BRIEF REPORT

Moralization and self-control strategy selection

Samuel Murray[1,2] · Juan Pablo Bermúdez[3,4] · Felipe De Brigard[5,6]

Abstract

To manage conflicts between temptation and commitment, people use self-control. The process model of self-control outlines different strategies for managing the onset and experience of temptation. However, little is known about the decision-making factors underlying strategy selection. Across three experiments ($N = 317$), we tested whether the moral valence of a commitment predicts how people advise attentional self-control strategies. In Experiments 1 and 2, people rated attentional focus strategies as significantly more effective for people tempted to break moral relative to immoral commitments, even when controlling for perceived temptation and trait self-control. Experiment 3 showed that as people perceived commitments to have more positive moral valence, they judged attentional focus strategies to be significantly more effective relative to attentional distraction strategies. Moreover, this effect was partly mediated by perceived differences in motivation. These results indicate that moralization informs decision-making processes related to self-control strategy selection.

Keywords Self-control · Strategy · Attention · Distraction · Moralization

Statement of relevance We often experience conflicts between our immediate desires and our long-term goals. Self-control is a process for aligning behavior with long-term goals and resisting temptation. For this reason, it is a core feature of autonomy and well-being. Recent empirical work on self-control has outlined different strategies that people can use to exercise control. Some of these strategies involve managing attention. People can resist temptation either by distracting themselves or by focusing on the reasons they made the commitment. While this work has had important clinical and educational implications, little is understood about how people decide to use different self-control strategies. Here, we focus on one aspect of this decision-making process and show that morality plays a role in how to exercise self-control. As the perceived morality of a commitment increases, there is a greater tendency to focus attention to resist temptation rather than distract oneself.

Introduction

Sometimes, desires conflict with long-term goals. People can plan to save money or quit smoking yet find themselves occasionally drawn to overspend or indulge a cigarette. Self-control is a process that manages intrapsychic conflicts between commitments and temptations (Kotabe & Hoffman, 2015). While researchers have historically characterized self-control as an effortful inhibition of temptation (Inzlicht et al., 2018; Kool & Botvinick, 2018), recent work has identified diverse strategies that constitute different forms of self-control (Duckworth et al., 2016).

According to the *process model* of self-control (Duckworth & Gross, 2014), intrapsychic conflict arises from encountering a situation that prompts attention toward some feature that generates a positive appraisal, thereby eliciting a response (Milyavskaya et al., 2021). For example, a person

✉ Samuel Murray
  smurray7@providence.edu

1 Department of Philosophy, Providence College, Providence, RI, USA

2 Neuroscience Program, Providence College, Providence, RI, USA

3 Dyson School of Design Engineering, Imperial College London, London, UK

4 Programa de Filosofía & Área de Investigación Salud, Conocimiento Médico y Sociedad, Universidad Externado de Colombia, Bogotá, Colombia

5 Department of Philosophy, Duke University, Durham, NC, USA

6 Center for Cognitive Neuroscience, Duke University, Durham, NC, USA

who has resolved to quit smoking might attend a party (situation) and notice others smoking (attention), which prompts the thought that a cigarette would be pleasant right now (appraisal) and results in asking for a cigarette (response). The process model identifies five different strategy types for exercising self-control (Duckworth et al., 2018). *Situation selection* and *situation modification* strategies target the situational stage. A person can avoid tempting situations, by, for example, not attending the party, or modify aspects of the situation to preempt the temptation's occurrence. *Attentional modification* strategies require shifting attention away from the tempting stimulus, such as looking at one's phone. *Cognitive reappraisal* strategies consist in using imagination and projection to make nontempting aspects of the stimulus more salient. For example, one might vividly imagine blackened lungs when looking at cigarettes to make their less-appealing aspects more salient (Lipkus et al., 2022). Finally, *response modulation* strategies consist in effortful inhibition of the response prompted by the tempting stimulus.

The process model informs several interventions to prevent self-control failure (Duckworth et al., 2019; Knittle et al., 2020). However, little has been done to understand the different factors that incline people toward using different strategies. Research suggests that how people think about self-control influences how they exercise it in everyday life (Klinger et al., 2018). For example, Martijn et al. (2002) found that when people perform a self-control task, those who expect to experience ego depletion perform worse on a subsequent self-control task compared with those who expect to experience a performance boost. Thus, folk theories of self-control can influence how they exercise self-control. Understanding the folk psychology of self-control is crucial for understanding the decision-making process behind self-control strategy selection.

The current study examined whether differences in the moral valence of a commitment are associated with differences in attentional strategy selection. Experimental evidence indicates that morality influences attention. Gantman and Van Bavel (2014) found that participants were more likely to correctly identify morally valenced words relative to nonvalenced words in a lexical decision task when presented at the threshold of perceptual awareness (~60 ms.). EEG studies have identified morality-related changes in perceptual processing using images (Decety & Cacioppo, 2012), behaviors (Yang et al., 2014), and words (Gantman et al., 2020; Yang et al., 2017) as stimuli (Gui et al., 2016; Zhu et al., 2019). Morality also influences attributions of self-control: People attribute more self-control to those who follow through on moral commitments in the face of temptation relative to those who follow through on immoral commitments (Rosas et al., 2018). Collectively, these results indicate that morality modulates attentional processing and self-control attributions, which

suggests that morality might bear on how people mobilize attention to exercise self-control.

Our experiments assess how moral valence is associated with perceived effectiveness of attentional strategies. Following Bermúdez et al. (in press), we distinguish between attentional *focus* and attentional *distraction* strategies. Attentional focus requires orienting attention toward the reasons one made the commitment to strengthen response tendencies in goal-congruent ways. Attentional distraction requires shifting attention away from tempting stimuli to preempt the experience of conflict. For example, the person who resolves to quit smoking might resist cigarettes by either focusing on the reasons for quitting *or* by distracting herself from nearby smokers.

Morality might influence self-control strategy selection because people perceive different motivations underlying different kinds of commitments. Self-determination theory (Deci & Ryan, 2012) distinguishes between intrinsically motivated behaviors, which are performed for their own sake, and extrinsically motivated behaviors, which are performed for the sake of gaining a reward or avoiding a punishment. Guay et al. (2000) discuss *identified regulation* as a kind of extrinsic motivation of autonomously chosen behavior. This category picks out behaviors related to self-control strategies: Such behaviors are seen as autonomously chosen because they are related to one's personal values, but they are *extrinsically* motivated because they are performed not for their own sake but for the sake of something else.

Moral commitments are congruent with one's personal values (Etzioni, 1961, p. 58; Katz & Kahn, 1978, pp. 388–389). Thus, people might think attentional focus strategies are more effective for such commitments because focusing would make aspects of one's personal values salient. If people think that moral commitments are related to identified regulatory processes, then people might see attentional focus strategies as more effective for managing temptations related to moral commitments.

This suggests that moralization might serve as a cognitive mechanism for self-control strategy selection, where changes in strategy selection are explained by changes in moralization. Moralization is linked to several key intra- and interpersonal changes in how behaviors are conceptualized (Rozin et al., 1997) and which emotions are associated with different behaviors (Rozin et al., 1993). Further, moralization alters the reasons and motives people assign to approaching or avoiding different behaviors (Rozin et al., 1997).

We predicted that the effect of morality on strategy selection is mediated by different motivations related to these commitments. We tested three hypotheses related to this prediction:

Morality hypothesis: People tend to think attentional focus strategies are more effective than distract strategies for managing temptation related to moral commitments.

Moralization hypothesis: As the perceived morality of a commitment increases, the probability of selecting attentional focus strategies to manage temptation increases.

Identified regulation hypothesis: Changes in attributions of identified motivation mediate the effect of morality on strategy selection.

We studied whether people think different attentional strategies help to maintain commitment in the face of temptation. How people would advise others to exercise self-control provides some evidence for their underlying folk theory of self-control, and such a theory—as argued previously—could inform self-control decision-making in daily life. Studying third-personal judgments of self-control strategy also avoids some limitations of studying first-personal judgments. For one, it allows us to present several stimuli without relying on people simulating what it would be like for them to have commitments that they may find contrary to their own values. Second, people might be unwilling or incapable of taking some of their commitments to be immoral. Thus, focusing on third-personal judgments avoids the risk of people engaging in defensive reasoning, which would undermine the possibility of manipulating the moral valence of commitments.

Experiment 1

In Experiment 1, we tested the *morality hypothesis*. We also assessed whether differences in strategy selection are associated with perceived temptation.

Methods

Open practices statement

Experiment 1 was not formally preregistered. The preregistrations for Experiments 2 and 3 can be accessed at the OSF repository for the project, along with de-identified data and analysis scripts for all experiments (https://osf.io/vez4c/).

Participants

Thirty participants were recruited on Academic Prolific. One participant was excluded for self-reported distracted responding (final $N = 29$; $M_{age} = 37.62$, $SD = 6.9$, 44.8% female).

Materials and procedure

Participants were shown 10 vignettes depicting an agent facing a temptation to act contrary to a commitment. The moral valence of the commitment varied across vignettes, with an equal number of moral and immoral commitments:

Moral vignettes:

Volunteer: Alex has committed to volunteering at the local homeless shelter early in the morning. However, this morning she feels tired and is tempted to stay in bed.

Smoke: Dan has committed to quitting smoking. However, he sees someone at a party lighting a cigarette and is tempted to smoke.

Job: Theresa has committed to helping her friend move to a new apartment. However, on the day of the move she is tempted to cancel so she can go to the beach with friends.

Donate: Sylvia has committed to donating a portion of her salary to charity each month. However, this month she is tempted to donate less and spend the money on something else for herself.

Taxes: Russell has committed to honestly filling out his taxes. However, he is tempted not to report some income to get a larger return.

Immoral vignettes:

Affair: Cory has committed to carrying on an affair with a coworker. However, today he feels tremendously guilty and is tempted to call it off.

Steal: Heather has committed to breaking into houses to steal electronics. However, today she feels tired of being on the run and is tempted to turn herself in to the police.

Cheat: Ian has committed to cheating on an exam to get a good grade. However, today he feels that being dishonest is wrong, and he is tempted to take the test without cheating.

Company: Amanda has committed to embezzling money from the company she works for. However, today she feels anxious about getting caught and is tempted to call off the scheme.

Lying: Edward is committed to lying about his qualifications during job interviews. However, today lying feels wrong, so he is tempted to tell the truth.

Participants were shown one vignette at a time and answered a strategy question:

(*Strategy*) What is the most effective way for this person to keep their commitment?

Participants could select either "Distract themselves from the temptation" or "Focus on their commitment and why

Table 1 Fixed and random effects for Experiment 1

| Predictors	Effect of comment valence on strategy selection		
	Odds Ratios	CI	p
(Intercept)	0.29	0.11-0.72	**0.008****
Valence	11.60	4.47-30.12	**< 0.001*****
Temptation	1.18	0.99-1.41	0.071
Valence*Temptation	0.70	0.58-0.85	**< 0.001*****
Random Effects			
σ^2	3.29		
τ_{00} ResponseId	0.51		
ICC	0.13		
$N_{ResponseId}$	29		
Observations	290		
Marginal R^2/Conditional R^2	0.258/0.358		

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

they made it." Participants answered the following question: "How hard is it to resist this temptation?" using a 7-pt. scale anchored at the midpoint (1 = *Not at all*, 4 = *Somewhat*, 7 = *Very hard*). After seeing every vignette, participants provided demographic information.

Results

When participants saw immoral vignettes, they recommended distract strategies (n = 84, 58%) more often than focus strategies (n = 61, 42%), although a chi-squared test for given probabilities did not find evidence for this distribution being significantly different from chance, $\chi^2(1, N = 29) = 3.65$, p = .06, $\phi = 0.16$, 95% CI [0.00, 0.32]. When participants saw moral vignettes, they recommended focus strategies (n = 111, 77%) significantly more often than distract strategies (n = 34, 23%), $\chi^2(1, N = 29) = 40.89$, p < .001, $\phi = 0.53$, 95% CI [0.37, 0.69]. A paired-samples t test found no evidence for a difference in judgments of temptation strength across commitment valence, t(288) = 0.75, p = .46, with participants judging that both immoral (M = 4.40, 95% CI [4.08, 4.72]) and moral (M = 4.25, 95% CI [3.92, 4.57]) situations were somewhat tempting.

To better understand the relationship between strategy selection and commitment valence, we computed hierarchical logistic regressions to predict strategy selection based on perceived temptation strength and commitment valence using the *lme4* package in R (Bates et al., 2015). The interaction between commitment valence and perceived temptation strength was coded as a fixed effect and participants were coded as random effects. "Immoral" was the reference level for commitment
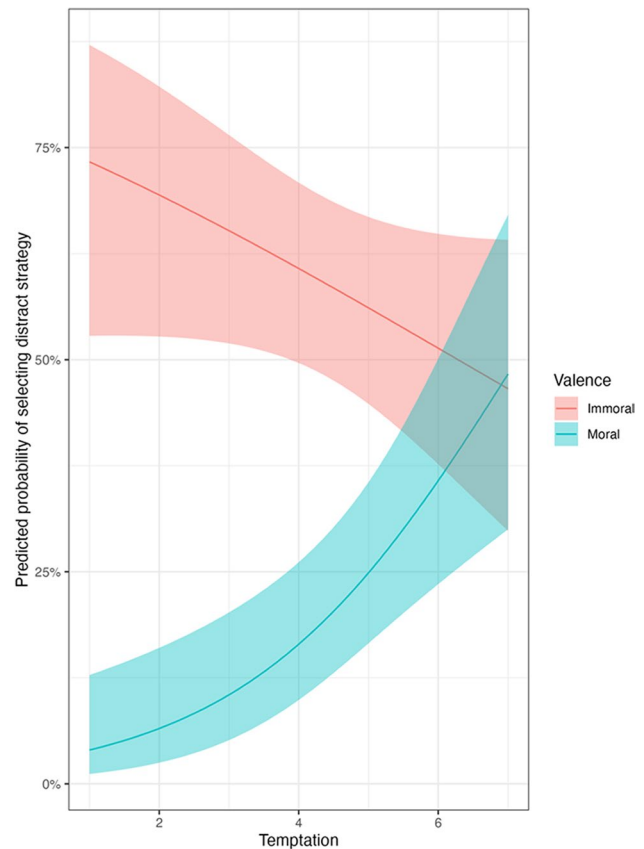
Fig. 1 Predicted probability of selecting attentional distraction strategy as a function of perceived temptation strength by moral valence. Ribbon represents 95% confidence intervals. (Color figure online)

valence and the model predicted the odds of selecting focus strategies. Table 1 summarizes fixed and random effects for the model.

Commitment valence had significant partial effects in the model (β = 2.45, 95% CI [1.55, 3.47], p < .001) and perceived temptation did not (β = 0.16, 95% CI [−0.01, 0.35], p = .07).[1] When compared with immoral vignettes, moral vignettes were 11.6 times more likely to elicit focus strategies. There was a significant interaction between perceived temptation and valence (β = −0.36, 95% CI [−0.55, −0.17], p < .001). Participants were more likely to select focus strategies as perceived temptation increased for immoral vignettes (odds ratio = 0.70, 95% CI [0.58, 0.84]), and more likely to select distract strategies as perceived temptation increased for moral vignettes (odds ratio = 1.43, 95% CI [1.19, 1.74]) (Fig. 1).

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[1] Exploratory analyses that control for the source of temptation (e.g., environmental stimuli) are summarized in Supplementary Materials (§1). Even when controlling for temptation source, commitment valence had significant partial effects in the model.

Discussion

Experiment 1 provided evidence for the *morality hypothesis*: participants considered attentional focus strategies more effective for morally good commitments.

Perceived temptation interacted with moral valence. For moral commitments, as perceived temptation increased, the likelihood of selecting attentional distraction strategies to manage temptation also *increased*. By contrast, for immoral commitments, as perceived temptation increased, the likelihood of selecting attentional distraction strategies to manage temptation *decreased*. Participants did not consider focus strategies to be more generally effective against strong temptation. Moreover, temptation did not significantly predict strategy selection.

These results suggest that the moral valence of a commitment partly explains the perceived effectiveness of an attentional strategy. One limitation of Experiment 1 is that we did not control for individual differences in self-control tendencies. People with high trait self-control are better at avoiding temptation altogether (Hofmann et al., 2012) and tend to experience fewer temptations (Ent et al., 2015), perhaps because their commitments tend to be more intrinsically motivated (Galla & Duckworth, 2015), which suggests that high trait self-control might influence strategy selection and temptation perception independently of the commitment's moral valence. Thus, to properly isolate the influence of commitment valence, we needed to control for trait self-control. To account for this limitation and to replicate our initial findings, we conducted another experiment.

Experiment 2

Methods

Participants

Sixty participants were recruited on Prolific Academic to complete the study. Sample size was determined using the *WebPower* package in R (Zhang & Yuan, 2018) for logistic regression. Based on results from Experiment 1, if the probability of a focus response in the Immoral condition is 42% and the probability of a focus response in the Moral condition is 77%, then 60 participants are needed for a logistic regression to be 95% powered to detect an effect at standard error thresholds ($p < .05$). No participants were excluded based on preregistered exclusion criteria (final $N = 60$; $M_{age} = 38.12$, $SD = 7.9$, 73% female).

Materials and procedure

Materials and procedure were the same as Experiment 1, with one exception. Participants completed the 13-item Brief Self-Control Scale (Tangney et al., 2004) using a 5-pt. scale (1 = *Not at all like me*, 3 = *Somewhat like me*, 5 = *Very much like me*). Trait self-control was calculated by averaging individual responses.

Results

When participants saw immoral vignettes, they recommended distraction strategies ($n = 143$, 48%) about as often as focus strategies ($n = 157$, 52%). A chi-squared test for given probabilities found no evidence for a difference between the observed distribution and the distribution expected under chance, $\chi^2(1, N = 60) = 0.65$, $p = .42$, $\phi = 0.05$, 95% CI [0.00, 0.16]. When participants saw moral vignettes, they recommended focus strategies ($n = 216$, 72%) significantly more often than distract strategies ($n = 84$, 28%), $\chi^2(1, N = 60) = 58.08$, $p < .001$, $\phi = 0.44$, 95% CI [0.33, 0.55]. A paired-samples t test found no evidence for a difference in judgments of temptation strength across commitment valence, $t(598) = -1.23$, $p = .22$, with participants judging that both immoral ($M = 4.04$, 95% CI [3.82, 4.26]) and moral ($M = 4.21$, 95% CI [3.99, 4.43]) situations were somewhat tempting.

Hierarchical logistic regression models were fitted to predict focus strategy selection. Commitment valence, perceived temptation, trait self-control and all two-way interactions were included as fixed effects. Participants were coded as random effects.[2] "Immoral" was the reference level for commitment valence and the model predicted the odds of selecting Focus strategies. Table 2 summarizes fixed and random effects for the model.

Commitment valence had significant partial effects in the model ($\beta = 2.04$, 95% CI [0.21, 3.93], $p = .03$) and temptation did not ($\beta = -0.08$, 95% CI [−0.53, 0.37], $p = .74$). When compared with immoral vignettes, moral vignettes were 7.7 times more likely to elicit focus strategies. There was a significant interaction between temptation and valence ($\beta = -0.56$, 95% CI [−0.79, -0.33], $p < .001$). Participants were more likely to select focus strategies as perceived temptation increased for immoral vignettes (odds ratio = 0.57, 95% CI [0.45, 0.72]) and more likely to select distract strategies as perceived temptation increased for moral vignettes (odds ratio = 1.75, 95% CI [1.39, 2.20]) Fig. 2.

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[2] The random effects differed from the preregistered analysis. We planned to include an error term for trait self-control. However, trait self-control and temptation were highly correlated ($r = .83$), and the model failed to converge.

Table 2 Fixed and random effects for Experiment 2

Predictors	Effect of comment valence on strategy selection		
	Odds Ratios	CI	p
(Intercept)	2.48	0.29-20.98	0.403
Valence	7.66	1.20-48.95	**0.031***
Temptation	0.93	0.59-1.45	0.739
Trait Self-control	0.97	0.90-1.03	0.315
Valence*Temptation	0.57	0.45-0.72	**< 0.001*****
Valence*Trait SC	1.05	0.99-1.10	0.083
Temptation*Trait SC	1.00	0.99-1.02	0.540
Random Effects			
σ^2	3.92		
τ_{00} ResponseId	0.13		
ICC	0.04		
$N_{ResponseId}$	60		
Observations	600		
Marginal R^2/Conditional R^2	0.162/0194		

* = p < .05; *** = p < .001
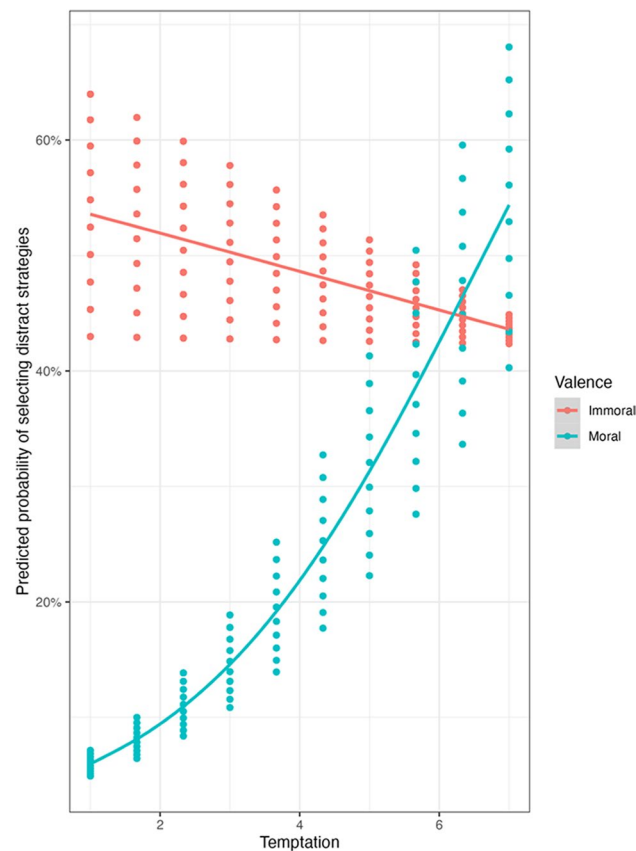
Fig. 2 Predicted probability of selecting attentional distraction strategy based on perceived temptation strength by moral valence. Dots represent 95% confidence intervals for predicted probabilities. (Color figure online)

Discussion

Experiment 2 provided evidence for the *morality hypothesis*. Commitment valence predicted strategy selection for managing temptation. When participants saw moral vignettes, they were significantly more likely to judge that focus strategies are more effective than distraction strategies for maintaining commitments. There was an interaction between commitment valence and perceived temptation strength. For moral vignettes, as perceived temptation increased, participants were less likely to select focus strategies. For immoral vignettes, as perceived temptation increased, participants were more likely to select distract strategies. There was no evidence for an interaction between commitment valence, temptation, and trait self-control.

In Experiments 1 and 2, participants tended to select attentional focus strategies to manage temptation related to moral commitments. This suggests that moralization might alter strategy selection because it changes how people attribute motivation to people pursuing differentially moralized goals (Rozin et al., 1993). This implies two different hypotheses: (1) as the perceived morality of a commitment increases, the probability of selecting attentional focus strategies to manage temptation increases (*moralization hypothesis*), and (2) changes in attributions of identified motivation mediates the effect of morality on strategy selection (*identified regulation hypothesis*). To test these hypotheses, we conducted another experiment.

Experiment 3

Methods

Participants

Two hundred and thirty participants were recruited on Prolific Academic. We conducted a power analysis using the *mixedpower* package in R. Using the coefficients of fixed effects from models fitted on pilot data ($N = 200$; see Supplementary Materials §2), we simulated 1,000 models with 25, 50, 75, 100, 125, 175, 200, and 225 participants, with strategy selection as the outcome variable. The simulation used $z = 2$ as the critical threshold for significance. Two hundred and twenty-five participants would provide 86% power to detect the estimated effect of morality on strategy selection. We overrecruited by 2% based on attrition rates in previous surveys. Per our preregistered exclusion criteria, two participants were excluded for self-reported distracted responding ($N = 228$; $M_{age} = 38.90$, $SD = 14.9$, 47% female).

Materials and procedure

Participants were presented with a vignette that depicted an individual facing some temptation to break a commitment. Participants saw five vignettes in total. Four were used in previous studies (Volunteer, Smoke, Donate, and Job). We added a vignette on vegetarianism because people (in the United States) have widely varying attitudes on the morality of vegetarianism (Feltz & Feltz, 2019; Gruen, 2012; Jalil et al., 2020). Whether people view vegetarianism as moral or amoral might have implications for the motivations people experience toward certain behaviors (Rhee et al., 2019), thereby impacting how people decide to use self-control to manage related temptations (Rozin et al., 1997):

> *Vegetarian:* Frank is committed to being a vegetarian and eliminating meat from his diet. However, today he sees someone eating a tasty meatball sandwich and is tempted to buy some meat for lunch.

After reading each vignette, participants answered the same strategy selection item as in previous studies and were asked about the moral goodness of the commitment: "To what extent is this a morally good commitment?" Participants rated moral goodness using a 100-pt. scale anchored at the midpoint (0 = *Not really a moral commitment*, 50 = *Somewhat morally good*, 100 = *Very morally good*). To measure perceived motivation, participants also completed a modified version of the Situational Motivations Scale (SIMS; Guay et al., 2000). The SIMS is a 16-item measure with four 4-item subscales measuring intrinsic motivation, identified motivation, external motivation, and amotivational tendencies. Because participants were attributing motivation rather than self-reporting it, items were adapted to a third-personal perspective. Participants responded with a 9-pt. scale to each item (1 = *Not at all because of this reason*, 5 = *Unsure*, 9 = *Completely because of this reason*; anchored at midpoint). The full scale is summarized in the Supplementary Materials (§3). Identified regulation items are as follows: They are doing it for their own good; They think the activity is good for them; They are making a personal choice; They believe the activity is important for them.

Participants also rated temptation strength using the same scale from Experiments 1 and 2. Participants saw one vignette at a time and could not see the next vignette until they answered all questions related to the presented vignette.

Results

Table 3 summarizes strategy selections.

Per our preregistered analyses, a mixed-effects logistic regression model was fitted to predict strategy selection.

Table 3 Counts for strategy selection across vignette in Experiment 3

Vignette	Focus	Distract
Job	193	35
Volunteer	205	23
Donate	201	27
Smoke	98	130
Vegetarian	137	91

Estimated marginal means and distribution of valence ratings for each vignette are summarized in Supplementary Materials §4.

**Table 4** Fixed and random effects for Experiment 3

Predictors	Effect of comment valence on strategy selection		
	Odds Ratios	*CI*	*p*
(Intercept)	0.75	0.34-1.64	0.466
Moral	1.01	1.00-1.02	**< 0.001*****
Temptation	0.92	0.82-1.03	0.149
Vignette-Donate	8.58	4.99-1474	**< 0.001*****
Vignette-Job	6.76	4.02-11.36	**< 0.001*****
Vignette-Vegetarian	1.82	121-2.75	**0.004****
Vignette-Volunter	9.02	5.18-15.70	**< 0.001*****
Random Effects			
σ^2	3.29		
τ_{00} ResponseId	0.25		
ICC	0.07		
N$_{ResponseId}$	228		
Observations	1140		
Marginal R^2/Conditional R^2	0.239/0.293		

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

Perceived morality of commitment and vignette were coded as fixed effects, and participants were coded as random effects. "Smoke" was the reference level for vignette and the model predicted the odds of selecting Focus strategies. Table 4 summarizes fixed and random effects for the model.

Perceived morality had significant partial effects in the model ($\beta = 0.01$, 95% CI [0.005, 0.02], $p < .001$). Figure 3 shows predicted probabilities for selecting focus strategies based on perceived morality overall and by vignette.

To evaluate the *identified regulation hypothesis*, we conducted causal mediation analysis. The analysis examined the average causal mediation effect (ACME) of judgments of identified regulation and the average direct effect (ADE) of perceived morality on strategy selection. All predictors were centered prior to fitting the model. Confidence intervals were computed using the quasi-Bayesian Monte Carlo simulation method over 1,000 simulations. There was a mediation effect (ACME = 0.01, $p < .001$, CI [0.008, 0.02], proportion mediated = 0.31) and a direct effect (ADE = 0.09, $p = 0.09$, CI [−0.02, 0.20]), which indicates that participants' attributions
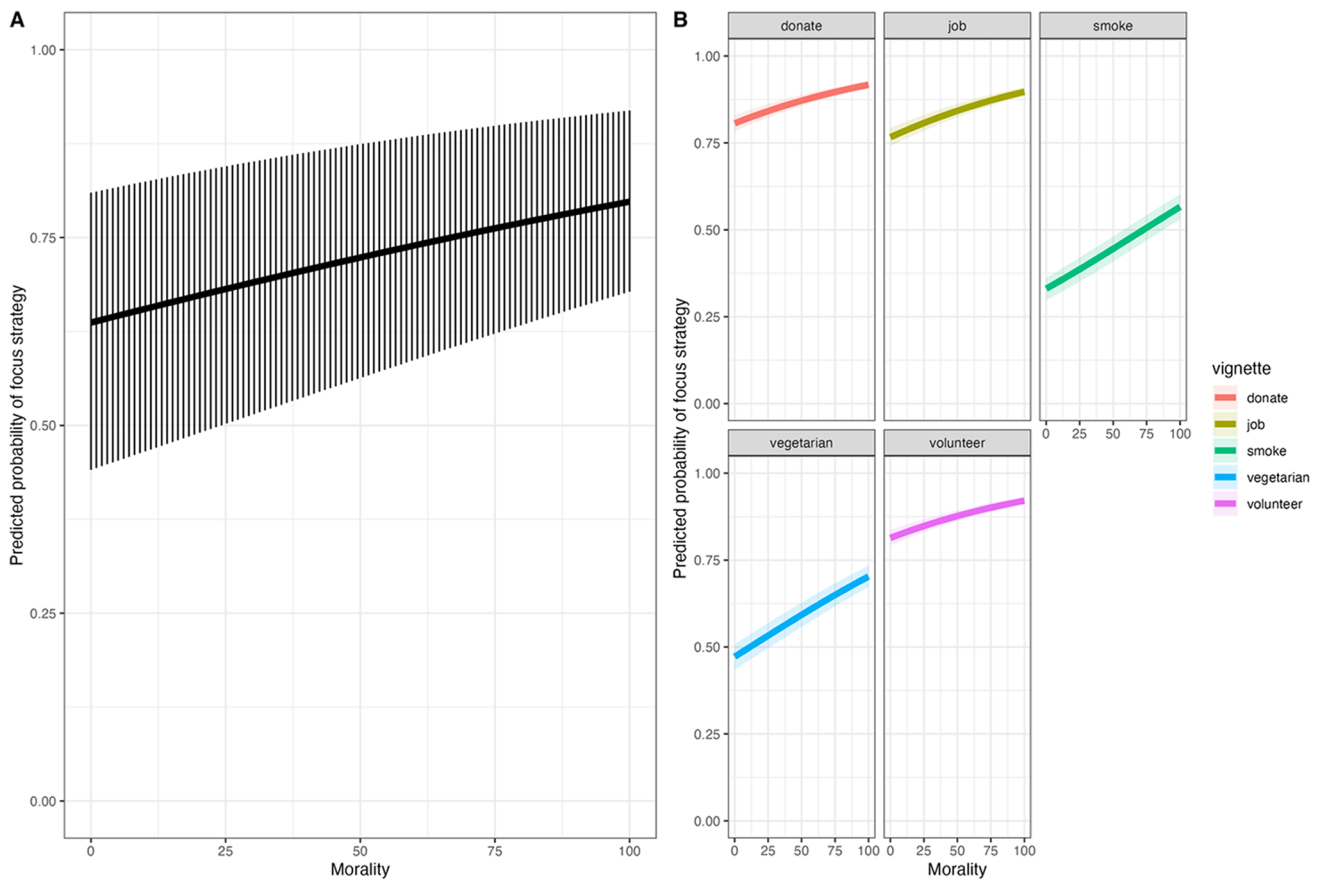
Fig. 3 **A** The predicted probability of selecting attentional focus strategies as perceived morality increases. Bars depict the range in which 50% of the predicted probabilities fall. **B** Predicted probabilities split across different vignettes. (Color figure online)

of identified regulation partly mediated the effect of morality on strategy selection (see Table 5).

Discussion

Experiment 3 provided evidence for both the *moralization hypothesis* and the *identified regulation hypothesis*: As the perceived morality of a commitment increased, participants were more likely to select attentional focus strategies rather than attentional distraction strategies for managing temptation. As people tended to attribute greater identified regulation to the individuals wanting to resist temptation, commitments were increasingly positively moralized.

General discussion

The process model of self-control identifies different strategies people can use to manage intrapsychic conflict. An important subset of these strategies requires deploying attention to manage the experience of temptation. Across

three experiments, we tested three hypotheses about how the moral valence of some commitment might modulate attentional strategy selection. In support of the *morality hypothesis*, we found that people tend to see focus strategies as significantly more effective for moral as compared with immoral commitments. In support of the *moralization hypothesis*, we found that as commitments are positively

Table 5 Causal mediation analysis results for Study 1

Effect	Estimate	95% CI		*p*
		Lower	Upper	
ACME[a]	0.01	0.008	0.02	< .001***
ADE[b]	0.03	0.008	0.06	.01**
Total Effect	0.05	0.02	0.07	< .001***
Prop. Mediated	0.31	0.16	0.66	< .001***

Sample size used = 1,140' simulations = 1,000. Signif. Codes: '****' < .001 '***' .001 '**' .01 '*' .05.

[a]Average causal mediation effect of morality on strategy selection mediated by attributions of identified regulation (a*b)

[b]Average direct effect of morality on strategy selection (c' path)

moralized, people are significantly more likely to select attentional focus strategies as most effective for managing temptation. Finally, in support of the *identified regulation hypothesis*, we found that the effect of morality on strategy selection is partly mediated by perceived differences in underlying motivation to uphold the commitment.

Positive moralization is associated with stronger attributions of identified regulation, a kind of extrinsic regulation where goal-directed behavior is motivated by a perceived congruence between personal values and goals (Deci & Ryan, 2012; Guay et al., 2000). This explains why positive moralization is associated with attentional focus. When pursuing a moral commitment, people presume that the commitment coheres with the individual's personal values. Our results suggest that people tend to think that focusing on these values is an effective way to mobilize regulatory processes in the face of temptation. However, this was a partial mediation, and other factors might also be relevant. Possible differences in the construal of the activity might incline people toward selecting different strategies (Fujita et al., 2006) and inducing deliberative mindsets might change how people reason about the effectiveness of different strategies (Wieber et al., 2014). Future research should examine other potential cognitive factors that influence strategy selection.

We identified an interaction between temptation strength and moral valence. As perceived temptation strength increased, people tended to consider focus strategies more effective to manage temptations related to immoral commitments. However, the reverse held for moral commitments: as perceived temptation increased, people tended to consider distract strategies as more effective. People might find nonattentional self-control strategies (e.g., situation modification, cognitive reappraisal) more effective as temptation strength increases. Because these options were not provided, participants might have picked randomly at higher levels of temptation. Including more strategy options could assess this possibility. Importantly, we found no evidence for an effect of temptation on strategy selection in Experiment 3, which suggests that the effect of temptation might not be robust. Future work should investigate further how perceived temptation alters self-control strategy selection.

These results indicate that moralization may inform decision-making processes related to self-control strategy selection. However, three limitations should be noted. First, given cultural variability underlying attitudes about morality (Henrich, 2020) and self-control (Wente et al., 2020), we might expect to find differences in how moralization influences self-control across cultural contexts. Second, strategy selection options were limited to simplify the experimental design. Third, participants rated the perceived effectiveness of a strategy for some third party rather than self-implementing a strategy. There might be important asymmetries between judging the effectiveness of some strategy for others and

implementing a particular strategy based on an assessment of its effectiveness. However, as mentioned earlier, research indicates that how people think about self-control influences how they exercise it in everyday life (Klinger et al., 2018). This suggests that if people judge strategies to be more effective for some situations, this provides some evidence about how they would make self-control decisions in everyday life.

More generally, these experiments indicate that people tend to think that focusing on the reasons for a commitment will be more effective for resisting temptation for morally good commitments but not morally bad commitments. Reflecting on why someone made a commitment, then, is more motivationally effective for morally good commitments (see Wieber et al., 2014). Of course, this perception might not be accurate, but understanding how morality influences decision-making can be important for crafting effective interventions to prevent self-control failure. This is particularly important if, as some research suggests, achieving the right strategy-situation fit is a skill critical for successful self-control exertion (Bermúdez, 2021; Bonanno & Burton, 2013; Wenzel et al., 2022). If the effect of commitment morality on strategy selection turns out not to help in achieving this fit, then people might risk self-control failure for those commitments they deem to be most important.

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