Research Article

What I Was Doing Versus What I Did

Verb Aspect Influences Memory and Future Actions

William Hart[1] and Dolores Albarracín[2]

[1]University of Florida and [2]University of Illinois at Urbana-Champaign

ABSTRACT—*This research examined whether describing past actions as ongoing using the imperfective aspect (rather than describing them as completed using the perfective aspect) promotes memory for action-relevant knowledge and reenactment of these actions in a future context. In Experiment 1, participants who used the imperfective aspect to describe their strategy on a prior interpersonal task were more likely to use this strategy on a later task than were participants who used the perfective aspect to describe their prior strategy. Experiment 2 demonstrated that describing behaviors on a task using the imperfective rather than the perfective aspect increased willingness to resume that task by improving memory for task contents. The last two experiments showed that the effects of the imperfective aspect on memory decayed over time and that the imperfective aspect facilitated performance of a future behavior only when the described past behavior was relevant to the future behavior. Thus, the effects of aspect are moderated by memory decay and are behavior-specific.*

Many areas of psychology have examined how thoughts and reports of past events affect human well-being and behavior. Some thoughts improve self-efficacy and well-being (Bandura, 1997; Frattaroli, 2006; Pennebaker & Seagal, 1999), whereas others produce maladaptive behavior and depression (Beck, 1995; Ellis, 1995). Thoughts about past behaviors also influence the likelihood of reenacting those behaviors. In fact, merely believing that one engaged in a behavior increases one's liking for it and willingness to repeat it (Albarracín & Wyer, 2000). Moreover, thoughts and behaviors are so intertwined that bodily postures often affect the way people analyze and understand information (Clark, 1998; Zwaan, 1999). Given the influence of people's thoughts about their behavior, it is critical to understand how the *form* of these thoughts alters future behavior. In particular, the verb used to describe a past action may affect memory for the action and influence future behavior in far-reaching ways.

The research reported in this article tested whether the verb used in self-descriptions of past behaviors influences future behavior. Specifically, we investigated the possible effects of marking verbs with the imperfective or perfective verb aspect. The *imperfective* aspect ("I *was walking*") represents a past action as ongoing, whereas the *perfective* aspect ("I *walked*") represents a past action as completed (Comrie, 1976; Madden & Zwaan, 2003; Morrow, 1990).[1] Although at first sight the distinction might seem relatively inconsequential, we propose that the choice of aspect can influence memories of a described behavior, as well as the likelihood of reenacting that behavior at a later time. This hypothesis is based on prior findings from the areas of psycholinguistics, social psychology, and cognitive psychology.

Past research on narrative comprehension has provided insights on how the choice of verb aspect affects memory for the behaviors and objects associated with a described event. In one study (Magliano & Schleich, 2000), participants read a target verb phrase that was conveyed using either the imperfective or the perfective aspect (e.g., "Betty *was delivering/delivered their first child*"). The speed for recognizing verb phrases (e.g., *deliver child*) as previously read was greater in the imperfective than in the perfective condition. Other relevant research found that behavioral descriptions marked with the imperfective, rather than the perfective, increased the retrieval of related knowledge. For example, objects associated with a previously described

Address correspondence to Will Hart, Department of Psychology, University of Florida, Gainesville, FL 32611, e-mail: willhart@ufl.edu, or to Dolores Albarracín, Department of Psychology, University of Illinois at Urbana-Champaign, 603 E. Daniel St., Champaign, IL 61820, e-mail: dalbarra@uiuc.edu.

---

[1]Note that perfective aspect is conceptually distinct from the *perfect* (see Comrie, 1976), which some linguists consider a tense, rather than an aspect. The perfect tense is formed by *to have* plus the past participle, and the *imperfect* tense is marked with a past tense and an imperfective aspect (e.g., progressive: "I *was walking*"; habitual: "I *used to walk*").

behavior (e.g., *hammer* in the case of *pound*) were recognized more quickly when the behavior was described in the imperfective than in the perfective aspect (e.g., "He *was pounding/pounded* the nails"; Truitt & Zwaan, 1998, as cited in Zwaan & Radvansky, 1998).

Although past research has revealed how aspect influences narrative comprehension processes, there is, surprisingly, no research on how the aspect applied to verbs in self-descriptions influences memory and behavior. Verb aspect in self-descriptions of past action might affect behavior by influencing memory for action-relevant knowledge, which can be defined as knowledge of the perceptual (e.g., objects in the visual field), introspective (e.g., intentions and cognitive operations), and bodily states (e.g., movement) encoded during a behavioral experience (Barsalou, 2008). Specifically, aspect may influence memory for action-relevant knowledge by signaling that an action will or will not be continued in the future (Garrod & Sanford, 1990; Givón, 1992; Zwaan & Radvansky, 1998). Compared with the perfective aspect, the imperfective aspect may increase the likelihood of retrieving action-relevant knowledge in preparation for ongoing action. As action-relevant knowledge presumably links to the introspective states registered during the action, retrieving more action-relevant knowledge should enhance retrieval of the intentions and behaviors (cognitive and motor) encoded during the experience. Because intentions and behaviors activated in one context can transfer to a new context, the imperfective should also facilitate performing the action again in a new context (Schooler, 2002).

We conducted four experiments that examined whether describing one's own past actions using the imperfective, rather than the perfective, aspect improves memory for action-relevant knowledge (Experiments 2 and 3) and increases tendencies to repeat the actions in a new task (Experiments 1, 2, and 4). In each experiment, participants performed an initial activity (e.g., an anagram task) and then provided self-descriptions of their behaviors using the imperfective or perfective aspect. Next, participants completed assessments of memory for action-relevant knowledge or of tendencies to perform the same actions in a new task. The specific procedures and dependent measures varied over the four experiments.

Although aspect may influence behavior by directly affecting memory for action-relevant knowledge (Zwaan & Radvansky, 1998), other processes are also plausible. In particular, perceiving ongoing (vs. completed) action might activate a goal to complete the action, and this goal might in turn improve memory for action-relevant knowledge (Zeigarnik, 1967). However, one quality of a goal is that its increasing tension enhances the accessibility of knowledge necessary to fulfill the goal until the goal is satisfied (Zeigarnik, 1967). If the effects of aspect on memory are goal mediated, memory for action-relevant knowledge (e.g., procedures to sort and rearrange in the case of an anagram task) should increase over a delay that precludes relevant action (i.e., solving anagrams; Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001). Conversely, if the effects

of aspect on memory are not goal mediated, memory for action-relevant knowledge should decrease over a delay that prevents relevant action (knowledge decays from memory over time; Bargh et al., 2001). To examine these possibilities, we asked participants in Experiment 3 to describe their behaviors on an initial anagram task using either the imperfective or the perfective aspect. A delay between these descriptions and the dependent measure (a lexical decision task, LDT) allowed us to determine if the effects of aspects on memory decrease or increase over time.

Finally, Experiment 4 examined whether aspect affects specific tendencies to reenact a prior action, rather than general action tendencies (e.g., a general tendency to move; Albarracín et al., 2008). For example, by implying the need to sustain action, the imperfective aspect may incidentally enhance the accessibility of general action tendencies that can increase any cognitive output, including recognition and task resumption. This idea is plausible given recent evidence that exposure to words synonymous with *action* (vs. *inaction*) increased performance on a variety of cognitive tasks (Albarracín et al., 2008). According to this possibility, using the imperfective aspect to describe any action should improve performance on any subsequent task. If, however, aspect influences memory for specific action-relevant knowledge, using the imperfective aspect to describe a prior action should enhance performance on a subsequent task only when the prior action facilitates performing the task (i.e., transfer-appropriate processing; Schooler, 2002). Using the imperfective aspect to describe a prior action should not enhance (and may even impair) performance on a future task when the prior action is irrelevant to performing the upcoming task (i.e., transfer-inappropriate processing). We explored these possibilities by manipulating aspect and the relevance of the described behaviors to a subsequent task.

EXPERIMENT 1: REENACTING A PAST BEHAVIOR

Experiment 1 examined whether using the imperfective, rather than the perfective, aspect to describe prior avoidance of the African American stereotype (a cognitive action) would yield less stereotype use on a later task. Fifty-six introductory-psychology students were asked to write a nonstereotypic portrayal of an African American male's typical day under the guise that we were collecting data on people's descriptions of other people. Next, participants were told that we were collecting written responses for use in a later study. Participants were randomly assigned to describe their behavior on the prior task in terms of what they *did* (perfective aspect) or what they *were doing* (imperfective aspect); the instructions explained that responses in a consistent format are easier to sort and code. A short tutorial screen provided examples of each aspect (e.g., "Lisa *was tying* vs. *tied* her shoes") to clearly indicate which one was appropriate and which one was inappropriate. After participants indicated that they understood

the instructions, they proceeded to enter six separate sentences into the computer.

Subsequently, as part of an ostensibly unrelated study, participants judged an ambiguous target person on a characteristic that is stereotypic of African American people (Devine, 1989). Specifically, participants read about the ambiguously hostile behaviors of a man (Donald) and then rated how hostile he was (filler items were included to mask the purpose study) on a scale from 1 (*not at all*) to 10 (*extremely*; Srull & Wyer, 1979). As the African American stereotype generally causes ambiguously hostile behaviors to be viewed as more hostile (Duncan, 1976), the conventional assumption (Devine, 1989; Liberman & Förster, 2000) is that lower hostility ratings in this paradigm imply reduced activation and use of the African American stereotype. Finally, all participants were probed for awareness and debriefed.[2]

If descriptions in the imperfective reinstate a past behavior more effectively than descriptions in the perfective, then participants who used the imperfective to describe the cognitive behavior of avoiding the African American stereotype, compared with those who used the perfective, should have used the contents of the stereotype less as a basis for processing a subsequent task. As a result, participants in the imperfective condition should have viewed the target as less hostile. To maintain experimental validity in our analysis, we eliminated participants who failed to follow the verb-aspect instructions, write complete phrases, or write what was requested. This decision led to eliminating 5 participants (9% of the sample, 3 from the imperfective condition). As expected, hostility ratings were lower in the imperfective condition than in the perfective condition ($M = 7.10$, $SE = 0.28$, vs. $M = 8.00$, $SE = 0.33$), $F(1, 49) = 4.30$, $p = .04$, $g = 0.57$. Thus, this experiment supports the hypothesis that describing a past action (in this case, avoiding a stereotype) with the imperfective enhances the tendency to continue the action.

EXPERIMENT 2: REMEMBERING AND RESUMING A BEHAVIOR

In light of evidence that the imperfective aspect yields greater behavioral reenactment than the perfective aspect, we examined whether such effects are mediated by enhanced memory for action-relevant knowledge. Forty-one introductory-psychology students were interrupted 2 min into an anagram task, ostensibly because of time constraints. Next, participants were randomly assigned to describe their behaviors during the anagram task using the imperfective or perfective aspect (for a description of the instructions, see Experiment 1). Then, participants were asked to indicate whether they would like to resume the anagram task if there was time remaining in the session (by clicking on a

box labeled "Yes" or "No" on the computer screen). Finally, participants completed our assessment of memory for action-relevant knowledge. Specifically, they were shown 30 anagrams (15 from the initial task and 15 that were previously unseen) sequentially on the computer screen and indicated whether each was or was not on the earlier anagram task by clicking on a box labeled "Yes" or "No." A recognition score was computed by summing the number of correct rejections and hits and dividing the total by 30. Hence, recognition scores could range from 0 to 1, with higher scores representing better memory for the prior anagrams.

We predicted that behavioral descriptions marked with the imperfective, rather than the perfective, aspect would increase willingness to return to the anagrams later in the session and that this effect would be mediated by the recognition score (memory for action-relevant knowledge). Four participants (10% of the sample, 2 from the imperfective condition) were omitted from analyses because they failed to follow the instructions correctly (see Experiment 1). Deleting these participants did not alter the pattern of cell means. As anticipated, participants in the imperfective condition were more willing to resume the anagram task than were participants in the perfective condition (70% vs. 35%), $\chi^2(1, N = 37) = 4.46$, $p = .04$, $g = 0.81$. Also as expected, memory for the anagrams was better in the imperfective than in the perfective condition ($M = .84$, $SE = .02$, vs. $M = .77$, $SE = .02$), $F(1, 35) = 5.57$, $p = .02$, $g = 0.79$. To assess mediation, we estimated the standard deviation of the indirect effect of aspect, via the recognition score, on task resumption for 5,000 bootstrapped samples (Preacher & Hayes, 2004). The indirect effect was estimated to lie between 0.01 and 0.32 with 95% confidence ($b = 0.14$, $SE = 0.08$). Because zero is not in this interval, these data suggest that effects of aspect on task resumption were mediated by the recognition score. Thus, aspect influenced resumption of an interrupted behavior by influencing memory for action-relevant knowledge (as indexed by anagram recognition).

EXPERIMENT 3: THE GOAL-MEDIATION ALTERNATIVE

The imperfective aspect might directly improve memory for action-relevant knowledge by signaling whether an action is ongoing or completed or by indirectly activating a goal to fulfill the action (e.g., Zeigarnik, 1967). If the enhanced memory for action-relevant knowledge is goal mediated, then action-relevant knowledge should become more accessible over time (as goal tension builds). If the enhanced memory for action-relevant knowledge is not goal mediated, then action-relevant knowledge should decay over time. To examine these possibilities, we asked 160 introductory-psychology students to complete an LDT that directly measured memory for action-relevant knowledge. Participants completed an anagram task and then described their

---

[2]Debriefing highlighted the experiment's purpose and the existence of deception. No participant in any of the four studies we report here indicated awareness of the experiment's purpose, so we do not discuss this issue further.

behavior using either the imperfective or the perfective aspect (see Experiment 1). Subsequently, each participant completed an LDT either before or after performing a 5-min filler task that was unrelated to the anagrams (i.e., drawing a family tree). When performed before the LDT, the filler task introduced a delay between the manipulation of aspect and the LDT, and this delay could either strengthen or weaken the effect of aspect on memory (goal mediation vs. no goal mediation; e.g., Bargh et al., 2001).

The LDT was introduced with the explanation that word recognition speed may influence anagram performance and therefore had to be accounted for in our analyses. Each trial of this task began with a fixation point (+) that remained on the screen for 2 s and was followed by either a word or a nonword. Across the 20 trials, 5 target words (*anagram*, *rearrange*, *sort*, *letter*, *assemble*), 5 control words (*keyboard*, *computer*, *key*, *spacebar*, *screen*), and 10 nonwords were presented in random order. Participants indicated whether each letter string formed a word or nonword by pressing a designated key. We took the natural log of the individual response latencies to target words on correct trials and then added these values to create a single score (see Shah, 2003). Although these transformed scores were used in our analyses, for presentational purposes we report the untransformed scores. Latencies for incorrect lexical decisions were not analyzed (see Bargh, Chaiken, Govender, & Pratto, 1992). The error rate did not differ systematically across conditions ($M = 2.1\%$).

Twelve participants (8% of the sample, 7 from the imperfective condition) were omitted from analyses because they did not follow instructions correctly. Deleting these participants did not alter the pattern of cell means. We conducted an analysis of covariance with delay and aspect as the two independent variables, response latency for target words as the dependent variable, and response latency for control words as a covariate. As anticipated, a main effect of aspect indicated that latencies were shorter in the imperfective than in the perfective condition, $F(1, 143) = 4.87, p = .03, g = 0.36$. This finding is conceptually similar to the finding of enhanced memory for action-relevant knowledge in the imperfective condition of Experiment 2. In addition, there was a marginally significant main effect of delay, reflecting somewhat shorter latencies in the no-delay than in the delay condition, $F(1, 143) = 3.16, p = .08, g = 0.29$. However, these effects were qualified by a significant interaction between aspect and delay, $F(1, 143) = 5.33, p = .02, \eta^2 = .036$. As Table 1 shows, delay had no effect in the perfective condition, $t(143) = 0.39, p = .70, g = -0.08,$[3] but increased latencies in the imperfective condition, $t(143) = 2.82, p = .005, g = 0.67$. This result is consistent with the hypothesis that aspect has direct,

[3]The finding that delay had no effect on latencies in the perfective condition might suggest that memories decayed quickly in this condition, perhaps reaching a baseline level of activation even before our initial measurement. Indeed, past research has shown that behavioral knowledge encoded in the perfective is quickly forgotten (i.e., within seconds; Magliano & Schleich, 2000).

TABLE 1

Adjusted Mean Reaction Times (in Milliseconds) for Anagram-Related Words in the Lexical Decision Task in Experiment 3

Aspect condition	No delay	Delay	Difference
Imperfective	612.89 (15.94)	677.11 (15.04)	−64.22*
Perfective	683.13 (15.55)	675.48 (16.03)	7.65
Difference	−70.24*	1.63	

Note. Standard errors are given in parentheses. Significance was established by means of statistical contrasts.
*$p < .05$.

rather than goal-mediated, effects on memory. Note that in the no-delay condition, lexical decision latencies were shorter in the imperfective condition than in the perfective condition, $t(143) = 3.15, p = .002, g = 0.75$; in the delay condition, aspect condition did not have a significant effect on latencies, $t(143) = 0.17, p = .87, g = -0.02$.

EXPERIMENT 4: THE GENERAL-ACTION ALTERNATIVE

We hypothesize that aspect directly influences memory for the action-relevant knowledge that is retrieved upon using a verb to describe an action. An alternative possibility, however, is that aspect elicits general action tendencies by implying either the need to continue or the need to stop any action (Albarracín et al., 2008). Such general action tendencies can influence the amount of cognitive activity and in turn affect the retrieval and application of recently accessible knowledge irrespective of the type of knowledge in question. If aspect controls the amount of cognitive activity in this fashion, then using the imperfective aspect to describe any action should enhance performance on any subsequent task. Conversely, if aspect influences memory for specific action-relevant knowledge that transfers to a subsequent task, then the imperfective aspect should enhance performance when this action-relevant knowledge is appropriate for processing the subsequent task, but may have no effect (or may hinder) performance when this knowledge is not relevant to processing the subsequent task.

We conducted Experiment 4 to examine the possibility that the imperfective aspect enhances cognitive activity, as opposed to memory for specific action-relevant knowledge. The procedures were similar to those in Experiments 2 and 3, but with a few changes. After solving anagrams, 159 introductory-psychology students were randomly assigned to one of four conditions in which they viewed eight behavioral descriptions. These conditions were created by crossing two factors: relevance of the descriptions to an upcoming anagram task (relevant or irrelevant) and aspect used in the descriptions (imperfective or perfective). For the relevant behavioral descriptions, we selected the most typical self-generated responses in Experiments 2 and 3. For

TABLE 2

Mean Number of Anagrams Solved as a Function of Aspect and Relevance of the Behavioral Descriptions in Experiment 4

Aspect	Relevant	Irrelevant	Difference
Imperfective	19.13 (0.95)	16.51 (0.80)	2.62*
Perfective	16.14 (0.99)	18.58 (1.01)	−2.44[†]
Difference	2.99*	−2.07[†]	

Note. Standard errors are given in parentheses. Significance was established by means of statistical contrasts.
[†]$p < .11$. *$p < .05$.

example, these descriptions included "I was arranging/arranged letters" and "I was thinking/thought of new words." The irrelevant behavioral descriptions were irrelevant to solving anagrams, but might be relevant to a typical morning. For example, they included "I was eating/ate breakfast" and "I was brushing/brushed my teeth." Participants shown the relevant descriptions were asked to place a checkmark near the sentences that described their behavior on the initial anagram task. Participants shown the irrelevant descriptions were asked to place a checkmark near the descriptions that matched their behavior on a typical morning. Next, all participants were given 10 min to complete 25 new anagrams as an ostensible reassessment of their analytical ability. The number of correct solutions was our measure of performance.

We conducted an analysis of variance with aspect and relevance of the descriptions as the two independent variables and the number of correct anagram solutions as the dependent variable. Neither main effect was significant, $Fs < 0.30, gs < 0.07$. As anticipated, we found a significant interaction between aspect and relevance, $F(1, 155) = 7.18, p = .008, \eta^2 = .044$. Participants in the imperfective condition performed better in the relevant than in the irrelevant condition, $t(155) = 2.06, p = .04, g = 0.46$. In contrast, participants in the perfective condition tended to perform better in the irrelevant than in the relevant condition, $t(155) = 1.72, p = .08, g = -0.41$.

As Table 2 shows, performance was enhanced in the imperfective relative to the perfective condition when the descriptions were relevant to the task, $t(155) = 2.19, p = .03, g = 0.50$. This finding is consistent with the results of Experiment 2 showing enhanced willingness to resume the anagram task in the imperfective condition. Interestingly, performance tended to be worse in the imperfective than in the perfective condition when the descriptions were irrelevant to the task, $t(155) = 1.64, p = .10, g = -0.36$. In conclusion, these data rule out the possibility that aspect merely activates general action tendencies. Instead, aspect directly influences memories that are relevant to the described behavior.

DISCUSSION

Past research shows that aspect affects narrative comprehension by directly influencing memory (Carreiras, Carriedo, Alonso, &

Fernandez, 1997; Magliano & Schleich, 2000; Morrow, 1990). We demonstrated that aspect affects an actor's behavior via a similar process. In Experiment 1, participants performed an initial task that involved avoiding hostility-related concepts stereotypically associated with African Americans. We found that participants who described this activity with the imperfective (i.e., what they were doing) subsequently used hostility-related concepts less when interpreting ambiguously hostile behavior than did participants who described the prior activity with the perfective (i.e., what they did). In Experiment 2, participants were interrupted prior to finishing an anagram task. Describing the actions used on the task with the imperfective aspect, rather than the perfective aspect, enhanced willingness to resume the task by improving memory for it. Consistent with a non-goal-mediated explanation, Experiment 3 showed that the action-relevant knowledge (measured via an LDT) in the imperfective condition decreased in accessibility over time. Finally, Experiment 4 showed that the effects of aspect are probably not produced by general action tendencies (Albarracín et al., 2008). Rather, behavioral descriptions marked with the imperfective aspect enhanced performance on an anagram task (relative to descriptions marked with the perfective aspect) only when the descriptions were relevant to solving anagrams.

One alternative explanation for our results is that writing descriptions using the imperfective may seem less natural than writing descriptions using the perfective and hence may require a more exhaustive memory search. To examine this possibility, we asked a new group of 53 introductory-psychology students to describe their behavior on a prior anagram task using either the perfective or the imperfective aspect (as in Experiment 2). Participants were asked to use a scale from 1 (*not at all*) to 7 (*extremely*) to rate the extent to which writing their descriptions (a) was hard, (b) required effort, (c) required attention, and (d) required thought. These four ratings were collapsed into a single measure of perceived effort ($\alpha = .93$). Aspect had no effect on perceived effort, $p > .50$.

Although formal characteristics of language are likely to affect the contents of thought, there is relatively little evidence of linguistic effects on basic thought processes such as attention, memory, and perception (Gleitman & Papafragou, 2005). One possible reason for this lack of confirmatory evidence is the reliance on cross-cultural analysis to investigate effects of language on thought (Stapel & Semin, 2007). Such methods confound language with other cultural factors and often fail to account for the fact that languages around the world are strikingly similar (Pinker, 1994). As we used experimental procedures to investigate the relation between language and thought, our findings can contribute to understanding the effects of language on cognitive processes.

Language may influence thought to invoke feelings of coherence and to facilitate situated action (Smith & Semin, 2004). One interesting possibility is that aspect works to create coherent behavioral representations, which may be necessary to

sustain and explain one's behaviors (Wegner, 2005). For example, the ability to retain thoughts of an action until that action is completed may be necessary to perceive intentionality (Wegner, 2005). Also, the ability to continue an action may depend on retaining the thought of the action in memory until the action is completed. Therefore, by improving memory for past actions, the imperfective aspect may serve important functions.

Our research also contributes to the view that knowledge is embodied in the sense that thinking of an action may require retrieving action-relevant knowledge. Interestingly, this idea has received some support from past research showing that priming thoughts of an action enhances tendencies to produce that action (Dijksterhuis & Bargh, 2001). Unlike past research, however, our experiments manipulated the *way* in which action thoughts were represented by using subtle aspect markers. Our findings are consistent with the idea that thinking requires doing: An aspect marker that described experiences as ongoing rather than completed enhanced memory for action-relevant knowledge and increased tendencies to reproduce an action at a later time.

REFERENCES

Albarracín, D., Handley, I.M., Noguchi, K., McCulloch, K.C., Li, H., Leeper, J., et al. (2008). Increasing and decreasing motor and cognitive output: A model of general action and inaction goals. *Journal of Personality and Social Psychology*, *95*, 510–523.

Albarracín, D., & Wyer, R.S. (2000). The cognitive impact of past behavior: Influences on beliefs, attitudes, and future behavioral decisions. *Journal of Personality and Social Psychology*, *79*, 5–22.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.

Bargh, J.A., Chaiken, S., Govender, R., & Pratto, F. (1992). The generality of the automatic attitude activation effect. *Journal of Personality and Social Psychology*, *62*, 893–912.

Bargh, J.A., Gollwitzer, P.M., Lee-Chai, A., Barndollar, K., & Troetschel, R. (2001). The automated will: Nonconscious activation and pursuit of behavioral goals. *Journal of Personality and Social Psychology*, *81*, 1014–1027.

Barsalou, L.W. (2008). Grounded cognition. *Annual Review of Psychology*, *59*, 617–645.

Beck, J.S. (1995). *Cognitive therapy: Basics and beyond*. New York: Guilford.

Carreiras, M., Carriedo, N., Alonso, M.A., & Fernandez, A. (1997). The role of verb tense and verb aspect in the foregrounding of information during reading. *Memory & Cognition*, *25*, 438–446.

Clark, A. (1998). Embodied, situated, and distributed cognition. In W. Bechtel & G. Graham (Eds.), *A companion to cognitive sciences* (pp. 506–517). Malden, MA: Blackwell.

Comrie, B. (1976). *Aspect: An introduction to the study of verbal aspect and related problems*. New York: Cambridge University Press.

Devine, P.G. (1989). Stereotypes and prejudice: Their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*, 5–18.

Dijksterhuis, A., & Bargh, J.A. (2001). The perception-behavior expressway: Automatic effects of social perception on social behavior. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (pp. 1–40). San Diego, CA: Academic Press.

Duncan, B.L. (1976). Differential social perception and attribution of intergroup violence: Testing the lower limits of stereotyping blacks. *Journal of Personality and Social Psychology*, *34*, 590–598.

Ellis, A. (1995). Rational emotive behavior therapy. In R.J. Corsini & D. Wedding (Eds.), *Current psychotherapies* (5th ed., pp. 162–196). Itasca, IL: Peacock.

Frattaroli, J. (2006). Experimental disclosure and its moderators: A meta-analysis. *Psychological Bulletin*, *132*, 823–865.

Garrod, S.C., & Sanford, A.J. (1990). Referential processes in reading: Focusing on roles and individuals. In D.A. Balota, G.B. Flores d'Arcais, & K. Rayner (Eds.), *Comprehension processes in reading* (pp. 465–485). Hillsdale, NJ: Erlbaum.

Givón, T. (1992). The grammar of referential coherence as mental processing instructions. *Linguistics*, *30*, 5–55.

Gleitman, L., & Papafragou, A. (2005). Language and thought. In K. Holyoak & R. Morrison (Eds.), *Cambridge handbook of thinking and reasoning* (pp. 633–661). Cambridge, England: Cambridge University Press.

Liberman, N., & Förster, J. (2000). Expression after suppression: A motivational explanation of post-suppressional rebound. *Journal of Personality and Social Psychology*, *79*, 190–203.

Madden, C.J., & Zwaan, R.A. (2003). How does verb aspect constrain event representations? *Memory & Cognition*, *31*, 663–672.

Magliano, J.P., & Schleich, M.C. (2000). Verb aspect and situation models. *Discourse Processes*, *29*, 83–112.

Morrow, D.G. (1990). Spatial models, prepositions, and verb-aspect markers. *Discourse Processes*, *13*, 441–469.

Pennebaker, J.W., & Seagal, J.D. (1999). Forming a story: The health benefits of narrative. *Journal of Clinical Psychology*, *55*, 1243–1254.

Pinker, S. (1994). *The language instinct: How the mind creates language*. New York: W. Morrow.

Preacher, K.J., & Hayes, A.F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, *36*, 717–731.

Schooler, J.W. (2002). Verbalization produces a transfer inappropriate processing shift. *Applied Cognitive Psychology*, *16*, 989–997.

Shah, J.Y. (2003). Automatic for the people: How representations of significant others implicitly affect goal pursuit. *Journal of Personality and Social Psychology*, *84*, 661–681.

Smith, E.R., & Semin, G.R. (2004). Socially situated cognition: Cognition in its social context. In M.P. Zanna (Ed.), *Advances in experimental social psychology* (pp. 53–117). San Diego, CA: Academic Press.

Srull, T.K., & Wyer, R.S. (1979). The role of category accessibility in the interpretation of information about persons: Some determinants and implications. *Journal of Personality and Social Psychology*, *37*, 1660–1672.

Stapel, D., & Semin, G.R. (2007). The magic spell of language: Linguistic categories and their perceptual consequences. *Journal of Personality and Social Psychology*, *93*, 23–33.

Wegner, D.M. (2005). Who is the controller of controlled processes? In R. Hassin, J.S. Uleman, & J.A. Bargh (Eds.), *The new unconscious* (pp. 19–36). New York: Oxford University Press.

Zeigarnik, B. (1967). On finished and unfinished tasks. In W.D. Ellis (Ed.), *A sourcebook of Gestalt psychology* (pp. 300–314). New York: Humanities Press.

Zwaan, R.A. (1999). Embodied cognition, perceptual symbols, and situation models. *Discourse Processes*, *28*, 81–88.

Zwaan, R.A., & Radvansky, G.A. (1998). Situation models in language comprehension and memory. *Psychological Bulletin*, *123*, 162–185.