summarized their memory of the scenario in an open-essay text box.

Responsibility for the decision. Participants next reported the extent to which they were personally responsible for the goal-inconsistent decision. Participants responded to the item, “How personally responsible were you for making the decision skip your workout?” on a scale from 0 (*not at all*) to 10 (*completely*).

Feelings about the indulgence. On a scale from 0 (*not at all*) to 10 (*completely*), participants reported how much they would be feeling disappointed, guilty, frustrated, regretful, uncomfortable, happy, relieved, satisfied, confident, and relaxed. I reverse

coded the positive items and averaged the 10-items into a single scale where greater numbers indicate feeling worse ($\alpha = .81$). Participants were thanked and debriefed.⁴

Results

Feelings about the indulgence. First, to test if condition impacted negative feelings about watching TV instead of doing their exercise, I conducted a one-way ANOVA. There was a significant difference between conditions on how negative participants felt about the indulgence, $F(2,209) = 5.18, p = .006, \eta_p^2 = .047$. Tukey post-hoc tests revealed participants in the unshared goal co-indulgence condition felt significantly less negative ($M = 4.76, SD = 1.61$) than participants in the solo-indulgence condition ($M = 5.67, SD = 1.93$), $p = .006$. There was no significant difference between participants in the shared goal co-indulgence ($M = 5.02, SD = 1.69$) and unshared goal co-indulgence conditions, $p = .653$. Moreover, inconsistent with Studies 1-4, participants in the shared goal co-indulgence condition did not feel significantly less negative than participants in the solo-indulgence condition, $p = .064$, though the difference was marginal and in the expected direction.

Goal prioritization. To test the effects of condition on fitness goal deprioritization, I conducted a one-way ANOVA. Inconsistent with Study 4, there were no significant differences between conditions, $F(2, 209) = 2.17, p = .117$. Participants in the shared goal co-indulgence condition ($M = 4.92, SD = 1.66$), unshared goal co-

4. To test the replicability of the model presented across studies, participants also responded to outcome measures assessing goal harm and motivation. Consistent with Studies 2-4, the mediation model was significant, 95% CI [0.01, 0.11]. Co-indulgence (vs. solo-indulgence) led to motivation through decreased negative feelings and perceived goal harm. To simplify the analyses presented in this study, I focus only on measures needed to assess the boundary condition of the co-indulgence effect on emotions.

indulgence condition ($M = 4.36$, $SD = 1.73$), and solo-indulgence condition ($M = 4.41$, $SD = 1.89$) were similar in their fitness goal prioritization.

Personal responsibility for the decision. To test if condition impacted the extent to which participants felt personally responsible for their actions, I conducted a one-way ANOVA. Consistent with Study 4, there was a significant difference between conditions, $F(2, 209) = 14.96$ $p < .001$, $\eta_p^2 = .125$. Specifically, participants in the shared goal co-indulgence condition reported feeling significantly less responsible for their choice to indulge ($M = 7.42$, $SD = 1.95$) compared to both participants in the unshared goal co-indulgence condition ($M = 8.71$, $SD = 1.71$), $p < .001$, and participants in the solo-indulgence condition ($M = 9.04$, $SD = 1.95$), $p < .001$. There was no significant difference in feelings of responsibility between participants in the unshared goal co-indulgence condition and participants in the solo-indulgence condition, $p = .548$.

To test whether feeling less personally responsible for their actions mediated the relationship between condition and negative feelings, I conducted a mediation analysis comparing shared goal and unshared goal co-indulgers using 10,000 resamples. The indirect effect was not significant, 95% CI [-0.05, 0.16]. Although participants in the shared goal co-indulgence condition felt significantly less responsible for their behavior than participants in the unshared goal condition, $b = -0.65$, $SE = .15$, $p < .001$, decreased personal responsibility was not related to negative feelings, $b = -0.06$, $SE = .08$, $p = .43$.

Independence vs. interdependence. Next, I sought to explore if condition impacted the extent to which participants thought about the indulgence as an *independent* versus *interdependent* experience. To explore this possibility, I tested whether participant summaries of the scenario differed in their use of first person singular and first person

plural pronouns. I inputted participant descriptions of the experience into the Linguistic Inquiry and Word Count (LIWC) text analysis software (Pennebaker, Booth, & Francis, 2007). The software calculated a percentage of words that were categorized as independent language (e.g., “I” and “me”) or interdependent language (e.g., “we” and “us”). I conducted a mixed-model repeated measures ANOVA with pronoun use (independent/interdependent) as the within subjects factor and condition (shared goal co-indulgence/unshared goal co-indulgence/solo-indulgence) as the between subjects factor (Figure 8). There was a significant main effect of pronoun type, $F(1, 207) = 230.49, p < .001$. Specifically, on average, participants used a greater percentage of independent ($M = 9.49\%$, $SD = 6.59$) than interdependent pronouns ($M = 2.30\%$, $SD = 3.74$). There was no main effect of condition, $F(2, 207) = 2.58, p = .078$. Participants used a similar number of pronouns across conditions. Importantly, there was a significant interaction between condition and pronoun type, $F(2, 207) = 57.90, p < .001$. Participants in the shared goal co-indulgence conditions used significantly fewer independent (I, me) pronouns ($M = 5.23\%$, $SD = 5.22$) than both participants in the unshared goal co-indulgence ($M = 11.67\%$, $SD = 7.21$) and solo-indulgence conditions ($M = 11.76\%$, $SD = 4.99$). Participants in the unshared goal co-indulgence and solo-indulgence conditions did not significantly differ on their use of independent pronouns. Moreover, participants in the shared goal co-indulgence conditions used significantly more interdependent (we, us) pronouns ($M = 5.19\%$, $SD = 4.54$) than both participants in the unshared goal co-indulgence ($M = 0.71\%$, $SD = 2.24$) and solo-indulgence conditions ($M = 0.20\%$, $SD = 1.63$). Participants in the unshared goal co-indulgence and solo-indulgence conditions did not significantly differ on their use of interdependent pronouns. Even though shared goal

co-indulgers and unshared goal co-indulgers both made the decision to watch TV together, participants in the shared goal condition used significantly less independent and significantly more interdependent pronouns compared to participants in both the unshared goal condition and solo condition.

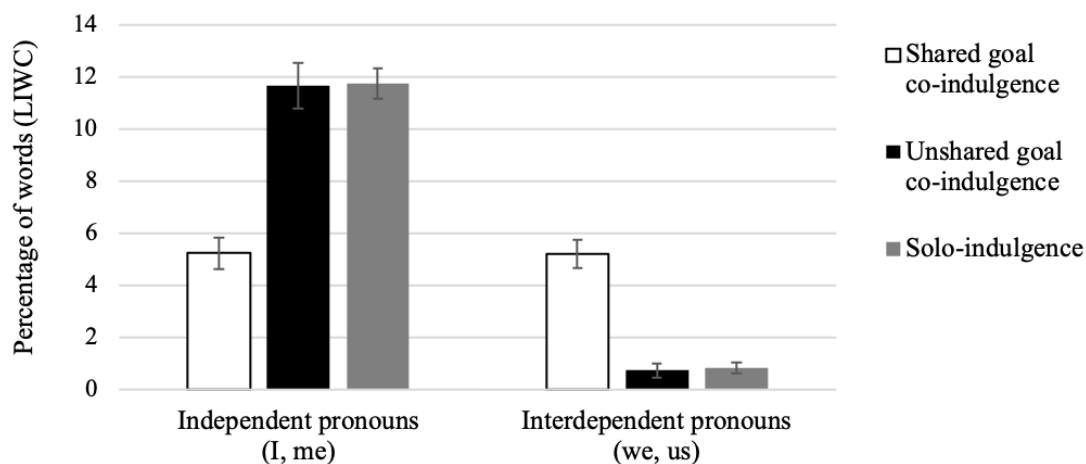


Figure 8. Significant interaction between pronoun type and condition on content of the recalled scenarios. Even though shared goal co-indulgers and unshared goal co-indulgers both made the decision to watch TV together, participants in the shared goal condition used significantly less independent (e.g., “me”) and more interdependent (e.g., “we”) pronouns when they described the experience.

Taken together, I found mixed evidence as to whether holding the same active goal as a peer is an essential aspect of the co-indulgence effect. Exploring the main effect of emotions, there were no significant differences between individuals who shared and did not share the same goal with their peer. However, there was evidence that sharing the goal with a peer influences other psychological processes associated with downstream goal-related outcomes. Compared to co-indulgers who shared the *experience* with a peer, participants who shared the *goal violation* with their peer felt less personally responsible and recalled the situation using less independent (e.g., “me”) and more interdependent

(e.g., “we”) language. While simply sharing an experience with a peer may be sufficient to buffer feelings of guilt (compared to indulging alone), goal seekers may find additional reprieve by indulging with a peer who is also “failing” in the moment by feeling less personally responsible and less independent in the experience.

Study 6: Recalling Indulgences

Thus far, this work has been conducted within hypothetical contexts: Participants imagined their goals, imagined the situation, imagined their behavior, and then predicted their expected emotions and motivations. While hypothetical scenarios allow for experimental control, it is important to bring external validity to these findings by exploring people’s experiences in their daily lives. It is unclear whether asking participants to imagine how they might feel reflects the way people would actually feel in their everyday lives. For example, research on affective forecasting suggests individuals may not accurately estimate the intensity of their emotional experiences, often overestimating emotional reactions to anticipated events (Buehler & McFarland, 2001; Wilson & Gilbert, 2005; Wilson & Gilbert, 2013). In contrast, other research suggests there is significant correspondence (i.e., accuracy) between anticipated emotions from hypothetical experiences and actual emotions from real experiences (Robinson & Clore, 2001). Given this ambiguity, it is essential to replicate past findings in contexts in which real behavior is assessed.

In Study 6, I explored the socio-emotional components of indulgences in daily life. In an online study, participants recalled and described a real experience of a recent co-indulgence or solo-indulgence from their own lives. By guiding participants’ memory

of the experience, participants reported on the conflict they felt, the emotions they experienced, and the motivations that followed.

Study 6 was designed to accomplish several goals. First, asking participants to describe co-indulgence experiences provides proof-of-concept evidence that co-indulgence occurs in the real world. Moreover, this study includes a variety of participant-generated goal domains, improving the generalizability of the past work. Moreover, Study 6 includes exploratory analyses on lay perceptions of co-indulgence experiences, such as whether people have a lay understanding that co-indulgence buffers against guilt, and if so, why this might be the case. Together, this study provides qualitative and real-world insights into co-indulgence experiences, processes, and outcomes that have thus far only been explored in hypothetical contexts.

Methods

In exchange for course credit, 150 undergraduate students were invited to participate in an online survey. The sample size was set to attain a minimum of 50 participant responses per condition, oversampling for attrition and expected exclusions of participants who did not correctly respond to the prompt.⁵ Twenty-seven participants were excluded for failing to correctly follow the task prompts. Specifically, 18 participants wrote about a goal-related experience that was not a self-control failure (e.g., they wrote about their regular exercise routine) and 9 participants described a situation where they were not in the appropriate social context (e.g., they were in the co-

5. Two coders who were unaware of the purpose of the study and condition coded each scenario. Coders recorded if the participant described being with another person(s), if they reported having a goal in the moment, whether or not they followed through with the goal, and the goal domain. Full coding scheme outlining the *a priori* exclusion criteria is included in Appendix C.

indulgence condition but described being alone, or they were in the solo-indulgence condition but described being with peers). An additional 6 participants started the survey but did not finish it. The final sample included 117 total participants ($M_{age} = 18.83$, $SD = 1.59$, 47 women, 69 men, 1 participant did not report gender).

Participants first read and completed an informed consent. Next, participants were introduced to the topic of self-control conflicts. They read a description of self-control and examples of goal conflicts across varying domains. Next, they were randomly assigned to remember a recent co-indulgence or solo-indulgence experience. Participants in the *co-indulgence* condition ($n = 61$) were asked to describe an instance when they and a friend (or multiple friends) had a goal they were trying to stick to but did not follow through with it. Specifically, participants read to the prompt:

For the next few minutes, try and remember one recent instance when you and a friend (or multiple friends) had a goal you were trying to stick to, but ultimately gave in to a temptation. For example, maybe you were going to exercise together, but you both decided to skip the workout for the day. Or, you may have been trying to eat healthy, but decided to indulge and order pizza together. Try to pick a recent example or one you can remember well, as long as YOU AND THE FRIEND(S) shared the experience together.

Participants in the *solo-indulgence* condition ($n = 56$) were asked to describe an instance when they had a goal they were trying to stick to but did not follow through with it.

Specifically, participants read to the prompt:

For the next few minutes, try and remember one recent instance when you had a goal you were trying to stick to, but ultimately gave in to temptation instead. For

example, you may have planned to exercise, but decided to skip your workout for the day. Or, you may have been trying to eat healthy, but decided to indulge and eat pizza instead. Try to pick a recent example or one you can remember well, as long as YOU made the decision on your own.

Participants in both conditions were encouraged to describe the situation in depth (e.g., what their goal was, what happened to take them off course, and how they reached the decision). Across conditions, there was no difference in word count of participant descriptions, (co-indulgence: $M = 138.72$, $SD = 82.00$; solo-indulgence: $M = 124.41$, $SD = 83.53$), $t(115) = -.94$, $p = .35$.

Next, participants reported on the following qualitative and quantitative measures:

Feelings of conflict. Participants responded to the item, “How much did you feel a sense of conflict when making the decision?” on a scale from 0 (*not at all conflicted*) to 5 (*extremely conflicted*).

Feelings about the indulgence. Through an open-ended prompt, participants described how they were feeling after making the decision. Next, participants responded to the same scale items from Studies 4 and 5 to indicate how they were feeling. As in previous studies, I reverse-coded the positive emotions and averaged the items for a single scale of negative feelings ($\alpha = .92$).

Responsibility. Participants reported “How much were you personally responsible for your decision?” on a scale from 0 (*not at all*) to 10 (*completely*).

Impact on goals. Participant reported how much their behavior harmed their goals, on a scale from 1 (*extremely positive impact*) to 7 (*extremely negative impact*).

Subsequent goal-consistent motivation. Participants reported “After your decision, how motivated were you to do something to “get back on track”?” on a scale from 0 (*not at all motivated*) to 10 (*extremely motivated*).

Subsequent goal-consistent action. Participants reported when was the next time they effectively engaged in the targeted goal-consistent action, with response options ranging from 0 (*later that day*) to 8 (*have not since*).

Next, participants reported how long ago the instance occurred and how easy it was for them to recall. Participants also reported their lay perceptions of how emotional experiences do or do not differ between co-indulgences and solo-indulgences. Participants responded to the item, “How does an experience like this compare to times when you've given in to temptations [*alone (without a friend)* / *together with a friend*]?” Do you feel any different (better or worse) when you give in to temptations together with friends than when you do so alone? Why do you think that is?” Finally, participants reported demographic information and were debriefed.

Results

Goal domains. I first explored which domains most commonly elicited memories of self-control failures (Table 1). Suggesting domain generalizability of co-indulgence experiences, academics, fitness, and healthy eating were the most commonly reported goal domains, accounting for 53.0%, 26.5%, and 13.7% of responses respectively. A chi-square test of independence revealed there were no significant differences between condition in which domains were recalled most often, $\chi^2(6, N = 117) = 1.74, p = .942$.

Table 1. *Goal domains from recalled experiences*

	Co-indulgence		Solo-indulgence		Total	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
1. Academics	34	55.7	28	50	62	53.0
2. Fitness/exercise	15	24.6	16	28.6	31	26.5
3. Healthy eating	8	13.1	8	14.3	16	13.7
4. Financial/money	1	1.6	2	3.6	3	2.6
5. Relationships	1	1.6	1	1.8	2	1.7
6. Extracurriculars	1	1.6	1	1.8	2	1.7
7. Quit smoking	1	1.6	0	0	1	0.9
Total	61	100	56	100	117	100

Feelings about the indulgence. Next, I sought to replicate past studies by testing whether condition influenced negative feelings about the goal-inconsistent behavior. Even though participants reported experiencing similar levels of conflict, $t(115) = 1.04$, $p = .30$, participants in the co-indulgence condition reported feeling significantly less negative about the indulgence ($M = 5.66$, $SD = 2.37$) than participants in the solo-indulgence condition ($M = 6.53$, $SD = 1.68$), $t(115) = 2.27$, $p = .025$, $d = 0.42$.

In addition to differences in quantitative self-reports, I explored if there were qualitative differences in the emotional language used in participant descriptions of how they felt. I inputted participants' descriptions of how they felt about their behavior into the Linguistic Inquiry and Word Count (LIWC) text analysis software (Pennebaker, Booth, & Francis, 2007). The software calculated a percentage of words that were categorized as negative emotion words. Participants in the co-indulgence condition described their feelings about the indulgence using language comprised of significantly fewer negative words ($M = 6.51$, $SD = 5.41$) compared to participants in the solo-indulgence condition ($M = 12.13$, $SD = 14.04$), $t(115) = 2.90$, $p = .004$, $d = 0.54$. Across

both quantitative and qualitative measures, participants who co-indulged compared to solo-indulged felt less negative about the goal-inconsistent behavior.

Responsibility. To test whether co-indulgence led participants to feel less personally responsible for their actions than solo-indulgence, I conducted an independent samples t-test. Participants in the co-indulgence condition felt significantly less responsible for their behavior ($M = 8.00$, $SD = 2.16$) than participants in the solo-indulgence condition ($M = 9.13$, $SD = 1.61$), $t(115) = 3.16$, $p = .002$, $d = 0.59$.

Next, I conducted a mediation analysis to test whether feelings of responsibility significantly mediated the relationship between condition and negative feelings, first using the self-reported measure of emotions, and then using the participant descriptions content analyzed for emotion language. Using the self-reported measure of emotions with 10,000 resamples, the indirect effect was significant, 95% CI [-0.33, -0.04]. Participants in the co-indulgence condition reported feeling significantly less responsible for the decision, which led them to report feeling less negative about the indulgence (Figure 9). Using the participant descriptions content analyzed for negative emotion language, the mediation was not significant, 95% CI [-0.16, 0.84]. Participants in the co-indulgence reported feeling significantly less responsible for the decision, but this was not associated with the extent that they used negative words in their descriptions.

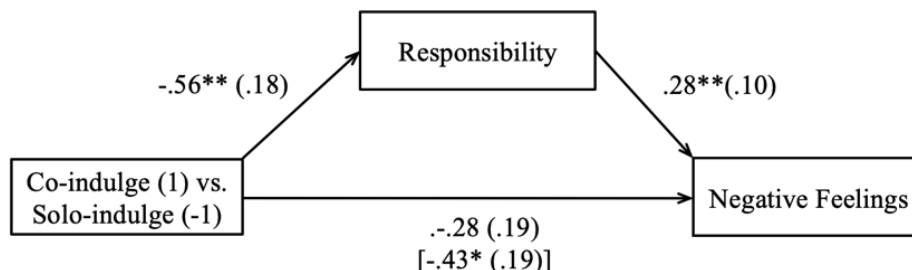


Figure 9. Unstandardized regression coefficients (and standard errors) from the mediation model in which co-indulgence led participants to report less personal responsibility for behavior, which led participants to feel less negative about the indulgence. *** $p < .001$, ** $p < .01$, * $p < .05$.

Consequences for goal-related outcomes

Next, I sought to replicate the broader conceptual model tested in Study 3 exploring downstream impacts on motivational outcomes. Specifically, I tested a serial mediation model wherein co-indulgence (vs. solo-indulgence) would lead participants to feel as though the behavior was less harmful to their goals through feeling less negative, impacting the extent that participants would feel motivated for future goal-consistent action, and ultimately affecting how soon they actually engaged in reparatory goal-consistent action after the initial violation. Using 10,000 bootstrap resamples, the indirect effect of condition on reparatory goal-consistent behavior through negative feelings, perceptions of goal harm, and motivation was not significant, 95% CI $[-0.01, 0.02]$. Participants who co-indulged versus solo-indulged felt less negative about the indulgence, which led them to feel their behavior was less harmful to their goals, however this was not associated with the extent to which they formed subsequent motivation to repair their behavior. Motivations to repair the behavior were, however, associated with sooner engagement in reparatory goal-consistent behavior (Figure 10).

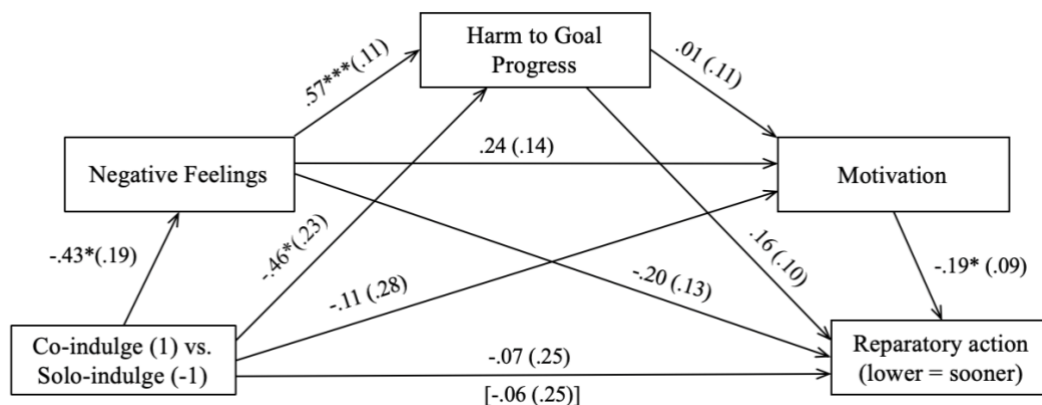


Figure 10. Unstandardized regression coefficients (and standard errors) from the nonsignificant serial mediation model in which co-indulgence led participants to feel less negative about their behavior, leading them to feel their behavior was less harmful to their goal progress, which was not associated with motivation. Greater motivation was significantly associated with sooner reparatory action. $***p < .001$, $**p < .01$, $*p < .05$.

Lay perceptions of conditional differences in emotion.

Next, I wanted to explore lay understanding: Do people recognize that co-indulgence compared to solo-indulgence can differentially impact their affective experiences? Moreover, can they identify reasons this would be the case, and what are the most common lay rationalizations for affective differences? To answer these questions, independent coders coded the qualitative responses to the question, “How does an experience like this compare to times when you've given in to temptations [*alone (without a friend) / together with a friend*]? Do you feel any different (better or worse) when you give in to temptations together with friends than when you do so alone? Why

do you think that is?”⁶ Out of the 144 participants, 40 participants either did not respond or provided a response that was not usable, such as describing an example of when they indulged with a friend, describing whether or not friends *contribute* to their indulgences (rather than how they impact affective responses *following* indulgences), or describing general reasons why they choose to indulge. Thus, the following descriptive results are reported from the remaining 104 respondents.

*Lay beliefs about **whether** co-indulgence feels less negative than solo-indulgence.*

Seventy-two percent of participants reported they feel less bad about indulging with a friend compared to alone, 13.5% reported just the opposite, that they feel worse when they indulge with friends, and 14.4% reported they feel the same about the indulgence regardless of whether they are alone or with friends.

*Lay beliefs about **why** co-indulgence feels less negative than solo-indulgence.*

Coders also categorized the qualitative reasons provided as to *why* participants believe their affective experiences differ between co-indulgence and solo-indulgence. Of the 72% of responses that indicated co-indulgence elicits less negative feelings compared to indulging alone, 48% suggested the reason they feel less guilty is because of shared responsibility for the decision. For example, one participant stated, “It feels better to give in to temptations with friends than alone since I feel like I share the responsibility for failing; that is, with friends I can partially blame them but if I’m alone I can only blame myself.” Next frequently, 29% suggested guilt is alleviated because of the shared social experience. For example, one participant stated, “I feel less guilty when I give in to

6. Coders were three research assistants who were not otherwise involved in the project. Coders first determined their judgments individually and then met together as a group to discuss. Any disagreements were resolved via majority group vote and discussion.

temptations with a friend because I don't feel like I'm alone and I know that I wasn't the only one struggling.” Some participants specifically suggested they would be prioritizing a social bonding experience. For example, one participant wrote, “I feel better about giving into my temptations with friends because I know, although I might not be accomplishing a specific goal, I will be, at least, connecting with other people.” Another participant stated, “When you are alone it makes you feel like a failure; with friends these succumbing to temptations becomes memories for you and your friends to look back on.” The final 12% of respondents indicated they feel less guilty because sharing the experience makes the behavior itself feel “not as bad.” For example, one participant stated, “I feel better knowing I cheated on my goal with a friend who had the same goal in mind. I think this is because the fact that she also cheated on her goal makes it seem not as bad. Like, if she can do it too then maybe if I do it just this one time it'll be okay.”

A smaller number of participants responded that indulging with friends elicits *more* guilt than indulging alone ($n = 14$). The most common rationale was feeling like they let their friends down. For example, one participant stated, “It feels worse when you give in to temptations with a friend because it feels like you're letting down another person besides yourself.” Other participants reported that close others can be judgmental about the choice; “When you give in to temptations alone there is no one there to judge you for the decisions that you make. When you are making decisions with other people, it is very easy for them to judge you.”

Taken together, these lay beliefs align quite closely to the findings from previous studies, suggesting 1) people primarily feel co-indulgence decreases rather than increases negative feelings compared to solo-indulgences, and 2) minimized feelings of guilt may

partly be explained by feelings of shared responsibility, shifting goal priorities, and shared experience.

In sum, in Study 6, participants recalled a recent co-indulgence or solo-indulgence experience. Participants who co-indulged versus solo-indulged felt less negative about the indulgence, partly because they felt less responsible for their behavior. Moreover, feeling less negative led co-indulgers to feel their behavior was less harmful to their goals, however this was not associated with the extent to which they were motivated to repair their behavior. Moreover, examinations of qualitative responses suggested a majority of people hold lay beliefs that they don't feel as bad about giving in to temptations when they co-indulge compared to when they solo-indulge. Some reasons for this stem from beliefs that responsibility is shared, that a social bonding experience is prioritized, and that the indulgence "isn't as bad" when the experience is socially shared.

Study 7: Behavioral In-Lab Replication

The purpose of Study 7 was to replicate and extend the previous findings by exploring real behavioral choices in the lab. Specifically, students with academic goals were faced with a decision to engage in an academic activity or a leisure activity. Half made the choice alone and half made the choice with a friend. Participants who selected the leisure task then reported their feelings about the behavior in light of their stated academic goals. Finally, participants were given an opportunity to engage in reparatory behavior to improve their academic skills. I predicted individuals in the co-indulgence condition would report feeling less negative, would believe their behavior was less detrimental to their academic success, and in turn, would be less likely to take reparatory action than those in the solo-indulgence condition.

Methods

In exchange for course credit, 436 Rutgers undergraduate students pre-screened to have academic goals were invited to participate in an in-lab study.⁷ As this was the first data from a lab setting, I aimed to collect data from 340 participants based on a power analysis using G*Power to detect an estimated smaller effect size of $d = 0.3$ with 80% power, and oversampling to account for expected data loss based on the expectation that some participants would be excluded for choosing the academic task and additional exclusion criteria from manipulation and attention checks. Out of 436 participants, a total of 58 participants (13.3%) chose the academic task and thus were not included in the final sample.⁸ An additional 21 participants were excluded for the following reasons: Failing the manipulation check asking them to report if they made the activity decision alone (solo-indulgence) or with someone else (co-indulgence) ($n = 3$); Participating in the study a second time (e.g., as the “friend” of another participant) ($n = 3$); Being unable to finish the study (e.g., study materials ran out, video playback error, or a language barrier prevented survey completion) ($n = 9$); and Being exposed to both conditions or a mix of social factors (e.g., participants in the solo-indulgence condition brought a friend) ($n = 10$). The final sample included 353 participants ($M_{age} = 18.56$, $SD = 1.13$, 61.0% women)⁹ including 185 in the co-indulgence condition and 168 in the solo-indulgence condition.

7. In a pre-screen questionnaire, participants responded to the question, “How important is it for you to be a good student?” on a scale from 1 (*not at all*) to 10 (*extremely*). Participants who responded 5 and above were invited to the study.

8. There was a significant difference between conditions in how many participants selected the note taking activity, $t(434) = -2.78$, $p = .006$. Specifically, there were 38 participants in the solo condition compared to 20 participants in the paired condition.

9. Due to an error in survey programming, demographic data was not collected for the “friends” in the co-indulgence condition. Thus, demographic data presented reflects only a subset (72.8%) of participants.

To determine condition, participants were randomly assigned to view only one of two subject pool study descriptions. Half of the participants read they must bring a friend who is also a Rutgers student (co-indulgence condition), and the other half were not given this information and by default were expected to come alone (solo-indulgence condition). “Friend” participants were compensated \$10, while subject pool participants earned course credit. Upon arrival to the lab, participants completed an informed consent and a baseline questionnaire which was aimed to subtly activate academic goals. Specifically, embedded within other filler questions, participants reported on a scale from 0 (*not at all*) to 10 (*extremely*), how important “being a good student” and “getting good grades” are to them.

Behavioral choice. The behavioral choice was designed to mimic a real-world self-control dilemma students often face: a choice between engaging in an academic or leisure activity. Participants were given a choice between two activities and provided with “informational fliers” about each activity to help them make their choice (Appendix D). One activity called “Strategies for Effective Note Taking” was described as an opportunity to practice note taking strategies for reading texts. The description of the study was written to suggest it would be helpful for academic success, but not particularly fun or exciting. The other activity called “Be a Movie Critic” was described as an opportunity to evaluate new videos for a local comedy group. The description of the study was written to suggest it would be generally enjoyable. Participants were left alone for two minutes to discuss (friend condition) or consider (solo condition) the pros and cons of doing each activity before selecting one. Partners were told they must reach a consensus together. After a few moments, participants indicated their selection. As the

focus of this research package is to extend the exploration of goal-*inconsistent* choices, only participants who chose the movie activity were included in the data analyses. However, participants who chose the note taking activity continued with their choice and completed the study ($n = 58$).

Next, participants who selected the movie evaluation activity began watching the first of an ostensible series of three videos, a comedy skit about miscommunication in an office. After the first 5-minute movie clip ended, the experimenter presented participants with a brief questionnaire about the activity selection process, since “we are interested in learning about how people make their choices.” Within that, participants responded to the following items:

Attention check. Participants indicated which of the two activities they chose.

Manipulation check. As a manipulation check, participants responded to the question, “Did you make the decision alone or together with someone?”

Feelings about the choice. Next, using the same scale items from Studies 4-6, participants reflected on their activity choice and reported how they are currently feeling after making their activity choice. I averaged the 10-items into a single scale where greater numbers indicate feeling more negative ($\alpha = .88$).

Impact on goals. Next, participants reported in what way watching the movie instead of choosing the note taking session harmed their academic goal progress, on a scale from 1 (*extremely positive impact*) to 10 (*extremely negative impact*).

Decision rationale. In an open-text response, participants reported why they selected the activity they chose.

Reparatory behavior. As a final behavioral measure, participants were given the opportunity to change their activity selection to the note taking activity. Participants responded to the item, “If you had an opportunity to make your decision over again, which activity would you choose?” from 0 (*I would definitely choose note taking*) to 10 (*I would definitely choose movie watching*), as well as a binary choice question to select which of the two activities they choose to continue with for the remainder of the study session. Following all measures, participants were thanked and debriefed.

Results

Feelings about the indulgence. To first explore whether condition (co-indulging vs. solo-indulging) influenced the negative feelings about the decision to watch movies, I conducted an independent samples t-test. Inconsistent with past studies, there was no significant difference in negative feelings between participants in the co-indulgence and solo-indulgence conditions, $t(351) = 1.75, p = .081$. However, the trend was in the expected direction, such that participants who made the decision together with a friend reported feeling slightly, but not significantly, less negative ($M = 2.09, SD = 1.58$) than those who made the decision alone ($M = 2.40, SD = 1.75$). Notably, the means on the emotion scale were drastically lower than in previous studies.

Consequences for goal-related outcomes

Next, to explore the consequences of co-indulging for motivational outcomes, I tested a serial mediation model to evaluate the indirect effect of condition on participants’ intentions to switch to the note taking activity through negative feelings and perceived goal harm. Using 10,000 resamples, the indirect effect of condition on reparatory behavior through negative feelings and perceptions of goal harm was not significant, 95%

CI [-0.002, 0.01]. Participants in the co-indulgence condition felt marginally, but not significantly less negative about watching the movie instead of studying. Feeling less negative was associated with reporting that watching the movie was less harmful for their academic goals, however this was also not associated with reparatory behavior (Figure 11). Although the serial mediation was not significant, negative feelings were correlated with perceived goal harm, $r(351) = .14, p = .008$, and perceived goal harm was correlated with reparatory intentions, $r(351) = .15, p = .004$. Specifically, feeling worse about the behavior was associated with feeling the behavior was less harmful for academic goals which was associated with reduced intentions to practice note taking.

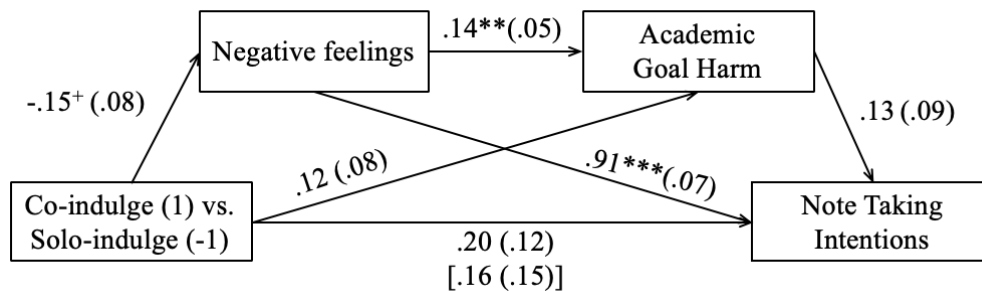


Figure 11. Unstandardized regression coefficients (and standard errors) from the nonsignificant serial mediation model in which participants in the co-indulgence condition (coded as 1) felt marginally less negative than participants in the solo-indulgence condition (coded as -1). Negative feelings were associated with perceived goal harm, but perceived goal harm was not associated with subsequent note taking intentions. *** $p < .001$, ** $p < .01$, * $p < .05$, + $p = .08$.

General Discussion

Across studies spanning multiple goal domains and methodological contexts, this work demonstrated that participants who imagined engaging in a goal-inconsistent behavior with a peer (i.e., co-indulged) compared to those who imagined doing so alone (i.e., solo-indulged) reported feeling less negative about their decision, even when the indulgence itself was exactly the same (Studies 1-4). I also found consistent evidence that feeling less negative about the indulgence led participants who co-indulged to believe the behavior was less harmful to their goal progress (Studies 2-4). These negative feelings and perceptions of harm also influenced participants' motivations and intentions to repair the failure (i.e., those who experienced greater "failures" reported it was more important to get back on track with their goals) (Studies 3-4).

In Studies 4 and 6, I tested several mechanisms to explain why co-indulgers felt less negative about the experience, including momentary goal shifting and/or minimized personal responsibility for the decision. I found evidence that both goal shifting (Study 4) and minimized personal responsibility (Study 6) are mechanisms that may explain why co-indulgences elicit decreased negative feelings relative to solo-indulgences. Thus, this work suggests there is not just one reason for blunted negative feelings among co-indulgers but rather, like many social psychological processes, co-indulgence effects are likely multi-determined.

In Study 5, I explored a boundary condition to assess whether holding the same active goal as a peer is an essential aspect of the co-indulgence effect. I found no differences between shared goal co-indulgers and unshared goal co-indulgers on negative feelings. However, in Study 5 I also did not find such differences between co-indulgers

and solo-indulgers on negative emotions, an effect that previously consistently emerged in Studies 1-4, and again in Study 6. Thus, it remains an open question whether there is truly no difference in negative feelings after shared goal versus unshared goal co-indulgences, or if the scenario itself produced some homogeneity in emotional experiences. Future research should seek to test this question in a scenario where baseline differences between co-indulgence and solo-indulgence emerge.

In Study 5, I was also interested in exploring differences between shared and unshared goal co-indulgers' self-representations when making self-control decisions. Compared to unshared goal co-indulgers, those who shared the goal with the peer recounted the experience using less independent (e.g., I, me) and more interdependent (e.g., we, us) language. This aligns well with past theory that suggests peers who share similar goals function as one self-regulatory unit (Fitzsimons, Finkel, & vanDellen, 2015). Moreover, less independent language was associated with decreased feelings of personal responsibility, an important contributor to the co-indulgence effect.

Finally, in Studies 6 and 7, I explored whether general patterns found in this work replicate across multiple goal domains in laboratory and real-world contexts. In Study 6, I found that people could recall co-indulgences in their daily lives, reported feeling less guilty about co-indulgences than solo-indulgences, and could pin-point several reasons why this was the case. Specifically, they cited mechanisms tested in Study 4, including shifting personal responsibility and prioritizing social goals.

In Study 7, participants made real goal-relevant decisions in the lab. There was no significant difference between conditions on negative feelings, however, participants in the co-indulgence condition felt marginally less negative about watching the movie

instead of studying. Consistent with past studies, negative feelings were associated with motivational outcomes. Specifically, feeling less negative was associated with reporting that watching the movie instead of practicing note taking skills was less harmful for academic goals.

Together, this work makes novel contributions to the existing literature by suggesting that, in addition to influencing interpersonal connection (Cummings & Tomiyama, 2018; Lowe & Haws, 2014), co-indulgence has affective and motivational consequences for goal pursuit.

Implications for Goal Monitoring

Effective self-regulation requires monitoring of successes and failures over time in order to stay on-track toward long-term goal pursuit (Webb, Chang & Benn, 2013). Goal monitoring helps people assess whether they are making enough progress toward their goal so they can determine whether they need to adjust their behavior (Carver & Scheier, 1998). For example, after an initial dieting violation, dieters may monitor their progress and compensate for their behavior by limiting subsequent food intake (Tomiyama, Moskovich, Haltom, Ju, & Mann, 2009). However, the factors that affect people's assessments of goal progress remain underexplored in the literature.

In the present work, I consistently found that the extent to which people felt negatively about their indulgences impacted how much they believed the behavior harmed their goal progress. In other words, people used their post-indulgence emotions as information about how much the behavior took them “off-track” from their goal. This suggests people may at times prioritize subjective information (e.g., feelings) over objective information (e.g., calories) when monitoring goal progress. Thus, this work

extends past work by shedding light on the sources of information used to assess progress. Over time in order to accurately monitor goal progress and appropriately adjust behaviors to meet goals, individuals may need to set more objective criteria as markers of goal progress rather than rely on their emotions following behavioral choices.

Measuring Self-Control Failure

This research has important implications for how researchers measure and define self-control success and failure. In the current literature, self-control failures are often defined and classified by the behavioral choice (e.g., cookie=failure, apple=success; e.g., Fishbach, Friedman & Kruglanski, 2003; Fujita & Han, 2009; Vohs & Heatherton, 2000). This work suggests that behavior does not indicate whether an individual personally felt it was a self-control failure in the moment. With the exception of Study 6, in the present studies, the indulgence itself was exactly the same across conditions. Nonetheless, the shared social experiences colored participants' evaluations of those behaviors; participants who co-indulged felt less guilty, less regretful, and more satisfied with their decisions. This demonstrates the criterion for failure is likely malleable depending on a person's current goal priorities and construal of the decision.

Moreover, this work highlights the important role of subjective experience in guiding and informing future action. Future research should strive to incorporate assessments of subjective experiences in measurements of self-control successes and failures, perhaps by measuring individuals' emotional experiences (e.g., guilt, regret), assessing the extent to which they believe a behavior was detrimental to their goals, and monitoring subsequent goal-consistent motivation and action.

The Role of Responsibility

In Study 6, participants identified several reasons *why* they think co-indulgences feel less like failures than solo-indulgences. The most commonly cited reason for why co-indulgences elicit less negative feelings was that they allow people to feel a sense of shared responsibility and offset blame for the behavior onto peers, indicating individuals are experiencing some shared psychological ownership over the decision (Kovacheva & Lamberton, 2018). These lay perceptions are consistent with condition differences found in Studies 4, 5, and 6 whereby co-indulgers felt less personally responsible for the indulgence than solo-indulgers. In Study 6, personal responsibility mediated the relationship between co-indulging and less negative emotions. These findings align with past work that has found perceptions of shared responsibility are associated with reduced guilt about a transgression (e.g., Baumeister, Stillwell, & Heatherton, 1994; Li, Yu, Zhou, Kalenscher, & Zhou, 2019). From an attribution theory perspective, individuals who co-indulge versus solo-indulge may be able to displace blame from internal (e.g., dispositional) to external (e.g., situational) factors, which could provide a situational rationalization that helps protect from negative feelings (De Witt Huberts, Evers, & De Ridder, 2014; Marlatt & Gordon, 1980).

While the hypothesized mediating role of personal responsibility did not emerge in Studies 4 and 5, some additional exploratory analyses suggest reduced personal responsibility may have direct relationships with decreased motivation to repair the goal-inconsistent behavior. For example, in Study 4, participants who co-indulged felt less personally responsible for the decision, which led to less motivation to eat healthy in the future, 95% CI [-0.29, -0.03]. A similar effect emerged in Study 5. This is consistent with

past work that has shown feeling personally responsible can directly motivate self-regulatory behavior (e.g., for review, see Karoly, 1993). While the present studies clearly suggest reduced personal responsibility occurs during co-indulgences, future research should further explore the implications of perceived responsibility for affective and motivational outcomes.

Shifting Goal Priorities

Another reason why co-indulgences elicited less negative feelings than solo-indulgences was because individuals who co-indulged deprioritized the target goal in the moment. This was observed in Study 4 when co-indulgers compared to solo-indulgers reported healthy eating would be less prioritized, and again in Study 6 when participants freely identified they would feel better about giving in to temptations with friends because they were instead prioritizing a social bonding experience. Thus, these findings support the notion that individuals can flexibly shift goal prioritization in order to feel successful and achieve a sense of balance between their pursuits (Carver & Scheier, 2004; Scholer, 2014). While these studies found evidence that shifting goal prioritization is effective for minimizing guilt in the moment, future research can explore how long these goal priorities stay shifted and whether and how they reorganize again to facilitate balanced motivation across goals.

Observed Floor Effects

Study 7 was the only study that assessed real behavioral choices and emotions in the lab. I did not find a significant effect of condition on negative emotion. However, it is worth noting the mean emotion scores were drastically lower than those in all previous studies. In Study 7, the average negative emotion score was 2.23 on a scale coded from 0

(positive feelings) to 10 (negative feelings), compared to averages ranging from 4.45 to 6.07 across all other samples (presented in Table 2). Moreover, a large proportion of the sample ($n = 152$), split pretty evenly between solo-indulgers and co-indulgers, responded with zeroes across the board for *all* of the negative emotion items, suggesting negative emotions were generally not experienced in the lab study. One possible reason for this is participants may have rationalized the decision to watch movies. For example, participants knew they would receive course credit regardless of their activity choice. Thus, by participating in the study, participants are already engaging in a behavior that is academically goal-consistent. Moreover, watching movies could be seen as beneficial for academic goals if it helps individuals relax or take a break from studying.

Table 2. *Average self-reported negative feelings across Studies 1-7*

Study	<i>N</i>	Negative Feelings	<i>SD</i>
Study 1	290	$M = 4.45$	2.11
Study 2	112	$M = 5.76$	2.32
Study 3	267	$M = 5.19$	1.96
Study 4	196	$M = 4.78$	2.06
Study 5	212	$M = 5.16$	1.78
Study 6	117	$M = 6.07$	2.11
Study 7	342	$M = 2.26$	1.68

In my work, I conceptualized solo-indulgence as the prototypical self-control failure that elicits negative feelings, wherein co-indulgence then serves to decrease these negative feelings. In Study 7, the floor-effects within the solo condition made it very hard for co-indulgers to feel any less guilty. Future research should seek to assess real behavioral choices in a context that is more likely to elicit prototypical feelings of failure.

Additional Avenues for Future Research

Emotions Over Time

One question the present studies raise is about the time course of emotions that people experience following goal-inconsistent indulgences. One reason why co-indulgers reported less guilt than solo-indulgers was because of deprioritization of the target goal. However, an empirical question remains: After the social experiences have ended, do negative feelings emerge once people again reflect on their target (e.g., health) goal failure? Across studies, the assessment of negative emotions and measures of future intentions followed almost immediately after the indulgence. However, evaluations of an experience may change over time in order to functionally serve multiple goals. Happy feelings might first emerge to facilitate evaluations of social goal success and guilt may emerge later in order to encourage future health goal-consistent action (Hofmann & Fisher, 2012). This is one possible explanation for why the social context did not impact future motivation in Study 6; though co-indulgers reported remembering less guilt in the moment during their social experience, guilt may have set in later and led to equivalent amounts of goal-consistent action. Future research should explore the time course during which negative emotions may emerge following self-control failure, as well as the impact of these emotions over time. Future research could, for example, guide participants' memory of an experience and chart the course of emotions at various time points following indulgence and continuing through subsequent goal-relevant decisions. Other methods such as daily diary studies, naturalistic observation, and a more longitudinal experimental design could more comprehensively assess emotion change over time.

Predictions for Negative Feelings

Across studies, feeling worse about an indulgence led participants to feel more motivated to enact future goal-consistent action. Indeed, this aligns with previous research that suggests feeling guilty can motivate future goal-consistent action (Allard & White, 2015; Carver, 2003; Carver & Scheier, 1998; Harmon-Jones, Peterson & Vaughn, 2003; Hofmann & Fisher, 2012; Zemack-Rugar, Corus, & Brinberg, 2012). Other research, however, might predict the exact opposite pattern, that feeling negative would lead to diminished rather than increased motivation. For example, people may seek to resolve a bad mood by engaging in additional indulgent activities (e.g., Tice & Bratslavsky, 2000). Other research has found cases in which goal failures can lead to additional failures (e.g., Curry, Marlatt, & Gordon, 1987; Herman & Mack, 1975; Cochran & Tesser, 1996; Wagner & Heatherton, 2015). Future research should explore when negative feelings following failure are motivating compared to when these feelings can be de-motivating.

Perhaps one factor that affects whether negative feelings impact future action is the extent to which people have the resources, ability, and control to enact subsequent goal-consistent action. For example, feeling guilty after an unhealthy meal may be functional when an individual has a spare hour and the energy to head to the gym. However, an individual with no time and no gym membership may not be motivated to engage in goal-consistent action but rather to simply resolve their negative mood, perhaps by having a candy bar. Future research should explore how and under which circumstances negative feelings encourage versus discourage goal-consistent action.

Perceptual and Cognitive Representations

In addition to affective and motivational outcomes, shared experience during indulgence may bias perceptual and cognitive representations of the indulgence. For example, dieters who indulge in unhealthy ice cream with a peer may be more likely to minimize number of calories and/or perceived serving size compared to those who indulge alone. Indeed, people are motivated to experience the world in ways that align with their beliefs, expectations, or wishes (e.g., Balcetis & Dunning, 2006; Cole, Trope, & Balcetis, 2016; Hastorf & Cantril, 1954; Kunda, 1990), and these motivations can influence many facets of daily experience, including perceptions, selective attention, information processing, and memory retrieval (Balcetis, 2007). Thus, if goal-seekers are motivated to feel the experience was positive rather than negative, or that the experience was not harmful for their goals, these motivations may manifest in perceptual and cognitive representations that downplay the severity of the behavior.

Some existing data from our lab suggests this may be the case. In one study, I found after an unhealthy indulgence, negative feelings following the indulgence predicted dieters' cognitive and perceptual representations of the ice cream. Dieters who co-indulged versus solo-indulged reported the ice cream was smaller in size, despite the ice-cream being exactly the same across conditions. Future research can expand this work to test whether and when biases in cognitive representations emerge as well as explore the role of cognitive representations in influencing motivational outcomes.

Individual and Situational Differences

In the present research, I found on average participants felt less negative when they indulged with friends versus alone. It is worth noting, however, that there are likely individual and situational differences that predict whether co-indulgence minimizes negative feelings. Indeed, in Study 6, nearly one-third of participants did not believe co-indulging minimized negative feelings relative to solo-indulging. For example, one participant suggested social pressures of peer observation, reporting, “When I’m alone I feel less guilty because no one is there to see me give in to temptations.” Other participants suggested they might feel guilty when they indulge with peers who were relying on them for social support. For example, one participant stated, “If I give in to temptations with others, it’s like I’m dragging them down with me, and that’s the last thing I want.” Future research can explore individual differences that might moderate feelings of guilt during social indulgence, such as social comparison propensity (e.g., Gibbons & Buunk, 1999), self-monitoring (Snyder, 1979), gender, cultural orientation, and trait self-control. Moreover, future research can explore other relational factors as moderators, such as the nature of the relationship (e.g., friend, partner, colleague), who instigates the decision, and who indulges vs. abstains.

Conclusion

In their daily lives, people make goal-relevant choices across a variety of social contexts, yet little research has explored how the same goal-inconsistent behavior can be construed differently across social settings as well as how these differences influence motivational outcomes. This research suggests the same goal-inconsistent action can be subjectively construed as more or less of a “failure” depending on whether the experience was socially shared. Moreover, these feelings influenced subsequent motivations to repair the failure or not. Though shared indulgent experiences can boost positive affect and lead to interpersonal closeness, goal-seekers need to be mindful as to how these experiences harm their motivation and long-term goal success. In order to accurately monitor goal progress and appropriately adjust behaviors to meet goals, individuals may need to set more objective criteria as markers of goal progress rather than relying on their emotional experiences following behavioral choices. If people become aware that their social experiences can impact whether they identify behaviors as self-control failures, perhaps they will be more successful at keeping on track with their long-term goals.

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Appendix A: Study Scenarios

Study 1

Scenario 1: Healthy eating goals vs. ice-cream

Co-indulgence

You have recently started a new diet plan because you are trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by only eating healthy foods and avoiding desserts.

You and your good friend are spending time together one evening. Your friend says, "Hey! Let's have ice cream. I know it's not too healthy and we shouldn't eat it but we'll both enjoy it."

You wrestle with the decision, you both want to eat healthy, but you also want to indulge and enjoy the ice cream. After some contemplating, you decide, "**why not! Let's both have some!**"

You decide to indulge and you each **eat ice cream together.**

Solo-indulgence

You have recently started a new diet plan because you are trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by only eating healthy foods and avoiding desserts.

You are at home alone relaxing one evening. You think "Hey! I want ice cream. I know that it's not too healthy and I probably shouldn't eat it, but I'll enjoy it."

You wrestle with the decision, you want to eat healthy, but you also want to indulge and enjoy the ice cream. After some contemplating, you decide, "**why not! I'll have some!**"

You decide to indulge and you **eat the ice cream.**



Scenario 2: Healthy eating goals vs. cheesy fries

Co-indulgence

...

You and your friend browse the menu for healthy options. You notice some salads and healthy meals.

You can't help but notice the cheesy fries look really good. After a few moments, your friend says, "Wow I'm really craving the nachos. I know they're not healthy but I want to enjoy this time we have together and eat some good food." You respond that you were also eye-ing the cheesy fries and would love to enjoy them.

You wrestle with the decision, you both want to eat healthy, but you also want to enjoy yourselves. After some contemplating, you and your friend decide, "Why not! Let's both get what we want!" You order the cheesy fries and your friend orders the nachos.

Solo-indulgence

...

You browse the menu for healthy options. You notice some salads and healthy meals.

You can't help but notice the cheesy fries look really good. After a few moments, you think "Wow I'm really craving the cheesy fries. I know they're not healthy but I want to enjoy this time and eat some good food." . . .

You wrestle with the decision, you want to eat healthy, but you also want to enjoy yourself. After some contemplating, you decide, "Why not! I'll get what I want!" You order the cheesy fries.

Scenario 3: Exercise goals vs. relaxing

Co-indulgence

You have recently started a new exercise plan because you are trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by committing to a regular exercise routine which includes going to the gym in the evenings.

One evening, you are planning on going to the gym. You and your best friend are hanging out together and enjoying time catching up. You haven't seen each other in a while so you decide to relax and chat for a bit, and then you will go to the gym together.

After some time, you are thinking it is time to get changed for the gym. You and your friend think, "Let's skip the gym tonight! We really should exercise, but we'll both really enjoy hanging out instead."

You wrestle with the decision, you both want to be healthy, but you also want to skip the gym and relax. After some contemplating, you and your friend decide, "Why not! Let's skip the gym today!" You each decide to skip the gym together.

Solo-indulgence

You have recently started a new exercise plan because you are trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by committing to a regular exercise routine which includes going to the gym in the evenings.

One evening, you are planning on going to the gym. You are relaxing at home and thinking about your day. After you relax, you plan to go to the gym.

After some time, you are thinking it is time to get changed for the gym. You think, "I'll just skip the gym tonight! I really should exercise, but I'll enjoy hanging out instead."

You wrestle with the decision, you want to be healthy, but you also want to skip the gym and relax. After some contemplating, you decide, "Why not! I'll skip the gym today!" You decide to skip the gym.

Study 3

Ice cream pictured



Study 5

Shared goal co-indulgence (parallel goal)

You and a friend have recently started a new exercise plan because you are both trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by committing to a regular exercise routine which includes exercising in the evenings with a home exercise video.

One evening, you and your friend are having dinner at your house. You plan on doing your workout together after dinner.

After some time, you and your friend know it is time to get changed to begin your workout. You are both getting tired, and you think, "Let's just skip the workout! We really should exercise, but it would be nice to relax."

You both wrestle with the decision; you both want to be healthy and you know your commitment to the exercise routine is important for your goals. But, in the moment you and your friend want to skip the workout and relax. After some contemplating, you and your friend decide to skip the workout and watch TV together instead.

Unshared goal co-indulgence

You have recently started a new exercise plan because you are trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by committing to a regular exercise routine which includes exercising every evening with a home exercise video.

One evening, you and a friend are having dinner at your house. You plan on doing your workout after dinner.

After some time, you know it is time to get changed to begin your workout. You and your friend are getting tired. You think, "I can just skip the workout! I really should exercise, but it would be nice to relax."

You wrestle with the decision; you want to be healthy and you know your commitment to the exercise routine is important for your goals. But, in the moment you want to skip the workout and relax. After some contemplating, you decide to skip the workout and watch TV together instead.

Solo-indulgence

You have recently started a new exercise plan because you are trying to lose weight and be healthier. You've been trying to stay on track with your weight loss goals by committing to a regular exercise routine which includes exercising every evening with a home exercise video.

One evening, you and your friend are having dinner at your house. You plan on doing your workout after dinner. After dinner, your friend leaves.

After some time, you know it is time to get changed to begin your workout. You are getting tired. You think, "I can just skip the workout! I really should exercise, but it would be nice to relax."

You wrestle with the decision; you want to be healthy and you know your commitment to the exercise routine is important for your goals. But, in the moment you want to skip the workout and relax. After some contemplating, you decide to skip the workout and watch TV instead.

Appendix B: Attention Check Questions

Study 1

In the scenario, what did you decide to do?

- ☐ Eat an ice cream sundae.
- ☐ Do my homework.
- ☐ Eat healthy foods.
- ☐ Skip the gym.
- ☐ Have cheesy fries.
- ☐ Make a telephone call.
- ☐ Go to the gym.
- ☐ None of the above.

In the scenario, who were you with?

- ☐ No one, I was alone.
- ☐ My best friend.
- ☐ My dog.
- ☐ My roommate.
- ☐ None of the above.

Study 3

In the previous scenario, I was:

- ☐ Alone
- ☐ With my best friend
- ☐ With my dog
- ☐ On a school bus
- ☐ At work

Study 4

In the scenario, what did you decide to do?

- ☐ Eat an ice cream sundae
- ☐ Go to the grocery store
- ☐ Eat healthy foods
- ☐ None of the above

In the scenario, who were you with?

- ☐ No one, I was alone
- ☐ My good friend
- ☐ My dog
- ☐ My roommate
- ☐ None of the above

In the scenario, did you have goals to eat healthy?

- ☐ Yes
- ☐ No
- ☐ Not sure

Study 5

So far, which most accurately depicts the scenario?

- ☐ You plan to exercise after dinner
- ☐ You have a doctor's appointment tomorrow
- ☐ You are watching a video
- ☐ You are working on rearranging the kitchen pantry

In the scenario, who is planning on doing the exercise video?

- ☐ Just me
- ☐ Just my friend
- ☐ Both me and my friend
- ☐ No one
- ☐ Not sure

Appendix C: Study 6 Coding Scheme

Coding instructions. Independent coders who were blind to the purpose of the study and condition coded each scenario for content, including:

- Who were participants with, if anyone?
- Did they plan to engage in a goal-consistent behavior?
- Did they end up doing something else / not following through with the plan?
- If there was more than one person, did all people choose to indulge?

Exclusion criteria. Participants were excluded from analyses if they did not provide a scenario that fulfills the appropriate condition and requirements, including:

- Participants in the solo-indulgence condition wrote about a situation that includes other people in the experience.
- Participants in the co- indulgence condition wrote about a situation when they were alone.
- Participants in the co- indulgence condition wrote about a situation in which the peer did not also have plans to engage in goal-consistent action.
- Participants wrote about content unrelated to the prompt or did not write about a self-control conflict.

Appendix D: Study 7 Materials

P #: _____

Pre-participation Questionnaire

Before beginning a study session in our lab, please respond to the following items about your own life.

On a scale from 0 (not at all) to 10 (extremely), indicate how **important** the following items are to you:

	Not at all important									Extremely important	
Eating healthy	0	1	2	3	4	5	6	7	8	9	10
Sleeping 8 hours	0	1	2	3	4	5	6	7	8	9	10
Drinking water	0	1	2	3	4	5	6	7	8	9	10
Getting good grades	0	1	2	3	4	5	6	7	8	9	10
Regular exercise	0	1	2	3	4	5	6	7	8	9	10
Being a good friend	0	1	2	3	4	5	6	7	8	9	10
Trying new things	0	1	2	3	4	5	6	7	8	9	10
Being a good student	0	1	2	3	4	5	6	7	8	9	10
Staying in touch with family	0	1	2	3	4	5	6	7	8	9	10

On a scale from 0 (not at all) to 10 (completely), indicate how **true** the following items are for you:

	Not at all										Completely
I am generally open to new experiences.	0	1	2	3	4	5	6	7	8	9	10
I am tired right now.	0	1	2	3	4	5	6	7	8	9	10

What was the last meal you ate?

When you are finished, please let the experimenter know you are ready to begin.

STRATEGIES FOR EFFECTIVE NOTETAKING



During this study session, you will practice critically reading text passages and learn notetaking skills to become a more effective reader. Then, give us your feedback about what you think!

BE A MOVIE CRITIC!



During this session, you will watch and evaluate several new promo videos for a local comedy group. Relax and enjoy the films and then give us your feedback about what made you laugh!

Decision Reflection

P #: _____

We want to know how people feel about the different studies in our lab. Please take a moment to reflect on the activity you chose.

1. Which activity do you think is more helpful for improving your grades? (check box)

- ☐ Effective Notetaking (practicing skills to become a better student)
☐ Movie Watching (watching comedy show clips)

2. Which activity did you choose to do? (check box)

- ☐ Effective Notetaking (practicing skills to become a better student)
☐ Movie Watching (watching comedy show clips)

3. Did you make the decision alone or together with someone? (check box)

- ☐ I made the decision alone.
☐ I made the decision with someone.

4. Please reflect on your activity choice. How are you feeling about your choice?

	Not at all					Completely						
Satisfied	0	1	2	3	4	5	6	7	8	9	10	
Confident	0	1	2	3	4	5	6	7	8	9	10	
Uncomfortable	0	1	2	3	4	5	6	7	8	9	10	
Disappointed in myself	0	1	2	3	4	5	6	7	8	9	10	
Happy	0	1	2	3	4	5	6	7	8	9	10	
Relieved	0	1	2	3	4	5	6	7	8	9	10	
Guilty	0	1	2	3	4	5	6	7	8	9	10	
Frustrated	0	1	2	3	4	5	6	7	8	9	10	
Regretful	0	1	2	3	4	5	6	7	8	9	10	
Relaxed	0	1	2	3	4	5	6	7	8	9	10	

Next page >>

We are interested in how the **studies in our lab can help or hurt participants' ability to work towards their own goals**. Please reflect on your own goals to answer the following questions.

5. What impact does your choice have on your academic goals?

Extremely positive impact (helpful)					Neither		Extremely negative impact (harmful)				
0	1	2	3	4	5	6	7	8	9	10	

6. Based on your choice, how important is it for you to put extra time towards academics this week?

Not at all important					Extremely important						
0	1	2	3	4	5	6	7	8	9	10	

7. Based on your choice, how important is it for you to put extra time towards relaxation this week?

Not at all important					Extremely important						
0	1	2	3	4	5	6	7	8	9	10	

8. Why did you choose the _____ (*Movie Watching / Effective Notetaking*) activity when you could have chosen the _____ (*Effective Notetaking / Movie Watching*) activity? Explain.

9. (Optional) What did you think about the flier/advertisements?

10. If you had an opportunity to make your decision over again, which activity would you choose?

I would definitely choose <u>Effective Notetaking</u>					Not Sure	I would definitely choose <u>Movie Watching</u>				
0	1	2	3	4	5	6	7	8	9	10

11. Would you like to switch activities right now?

- ☐ Yes. (check one)
- ☐ I would like to switch to Effective Notetaking.
- ☐ I would like to switch to Movie Watching.
- ☐ No, I would like to continue with my choice.

12. Any other thoughts?

Thank you for your feedback!