Who am I?: The influence of affect on the working self-concept
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Two experiments investigated the impact of affect on the working self-concept. Following an affect induction, participants completed the Twenty Statements Test (TST) to assess their working self-concepts. Participants in predominantly happy and angry states used more abstract statements to describe themselves than did participants in predominantly sad and fearful states. Evaluations of the statements that participants generated (Experiment 2) demonstrate that these effects are not the result of (1) participants describing positively and negatively valenced information at different levels of abstraction, or (2) valence-based affective priming. Further, half of the participants in Experiment 2 were led to attribute their affect to the manipulation prior to completing the TST. This manipulation eliminated the influence of affect on the working self-concept. Taken together, these results are consistent with theory and research on the informative functions of affect.

Keywords: Affect and cognition; Affect-as-information; self.

Feelings play an important role in our everyday experiences. They influence our judgements (Schwarz & Clore, 1983), as well as how we process information (see Isbell & Lair, in press; Schwarz & Clore, 2007; Wyer, Clore, & Isbell, 1999, for reviews). For example, research demonstrates that transient happy moods can enhance self-reported life satisfaction relative to unhappy moods (e.g., Schwarz & Clore, 1983), and can lead us to judge ourselves (e.g., Sedikides, 1992, 1995), and others (e.g., Isbell & Wyer, 1999; Ottati & Isbell, 1996) more favourably. Feelings can also influence the types of information that we rely upon when making judgements and processing information. For example, relative to sad and fearful states, happy and angry states increase our reliance on stereotypes and global traits as a basis for impression formation (e.g., Bless, 2000, 2001; Bodenhausen, Kramer, & Susser, 1994; Bodenhausen, Sheppard, & Kramer, 1994; Hunsinger, Isbell, & Clore, 2012; Isbell, 2004; Isbell, Burns, & Haar, 2005). These later findings...
are representative of many in the literature and are consistent with the general view that happiness leads individuals to rely on abstract, global information processing strategies, whereas sadness results in more local, detail-oriented processing strategies (see Isbell & Lair, in press, for a review).

In this paper, we extend research on affect and information processing by examining the role of feelings in determining how individuals think about and describe themselves. Research demonstrates that different types of self-knowledge are activated in different contexts, thus rendering the working self-concept flexible (Markus & Kunda, 1986; Markus & Wurf, 1987; see Fiske & Taylor, 2008; Kunda, 1999, reviews). Consequently, how we feel at any given time is likely to influence what information we have accessible about ourselves. This paper specifically examines the impact of different affective states (i.e., happy, sad, angry, fearful) on the extent to which individuals describe themselves in global, abstract terms versus more specific, concrete ones.

The current work was guided by theory and research on the informative functions of affect. We first review this work to provide the necessary background for our hypothesis concerning how various affective states influence how we think about and describe ourselves. We then review research on the influence of affect on the self before presenting two experiments designed to test our hypothesis.

Affect-as-information (AAI)

According to many theories of emotion, affect results from largely nonconscious, continuously operating appraisal processes and serves to orient individuals and direct their actions (e.g., Frijda, 1986; Frijda & Mesquita, 1994; Lazarus, 1991; Simon, 1967). As such, affective experiences are highly adaptive and convey important and meaningful information to individuals who experience them (Schwarz, 1990; Schwarz & Clore, 2007). Consistent with this idea, Schwarz and his colleagues proposed that affective states serve to direct cognitive processing by providing individuals with information about their environment (e.g., Clore et al., 2001; Frijda, 1988; Schwarz, 1990; Schwarz & Clore, 2007; Wyer et al., 1999). Positive affect signals a safe and benign environment and thus tends to support global, abstract processing and reliance on general knowledge structures. Reliance on such information is appropriate in benign situations given that it is adaptive and has served individuals well in the past. In contrast, negative affect signals the presence of a problem. To resolve the perceived problem, negative affect is theorised to encourage local processing, which fosters reliance on concrete and detailed information. In this case, negative affect signals that global processing strategies are risky and inappropriate.

Although early theorising in the AAI tradition focused on general valence-based differences in processing, later theoretical developments have successfully differentiated the effects of more specific affective experiences. This work has been guided by the notion that emotions not only arise from appraisals of events as pleasant or unpleasant, but also from additional appraisals that capture the ways in which the events are so (Lerner & Keltner, 2000, 2001; Ortony, Clore, & Collins, 1988; Smith & Ellsworth, 1985). For example, fear results from appraisals of a situation as unpleasant, threatening, uncertain, and unpredictable. In contrast, anger is typically conceptualised as an unpleasant experience that results from appraisals of certainty and predictability.

Appraisal dimensions other than valence that are activated at the time of an affective experience can carry over to influence subsequent judgements and processing by similarly providing perceivers with information (e.g., DeSteno, Petty, Wegener, & Rucker, 2000; Keltner, Ellsworth, & Edwards, 1993; Lerner & Keltner, 2000, 2001; Tiedens & Linton, 2001; see Clore & Huntsinger, 2009; Isbell & Lair, in press; Schwarz & Clore, 2007, for reviews). Consequently, affective experiences that differ in valence, but are similar in certainty appraisals (e.g., anger and happiness; see Ortony et al., 1988; Roseman, 1984; Smith & Ellsworth, 1985), may serve similar informative functions and lead to similar effects on processing (Tiedens & Linton, 2001). Consistent with this idea, research demonstrates that both happiness and anger are associated with reliance on stereotypes and global
traits as a basis for impression formation (e.g., Bless, 2000, 2001; Bless & Fiedler, 1995; Bodenhausen, Kramer, et al., 1994; Bodenhausen, Sheppard, et al., 1994; Isbell, 2004), reliance on detailed arguments rather than peripheral cues as a basis for attitudes in response to persuasive communications (Bless, Bohner, Schwarz, & Strack, 1990; Bodenhausen, Sheppard, et al., 1994; Bohner, Crow, Erb, & Schwarz, 1992; Schwarz, Bless, & Bohner, 1991; Sinclair, Mark, & Clore, 1994; Tiedens & Linton, 2001), and reliance on accessible scripts (Bless et al., 1996; Tiedens, 2001).

Just as affective experiences that differ in valence may serve similar informative functions, affective experiences that are similar in valence may serve different functions. For example, fear, sadness, and anger tend to come about in response to unpleasant events; however, both fear and sadness (but not anger) also tend to be experienced along with feelings of uncertainty. As noted earlier, such feelings are likely to lead individuals to feel insecure relying on global, abstract information. Consistent with this idea, research demonstrates that fear results in more detailed processing than either anger (Parker & Isbell, 2010; Tiedens & Linton, 2001) or non-manipulated affect (Bohner & Weinerth, 2001). Both fear and sadness also result in systematic processing of persuasive communications (Baron, Logan, Lilly, Inman, & Brennan, 1994; Bless et al., 1990) and promote greater reliance on detailed information in decision making and related tasks (Parker & Isbell, 2010; Tiedens & Linton, 2001). Likewise, individuals who feel chronically uncertain (i.e., depressed) process information more systematically than those who feel chronically certain (i.e., non-depressed; Weary & Jacobson, 1997; see also Edwards, Weary, von Hippel, & Jacobson, 2000).

The research reviewed here suggests that in addition to valence, the appraisal dimension of certainty is likely to play a significant role in how we process information (see Tiedens & Linton, 2001). In the current research we investigated the impact of affective states that vary in both valence and certainty appraisals on the content of individuals’ working self-concepts. We next briefly review research investigating the impact of affect on the self before introducing our experiments.

The self

Most research investigating the impact of affect on the self has examined the influence of happy and sad moods on the valence of self-relevant information that individuals report when asked to describe themselves, and when making self-relevant judgements (see Sedikides, 1992, for a review). Researchers frequently find mood-congruent effects in which happy moods lead individuals to generate more favourable self-relevant information and make more favourable judgements than do sad moods (cf. Sedikides & Green, 2001). Consistent with this work, recent research by Forgas (2011) demonstrates that when individuals in happy and sad moods are asked to self-disclose information to another person, their self-disclosures tend to be mood-congruent. Further, the information that happy individuals disclosed was rated by judges to be more abstract than the information shared by sad individuals. This latter finding is consistent with research demonstrating that individuals in happy moods use more abstract language than do those in sad moods (Beukeboom & Semin, 2006).

Research on the self demonstrates that individuals vary in the extent to which their self-perceptions and self-descriptions reflect broad, abstract, global concepts versus more concrete, narrow, specific ones (see Hampson, John, & Goldberg, 1986; John, Hampson, & Goldberg, 1991). Such differences in self-perception can have a variety of significant consequences. For example, individuals who describe their positive qualities in abstract terms and their negative qualities in narrow, concrete terms have greater self-esteem and less depression than individuals who describe their positive qualities in narrow, concrete terms and their negative qualities in abstract terms (Karpinski, Steinberg, Versek, & Alloy, 2007). In the context of marriage, such perceptions of one’s spouse influence marital satisfaction (Neff & Karney, 2002). Moreover, individuals for whom an abstract self-representation
is activated are more likely to predict future cross-situational consistency in their behaviour (Wakslak, Nussbaum, Liberman, & Trope, 2008). Further, abstract information about the self is more ambiguous than relatively concrete information, and thus abstract information may be more amenable to the influences of self-serving biases, which help to protect self-esteem (Dunning, Meyerowitz, & Holzberg, 1989). Taken together, this research suggests that factors such as affect that may influence the extent to which individuals rely on abstract versus concrete terms to describe themselves may have important implications.

Overview of the current research

The current research was designed to examine the influence of affective states on the extent to which individuals describe themselves in abstract versus concrete ways. Most research that has examined the impact of negative affect on processing has focused on either sadness or general negative moods without carefully examining the possibility that more differentiated types of negative experiences may have more complex effects than a valence-based approach suggests. Building on existing theory and research from the affect literature, we hypothesised that participants in predominantly happy or angry states would report more abstract information about themselves compared to participants in predominantly sad or fearful states. To investigate this possibility, we conducted two studies in which we exposed participants to video clips to elicit a predominantly happy, sad, angry, or fearful affective state. We then observed the impact of this manipulation on participants’ responses to the Twenty Statements Test (TST). The TST is comprised of twenty open-ended “I am _____” prompts into which participants write their thoughts (Kuhn & McPartland, 1954). Both studies provided a test of our self-abstraction hypothesis. In addition, Experiment 2 extended this work by investigating mechanisms by which self-abstraction effects may emerge.

EXPERIMENT 1

Method

Participants and design

One hundred twenty-four women recruited from the psychology department’s participant pool completed this experiment for extra course credit. Participants ranged in age from 18 to 31, with the vast majority (96%) under the age of 23 ($M_{age} = 19.89$ years; $SD = 1.65$). Available data on the racial ethnicity of participants revealed that the majority of our participants were White (71.59%), with 13.63% Asian, 7.95% Black, 3.40% Hispanic, and 3.40% members of other groups. Participants were randomly assigned to view one of four video clips that were expected to produce temporary happy, sad, angry, or fearful affective states.

Procedure

Participants completed the computer-based experiment in private. They first completed an affect manipulation task, followed by the TST, a questionnaire about the affect manipulation, and a demographics questionnaire. We told participants that they would be completing two separate and unrelated studies grouped together in the interest of time. The first (the affect manipulation) was introduced as a pre-testing study designed to help us select stimuli for use in an experiment to be conducted in a later semester. The second was introduced as a study about the self.

Affect manipulation. Participants’ affective states were manipulated using video clips. Given that our study investigates the impact of affect on conceptions of the self, we selected an affect manipulation that involved both an other-directed and outward focus of attention (see Carlson & Miller, 1987, for this distinction, and Sedikides, 1992, 1995, for similar reasoning relevant to a different manipulation). That is, the use of video clips allows for the manipulation of affective states without leading participants to think about the self as the target of an affective event and without

1 Data on racial identity were available for 88 participants.
explicitly leading participants to focus on their own thoughts and feelings about a self-relevant event. Thus, the use of videos serves to increase confidence that any effects that emerge are due to differences in induced affective states and are not due to self-related content associated with our affect manipulation.

All participants viewed the same initial video clip to provide a neutral baseline from which the target clip would alter their affective state. The neutral clip (a tutorial on candle making) also served to bolster our cover story that we were testing many different types of video clips for use in a later study. Following this initial clip, participants viewed one of four clips that were expected to elicit predominantly happiness, sadness, anger, or fear. Participants viewed one of the following: a brief clip of a contemporary stand-up comedian (happy condition), the famous choice scene from *Sophie’s Choice* (1982; sad condition), a segment from an ABC 20/20 interview with members of hate groups (angry condition), or a clip from the movie *Pacific Heights* (1990) in which a woman is unexpectedly attacked (fear condition).

**Twenty Statements Test (TST).** After viewing the video clips, all participants were introduced to a second “study” about the self. The Twenty Statement Test (TST; Kuhn & McPartland 1954) was then administered. Consistent with the instructions used by Cousins (1989), participants were told:

In the twenty blanks to follow, please make twenty different statements in response to the simple question, “Who am I?” Answer as if you are giving the answer to yourself, not to somebody else. Write your answers in the order they occur to you. Don’t worry about logic or importance. Go along fairly fast.

Participants were then presented one by one with twenty prompts of “I am____” into which they typed a response.

**Affect manipulation questionnaire.** Following the TST, participants were asked to think back to the target video that they viewed at the beginning of the session and indicate the extent to which they experienced numerous feelings (i.e., happy, sad, angry, and fearful) while watching it. Participants reported their responses along a scale from 1 (Not at all) to 5 (Extremely).²

**Demographic information.** Lastly, participants reported their age, gender, and race.

**Scoring**

**Twenty Statements Test.** The second author coded all responses to the TST while blind to experimental condition. Coding was done in accordance with the procedures outlined by Rhee, Uleman, Lee, and Roman (1995). Specifically, responses were coded into categories that reflect whether the responses are abstract or concrete. Consistent with the work by Rhee et al. (1995), abstract responses included pure traits (e.g., “I am kind”), autonomous emotional states (e.g., “I am happy”), and global descriptions (e.g., “I am a human being”). Concrete responses included qualified traits (e.g., “I am honest at work”), social identities (e.g., “I am a student”), specific attributes (e.g., “I am interested in travelling”), evaluative descriptions (e.g., “I am good in statistics”), physical descriptions (e.g., “I am thin”), social emotional states (e.g., “I am in love with Joe”), and peripheral information (e.g., “I am hungry”). A separate category containing uncodable responses (i.e., nonsense and repeat responses) was also created. Ninety-five percent of

²These questions were included at the end of the study rather than following the affect induction for two reasons. First, we did not want to draw participants’ attention to the fact that we were attempting to alter their affect. Second, if participants became aware that the videos may have affected their feelings before the TST data were collected, participants may have correctly attributed their affect to the video clips. Such attributions can result in the elimination of affective influences on subsequently measured variables (i.e., the TST), as we will demonstrate in Experiment 2. The measures that we used are limited in that they rely on participants’ recollections of their earlier feelings rather than capturing their actual feelings at the time they were manipulated. We addressed this concern in a follow-up study designed to test our manipulations directly.
all responses were codable and this number did not vary as a function of affect condition, $F(3, 120) < 1$. The proportion of abstract items listed was computed for each participant by dividing the number of abstract statements listed by the total number of codable statements. To establish reliability, a second independent coder blind to experimental condition coded 57 randomly selected participants. Agreement between coders on the total proportion of abstract statements was high, $r = .97, p < .001$.

**Results**

**Affect Questionnaire**

Participants’ responses to the four affect questions were analysed as repeated measures as a function of affect condition. As expected, a significant interaction emerged between affect condition and the repeated measures, $F(9, 360) = 42.00, p < .001, \eta^2 = .49$. Follow-up analyses of variance (ANOVAs) were conducted on each affect dependent variable separately. As expected, a main effect of affect condition emerged for each dependent variable. As shown in Table 1, participants exposed to the happy clip reported greater happiness than participants exposed to any of the other clips, those exposed to the anger clip reported greater anger than participants exposed to any of the other clips, and participants exposed to the fear clip reported greater fear than participants in any of the other conditions. Unexpectedly, participants exposed to the clip that was expected to elicit sadness reported less sadness ($M = 3.00$) than those exposed to the anger clip ($M = 3.72$), $t(120) = 2.51, p = .01$, Cohen’s $d = .53$.

Given the unexpected finding regarding the video clip we used to induce sadness, we conducted contrasts within the sad and angry video conditions between reported sadness and anger. These tests revealed that individuals in the sad condition recalled feeling as much sadness ($M = 3.00$) as anger ($M = 2.94$), $t(33) = 0.31, p = .76$, whereas those in the angry condition recalled feeling greater anger ($M = 4.19$) than sadness ($M = 3.72$), $t(31) = 2.09, p < .05$. These findings suggest that the video clip from Sophie’s Choice does not cleanly induce sadness. However, as shown in Table 1, participants in happy, fearful, and angry video conditions reported experiencing more happiness, fear, and anger respectively than any of the other emotions measured. Taken together, these results suggest confidence in these affect manipulations, but suggest some caution in interpreting results of our sad condition. Experiment 2 addressed this issue more fully, and we will return to this issue shortly.

**Twenty Statements Test (TST)**

The proportion of abstract items that each participant listed was analysed as a function of affect condition using ANOVA. As shown in Table 2, a significant main effect of affect

<table>
<thead>
<tr>
<th>Experiment 1</th>
<th>Happy video</th>
<th>Angry video</th>
<th>Sad video</th>
<th>Fearful video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td>4.04 (0.95)</td>
<td>1.03 (0.18)</td>
<td>1.59 (0.82)</td>
<td>1.59 (0.78)</td>
</tr>
<tr>
<td>Angry</td>
<td>1.42 (0.78)</td>
<td>4.19 (1.15)</td>
<td>2.94 (1.52)</td>
<td>2.29 (1.19)</td>
</tr>
<tr>
<td>Sad</td>
<td>1.21 (0.41)</td>
<td>3.72 (1.11)</td>
<td>3.00 (1.56)</td>
<td>2.06 (1.10)</td>
</tr>
<tr>
<td>Fearful</td>
<td>1.17 (0.48)</td>
<td>2.72 (1.46)</td>
<td>2.26 (1.26)</td>
<td>3.32 (1.49)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Experiment 2</th>
<th>Happy video</th>
<th>Angry video</th>
<th>Sad video</th>
<th>Fearful video</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td>3.80 (0.89)</td>
<td>1.03 (0.19)</td>
<td>1.18 (0.61)</td>
<td>1.50 (0.76)</td>
</tr>
<tr>
<td>Angry</td>
<td>1.40 (0.89)</td>
<td>4.45 (0.95)</td>
<td>1.93 (1.02)</td>
<td>2.81 (1.23)</td>
</tr>
<tr>
<td>Sad</td>
<td>1.43 (0.77)</td>
<td>3.45 (1.18)</td>
<td>4.39 (0.74)</td>
<td>2.12 (1.14)</td>
</tr>
<tr>
<td>Fearful</td>
<td>1.03 (0.18)</td>
<td>2.66 (1.34)</td>
<td>2.75 (1.27)</td>
<td>4.19 (0.90)</td>
</tr>
</tbody>
</table>

*Note:* Means not sharing a common subscript in a given row differ at $p < .05$. 
emerged, $F(3, 120) = 2.70$, $p < .05$, $\eta^2 = .06$. Planned contrasts confirmed that the differences in the proportion of abstract items listed as a function of affect are consistent with the hypotheses. First, as expected, there was no difference between the happy ($M = 0.53$) and angry ($M = 0.47$) conditions, $t(120) = 0.90$, $p = .37$. Likewise, the difference between the sad ($M = 0.37$) and fearful ($M = 0.38$) conditions was not significant, $t(120) = 0.17$, $p = .86$. Importantly, as expected, the proportion of abstract items listed by participants in the happy and angry conditions ($M = 0.50$) was significantly greater than the proportion listed by participants in the sad and fearful conditions ($M = 0.38$), $t(120) = 2.78$, $p = .006$, Cohen's $d = 0.50$.

**Discussion**

The results of this experiment are consistent with our hypotheses. Participants in the predominantly happy and angry conditions relied on more abstract concepts when generating information about themselves compared to participants in the sad condition, as well as those in the condition expected to elicit sadness. Although participants' recollections of how they felt in response to the videos revealed that our sad affect manipulation was not as strong as we would have liked, and in fact elicited only non-significantly more sadness than anger, this manipulation still had the predicted effect on how participants described themselves. It is worth noting that this same video clip has been used to manipulate affect in numerous studies and the results are generally consistent with expectations for sad affect inductions (e.g., Beukeboom & Semin, 2006; Martin, Ward, Achee, & Wyer, 1993; Ottati & Isbell, 1996). For example, Beukeboom and Semin (2006) found that participants described a life event in equally concrete terms regardless of whether they first viewed the *Sophie's Choice* clip or a clip about a family's loss of a newborn baby (which seems to be more clearly sad than *Sophie's Choice*). In both this study and in our study, the results are similar. That is, viewing *Sophie's Choice* led participants to use relatively concrete language. If the dominant emotional experience in *Sophie's Choice* was anger, we would have expected to see evidence of more abstract self-descriptions in our study.

Nonetheless, the apparent conflation of sadness and anger in our sad video condition is a limitation of this study. Further, measuring participants' recollections of how they felt earlier while watching the video clip is a less than ideal assessment of the affect that these videos elicited. Given these concerns, we conducted a follow-up study in which we examined individuals' affective reactions immediately after viewing the video clips.

**AFFECT MANIPULATION CHECK STUDY**

In addition to examining immediate affective reactions to the video clips used in Experiment 1, we included two additional video clips to be used in Experiment 2. Specifically, in Experiment 2 we included a new video clip that we expected would be more likely to elicit sadness rather than
anger. This clip, from the movie *One True Thing*, depicts a woman helping her very ill mother get out of the bathtub. In addition, because the comedian featured in our happy clip in Experiment 1 had declined in popularity shortly after we conducted the study, we tested a different video clip to induce happiness to be used in Experiment 2. Specifically, we selected a clip from the popular television show *The Simpsons*.

We randomly assigned 154 participants (47 males) to view one of the six clips before reporting the extent to which they were currently feeling sad, happy, angry, and fearful along a scale from 0 (Not at all) to 6 (Extremely). As shown in Table 3, the two happy clips elicited greater happiness than did any of the other video clips, the anger clip elicited more anger than the other clips, and the fear clip elicited more fear than any of the other clips. The sad video clip selected for use in Experiment 2 elicited as much sadness as the one used in Experiment 1, however the clip for Experiment 2 elicited significantly less anger than the one used in Experiment 1.

Within-subject analyses for each of the video conditions confirmed that the targeted emotion was experienced significantly more than each of the other emotions measured. Thus, the emotion that we intended to manipulate with each video clip was experienced significantly more than each of the other emotions measured, all ps < .05, and this was true even for the clip used for sadness (*Sophie’s Choice*) in Experiment 1. That is, this clip elicited significantly more sadness ($M = 5.87$) than anger ($M = 5.19$), $t(20) = 2.30$, $p = .03$.

Table 3. Mean affect ratings as a function of affect condition (Affect Manipulation Check Study)

<table>
<thead>
<tr>
<th>Affect condition</th>
<th>Happy video (Exp. 1)</th>
<th>Angry video (Exp. 1 &amp; 2)</th>
<th>Sad video (Exp. 1)</th>
<th>Fearful video (Exp. 1 &amp; 2)</th>
<th>Happy video (Exp. 2)</th>
<th>Sad video (Exp. 2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Happy</td>
<td>5.32 (1.09)$_a$</td>
<td>1.35 (0.94)$_b$</td>
<td>1.29 (0.59)$_b$</td>
<td>2.08 (1.28)$_c$</td>
<td>4.75 (1.35)$_d$</td>
<td>1.42 (0.58)$_h$</td>
</tr>
<tr>
<td>Angry</td>
<td>1.50 (0.96)$_a$</td>
<td>6.22 (1.13)$_b$</td>
<td>5.19 (1.64)$_c$</td>
<td>3.42 (1.56)$_d$</td>
<td>1.61 (1.13)$_a$</td>
<td>2.42 (1.30)$_e$</td>
</tr>
<tr>
<td>Sad</td>
<td>1.41 (0.91)$_a$</td>
<td>5.48 (1.38)$_b$</td>
<td>5.87 (1.59)$_b,c$</td>
<td>3.25 (1.51)$_d$</td>
<td>1.75 (1.14)$_a$</td>
<td>6.27 (0.78)$_c$</td>
</tr>
<tr>
<td>Fearful</td>
<td>1.05 (0.21)$_a$</td>
<td>3.78 (2.00)$_b$</td>
<td>3.71 (1.83)$_b$</td>
<td>5.13 (1.33)$_c$</td>
<td>1.57 (0.88)$_a$</td>
<td>3.42 (1.45)$_h$</td>
</tr>
</tbody>
</table>

*Note:* Means not sharing a common subscript in a given row differ at $p < .05$.

**EXPERIMENT 2**

Experiment 2 was conducted in an effort to achieve three goals. First, we sought to replicate the findings obtained in Experiment 1 using a manipulation of sadness that more clearly elicits sadness without accompanying anger. Second, we sought to test the affect-as-information approach directly. According to this approach, affect influences processing only under conditions in which current feelings are perceived to be relevant feedback about a task. When affective cues are discounted through an attribution to a source other than the task, these cues no longer influence processing (e.g., Beukeboom & Semin, 2006; Gasper, 2004; Hirt, Levine, McDonald, Melton, & Martin, 1997; Sinclair et al., 1994; see Schwarz & Clore, 1983). For example, the typical effects of mood on persuasion are eliminated when individuals are led to attribute their feelings to a task-irrelevant cause (i.e., the weather; Sinclair et al., 1994). Likewise, Beukeboom and Semin (2006) found that affect-induced differences in the use of abstract versus concrete...
language were eliminated when participants were first led to attribute their feelings to an affect induction. In Experiment 2 we included an attribution manipulation for half of our participants before they completed the TST. We expected that this manipulation would eliminate the influence of affect on the working self-concept.

Our third goal was to examine the possibility that the affect-induced self-abstraction effects that emerged in Experiment 1 were the result of differences in the valence of the statements that participants generated. For example, prior research has demonstrated that individuals tend to describe positive (vs. negative) attributes of the self and liked others using relatively more abstract concepts (John et al., 1991; Neff & Karney, 2002). Thus, it is possible that participants in happy and angry states generated a greater proportion of abstract statements because they simply generated more positive statements overall. Similarly, it is possible that those in sad and fearful states generated a smaller proportion of abstract statements (i.e., a relatively larger proportion of concrete statements) because they generated more negative statements overall. Thus, it is possible that the affect-induced abstraction effect that we found in Experiment 1 is masking a valence effect. We examined this possibility in Experiment 2.

Method

Participants and design
One hundred thirteen participants (97 females) completed this study for extra course credit. Participants’ ages ranged from 18 to 24 with 95% of the participants between 18 and 21 ($M_{age} = 19.62$ years, $SD = 1.32$). The vast majority (73.4%) identified as White, with 10.62% as Asian, 5.31% as Hispanic, 4.42% as Black, and 6.19% as members of other groups. Participants were randomly assigned to one of eight conditions in a 4 (happy, sad, angry, fearful) × 2 (no attribution vs. attribution condition) experimental design.

Procedure
Participants first completed an affect manipulation task and then were randomly assigned to either an affect attribution or a no attribution condition before completing the TST task described in Experiment 1. Participants then completed a filler task before evaluating the self-relevant statements that they generated earlier. Lastly, participants reported how they were feeling earlier in the experiment when they viewed the video clips.

Affect manipulation. For this study we used the same fear and anger videos that we used in Experiment 1; however as noted earlier, we selected a different video clip for the sad condition to evoke more pronounced feelings of sadness, and also selected a different clip to induce happiness. As in Experiment 1, all participants first viewed a neutral clip and then the target clip. Following the clips, half of the participants completed the TST, whereas the other half first completed the attribution manipulation.

Attribution manipulation. Participants in the attribution condition completed three brief questions designed to draw their attention to their current feelings and to the video clips as a possible source of their feelings (adapted from Beukeboom & Semin, 2006; Gasper & Clore, 2000). Participants were first asked a forced-choice question, “Which of the following best describes how you are feeling right now?” Options included happy, sad, angry, and fearful. After indicating how they were feeling, participants were asked, “To what extent do you think the way you are currently feeling is due to the movie clip you viewed?” and “To what extent do you think you would feel differently now if you did not just view the movie clip?” Response options for these questions included Not at all, A little bit, Somewhat, and Very much. After completing these questions, these participants then completed the TST.

Twenty Statements Test (TST). The TST was identical to the one used in Experiment 1.
Filler task. Following the TST, participants completed a four-minute filler task in which they listed as many of the states in the USA as they could. This purpose of this task was to allow some additional time to pass to allow the effects of the affect manipulation to dissipate before participants evaluated the statements that they listed on the TST (see Sedikides, 1994, for a similar procedure).

Statement ratings. Participants were next presented with each of the twenty statements that they had previously listed (one at a time) and were asked to evaluate each along a scale from −3 (Very negative) to +3 (Very positive).

Affect Questionnaire. The affect questions were identical to those used in Experiment 1.

Scoring the Twenty Statements Test. Responses to the TST were coded by the second author in accordance with the procedures outlined by Rhee et al. (1995) and used in Experiment 1. Ninety-eight percent of all responses were codable and the number of codable statements did not vary as a function of affect condition, \( F(3, 112) < 1 \). We computed the proportion of abstract items listed for each participant as in Experiment 1. To establish reliability, a second independent coder blind to experimental conditions coded 58 randomly selected participants. Agreement between coders on the total proportion of abstract statements was high, \( r = .97, p < .001 \).

Results and discussion

Manipulation Questionnaires

Affect manipulation. Participants’ responses to the affect questions were analysed as repeated measures as a function of affect and attribution conditions. As expected, no significant effects involving the attribution manipulation emerged, all \( p > .25 \); however, a significant interaction emerged between affect condition and the repeated measures, \( F(9, 315) = 84.72, p < .001, \eta^2 = .65 \). Follow-up ANOVAs were conducted on each affect variable separately (see Table 1). As expected, participants exposed to the happy clip reported greater happiness than participants exposed to any of the other clips, participants exposed to the angry clip reported more anger than those exposed to any of the other clips, those exposed to the sad clip reported greater sadness than those exposed to any of the other clips, and those exposed to the fear clip reported greater fear than those exposed to any of the other clips. Further, analyses within each video condition revealed that the emotion that we intended to manipulate was experienced significantly more than any of the others that we measured, all \( ps < .01 \).

Attribution manipulation. The attribution manipulation was designed to draw participants’ attention to the affect manipulation as a possible cause for their feelings. Overall, this manipulation was successful. When asked participants to identify the emotion that best described how they were currently feeling, 73.7% of the participants identified the emotion that we intended to manipulate, and responses were similar across affect-induction conditions, \( \chi^2(3) = 5.14, p = .16 \). In addition, regardless of affect condition, 84% of participants reported that their current feelings were due at least in part to the video clip they viewed (i.e., participants indicated that their feelings were a little bit, somewhat, or very much influenced by the video), \( \chi^2(3) = 4.29, p = .23 \). Eighty-two percent reported that they would feel differently if they had not just viewed the video clip (i.e., participants indicated that they would feel at least a little bit, somewhat, or very much different), \( \chi^2(3) = 3.63, p = .30 \).

Proportion of abstract statements listed on the TST

The proportion of abstract items that each participant listed was analysed as a function of affect and attribution conditions using ANOVA. As shown in Table 1, an interaction between affect and attribution conditions emerged, \( F(3, 105) = 2.94, p = .04, \eta^2 = .07 \). More refined analyses confirmed that the pattern of data is consistent with our hypotheses and replicates and extends the findings reported in Experiment 1.
No attribution condition. Among participants in the no-attribution condition, a significant main effect of affect emerged, $F(3, 53) = 3.27$, $p = .03$, $\eta^2 = .16$. As expected, we found no difference between the proportion of abstract items listed by sad ($M = 0.37$) and fearful ($M = 0.35$) participants, $t(53) = 0.29$, $p = .78$. The difference between happy ($M = 0.43$) and angry participants ($M = 0.60$) was marginally significant, $t(53) = 1.93$, $p = .06$, with angry participants listing a greater proportion of abstract items than happy participants. Importantly, consistent with predictions and the findings in Experiment 1, the proportion of abstract items listed by happy and angry participants ($M = 0.51$) was significantly greater than the proportion listed by sad and fearful participants ($M = 0.36$), $t(53) = 2.54$, $p = .01$, Cohen’s $d = .65$.

Attribution condition. As expected (and shown in Table 2), the influence of affect on participants’ responses to the TST was eliminated in the attribution condition, $F(3, 52) = 1.17$, $p = .33$.

Valence of abstract and concrete statements listed on the TST

To explore the possibility that the affect-induced self-abstraction effects that we found might be driven by differences in the valence of the statements that participants generated, we computed the average of each participant’s evaluations of their abstract statements and the average of their evaluations of their concrete statements. We analysed these variables as repeated measures as a function of affect and attribution conditions. If the abstraction effect were simply masking a valence effect, we would expect to find that the abstract statements that individuals generated were more positive than the concrete statements, regardless of affect condition. In fact, this was not the case. Overall, the abstract and concrete statements were evaluatively similar (1.68 vs. 1.74), $F < 1$.

It is also noteworthy that we did not find any evidence of a general affect congruency effect in which participants in the negative affect (i.e., sad, angry, fearful) conditions listed more negative information about themselves than did participants in the positive (i.e., happy) condition. That is, we found neither a main effect of affect condition, $F < 1$, nor an interaction between the affect and attribution conditions, $F(3, 105) = 1.80$, $p > .15$.

We did, however, find an interaction between affect, attribution condition, and statement type (abstract vs. concrete), $F(3, 105) = 2.56$, $p < .06$, $\eta^2 = .06$. Follow-up tests were conducted to reveal the nature of this interaction. As shown in Table 3, an interaction between affect and statement type emerged in the no attribution condition, $F(3, 53) = 3.27$, $p = .03$, $\eta^2 = .15$; however, no significant effects emerged in the attribution condition, all $p s > .32$. The interaction in the no attribution condition revealed that the mean evaluation of happy and angry participants’ abstract statements is more positive than the mean evaluation of their concrete statements ($M_{\text{diff}} = 0.70$). In contrast, the mean evaluation of sad participants’ concrete statements is more positive than the mean evaluation of their abstract statements ($M_{\text{diff}} = -0.41$), $t(53) = 2.94$, $p = .005$, Cohen’s $d = 0.89$. No differences emerged on evaluations of concrete and abstract statements among participants in the fearful condition ($M_{\text{diff}} = -0.04$). Taken together, these results demonstrate that happy, angry, and sad participants generated more favourable statements about themselves when their affective states matched (rather than mismatched) the abstraction level of the statements they generated. In the general discussion section, we will consider the possibility that such effects may reflect attempts at affect regulation.

Supplementary analysis. Prior research investigating positive and negative moods has demonstrated that when individuals are asked to provide self-descriptions, the first half of these descriptions tend to be affect congruent, but the second half may sometimes be affect incongruent for all participants (Forgas & Ciaramidaro, 2002), or for only sad participants (Sedikides, 1994). This research suggests that participants may engage in valence-based regulatory strategies in an effort to manage their affect. For example, individuals experiencing a negative affective state may initially
list affect congruent (i.e., negative) statements about themselves, but after a bit of time has passed, they may begin to list more favourable statements in an effort to improve how they feel.

To explore this possibility, we examined the mean evaluations of the abstract and concrete statements that participants generated in each half of the TST as repeated measures as a function of affect and attribution conditions. This analysis revealed the same interaction between affect, attribution, and statement type that we just described, $F(3,105) = 3.18, \ p = .03, \ \eta^2 = .07$. Importantly, however, this interaction was not contingent upon the first or second halves of the TST, $F(3, 105) = 1.18, \ p = .32$. Thus, the interaction that we described earlier (see Table 4) generalises across both halves of the TST. These findings suggest that affect regulation strategies of the type identified by Forgas and Ciarrochi (2002) and Sedikides (1994) did not operate in our study.

Conclusions
The results obtained in the no-attribution condition in this experiment replicate the pattern obtained in Experiment 1. That is, individuals exposed to predominantly happy or anger-inducing videos described themselves in more abstract language than did individuals exposed to predominantly sad or fear-inducing videos. Our results suggest that these findings are not due to participants describing negative self-relevant information at lower levels of abstraction than positive information (see John et al., 1991; Neff & Karney, 2002). Rather, our results provide evidence that affective cues served an informative function that influenced the extent to which individuals relied on abstract versus concrete concepts when describing the self. That is, consistent with research in the affect-as-information tradition (e.g., Beukeboom & Semin, 2006; Hirt et al., 1997; Sinclair et al., 1994), we found that when participants first attributed their affective cues to the affect manipulation, the influence of affect on self-descriptions was eliminated.

GENERAL DISCUSSION
The results of this work extend the affect and self literatures in several important ways. First, this research demonstrates that predominantly happy and angry states lead individuals to rely on more abstract concepts when describing themselves than do predominantly sad and fearful states. These results are consistent with a growing body of research on the influence of affect on cognition, which reveals that different affective states influence the extent to which individuals rely on global versus concrete information in many tasks (e.g., Beukeboom & Semin, 2005, 2006; Bless, 2000, 2001; Bless & Fiedler, 1995; Bodenhausen, Kramer, et al., 1994; Bodenhausen, Sheppard, et al., 1994; Isbell, 2004; Isbell et al., 2005; Isbell, Lair, & Rovenpor, in press; Parker & Isbell, 2010; Tiedens & Linton, 2001; see Isbell & Lair, in press, for a review). Consistent with recent

Table 4. Mean evaluation of abstract and concrete statements as a function of affect and attribution conditions (Experiment 2)

<table>
<thead>
<tr>
<th>Affect condition</th>
<th>Happy video</th>
<th>Angry video</th>
<th>Sad video</th>
<th>Fearful video</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No Attribution</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstract statements</td>
<td>1.99 (0.61)</td>
<td>2.32 (0.60)</td>
<td>1.12 (1.90)</td>
<td>1.76 (1.29)</td>
</tr>
<tr>
<td>Concrete statements</td>
<td>1.20 (1.00)</td>
<td>1.71 (1.25)</td>
<td>1.53 (0.99)</td>
<td>1.80 (0.85)</td>
</tr>
<tr>
<td>Difference</td>
<td>0.79 (1.05)</td>
<td>0.61 (1.04)</td>
<td>$-.41 (1.42)$</td>
<td>$-.04 (1.19)$</td>
</tr>
<tr>
<td><strong>Attribution</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abstract statements</td>
<td>1.75 (1.77)</td>
<td>1.65 (1.43)</td>
<td>2.04 (1.06)</td>
<td>1.32 (1.08)</td>
</tr>
<tr>
<td>Concrete statements</td>
<td>1.86 (1.11)</td>
<td>2.03 (0.93)</td>
<td>2.10 (0.85)</td>
<td>1.25 (1.26)</td>
</tr>
<tr>
<td>Difference</td>
<td>$-.11 (1.48)$</td>
<td>$-.38 (0.90)$</td>
<td>$-.06 (0.83)$</td>
<td>$0.07 (0.98)$</td>
</tr>
</tbody>
</table>

*Note: Means not sharing a common subscript differ at $p < .05$.  

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research and theorising (e.g., Clore & Huntsinger, 2009; DeSteno et al., 2000; Isbell et al., in press; Keltner et al., 1993; Lerner & Keltner, 2000, 2001; Tiedens & Linton, 2001; see Isbell & Lair, in press, for a review), our findings further demonstrate that different types of negative experiences can have different effects and must not be theoretically or methodologically lumped together.

Our results provide support for the affect-as-information model in which cues associated with affect are attributed to a task and used as information that serves to guide cognitive processing (e.g., Clore et al., 2001, Schwarz, 1990, Schwarz & Clore, 2007; Wyer et al., 1999). Our results are consistent with prior work that suggests that information relevant to appraisal dimensions other than valence are attributed to a task and used as information (e.g., DeSteno et al., 2000; Keltner et al., 1993; Lerner & Keltner, 2000, 2001; Parker & Isbell, 2010; Tiedens & Linton, 2001). In the happy and angry conditions, appraisals of certainty likely played a role in promoting reliance on abstract concepts, whereas in the sad and fearful conditions, appraisals of uncertainty likely played a role in increasing reliance on more concrete concepts (see Tiedens & Linton, 2001).

Lastly, our finding that participants in the attribution condition (Experiment 2) were not influenced by their feelings when responding to the TST is consistent with the affect-as-information framework and with prior research (e.g., Beukeboom & Semin, 2006; Gasper, 2004; Hirt et al., 1997; Sinclair et al., 1994). That is, affective cues are only expected to influence processing under conditions in which they are perceived to be relevant in a given task. Under conditions in which these cues are discounted, they no longer influence processing, as we found in Experiment 2.

Alternative theoretical accounts

Affect priming

Our findings are inconsistent with an alternative account that maintains that affective states can prime similarly valenced information in memory (Bower, 1981; Eich & Forgas, 2003). According to priming accounts, affective states serve to activate affect-congruent information in memory and, consequently, should have led our participants in negative states to generate relatively more negative information about themselves than those in happy states. The result of Experiment 2 failed to reveal any evidence of affect-congruency.

Although much of the earliest research exploring the impact of affect on the self-concept examined happy and sad moods, and frequently reported mood-congruency effects (e.g., Sedikides, 1992), later work revealed that these effects are less robust and more circumscribed than originally believed (see Sedikides & Green, 2001). For example, mood-congruency effects emerge among individuals in happy and sad moods for peripheral but not central self-conceptions (Sedikides, 1995), for initial self-descriptions, but not later descriptions (Forgas & Ciarrochi, 2002; Sedikides, 1994), and for self-judgements that involve self-focus, but not for those that initially involve a focus on others (Detweiler-Bedell, Detweiler-Bedell, & Salovey, 2006). In line with these qualifications, our results suggest that affect congruency effects may not emerge in the traditional TST task that is often used in the self literature. Further, our findings leave questions unanswered about the extent to which affect-congruency effects are likely to emerge for specific emotional experiences that are similar in valence (e.g., anger, fear, sadness), but differ in other ways (e.g., certainty). This represents an interesting avenue for future research.

Affect regulation

We suggested that our findings reflect the informational consequences of affective states on individuals’ working self-concept, but we also considered the possibility that individuals may have attempted to regulate their affect while completing the TST. Prior research found that all participants (Forgas & Ciarrochi, 2002), or only sad participants (Sedikides, 1994) listed affect-incongruent statements in the second half of a self-description task, which has been interpreted as evidence that participants at-
tempted to regulate their affect. The results of Experiment 2 demonstrated that the statements that our participants listed were evaluatively similar in both halves of the TST, suggesting that this form of affect regulation did not occur.

Different procedures in our studies compared to earlier ones may account for these divergent results. In our studies participants were required to generate 20 self-descriptive statements quickly and, on average, they completed this task in 3.10 minutes. In contrast, Sedikides’ (1994) participants were given six minutes to generate self-relevant information and produced an average of 15.50 statements (in the happy and sad conditions combined). Forgas and Ciarrochi’s (2002) participants were encouraged to generate information quickly, but no other constraints on the task were reported. These participants generated an average of 36 statements across affect conditions. Given these differences between our work and prior research, it is possible that the more constrained nature of our task reduced the likelihood that such affect regulation strategies were activated.

Nonetheless, it is possible that our finding regarding the types of statements that participants generated may reflect a different form of affect regulation. That is, given that the mean evaluation of the concrete statements that sad participants listed is more positive than the mean evaluation of the abstract statements that they listed, generating concrete statements may have served to enhance affect for these participants. Similarly, given that happy and angry participants generated more positively evaluated abstract statements than concrete ones, generating more abstract statements may have helped these participants to maintain or enhance their affect. The lack of an evaluative preference for different statements among individuals experiencing fear argues more definitively against affect regulation in this condition.

To explore the possibility that the types of statements (abstract vs. concrete) that participants listed in the different affect conditions may reflect affect regulation, we examined the influence of affect on the proportion of abstract statements generated in each half of the TST in Experiment 1 and in the no attribution condition of Experiment 2. We predicted that a stronger abstraction effect on the second half of the TST would suggest evidence of affect regulation. We found no significant effects involving the first versus second halves of the TST, all $p > .26$. Nonetheless, our failure to find this effect does not definitely rule out the possibility that affect regulation may have played some role in producing the affect-induced self-abstraction effects that we reported. It is noteworthy, however, that the elimination of these effects in the attribution condition in Experiment 2 is inconsistent with such an interpretation. Nonetheless, future research is needed to more fully investigate the possibility that generating abstract versus concrete statements while experiencing different affective states can serve as a means to regulate affect.

Conclusions

Despite the tradition of researchers to investigate the impact of diffuse positive and negative affect states on cognition, recent work suggests that such an approach represents an oversimplification of both the complexities of affective experiences as well as the effects of such experiences (see Isbell & Lair, in press, for a review). The results of our work are consistent with this view. That is, our research demonstrates that not only affective valence, but also other appraisals (e.g., certainty) may serve as a source of information and may guide processing. Indeed the multitude of ways in which affect may influence cognition is impressive, and our work contributes to this growing body of literature by uncovering a new way in which affective experiences can influence the self-concept.

Our research demonstrates that the way one responds to the question “Who am I?” depends on how one feels at the moment. When individuals are happy or angry, they tend to see themselves in relatively global, abstract terms, and respond with statements such as “I am a human being” or “I am honest”, whereas when they are sad or fearful they tend to see themselves in relatively concrete terms and respond with statements such as “I am hungry” or “I am sitting at a desk”. Differences in abstract versus concrete representations of the
self are associated with differences in self-esteem and depression (Karpinski et al., 2007), as well as differences in individuals’ predictions of their future behaviour across situations (Wakslak et al., 2008). Future research is needed to determine the affective, cognitive, and behavioural consequences of these affect-induced differences in self-abstraction. Such work will also serve to further our understanding of the complex and downstream influences of a variety of different affective experiences.

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