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The Present Projects Past Behavior into the Future while the Past Projects Attitudes into  
the Future: How Verb Tense Moderates Predictors of Drinking Intentions

(Main text: 2,915 words)

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## **Abstract**

Three studies examined how the use of the present versus the past tense in recalling a past experience influences behavioral intentions. Experiment 1 revealed a stronger influence of past behaviors on drinking intentions when participants self-reported an episode of excessive drinking using the present tense. Correspondingly, there was a stronger influence of attitudes towards excessive drinking when participants self-reported the episode in the past tense. Experiments 2 and 3 linked this effect to changes in construal level (Liberman, Trope, & Stephan, 2007; Trope & Liberman, 2003), with the present tense being similar to a concrete construal level and the past tense being similar to an abstract construal level.

*Keywords:* Verb tense; construal level; past behavior; attitude; behavioral intentions

The Present Projects Past Behavior into the Future while the Past Projects Attitudes into the Future: How Verb Tense Moderates Predictors of Drinking Intentions.

The intentions that drive human behavior are often constructed when people think about and communicate these intentions in a verbal way. Asking questions seems to elicit stronger intentions to perform a behavior in the future (Conner, Godin, Norman, & Sheeran, 2011; Senay, Albarracín, & Noguchi, 2010), as does using the imperfective aspect (e.g., *I was doing*) when describing past behaviors (Hart & Albarracín, 2009). Despite knowledge about the effects of question asking and verb aspect, there is a dearth of information about the role of verb tense in intention development. Using the present tense or the past tense in the recollection of a behavioral experience may have different effects on the intentions to perform that behavior in the future. Past research has shown that using the imperfective (vs. perfective) verb aspect to describe a prior behavior increases the tendency to perceive events as ongoing (Madden & Zwaan, 2003) and resume the action in the future, as well as the number of details included in behavioral descriptions (Hart & Albarracín, 2011). As the present tense describes an action that is ongoing (Liroz, 2010), the use of the present tense may impact intentions in a way similar to the imperfective verb aspect, with the present tense strengthening intentions to perform the same action in the future.

Regardless of the influence of verb tense on intention, verb tense may also alter the information that is used as a basis for forming behavioral intentions. Previous research has showed the important roles played by past behavior and attitude in predicting future behavior (Ajzen & Fishbein, 2000, 2005; Albarracín & Wyer, 2000), implying that either information type can guide future intentions. Given that past behavior and attitude differ in concreteness level, each may be more or less used

depending on whether the verb tense yields a more concrete or more abstract information processing style. This prediction stems from research that shows parallels between the effects of verb aspect and construal level on the level of detail in the mental representation of an event. On the one hand, there is research showing that the imperfective verb aspect (*I was doing*) leads to construing events as ongoing and visualized in a more detail way (Hart & Albarracin, 2011). As the present tense is also used to describe ongoing events, its use should similarly encourage more concrete, detailed representations than the perfective verb aspect and the past tense. On the other hand, construal level theory proposes that psychological (e.g., temporal or spatial) distance changes mental representation of events, with shorter distances promoting more detailed, concrete construal of events (Trope & Liberman, 2003); for similar predictions in the area of pronominal person use, see Libby, Eibach, & Gilovich (2005). Thus, these two lines of work jointly point to the possibility that the present tense will encourage more concrete construal of events than the past tense.

Part of the concrete construal that might take place relates to what information is used as a basis for behavioral intentions. Recollections of past behaviors, for instance, are by definition more concrete than a global evaluation of the desirability of the behavior. Therefore, using the present tense to describe a past event may lead to relying on the past frequency of that behavior, whereas using the past tense may lead to relying on the attitude towards that behavior. In fact, people are more likely to use their values (which are abstract) in forming behavioral intentions when they have an abstract mindset (distant future) (Eyal, Sagristano, Trope, Liberman, & Chaiken, 2009), suggesting that our predictions are plausible.

In Experiment 1, we test if the present (vs. past) tense could directly strengthen the intention to drink in the future, and/or stimulate a concrete mindset in which past

behavior would influence intentions more while attitudes influence intentions less. Experiment 2 replicates this effect manipulating directly concrete and abstract mindsets. Finally, Experiment 3 crossing mindset with verb tense tests if the effects of the present tense should resemble the effects of the concrete mindset, whereas the effects of the past tense should resemble the effects of the abstract mindset.

### **Experiment 1**

The first experiment examined whether describing past behavior using the present or the past tense exerted direct influences on intentions and/or moderated the influence of past behavior and attitude on behavioral intention.

### **Method**

#### *Participants*

Sixty-six psychology students (average age of 22 years,  $SD = 2.09$ ) participated in this study. Thirty-three students (29 females) were randomly assigned to describe a past episode of excessive drinking in the simple present (present-tense condition) and the other half (30 females) to describe the episode in the simple past (past-tense condition). Participants were informed about the definition of excessive drinking following that of the National Institute on Alcohol Abuse and Alcoholism's (2003): for males it is 5 or more drinks, and for females it is 4 or more drinks in a row.

#### *Procedure and Measures*

Participants first reported their past behavior by describing "how frequently they drank alcohol" (ranging from 1 *never* to 7 *very frequently*). Participants then reported their attitude towards excessive drinking by rating how *bad*, *negative*, *good*, and *positive* excessive drinking was on scales from 1 (*not at all*) to 7 (*very much*)

(Crombach's  $\alpha = .74$ ). Then, participants were asked to describe a personal past episode in which they drank alcohol excessively using the simple present (i.e. *historical present*) or the simple past (see Appendix). The historical present, also called dramatic or narrative present, is used to emphasize /relive a past event (e.g. Colon discovers America in 1492) and is commonly employed in biographies, bulletins (Language Notes, BBC World Service), and novels (see e.g., Brinton, 1992). To ensure that the use of the present and past did not differ in difficulty, we asked a group of participants to write about the episodes using the present or past tense ( $N$  present = 26 and  $N$  past = 29) and then asked them to judge (on bipolar scales from 1 to 7) how difficult/easy, interesting/boring, pleasant/unpleasant and simple/complex writing was. These preliminary data showed that the present or past tense conditions did not differ on any of these dimensions (all  $F$ s < 1.42).

After this task participants reported the extent to which they intended and planned ( $r = .88$ ) to drink alcohol excessively in the next weeks using scales 1 (*not at all*) to 7 (*very much*). To verify that participants followed directions, they also rated the extent to which the reported experience represented excessive drinking from 1 (*not at all*) to 7 (extremely). Moreover, because the time frame of the episode could have influenced the recalled details, we also asked participants to indicate when the excessive drinking episode took place from 1 (*less than two weeks ago*) to 6 (*more than one year ago*).

## Results

We predicted that verb tense could influence the strength of intentions and/or the relative weight of past behavior and attitude in predicting intentions. Mean comparisons revealed that participants reported similar past behavior and attitude regardless of condition<sup>1</sup>. There were also no differences in categorization of reported personal

experiences as binge drinking and timing of the experience ( $F_s < 1.54$ ). Moreover, participants reported similar levels of intention to drink excessively in the next few weeks ( $M = 2.42, SD = 1.54$  vs.  $M = 2.06, SD = 1.29$ ;  $F(1, 64) = 1.07, ns$ , present vs. past conditions respectively), thus indicating that intention strength was not directly affected by verb tense.<sup>2</sup>

Next, intention was regressed onto past behavior, attitude towards excessive drinking, verb tense, the interaction between verb tense and attitude, the interaction between verb tense and past behavior, the interaction between attitude and past behavior, and the triple interaction among verb tense, attitude, and past behavior. This model (adjusted  $R^2 = .28$   $F(7, 58) = 4.63, p < .001$ ) revealed significant interactions between verb tense and attitude ( $\beta = 0.26, p = .03$ ) and between verb tense and past behavior ( $\beta = -0.22, p = .05$ ). When decomposed, these interactions revealed that past behavior predicted intentions more strongly in the present than the past, whereas attitude predicted intentions more strongly in the past than the present (see Table 1). The independent effect of past behavior was also significant, suggesting that, across conditions, those with more frequent past drinking intended to drink more in the future ( $\beta = 0.38, p < .001$ ). There were no other significant main effects or interactions.

## Experiment 2

If the influence of verbal tense on intentions is due to differences in abstractness, directly manipulating construal level should produce similar differences in the weight of past behavior and attitude. Construal level was manipulated by a priming manipulation developed by Freitas, Gollwitzer, and Trope (2004) and asking participants to consider either *how* they drank excessively (concrete condition) or *why* they drank excessively (abstract condition).

## Method

## *Participants*

Sixty-two psychology students (average age of 20.3 years,  $SD = 3.8$ ) participated in this study. Thirty-one students (24 females) were randomly assigned to describe *how they had drunk excessively* on a past occasion (concrete condition) and the other half (26 females) were asked to describe *why they had drunk excessively* on a past occasion (abstract condition). All of participants had experience with excessive drinking and categorized the described experience as excessive.

## *Procedure and Measures*

Participants reported their past excessive drinking by indicating *how frequently and how commonly* they drank alcohol ( $r = .74, p < .001$ ). The attitude measure used in this study included six dimensions (*positive, good, pleasant* and recoded *negative, bad, unpleasant*), which were averaged into an overall index (Crombach's  $\alpha = .65$ )<sup>3</sup>.

Concrete vs. abstract mindset was manipulated using two procedures (see Appendix). First, we introduced a priming manipulation developed by Freitas, Gollwitzer, and Trope (2004). Second, participants described a past experience with excessive drinking while also focusing on either *how* or *why* the drinking transpired. At the end of the study, we obtained a measure of intentions to drink excessively in the next weeks (Crombach's  $\alpha = .87$ ), categorization of the experience as excessive drinking, and timing of the experience. These measures were identical to the ones used in Experiment 1.

## **Results**

As in Experiment 1, mean comparisons revealed similar categorization of the reported episode as excessive drinking, timing of the experience and intentions to drink excessively in the next few weeks across the concrete and abstract mindset conditions

(all  $F$ s < 1.79). These results again indicated that the intention strength was not directly affected by construal level.

Similar to Experiment 1, intention was then regressed on past excessive drinking, attitude towards excessive drinking, construal level, the interaction between construal level and past behavior, the interaction between construal level and attitude, the interaction between past behavior and attitude, and the triple interaction. This model (adjusted  $R^2 = .34$ ,  $F(7, 54) = 5.58$ ,  $p < .001$ ) showed significant interactions between construal level and past excessive drinking ( $\beta = 0.29$ ,  $p < .01$ ) and between construal level and attitude ( $\beta = -0.36$ ,  $p < .01$ ). The main effects of past behavior ( $\beta = 0.33$ ,  $p < .01$ ) and attitude ( $\beta = 0.26$ ,  $p < .01$ ) were also significant. As shown in Table 2, past behavior predicted intentions more strongly when participants described a personal episode concretely (vs. abstractly), but attitudes predicted intentions more strongly when participants described a personal episode abstractly (vs. concretely). Thus, these findings supported the notion that, in Experiment 1, the present tense could have induced a concrete mindset whereas the past tense could have induced an abstract mindset. These verb-tense induced mindsets could in turn explain our effects.

### **Experiment 3**

Experiments 1 and 2 showed that people are more likely to use past behavior as a basis for intentions when they use the present tense or are in a concrete mindset while recalling a past experience. Correspondingly, they are more likely to use their attitudes as a basis for intentions when they use the past tense or are in an abstract mindset.

Although these findings suggest similarities between the influence of verb tense and construal level, they offer little confirmation that the effects of verb tense are actually related to construal level. Thus, Experiment 3 examined if construal level could account for the effects of verb tense in a more direct way by crossing the two factors (present vs.

past tense and low, control, and high construal levels; for a similar reasoning, see Eyal et al., 2009). We predicted that the effects of verb tense would remain the same in control conditions in which construal level was allowed to vary freely. In addition, we predicted similarities between the present tense/control construal condition and the concrete construal conditions, and between the past tense/control construal condition and the abstract construal conditions.

## **Method**

### *Participants*

Participants were 153 psychology students (125 females) from the Autónoma University of Madrid, who were randomly assigned to one of the two verbal tense conditions and to one of the three construal level conditions. All participants (average age of 18.8,  $SD = 1.29$ ) had personal experience with excessive drinking.

### *Procedure and Measures*

Participants answered the same questions used in Experiment 2, with similar internal consistency in the measures of past behavior ( $r = .75$ ), attitudes (Crombach's  $\alpha = .83$ ), and intentions (Crombach's  $\alpha = .75$ ). We used the same task as in Experiment 2 to induce construal level, adding the instruction to write about a personal excessive drinking situation using either the present or the past tense (as in Experiment 1). The control group only received instructions about the verbal tense without any task related to construal level. Finally, we also included the same control items used in previous experiments.

## **Results**

As in the prior experiments, there were no differences in drinking intentions, attitudes, past drinking behavior, perceiving the behavior as binge drinking, or timing of the experience (all  $F_s < 3.05$ ).

We carried out a multiple regression analysis to examine whether the influence of past behavior and attitudes on intentions differed across conditions with a concrete style or using the present tense in control conditions vs. an abstract style or using the past tense in control conditions<sup>4</sup>. To test this particular pattern, we created an indicator variable which was dummy coded (1 = abstract level, 0 = concrete level) to contrast these two sets of conditions and regressed intentions on past behavior, attitudes, the indicator variable, the double interactions and the triple interaction (all predictors and their interactions were simultaneously included). As predicted past behavior and attitudes have different associations with intentions across these conditions, two interaction terms were significant (for indicator variable and past behavior:  $\beta = 0.25, p < .001$ ; indicator variable and attitudes:  $\beta = -0.24, p < .001$ ). As shown in the top panel of Table 3, the attitude-intention association in the past tense/control mindset condition was similar to the associations in past tense/abstract condition. Furthermore, as shown in the bottom panel of Table 3, the associations between past behavior and intentions were similar when conditions were concrete regardless of verb tense and when the present tense was used in control mindset condition. Overall then, these findings supported the interpretation that verb tense altered construal level such that a present tense induces concrete processing unless an abstract construal level is deliberately introduced, whereas a past tense induces abstract processing unless a concrete construal level is deliberately introduced<sup>5</sup>.

### **General Discussion**

We began asking how the verb tense (present vs. past) in which people think and communicate about their behavior influences their behavioral intentions and the type of information (past behavior vs. attitude) on which intentions are based. In the series of experiments presented, we offered a first response to these questions. Our results

showed that verb tense had no direct influence on intentions but did affect the type of information used *as a basis* of behavioral intentions. Experiment 1 indicated that verb tense moderated the influence of past behavior and attitude on behavioral intentions. When participants described a past episode using the present tense, they consistently used the more concrete past behavior as a basis for their intentions. In contrast, when participants described a past episode using the past tense, they consistently used the more abstract attitude as a basis for their intentions. Experiment 2 replicated these results while directly manipulating construal level, showing past behavior predicts intentions more strongly in concrete than abstract construal conditions whereas that attitudes predict intentions more strongly in abstract than concrete construal conditions. Experiment 3 replicated the effect of construal level and showed that a decreased influence of verb tense when construal level is induced directly but a replication of the verb tense effects when construal level is not manipulated (i.e., control construal condition). Of note, however, the mindset and verb tense manipulations were not randomized, thus suggesting that the first manipulated factor of construal (construal level) could have taken precedence. Nonetheless, this possibility does not change the meaningful and predicted pattern of differences in the pattern of interaction between construal level and verb tense. All in all, our results help to understand the effects of verb tense on intention formation and also show that construal level is influenced by subtle changes in language (Liberman et al., 2007; Trope & Liberman, 2003).

Although our results are consistent across studies, future research is required to replicate our findings of the influence of verb tense in other behavioral domains, including behaviors associated to less negative or clearly positive consequences. Future research may also analyze verbal descriptions using lexical categorization procedures (e.g. Semin & Fiedler, 1991) to better characterize the influence of verb tense.

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Table 1

*Regression coefficients linking behavioral intention with attitude and past behavior*

*(Experiment 1)*

	Present Tense	Past Tense
Attitude	-0.13	0.53***
Past Behavior	0.52**	0.24

\*\*  $p < .01$ . \*\*\*  $p < .001$ .

Table 2

*Regression coefficients linking behavioral intention with attitude and past behavior*

*(Experiment 2)*

	Concrete Level	Abstract Level
Attitude	-0.09	0.67***
Past Behavior	0.63***	0.05

\*\*\*  $p < .001$ .

Table 3

*Regression coefficients linking behavioral intention with attitude and past behavior  
(Experiment 3)*

		Construal		
	Verb tense	Abstract	Concrete	Control
Attitude	Present	0.39	0.07	0.05
	Past	0.71 ***	0.12	0.76***
Past behavior	Present	0.03	0.64 **	0.43 **
	Past	0.29	0.72***	0.16

\*\* $p < .01$ . \*\*\* $p < .001$ .

## Appendix

### *Instructions in Experiment 1.*

Participants were informed that the specific verbal tense (present or past) had been selected to facilitate the use of a linguistic computer program to code the open answers. To make sure that participants understood the task, they received some examples of sentences such as *I arrive* vs. *I arrived*, *they tell* vs. *they told*, *my friend eats* vs. *my friend ate*. Participants were then provided with a space of fifteen lines to describe their experiences. Checks indicated that the participants complied with our experimental instructions.

### *Instructions in Experiment 2.*

In the priming manipulation developed by Freitas, Gollwitzer, and Trope (2004), participants were asked to complete a set of questions about the topic of improving and maintaining good health. Specifically, they were asked to write four sentences related to *improving and maintaining good health* by answering either *how* to achieve that goal (concrete mindset condition) or *why* they wanted to achieve it (abstract mindset condition). After completing this priming task, participants described a past experience with excessive drinking while also focusing on either *how* or *why* the drinking transpired. For the described episode about excessive drinking, participants in the concrete construal level conditions reported *how they drank*, *where they drank*, *when they drank*, and *with whom they drank*. Participants in the abstract construal level condition reported *why they had done it*, *for what reasons*, *with what goals in mind*, and *for which motives*. Verb tense was not manipulated in this study.

## Footnotes

<sup>1</sup>As stated in the text, we also tested whether past behavior and attitude toward excessive drinking differed between the present and past conditions before reporting the drinking episode. We found no such differences (for past behavior,  $M_{present} = 3.54$ ,  $SD = 1.27$  vs.  $M_{past} = 3.24$ ,  $SD = 1.50$ ;  $F(1, 64) = .78$ , *ns*; for attitude,  $M_{present} = 2.70$ ,  $SD = 1.20$  vs.  $M_{past} = 2.15$ ,  $SD = 1.15$ ;  $F(1, 64) = 3.66$ ,  $p = .06$ ). The correlation between attitude and past behavior was  $r = .24$ .

<sup>2</sup>As a manipulation check of the effect of verb tense on the level of detail of the described episodes, two coders blind to experimental condition (intercoder agreement  $r(64) = .76$ ,  $p < .001$ ) rated each text using a scale ranging from 1 (*very low vividness and detail*) to 3 (*highly vivid and detailed*). Results showed that the episodes participants wrote were more vivid and detailed when they were written in the present tense than in the past tense ( $M_{present} = 2.4$ ,  $SD = 0.60$  vs.  $M_{past} = 1.9$ ,  $SD = 0.76$ ;  $F(1, 64) = 8.1$ ,  $p < .01$ ,  $\eta^2 = .11$ ). This check indicated that verb tense affected construal level.

<sup>3</sup>Past behavior did not differ across concrete and abstract conditions ( $M_{concrete} = 3.67$ ,  $SD = 1.02$  and  $M_{abstract} = 3.45$ ,  $SD = 1.12$ ,  $F(1, 60) = 0.68$ , *ns*). Attitude also did not differ across concrete and abstract conditions ( $M_{concrete} = 3.06$ ,  $SD = 1.61$  vs.  $M_{abstract} = 2.68$ ,  $SD = 1.37$ ,  $F(1, 60) = 1.03$ , *ns*). The correlation between attitude and past behavior was  $r = .18$ .

<sup>4</sup>Past behavior in conditions of concrete construal style or present tense/control construal condition did not differ from abstract style conditions or past tense/control construal conditions ( $M_{concrete\ or\ present} = 3.40$ ,  $SD = 1.05$  vs.  $M_{abstract\ or\ past} = 3.58$ ,  $SD = 0.98$ , ( $F(1, 152) = 1.31$ , *ns*). Attitudes also were similar in both groups of

conditions ( $M$  concrete or present = 2.35,  $SD$  = 1.14 vs.  $M$  abstract or past = 2.66,  $SD$  = 0.98, ( $F$  (1, 152) = 1.03,  $ns$ ). The correlation between attitude and past behavior was  $r$  = .17.

<sup>5</sup>There was no significant difference between the attitude/intention correlation in the present tense/abstract level condition and the past tense/abstract level condition ( $z$  = 1.44,  $p$  = .074 one-tailed). Therefore, these findings suggest that the pattern of correlations strongly conformed to predictions.