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Reports

Motivating goal pursuit: The role of affect motivational intensity and activated goals

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HIGHLIGHTS

- Goals brought to mind with a positive state high (vs. low) in motivational intensity inspired more successful goal pursuit.
- People were unaware of how their behavior was shaped by the conjunction of affect and priming.
- The motivational component of affect directed the pursuit of primed goals.

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ABSTRACT

Despite much interest in the operation of goals, there remains little understanding of how goal pursuit originates from the cognitive activation of a goal in memory. To address this knowledge gap, we examined how the motivational component of positive affect leads to the successful pursuit of primed goals. Experiment 1 found that people evidenced more successful pursuit of an action goal if the goal was primed as people experienced a positive state high in motivational intensity versus a positive state low in motivational intensity or a baseline state. Likewise, in Experiment 2, people showed more successful pursuit of an inaction goal if the goal was primed as people experienced a positive state high in motivational intensity. In sum, the motivational component of affect directed the pursuit of primed goals.

Because goal pursuit affects human happiness, judgment, and performance, the processes that determine goal pursuit have traditionally been of central interest to psychologists (Elliot & Fryer, 2008). Much attention has recently been given to understanding the cognitive origins of goal pursuit. For example, research shows that goals (e.g., achievement) can be activated by subtle environmental stimuli (e.g., the word *excel*) and promote activity toward actualizing the goal. The idea that goal pursuit can originate from such subtle sources and reflect mere cognitive mechanisms has fascinated researchers and sparked questions about the role of motivation in such pursuits (Bargh, 2006; Custers & Aarts, 2010; Hart & Albarracin, 2009). Utilizing theories of motivational intensity from affective studies (Gable & Harmon-Jones, 2010a; Gable & Poole, 2012), the current paper proposes new insights on how goal pursuit emerges from the mere activation of goals in memory.

Some past research has provided insights on how activated goals produce goal-directed behavior (reflected in, for example, effort toward the state). This research has shown that positive, relative to negative, affect promotes tendencies to adopt primed goals (Albarracin & Hart, 2011; Fishbach & Labroo, 2007). For example, happiness, relative to sadness, causes the pursuit of an activated goal (Albarracin & Hart, 2011; Fishbach & Labroo, 2007). Other research has used evaluative conditioning procedures to directly link goals with positive or negative stimuli (Custers & Aarts, 2005, 2010). This research suggests that goals are pursued with greater vigor when they are linked with positive affect as opposed to negative affect (Aarts, Custers, & Holland, 2007; Aarts, Custers, & Marien, 2008; Custers & Aarts, 2010).

This past research demonstrated some important principles dictating goal pursuit but so far has been limited to conceptual approaches that emphasize the dimension of affect *valence*. However, recent conceptual approaches highlight the importance of considering the dimension of motivational intensity as distinct from affective valence. For example, positive affects can vary from high motivational intensity (e.g., desire) occurring during pre-goal pursuit to low motivational intensity (e.g., serenity) occurring post-goal accomplishment or in response to goal-irrelevant stimuli (e.g., amusement). High intensity positive affects are therefore presumed to be preparatory states that facilitate goal pursuit (Harmon-Jones, Gable, & Price, 2011; Harmon-Jones, Price, & Gable, 2012). Indeed, high (vs. low) intensity positive affects are associated with brain regions involved in motivational processes and the behavioral approach system, such as the nucleus acumbens, anterior cingulated cortex, insula, and prefrontal cortex (Berridge, 2012; Harmon-Jones & Gable, 2009; Knutson & Wimmer, 2007). In addition, high (vs. low) intensity positive affects induce attentional narrowing, reduce cognitive flexibility, and shorten time perception to help people focus on a desired object

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or goal (Gable & Harmon-Jones, 2008, 2010c; Gable & Poole, 2012; Price & Harmon-Jones, 2010, 2011).[1]

The current research was designed to understand if the motivational intensity of positive affect influences successful pursuit of activated goals. Given that high (vs. low) intensity positive affects facilitate goal pursuit (Gable & Harmon-Jones, 2010a), we believe that motivational intensity may influence the successful pursuit of a primed goal. Specifically, we hypothesized that goals that are brought to mind in conjunction with a positive state *high* (vs. *low*) in motivational intensity may inspire more successful pursuit of the goal. Hence, in the present research, we held positive affect constant and manipulated the motivational intensity of the positive affect.

For at least three related reasons, high intensity positive affect may lead to the successful pursuit of primed goals. First, the cognitive narrowing caused by high intensity positive affect likely facilitate goal pursuit by excluding irrelevant perceptions and cognitions and allowing the individual to zero-in on the primed goal. When individuals are given a primed goal under a high intensity positive state, individuals should be more likely to hone in on the goal. Second, a high intensity positive state may provide information about the value of primed goals. Because high intensity positive affects are activated by desirable stimuli (Gable & Harmon-Jones, 2010b), an association may be forged between these affects and subsequent appraisals of the environment. Due to this association, an affective experience may be used as information on how to appraise an accessible goal (e.g., "is the goal desirable?" Schwarz & Clore, 2003). In particular, goals activated in the context of high intensity positive affects should be perceived as desirable, and, in turn, be pursued more successfully. Third, high intensity positive affect may influence goal pursuit due to its connection to the approach system (Gray, 1994). The approach system is responsive to incentives and associated with high intensity positive affects that promote approach behavior. High intensity positive affects may activate the approach system, which would support pursuit of primed goals.

Experiment 1

In Experiment 1, we addressed the idea that a *high* (vs. *low*) intensity positive state may facilitate the pursuit of a primed action goal (Albarracin & Hart, 2011; Albarracin et al., 2008). Participants were induced into either a high intensity positive state or a low intensity positive state, or participants were left in their baseline state. Next, participants were exposed to words denoting an action goal or "control" words, and then were asked to solve academic problems. Pursuit of an action goal was assessed using performance on the academic task, a typical proxy of action-goal pursuit (Albarracin & Hart, 2011; Albarracin et al., 2008). All things being equal, more cognitive action (e.g., more thought) should be reflected in higher performance, and prior research has shown that action goals (vs. a no goal, control condition) enhance academic performance (Albarracin & Hart, 2011; Albarracin et al., 2008). If the motivational intensity in positive affect facilitates pursuit of a primed goal, then the affect induction should moderate the effect of the action priming. Exposure to action (vs. control) primes should produce heightened cognitive activity (as indexed by more problem solving; Albarracin et al., 2008), but this priming effect should be accentuated amongst participants in the high intensity positive state relative to participants in the low intensity positive state or participants in a baseline state. Because prior research has demonstrated that the effects of action (vs. control) primes are similar in an induced low intensity positive state (contentment) and a baseline state (Albarracin & Hart, 2011), we anticipated we might conceptually replicate this null effect. Presumably, because most people are fairly content (Storbeck & Clore, 2008), the baseline condition contains people in a fairly low intensity positive state.

Method

Participants and design

Participants were 94 (65 females) students from introductory psychology classes participating for course credit. The experimental design was a 2 (prime: action vs. control) × 3 (affect: high or low intensity positive or baseline) factorial. Gender had no main or interactive effects in the reported experiments.

Procedures

Participants were seated at computer cubicles and told that they would complete three unrelated experiments. Participants received all their tasks and instructions via the computer. The "first experiment" was framed as a personality test and induced affect. Participants were randomly assigned to perform a task that would induce high or low intensity positive affect or maintain their baseline affect. Participants in the *low intensity* positive affect condition were asked to write about a positive event from their life in which someone did something kind for them. Participants in the *high intensity* positive affect condition were asked to describe something they want to accomplish and list the steps they plan to take to accomplish it. Participants included such positive states as attending social events (e.g., sporting event), seeking new relationships (e.g., landing a date), and self-improvement (e.g., losing weight). Previous research has demonstrated that these procedures activate a high-intensity positive state (Harmon-Jones, Harmon-Jones, Fearn, Sigelman, & Johnson, 2008; Harmon-Jones, Schmeichel, Mennitt, & Harmon-Jones, 2011). Participants in a *baseline* condition were asked to write about a typical day in their life.[2]

The "second experiment" was framed as a pilot test and served to affect the activation of an action goal. As in prior research (Albarracin et al., 2008), participants were asked to complete 20 words, eight of which connoted either "action" or neutral concepts. Based on random assignment to conditions, half of the participants received eight incomplete words that could be completed with action-related words (e.g., *doing*, *action*, *go*) whereas the other half received eight incomplete neutral words (e.g., *therefore*). Prior research has shown that exposure to these "action" words has no effect on affective states compared to exposure to these neutral words (Albarracin et al., 2008).

The "third experiment" was framed as a pilot study and served to measure pursuit of an action goal. Participants were asked to complete 21 questions that assessed verbal and quantitative ability. The

[1] Motivational intensity or the impetus to act is related to but is nonetheless distinct from arousal. That is, arousal can be considered a proxy for, but is not the same as motivational intensity. For example, unlike arousal, motivation always has action implications. Recent evidence seeking to de-confound these two dimensions has demonstrated that arousal manipulated through physical exercise can alter physiological arousal (e.g., heart rate) without changing motivational intensity (Gable & Harmon-Jones, 2013).

[2] Checking on the manipulation of affect in this study is complex. As extraneous affect can diminish over time, it must be measured immediately after its manipulation. Yet, affect measures delivered prior to a dependent variable can influence reactions to the dependent variable (Schwarz & Clore, 1983). Therefore, we decided to test a *separate* sample of participants to verify that our affect inductions produced the intended effects on mood valence and motivational intensity. Participants were 106 undergraduates who completed the affect inductions as described in Experiment 1. Following the inductions, they rated the extent to which they feel *good*, *bad* (reverse scored), *motivated*, and *desire* on a 1–7 scale. The two items designed to tap valence (*good*, *bad*) were averaged to yield an affect-valence index and the two items designed to tap motivational intensity (*motivated*, *desire*) were averaged to yield a motivational-intensity index. The check was successful. The high ($M = 6.07$, $SD = 1.11$) and low ($M = 6.24$, $SD = 1.02$) motivational-intensity groups indicated more positive affect than the baseline condition ($M = 5.22$, $SD = 1.16$), $ts > 3.20$, $ps < .005$, yet the two motivational-intensity groups indicated similar levels of positive affect, $t(103) = 0.65$, $p = .52$. Moreover, the high ($M = 5.25$, $SD = 1.12$) motivational-intensity group indicated higher motivational intensity than the low-motivational intensity ($M = 4.46$, $SD = 1.39$) and baseline group ($M = 4.40$, $SD = 1.29$), $ts > 2.50$, $ps < .02$, which did not differ from one another, $t(103) = 0.18$, $p = .86$.

academic questions were borrowed from a practice Graduate Record Exam (GRE) and were similar to those used in Albarracin and Hart (2011). Past research indicates that these types of questions are reliable measures of cognitive activity and priming an action goal enhances performance on these questions (Albarracin & Hart, 2011; Albarracin et al., 2008).

Thereafter, participants completed items on how much *effort*, *attention*, and *conscious monitoring* they used during the task on 1 (*not at all*) to 9 (*extremely*) scales. These ratings were averaged into an index of effort (alpha = .77). These items were included because we were interested in knowing whether the interactive effects of affect and priming were open to conscious reporting. We also used funnel debriefing to examine conscious awareness (Bargh & Chartrand, 2000). No participant, in any of the present experiments, indicated that tasks influenced their behavior on subsequent tasks.

Results and discussion

Performance

The number of correct answers on the academic task was submitted to a 3 (affect: high or low motivational intensity positive or baseline) × 2 (prime: action vs. control) ANOVA. This analysis revealed a main effect of prime, $F(2, 88) = 25.21$, $p = .001$, $d = 1.07$, and the predicted interaction, $F(2, 88) = 3.73$, $p = .04$, $d = 0.41$ (Table 1). We probed the interaction by examining the effect of priming within each affect condition. Action (vs. control) priming enhanced performance in the baseline affect condition, $t(88) = 1.80$, $p = .08$, $d = 0.38$, low motivational intensity positive condition, $t(88) = 1.89$, $p = .06$, $d = 0.40$, and high motivational intensity positive condition, $t(88) = 5.01$, $p = .001$, $d = 1.07$, albeit the effect of priming in the baseline and low motivation intensity condition were marginal. More important for the present theory, however, the magnitude of this priming effect was larger in the high motivational intensity positive condition relative to the baseline condition, $t(88) = 2.27$, $p = .03$, $d = 0.48$, or the low motivational intensity positive condition, $t(88) = 2.23$, $p = .03$, $d = 0.48$. The priming effect was similar in the baseline and low motivational intensity positive condition, $t(88) = 0.05$, $p = .98$, $d = 0.01$. In sum, we found evidence that a *high* (vs. *low*) motivational intensity positive state led to more successful pursuit of the primed goal (as indexed by performance).

Self-reported effort

Self-reported effort was submitted to the 3 × 2 ANOVA. The analysis revealed no significant effects, $ps > .18$. Similar null results were obtained in Experiment 2, but they are not reported for brevity. These data converge with the results of the funnel-debriefing procedure in suggesting that people were unaware of how their behavior was shaped by the conjunction of affect and priming. Although the performance data suggest that the conjunctive influence of priming and affect influenced pursuit of an action goal, the self-report data suggest that participants were unable to report on this influence. Interestingly, prior research has also shown that that the conjunctive influence of priming and affect on behavior can escape conscious awareness (Albarracin & Hart, 2011). Indeed, people are often unaware of and unable to report on how subtle factors influence their motivation and performance (Nisbett & Wilson, 1977).

Experiment 2

One may question the generality of these findings. Perhaps a high intensity positive state only enhances pursuit of goals that entail high activity. To address this concern, we replaced the action primes with inaction primes (Albarracin et al., 2008). Also, to create a more efficient design, we excluded the baseline affect condition because it appeared redundant with the low intensity positive condition. We predicted that *high* (vs. *low*) intensity positive affect should facilitate pursuit of an activated inaction goal.

Method

Participants and design

Participants were 93 (63 females) students from introductory psychology classes participating for course credit. The experimental design was a 2 (prime: inaction vs. control) × 2 (positive affect intensity: high or low) factorial.

Procedures

Procedures were similar to those in Experiment 1 with three exceptions. First, participants were randomly assigned to one of two affect inductions: the high intensity positive state or the low intensity positive state. The affect inductions were identical to those described in Experiment 1. Second, participants were randomly assigned to a priming task that contained "inaction" words or neutral words. In the inaction condition, participants were asked to complete 20 words, eight of which connoted "inaction" (e.g., *still*, *calm*, *rest*; Albarracin et al., 2008). In the neutral condition (control-prime task), the prime task was identical to the one used in Experiment 1. Prior research has shown that exposure to these "inaction" words has no effect on affective states compared to exposure to these neutral words (Albarracin & Hart, 2011; Hart & Albarracin, 2012). Third, participants completed a different GRE task that contained 24 questions.

Results and discussion

The number of correct solutions was submitted to a 2 (motivational intensity of positive affect: high or low) × 2 (prime: inaction vs. control) ANOVA. This analysis revealed a main effect of prime, $F(1, 89) = 23.56$, $p = .001$, $d = 1.03$, and the predicted interaction, $F(1, 89) = 4.12$, $p = .05$, $d = 0.43$ (Table 2). We probed the interaction by testing the simple-effect of the prime in each affect condition. Inaction (vs. control) priming reduced performance in the low-motivational intensity condition, $t(89) = 2.01$, $p = .05$, $d = 0.43$, and in the high-motivational intensity condition, $t(89) = 4.84$, $p = .001$, $d = 1.03$. But most importantly, the interaction demonstrates that

Table 1
Number of Problems solved correctly as a function of motivational intensity in positive affect and action primes: Experiment 1.

Goal prime	High intensity (positive)	Low intensity (positive)	Control
Action	12.43_a (3.01)	10.06_b (2.28)	10.13_b (2.77)
Control	8.07_a (1.99)	8.43_a (1.22)	8.56_a (2.73)
Difference	4.36_a*	1.63_b#	1.57_b#

Note. Standard deviations are presented parenthetically. The "Difference" row entails comparisons between the two prime conditions. Means in this column marked with an asterisk (#) differ from 0 at $p < .05$ ($p < .10$). Means within a *row* not sharing the same subscript differ from each other at $p < .05$.

Table 2
Number of problems solved correctly as a function of motivational intensity in positive affect and inaction primes: Experiment 2.

Goal prime	High intensity (positive)	Low intensity (positive)
Inaction	7.42_a (2.60)	9.20_b (2.25)
Control	11.14_a (2.53)	10.72_a (3.01)
Difference	-3.72_a*	-1.52_b*

Note. Standard deviations are presented parenthetically. The "Difference" row entails comparisons between the two prime conditions. Means in this column marked with an asterisk differ from 0 at $p < .05$. Means within a *row* not sharing the same subscript differ from each other at $p < .05$.

the effect of inaction (vs. control) priming was greater in the high (vs. low) intensity condition. In other words, high (vs. low) intensity positive affect led to more successful pursuit of the activated inaction goal.

General discussion

Goal pursuit may sometimes originate when subtle environmental stimuli activate a goal in memory. Prior research has shown that positive affect signals the pursuit of these activated goals (Custers & Aarts, 2010). The current research advanced this discovery by incorporating a role for the motivational intensity of positive affect. In our studies, we demonstrated that the high (vs. low) motivational intensity in positive affect acts to facilitate the pursuit of an activated goal. Indeed, both experiments showed that people performed better at pursuing a primed goal if the goal was subtly activated as people experienced a positive state high in motivational intensity versus a positive state low in motivational intensity, or a baselines state. Participants appeared unable to report on how the priming and affect inductions affected their behavior, suggesting that the present effects occurred without awareness.

In the present experiments, motivational intensity alone failed to influence performance on the academic problems. For example, in the control-prime conditions, motivational intensity had no effect on performance. Instead, the effect of motivational intensity was localized to the prime conditions. Presumably, motivational intensity alone failed to affect performance in the control-prime conditions because task goals were intentionally left unclear in these conditions. For example, without a primed focus, individuals may have pursued whatever goal was default for them (e.g., relaxing or working hard; Hart & Albarracin, 2009). Furthermore, given that people naturally vary in whether they adopt relaxation and activity goals in academic situations, our theory would predict a null effect of motivational intensity on performance.

Initially, we proposed three mechanisms that can explain how high (vs. low) motivational intensity positive affects facilitate the pursuit of an activated goal. First, high (vs. low) intensity positive affect may have inspired more successful goal pursuit via a cognitive-narrowing mechanism. For example, high-intensity affect may have led to greater focus on the primed goal and hence greater engagement with it. Second, high (vs. low) intensity positive affect may have inspired goal pursuit via an "affect-as-information" mechanism (e.g., Schwarz & Clore, 2003). That is, high intensity positive affect might have been used to appraise the primed goal as desirable. Third, high (vs. low) intensity positive affect may have enhanced goal pursuit via its link to the behavior activation system. That is, high intensity positive affect may have led people to seek reward through vigorous goal pursuit.

In light of the current findings, we suspect that motivational intensity in positive states is likely driving the adoption of primed goals. Both the mechanism of cognitive narrowing, and activation of the behavioral approach system could be supported by the current findings. In contrast, we feel that the second proposed mechanism, that the mere positivity in affect may have caused the subsequent goal to be evaluated as more desirable, is less likely. That is, the appraisal model does not currently take into account the motivational intensity of the affective state. According to this model, all positive affect – regardless of motivational intensity – should enhance adoption of the primed goal state. However, results of the current experiments demonstrate that positive affects high in motivational intensity enhance successful pursuit of a primed goal state to a greater degree than positive affects low in motivational intensity. Future research could more fully examine these proposed mechanisms.

One limitation is that we used one method to influence motivational intensity; yet, motivational intensity can be elicited using a variety of procedures, suggesting that other procedures might produce similar effects. For example, past research has shown that viewing appetitive pictures (e.g., desserts) increases motivational intensity relative to neutral pictures (e.g., rocks; Gable & Harmon-Jones, 2010c). Goals activated in the context of viewing pictures high in motivational intensity might also be pursued with greater success than goals activated in the context of viewing pictures low in motivational intensity. Future research might explore whether similar effects can be obtained with different manipulations of motivational intensity.

References

Aarts, H., Custers, R., & Holland, R. W. (2007). The nonconscious cessation of goal pursuit: When goals and negative affect are coactivated. *Journal of Personality and Social Psychology*, *92*, 165–178.

Aarts, H., Custers, R., & Marien, H. (2008). Preparing and motivating behavior outside of awareness. *Science*, *319*, 1639.

Albarracin, D., Handley, I., Noguchi, K., McCulloch, K., 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.

Albarracin, D., & Hart, W. (2011). Positive mood + action = negative mood + inaction: Effects of general action and inaction concepts on decisions and performance as a function of affect. *Emotion*, *11*, 951–957.

Bargh, J. A. (2006). What have we been priming all these years? On the development, mechanisms, and ecology of nonconscious social behavior. *European Journal of Social Psychology*, *36*, 147–168.

Bargh, J. A., & Chartrand, T. L. (2000). The mind in the middle: A practical guide to priming and automaticity research. In H. T. Reis, & C. M. Judd (Eds.), *Handbook of research methods in social and personality psychology*. New York: Cambridge University Press.

Berridge, K. C. (2012). From prediction error to incentive salience: Mesolimbic computation of reward motivation. *European Journal of Neuroscience*, *35*, 1124–1143.

Custers, R., & Aarts, H. (2005). Positive affect as implicit motivator: On the nonconscious operation of behavioral goals. *Journal of Personality and Social Psychology*, *89*, 129–142.

Custers, R., & Aarts, H. (2010). The unconscious will: How the pursuit of goals operates outside of conscious awareness. *Science*, *329*, 47–50.

Elliot, A. J., & Fryer, J. W. (2008). The goal construct. In J. Shah, & W. Gardner (Eds.), *Handbook of motivation science* (pp. 235–250). New York: The Guilford Press.

Fishbach, A., & Labroo, A. (2007). Be better or be merry: How mood affects self-control. *Journal of Personality and Social Psychology*, *93*, 158–173.

Gable, P. A., & Harmon-Jones, E. (2008). Approach-motivated positive affect reduces breadth of attention. *Psychological Science*, *19*, 476–482.

Gable, P. A., & Harmon-Jones, E. (2010a). The motivational dimensional model of affect: Implications for breadth of attention, memory, and cognitive categorization. *Cognition and Emotion*, *24*, 322–337.

Gable, P. A., & Harmon-Jones, E. (2010b). The blues broaden, but the nasty narrows: Attentional consequences of negative affects low and high in motivational intensity. *Psychological Science*, *21*, 211–215.

Gable, P. A., & Harmon-Jones, E. (2010c). The effect of low vs. high approach-motivated positive affect on memory for peripherally vs. centrally presented information. *Emotion*, *10*, 599–603.

Gable, P. A., & Harmon-Jones, E. (2013). Does arousal per se account for the influence of appetitive stimuli on attentional scope and the late positive potential? *Psychophysiology*, *50*, 344–350.

Gable, P. A., & Poole, B. D. (2012). Time flies when you're having approach-motivated fun: Effects of motivational intensity on time perception. *Psychological Science*, *23*, 879–886.

Gray, J. A. (1994). Framework for a taxonomy of psychiatric disorder. In S. H. M. van Goozen, Van de Poll, & E. Nanne (Eds.), *Emotions: Essays on emotion theory* (pp. 29–59). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Harmon-Jones, E., & Gable, P. A. (2009). Neural activity underlying the effect of approach-motivated positive affect on narrowed attention. *Psychological Science*, *20*, 406–409.

Harmon-Jones, E., Gable, P. A., & Price, T. F. (2011a). Leaning embodies desire: Evidence that leaning forward increases relative left frontal cortical activation to appetitive stimuli. *Biological Psychology*, *87*, 311–313.

Harmon-Jones, E., Harmon-Jones, C., Fearn, M., Sigelman, J. D., & Johnson, P. (2008). Action orientation, relative left frontal cortical activation, and spreading of alternatives: A test of the action-based model of dissonance. *Journal of Personality and Social Psychology*, *94*, 1–15.

Harmon-Jones, E., Price, T., & Gable, P. A. (2012). The influence of affective states on cognitive broadening/narrowing: Considering the importance of motivational intensity. *Social and Personality Psychology Compass*, *6*, 314–327.

Harmon-Jones, C., Schmeichel, B. J., Mennitt, E., & Harmon-Jones, E. (2011b). The expression of determination: Similarities between anger and approach-related positive affect. *Journal of Personality and Social Psychology*, *100*, 172–181.

Hart, W., & Albarracin, D. (2009). The effects of chronic achievement motivation and achievement primes on the activation of achievement and fun goals. *Journal of Personality and Social Psychology*, *97*, 1129–1141.

Hart, & Albarracin (2012). Craving activity and losing objectivity: Effects of general action concepts on approach to decision-consistent information. *Social Psychological and Personality Science*, *3*, 55–62.

Knutson, B., & Wimmer, G. E. (2007). Reward: Neural circuitry for social valuation. In E. Harmon-Jones, & P. Winkielman (Eds.), *Social neuroscience: Integrating biological and psychological explanations of social behavior* (pp. 157–175). Guilford Publications: New York.

Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review*, *84*, 231–259.

Price, T. F., & Harmon-Jones, E. (2010). The effect of embodied emotive states on cognitive categorization. *Emotion*, *10*, 934–938.

Price, T. F., & Harmon-Jones, E. (2011). Approach motivational body postures lean toward left frontal brain activity. *Psychophysiology*, *48*, 718–722.

Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive function of affective states. *Personality and Social Psychology Bulletin*, *45*, 513–523.

Schwarz, N., & Clore, G. L. (2003). Mood as information: 20 years later. *Psychological Inquiry*, *14*, 296–303.

Storbeck, J., & Clore, G. L. (2008). The affective regulation of cognitive priming. *Emotion*, *8*, 208–215.