

Attitudes Toward Emotions

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The present work outlines a theory of attitudes toward emotions, provides a measure of attitudes toward emotions, and then tests several predictions concerning relationships between attitudes toward specific emotions and emotional situation selection, emotional traits, emotional reactivity, and emotion regulation. The present conceptualization of individual differences in attitudes toward emotions focuses on specific emotions and presents data indicating that 5 emotions (anger, sadness, joy, fear, and disgust) load on 5 separate attitude factors (Study 1). Attitudes toward emotions predicted emotional situation selection (Study 2). Moreover, attitudes toward approach emotions (e.g., anger, joy) correlated directly with the associated trait emotions, whereas attitudes toward withdrawal emotions (fear, disgust) correlated inversely with associated trait emotions (Study 3). Similar results occurred when attitudes toward emotions were used to predict state emotional reactivity (Study 4). Finally, attitudes toward emotions predicted specific forms of emotion regulation (Study 5).

Keywords: discrete emotions, approach motivation, withdrawal motivation, emotion regulation, behavioral activation system (BAS)

Emotions pervade subjective experience (Izard, 2009), and although often perceived as a single subjective state, emotional experience is likely composed of many different elements. Tomkins (1962, 1963) and others (Ellsworth, 1994; Izard, 1971) suggested that the evaluation of an emotion is part of the experience of emotion. Although the importance of attitudes toward emotions was recognized almost half a century ago, the empirical study of them has been rather limited. Most research on this topic has examined cultural differences in attitudes toward emotions and not examined how these attitudes relate to other emotion-related variables.

The present research takes a new perspective on attitudes toward emotions. By attitudes, we mean subjective evaluations that range from good to bad that are represented in memory; this definition is consistent with social psychological definitions of attitudes (Olson & Zanna, 1993). In this research, we examine the relationship between attitudes toward the private experience of emotions and different aspects of emotional experience and responding. We outline a theory of attitudes toward emotions, present a new method for their measurement, and test specific aspects of the

theory by assessing relationships between attitudes toward specific emotions and emotional traits, emotional reactivity, emotional situation selection, and emotion regulation.

Review of Past Research on Attitudes Toward Emotions

Izard (1971) considered attitudes toward emotions as part of the emotional experience. Most of the questions on his scale asked participants to indicate one of the fundamental emotions as the answer. For example, one question asked, “Which emotion do you most prefer to experience?” Other questions concerned understanding emotions and frequency of experience. Thus, this questionnaire measured concepts that are not considered attitudes in contemporary attitudes research, and its attitude questions assessed one-word (emotion) responses, making it difficult to conduct linear analyses. Subsequent research on attitudes toward emotion used similar measurements (Sommers, 1984). Moreover, this research focused on cultural differences.

More recently, Eid and Diener (2001) found that different cultures have different norms for the expression and experience of various emotions. In their work, participants indicated “how appropriate or desirable it is to experience certain emotions,” and responses to several one-item questions for each emotion were assessed. They found a number of differences in the desirability of different emotions across cultures. For example, individuals in individualistic cultures are more likely to believe that pride is a desirable emotion, whereas individuals in collectivist cultures are more likely to believe that guilt is a desirable emotion. Eid and Diener noted that their results cast doubt on the classification of emotions as positive or negative, because an emotion that is

This article was published Online First August 15, 2011.

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This research was funded in part by grants from the National Science Foundation (BCS 0643348 and BCS 0921565) awarded to Eddie Harmon-Jones.

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considered negative in one culture may be considered positive in another culture.

Tsai, Knutson, and Fung (2006) proposed affect valuation theory. It proposes that (a) ideal affect, the states that people value and would ideally like to feel, differs from actual affect, the states that people actually feel; and that (b) cultural factors shape ideal affect more than actual affect, whereas temperament shapes actual affect more than ideal affect. Affect valuation theory proposes that ideal affect refers to a goal and that actual affect refers to a response. Whereas ideal affect requires some understanding of different affective states and their contingencies, actual affect does not. Finally, because this theorizing assumes that most people want to feel good, ideal affect should primarily involve different positive states, whereas actual affect should instead involve the entire spectrum of affective states. Moreover, variation in ideal affect is predicted to be primarily due to cultural ideas and practices. Building on a Valence \times Arousal model of affect, Tsai and colleagues assessed ideal values for positive versus negative valence as a function of low versus high arousal. European Americans were found to value high-arousal positive states more and low-arousal positive states less than Chinese individuals (Tsai, 2007).

A Theory of Attitudes Toward Emotions

The present work on attitudes toward emotions extends past work. We conceive of emotional experience as involving many elements. Individuals report differences in feelings of arousal and valence. Individuals also have subjective experiences of the action tendencies of emotions (Frijda, 1986). And there are likely many other aspects that compose emotional experience. We posit that part of emotional experience may be the subjective evaluation of the private emotional experience or the attitude toward emotion. An individual in a bout of anger may feel aroused, may feel negative about the perceived cause of the anger, may feel tendencies toward screaming, and may really dislike the experience of anger.

Our theory begins by predicting that attitudes toward emotions are organized in a discrete emotions framework; that is, individuals should have distinct attitudes toward discrete emotions, and not simply attitudes toward valence and arousal dimensions. It further predicts that attitudes toward discrete emotions should predict emotion situation selection, such that disliking of particular emotions should be associated with avoidance of situations that would evoke those emotions. The theory also predicts that attitudes toward discrete emotions will relate to trait and state emotions but that the direction of those relationships will depend on the approach versus avoidance quality of the emotion. That is, approach-oriented emotions (e.g., joy, anger) should be liked the more they are experienced, whereas avoidance-oriented emotions (e.g., fear, disgust) should be disliked the more they are experienced. Finally, the theory predicts that attitudes toward emotions will relate to the down-regulation of emotion, such that, for example, more dislike of fear should relate to more avoidance of fear particularly once fear is evoked. The reasoning underlying these theoretically based predictions is expanded upon below.

The present conceptualization is similar to past work. However, unlike past work, the present theory focuses on liking for specific emotions, not ideal dimensional states as in affect valuation theory.

Also, our conceptualization emphasizes a specific emotion perspective that is interested in differences between emotions such as fear and anger—emotions that are considered similar in the ideal affect framework, given that both are high in negative valence and arousal. In addition, the present work focuses on attitudes toward emotions rather than subjective norms about emotions, as in Eid and Diener (2001). Moreover, it goes beyond past work that has focused primarily on cultural differences (as in Eid & Diener, 2001; Tsai et al., 2006), by examining individual differences in attitudes toward emotions within a culture and how they predict other important emotion-related variables.

We believe that both discrete and dimensional approaches are important, and their importance for a given research question likely depends on the level of analysis of the emotional process under consideration (e.g., feeling, physiology, behavioral expression). Several dimensions likely underlie discrete emotions. Valence and arousal dimensions have received much research attention, but they do not fully capture emotional space, as research has revealed important distinctions between fear and anger (Carver & Harmon-Jones, 2009; E. Harmon-Jones & Peterson, 2008; Lerner & Keltner, 2001; Mendes, Major, McCoy, & Blascovich, 2008), two emotions that occupy identical space in a Valence \times Arousal model. Adding the dimension of motivational direction—approach versus withdrawal—assists us in understanding some differences between anger and fear, as anger is often approach motivating (Carver & Harmon-Jones, 2009), whereas fear is often withdrawal motivating (K. A. Buss et al., 2003). However, the addition of motivational direction does not assist in separating fear from disgust. Indeed, other dimensions beyond valence, arousal, and motivational direction are important in characterizing emotions (Frijda, & Tcherkassof, 1997).

In agreement with past research showing many cultural similarities in attitudes toward emotions, our theory predicts that the range and quality of individual differences in attitudes toward emotions are likely restricted by evolutionary, universal mechanisms. In other words, attitudes toward positive emotions, such as joy, are likely more positive than attitudes toward negative emotions, such as anger, fear, sadness, and disgust. For example, organisms that lacked a sufficiently negative experience of fear would lack the motivation to flee threats.

In addition, the present work should aid in defining the subjective valence of the emotion. In discussing definitions of emotional valence, Lazarus (1991) noted that emotions can be regarded as positive or negative on the basis of (a) the conditions that evoked the emotion, (b) the emotion's adaptive consequences, or (c) the emotion's subjective feel. Attitudes toward emotions concern this latter definition. For example, negative emotions such as anger or fear may vary in how negatively they are experienced by individuals, depending on the degree to which an individual likes or dislikes the subjective experience associated with the particular emotion. Indeed, discrete emotion theorist Paul Ekman (2003, p. 190) suggested that the liking or enjoyment of emotions may underlie which emotions are thought of as positive or negative: "Just as there is a set of distinctive emotions that we usually don't enjoy feeling, there is a set of distinctive emotions that we do enjoy feeling."

By incorporating the concept of evaluations or attitudes toward emotions into research and theory on emotion processing and reactions, we should be better positioned to understand and predict

emotional behaviors. Below, we advance some specific predictions that follow from considering attitudes toward specific emotions as vital parts of emotional experience.

Prediction 1: Attitudes Toward Emotions Organize in a Discrete Emotions Framework

We expected that attitudes toward emotions would organize in a discrete emotions framework. In these initial tests of our model, we focused on attitudes toward anger, fear, disgust, sadness, and joy. These emotions were chosen because they are the most frequently examined emotions in past research (Ekman, 2003). Anger, fear, disgust, and sadness are classified as negative emotions, and joy is classified as a positive emotion (Lazarus, 1991). In addition to these valence differences, these emotions differ in arousal level and motivational direction. Regarding arousal level, anger, fear, disgust, and joy are typically considered to be more arousing than sadness (Lang, Bradley, & Cuthbert, 1990). Regarding motivational direction, anger and joy are typically considered to be moderate to high in approach motivation. In contrast, fear and disgust are considered to be moderate to high in withdrawal motivation (Carver & Harmon-Jones, 2009). Sadness is often characterized as a low approach emotion (Carver, 2004; Henriques & Davidson, 2000; Higgins, Shah, & Friedman, 1997), but at other times, it is characterized as a withdrawal emotion (K. A. Buss et al., 2003). Consistent with the idea that sadness is associated with approach, sadness occurs following failure when individuals are in an approach motivational orientation (Carver, 2004; Higgins et al., 1997).

Prediction 2: Attitudes Toward Emotions Influence Emotional Situation Selection

Attitudes toward emotions are predicted to influence the emotional situations individuals select. We predicted that the majority of individuals would like joy and dislike fear, disgust, anger, and sadness; however, the degree to which individuals like and dislike these emotions will vary. Just as persons with greater dislike of sushi are more likely to avoid situations where sushi might be encountered (compared to individuals with a slight dislike for sushi), persons who greatly dislike fear should be more likely to avoid situations that arouse fear (compared to persons with lesser dislike for fear), and persons who greatly dislike disgust should be more likely to avoid situations that arouse disgust. Similarly, persons with greater dislike for anger should be more likely to avoid angering situations, and persons with greater dislike for sadness should be more likely to avoid situations that arouse sadness. Finally, persons with greater liking for joy should be more likely to approach situations that arouse joy than persons with lower liking for joy.

Prediction 3: Individual Differences in Attitudes Toward Emotions Are Related to Trait Emotions

We predicted that attitudes toward specific emotions would be related to those specific emotions at the trait level. We assumed that the experience of emotions would influence the attitudes individuals have toward these emotions (and vice versa). This prediction that attitudes toward emotions relate to trait emotions

differs from the prediction advanced by affect valuation theory, which predicts that variation in ideal affect is primarily due to cultural ideas and practices.

Building on work illustrating the importance of the dimension of motivational direction in emotions (C. Harmon-Jones, Schmeichel, Mennitt, & Harmon-Jones, 2011; E. Harmon-Jones, 2003), we predicted relationships of different directions (direct vs. inverse) between trait emotions and attitudes toward those emotions.¹ For approach-oriented emotions, such as anger and joy (Carver & Harmon-Jones, 2009), we predicted that higher trait levels of the emotion would relate to greater liking of the emotion. In contrast, for withdrawal-oriented emotions, such as fear and disgust, we predicted that higher trait levels of the emotion would relate to greater disliking of the emotion.

Approach- and withdrawal-oriented emotions may relate in different directions to attitudes toward emotions, because both emotions and attitudes toward emotions assist in guiding and energizing behavior. They both assist in motivating behavior that corresponds to the emotion itself. Fear and the dislike of fear both promote avoidance motivation. When individuals are afraid, they are motivated to avoid the situation causing the fear. Similarly, if they dislike the experience of fear, they should be even more motivated to avoid the fear and consequently the situation causing the fear. Anger, on the other hand, promotes approach motivation, the urge to act outwardly on the environment (Carver & Harmon-Jones, 2009; Ford et al., 2010). When individuals are angry, they are motivated to approach the situation or anger-eliciting target. If they like the experience of anger, they should be even more motivated to approach the feeling of anger as well as the anger-eliciting situation or target.

This hypothesis that subjective emotional intensity and attitudes toward emotion should be directly correlated for approach emotions and inversely correlated for withdrawal emotions, because both emotional intensity and attitudes assist in motivating behavior that corresponds to the emotion itself, may be similar to findings in attitudes/emotions research. For instance, approach-related actions are typically associated with more liking, whereas withdrawal-related actions are typically associated with more disliking (Cacioppo, Priester, & Berntson, 1993). This work examined the effects of approach versus withdrawal actions on attitudes toward neutral or ambiguous external stimuli. But the process could be similar for internal stimuli such as emotions. Approach-related actions associated with anger may lead to more liking of the internal experience of anger, whereas the withdrawal-related actions associated with fear may lead to more disliking of the internal experience of fear. Past research has revealed that trait anger is directly related to attitudes toward anger (E. Harmon-Jones, 2004), but no research has examined relations between other attitudes toward emotions and other trait emotions.

¹ When describing the direction of correlations, we use the terms *direct* and *inverse* to denote positive and negative correlations, respectively. We do this to avoid confusion when describing correlations involving positive and negative emotions or attitudes.

Prediction 4: Attitudes Toward Emotions Influence Emotional Reactions

We predicted that attitudes toward emotions would influence emotional reactions to emotionally evocative situations. As with the relations with trait emotions, the directions of these correlations between attitudes toward emotions and emotional reactions were predicted to vary as a function of whether the emotions are approach or withdrawal motivated. That is, liking of approach-oriented emotions, such as joy and anger, should be associated with more intense joy and anger reactions in situations evoking joy or anger, respectively. In contrast, liking of withdrawal-oriented emotions, such as fear and disgust, should be associated with less intense fear and disgust reactions in situations evoking fear or disgust, respectively.

Combining Predictions 2, 3, and 4, the following emerges: If people dislike fear greatly, then they are predicted to experience more fear when exposed to a fearful situation and to be more fearful generally. Also, individuals who greatly dislike fear will attempt to avoid fearful situations. One may then wonder why individuals with greater dislike for fear would experience more fear. That is, if these people avoid fear-evoking situations, then they should have no fear. We propose that it is almost impossible to successfully avoid all fear-producing stimuli. Fear-evoking stimuli—heights, angry dogs, symptoms of deadly diseases, natural disasters, insects, and so forth—may be encountered at any time, even if one avoids voluntarily encountered fear-evoking situations such as scary movies or skydiving. Thus, individuals who greatly dislike fear may attempt to avoid fearful situations but are unlikely to be completely successful, and consequently they continue to experience much fear.

Prediction 5: Attitudes Toward Emotions Influence Emotion Regulation

Our conceptualization of attitudes toward emotions has implications for emotion regulation processes. Individuals often attempt to reduce their experience of negative emotions. Perhaps one reason they are motivated to “down-regulate” their negative emotions is because they dislike the negative emotion. However, to our knowledge, this assumption has not been tested empirically. We predicted that attitudes toward negative emotions such as fear should predict attempts to down-regulate that emotion. Specifically, individuals who strongly dislike a particular emotion should be more motivated to down-regulate that emotion compared with individuals who dislike that emotion less.

The Present Research

The present research was designed to test the predictions of our model outlined above. To this end, we conducted five studies to establish the validity and utility of the attitudes toward emotions (ATE) construct. In Study 1, we conducted tests of the psychometric properties of the ATE, examining its factor structure and internal consistency. Then, we tested whether the ATEs would predict the choice to view specific emotional stimuli (Study 2). We then examined the ATE’s relationships with affective traits (Study 3) and emotional reactivity (Study 4). Finally, we examined im-

plications of attitudes toward emotion for emotion regulation (Study 5).

Study 1

Study 1 was conducted to test the factor structure and reliability of the ATE. It was also conducted to examine intercorrelations among ATE subscales and to test mean-level differences between these subscales.

Method

Participants were from two samples of college students who participated in exchange for extra credit in their introductory psychology course. The first sample comprised 1,523 participants and the second sample comprised 1,041 participants.²

Both samples completed the Attitudes Toward Emotions Scale (ATE; see Table 1) in group sessions. Participants were given the following instructions: “There are no right or wrong answers for the following questions. Please answer honestly based on how *you* feel. Thank you very much for your participation. Please answer each question using the scale provided below.” Ratings were made on the following scale: 1 = *rarely/never*, 2 = *occasionally*, 3 = *sometimes*, 4 = *often*, 5 = *almost always/always*. Items for the ATE were generated on the basis of their face validity regarding the underlying construct. For example, attitudes toward anger were measured by asking participants to rate the frequency with which they liked various aspects of angry experiences. The current Attitudes Toward Anger measure contained a subset of items from the previously published Attitudes Toward Anger Scale (E. Harmon-Jones, 2004).

Results

Exploratory factor analysis. In light of concerns over the use of only one type of factor analysis for evaluating personality scales (Hopwood & Donnellan, 2010), we conducted exploratory and confirmatory factor analyses. An exploratory principal components analysis with varimax normalized rotation was conducted on the first sample. It revealed five components with eigenvalues greater than 1.0. The scree plot analysis also supported a five-factor solution. For each component, items from a sole ATE subscale loaded on that particular component (>.40), and no cross-loadings resulted. Individual loadings are shown in Table 1.

Confirmatory factor analysis. Our next goal was to determine whether the ATE was composed of attitudes toward five different emotions, using confirmatory factor analysis, which permits a statistical test of the fit of the theoretical model against the actual data. We first tested the fit to our five-factor model, which has attitudes toward each of the five specific emotions on separate factors. A second confirmatory factor analysis tested a two-factor valence-based model that has one factor for positive emotions and one factor for negative emotions. A third confirmatory factor analysis tested a three-factor Valence \times Arousal model; it has one factor for high-arousal negative emotions (anger, disgust, fear), another factor for low-arousal negative emotions (sadness), and another factor for positive emotions (joy; low- to high-arousal

² Gender information was not collected in Studies 1 or 2.

Table 1
Scale Items and Loadings of Items on Five Principal Components

Subscale and item	Loading
Attitude Toward Anger	
I like the feeling of increased energy I get from expressing my anger.	.80
I like the feeling of power I get from expressing my anger.	.85
I like it when I feel like yelling at someone.	.77
I dislike how it feels when I am angry.	-.50
I like how it feels when I am furious.	.67
Attitude Toward Joy	
I do not really enjoy the moments in my life when I am happy.	-.64
I like experiencing joy.	.79
I prefer to hang around with people who make me happy.	.73
I really like feeling happy.	.80
I like conversations that make me feel happy.	.79
Attitude Toward Sadness	
I like it when movies make me feel sad, the sadder the better.	.77
If someone describes a movie as a real "tear jerker," I am sure to avoid it because I don't like feeling sad.	-.55
I like thinking about sad things.	.56
I find myself reading sad books.	.67
I can enjoy a conversation even though it makes me sad.	.59
If a book, movie, or TV show makes me cry, I know I've really enjoyed it.	.72
Attitude Toward Disgust	
If I hear something disgusting, I will listen to it again on purpose.	.74
If I see something disgusting, I will look at it again on purpose.	.77
I do not enjoy doing things that I find disgusting.	-.44
If I smell something disgusting, I will smell it again on purpose.	.68
I like doing things that I find disgusting.	.70
If I feel something disgusting, I will feel it again on purpose.	.75
Attitude Toward Fear	
I like to do things that scare me.	.76
I do things just because they scare me.	.75
I like being scared.	.79
I seek out things that scare me.	.83
I dislike being scared.	-.79
I dislike doing things that scare me.	-.74

Note. Items are from the Attitudes Toward Emotions Scale. Loadings are from the principal components analysis.

positive emotions were not included because of our five-factor model prediction). A fourth and final confirmatory factor analysis was conducted to test a one-factor model that has attitudes for all five emotions loading on one global factor. Comparison of the fit of these four models was also performed.

Fit to five-factor model. To assess the goodness of fit of the five-factor solution, the 28 items were submitted to a confirmatory factor analysis with the initial model based on the prediction that five emotion-specific factors existed. All factors were allowed to covary, and the method of estimation was generalized least squares.

Indices of fit indicated that the five-factor model was acceptable. That is, the Steiger-Lind root-mean-square error of approximation (RMSEA) for the five-factor model was acceptable (.0497, 90% CI [.0467, .0527]). The Jöreskog goodness-of-fit index (GFI) and the adjusted goodness-of-fit index (AGFI) were also acceptable (.92 and .90, respectively). These results suggest that participants hold distinct attitudes toward each of the five emotions included in the ATE.

Fit to two-factor model. We next tested the fit of a two-factor "valence" model, in which one factor included all of the negative emotions and the other factor included the positive emotion. The Steiger-Lind RMSEA for the two-factor model

was not acceptable (.0675, 90% CI [.0646, .0704]). The Jöreskog GFI and AGFI were inferior to those for the five-factor model (.86 and .84, respectively).

Comparison of the difference in chi-square between the five-factor model and the two-factor model revealed that the five-factor model was a better fit than the two-factor model, difference in $\chi^2(9) = 789.32, p < .001$. These results suggest that a five specific emotion model fit the data better than a two valence (positive-negative) emotion model.

Fit to three-factor model. We next tested the fit of a three-factor Valence \times Arousal model, in which one factor included high-arousal negative emotion, one factor included the low-arousal negative emotion, and the other factor included the positive emotion. The Steiger-Lind RMSEA for the three-factor model was not acceptable (.061, 90% CI [.064, .070]). The Jöreskog GFI and AGFI were inferior to those for the five-factor model (.88 and .85, respectively).

Comparison of the difference in chi-square between the five-factor model and the three-factor model revealed that the five-factor model was a better fit than the three-factor model, difference in $\chi^2(7) = 603.79, p < .001$. These results suggest that a five

specific emotion model fit the data better than a Valence \times Arousal emotion model.

Fit to one-factor model. This confirmatory factor analysis tested whether a single attitude toward the experience of all emotions existed. The Steiger-Lind RMSEA for the one-factor model was not acceptable (.0715, 90% CI [.0687, .0744]). The Jöreskog GFI and AGFI were inferior to those for the five-factor model (.85 and .82, respectively).

Comparison of the difference in chi-square between the five-factor model and the one-factor model revealed that the five-factor model was a better fit than the one-factor model, difference in $\chi^2(10) = 998.25, p < .001$. These results suggest that the five specific emotion model fit the data better than a model with a single factor for attitudes toward all emotions.

Internal consistency. To determine the internal consistency of the ATE subscales, Cronbach's alpha was computed for each of the five subscales identified by the five-factor confirmatory factor analysis. Satisfactory alpha coefficients were observed for each subscale, indicating that each was internally reliable. Cronbach's alphas for Samples 1 and 2, respectively, were as follows: for Attitude Toward Anger, .76 and .82; for Attitude Toward Disgust, .82 and .82; for Attitude Toward Fear, .88 and .88; for Attitude Toward Joy, .70 and .84; and for Attitude Toward Sadness, .67 and .70.

Test-retest reliability. A random sample of 85 participants who completed the ATE at the beginning of the semester was administered the ATE again 10 weeks later. The test-retest reliability of the negative emotion scales of the ATE was adequate (Anger, $r = .63$; Disgust, $r = .67$; Fear, $r = .82$; Sadness, $r = .73$). The test-retest reliability of the Joy scale of the ATE was not adequate ($r = .33$), likely because of the restricted range (the range of joy was half the range of other emotions) and lack of variance in the attitude toward joy (Joy $SD = 0.34$, whereas the next lowest SD was 0.64 for Sadness). That is, almost all participants reported highly positive ratings of attitudes toward joy.

Correlations among scales. As expected, the scales correlated with each other, as displayed in Table 2. In general, attitudes toward negative emotions were directly and moderately correlated with each other. Attitude toward joy was inversely correlated with attitudes toward the negative emotions.

Differences in attitudes toward emotions. To assess the differences in attitudes toward the emotions, a repeated-measures analysis of variance (ANOVA) was performed. It revealed that

individuals had the most positive attitudes toward joy (M s and SD s for Samples 1 and 2 = 4.66 [0.56] and 4.72 [0.57]) compared with the negative emotions ($ps < .001$). Within the negative emotions, sadness (M s and SD s for Samples 1 and 2 = 2.69 [0.72] and 2.58 [0.69]) was evaluated more positively than fear ($p < .001$; M s and SD s for Samples 1 and 2 = 2.44 [0.96] and 2.33 [0.89]). Fear was evaluated more positively than anger ($ps < .001$; M s and SD s for Samples 1 and 2 = 2.01 [0.83] and 1.89 [0.77]) and disgust (M s and SD s for Samples 1 and 2 = 1.88 [0.75] and 1.83 [0.74]). Finally, anger and disgust were not evaluated differently ($p > .10$).

Discussion

Study 1 revealed that the ATE Scale had five factors, representing distinct attitude toward emotion subscales—anger, disgust, fear, joy, and sadness. Results did not support a Valence \times Arousal dimensional model. The subscales are internally consistent and reliable across time. Moreover, attitudes toward negative emotions were directly and moderately correlated with each other. In contrast, attitude toward joy was inversely correlated with attitudes toward the negative emotions. As expected, individuals held a more positive attitude toward joy than toward the negative emotions. Attitudes toward negative emotions were generally negative, but they differed: Sadness was evaluated more positively than fear, fear was evaluated more positively than anger and disgust, and anger and disgust were not evaluated differently.

Study 2

Consistent with predictions, Study 1 revealed that attitudes toward specific emotions load on separate factors and that joy is evaluated more positively than the negative emotions. In Study 2, we examined whether ATE scores predicted participants' preference for different types of emotional stimuli. We predicted that individual differences in attitudes toward emotions would relate to participants' interest in viewing attitude-relevant emotional stimuli. That is, individuals who have relatively more positive attitudes toward a particular emotion should express more interest in viewing photographs evoking that specific emotional state. In addition to testing this primary hypothesis, we also examined whether assessments of trait emotional experience could account for the effects of ATE on interest in viewing relevant emotional stimuli, to test the alternative explanation that trait emotional experience accounts for the relationship of ATE and interest in viewing attitude-relevant emotional stimuli.

Method

Participants and procedure. Two hundred and two introductory psychology students completed the ATE and the Differential Emotions Scale (DES-IV; Izard, Libero, Putnam, & Haynes, 1993) in exchange for extra credit in their course. The DES-IV is a 36-item scale comprising 12 subscales for each trait emotion. Participants were asked to rate the extent to which they experienced various emotions and emotion-related responses on a scale ranging from 1 (*rarely or never*) to 5 (*very often*).

Between 4 and 12 weeks later, they were invited to an individual testing session in which they were told that many pretesting studies were being conducted. They learned that the first of these pretests

Table 2
Correlations Among ATE Subscales, Study 1

ATE subscale	ATA	ATD	ATF	ATS	ATJ
ATA	—				
ATD	.43 (.40)	—			
ATF	.34 (.38)	.45 (.45)	—		
ATS	.17 (.14)	.12 (.18)	.12 (.10)	—	
ATJ	-.34 (-.30)	-.30 (-.28)	-.18 (-.15)	-.13 (-.08)	—

Note. All correlations are significant $p < .01$. Correlations displayed inside parentheses are from Sample 1, and those outside parentheses are from Sample 2. ATE = Attitudes Toward Emotion Scale; ATA = Attitude Toward Anger; ATD = Attitude Toward Disgust; ATF = Attitude Toward Fear; ATS = Attitude Toward Sadness; ATJ = Attitude Toward Joy.

involved looking at five separate pieces of paper, each displaying a set of five color pictures taken from the International Affective Picture System (IAPS; Lang, Bradley, & Cuthbert, 1999). Each page contained pictures associated with one of five different emotion-related categories (fear, disgust, sadness, and joy, plus a page of affectively neutral pictures).

Prior to giving participants a notebook containing the five sets of pictures, the experimenter told participants that they should view the pictures before completing questionnaires about them. The experimenter then explained that they should select one of the five picture sets that they would like to view later in the testing session, in which the participant would view pictures related to only one of the five pages (ostensibly due to time constraints). In all, they were told they would view and rate 20 pictures of the selected emotion category. Before participants viewed and rated the 20 “test” pictures, the experimenter reentered the participant’s cubicle and began a funneled debriefing, in which the participant was carefully probed for suspicion and then informed of the hypotheses.

Materials. The five separate pieces of paper each displayed pictures from one emotion category. These pictures were found to evoke the intended emotions in pretesting (see also results from current Study 4). The fear pictures consisted of an open-mouthed snake (IAPS #1050), a handgun pointed at the viewer (#6230), a spider on a web (#1220), a man holding a knife to a woman’s neck (#6350), and a growling dog (#1300). The disgust pictures consisted of a dirty toilet (#9300), a pizza with cockroaches (#7380), a decaying animal corpse (#9570), a severely injured human face (#3060), and a burnt human torso (#3110). The sadness pictures displayed an elderly couple in the hospital (#2205), a young malnourished African crying (#2800), an elderly person dressed in black standing in the rain (#9210), a large group of individuals leaving a wrecked airplane (#9050), and two adults standing over a grave in a sad posture (#9220). The joy pictures displayed cute kittens (#1463), a laughing baby (#2040), a desirable ice cream cone (#7330), laughing chimpanzees (#1811), and individuals sky-diving (#5621). The neutral pictures displayed a truck (#7130), an electrical outlet (#6150), a highway (#7560), a dinner plate (#7233), and a stereo speaker (#7185). No pictures designed to evoke anger were included because the IAPS does not contain many pictures that evoke primarily anger in all viewers.

The questionnaire about the pictures asked participants to rate how much they “would like to view a set of 20 pictures similar to those presented on [a particular sheet number]?” The five sheets were numbered A1 to A5 or B1 to B5 or C1 to C5, to reflect three random orders in which picture types were presented. Ratings were made on 1 (*not at all*) to 9 (*very much*) scales.

Results

As shown in the correlation table (see Table 3), each ATE subscale predicted interest in viewing its type of emotion photographs. For instance, more negative attitudes toward fear predicted less interest in viewing fear-evoking photographs, and more positive attitudes toward joy predicted more interest in viewing joy-evoking photographs.

Specific ATE subscales also predicted interest in viewing other types of emotion photographs. For instance, more negative attitudes toward disgust predicted less interest in viewing disgust-

evoking, sadness-evoking, and fear-evoking photographs but more interest in viewing joy-evoking photographs. To explore whether specific ATE subscales predicted more interest in viewing photographs from the specific corresponding emotion type over the other emotion types, regression analyses were conducted in which scores on each ATE subscale were entered simultaneously as predictor variables and interest in viewing one of each set of emotion photographs was the criterion variable.³ Interest in viewing neutral pictures was also included as a covariate to remove variance due to individual differences in use of the response scales and general interest in viewing photographs.

For interest in viewing joy-evoking photographs, the overall regression equation was significant, $R^2 = .14$, $F(6, 190) = 4.98$, $p < .001$. Only interest in viewing neutral photographs ($\beta = .27$, $p = .0001$) and more positive attitudes toward joy ($\beta = .19$, $p = .006$) predicted more interest in viewing joy-evoking photographs.

For interest in viewing disgust-evoking photographs, the overall regression equation was significant, $R^2 = .18$, $F(6, 190) = 6.60$, $p < .001$. Only more negative attitudes toward disgust predicted less interest in viewing disgust-evoking photos ($\beta = .34$, $p = .00002$).

For interest in viewing fear-evoking photos, the overall regression equation was significant, $R^2 = .14$, $F(6, 190) = 5.14$, $p < .001$. In this analysis, more negative attitudes toward fear and toward disgust independently predicted less interest in viewing fear-evoking photos ($\beta = .19$, $p = .02$, and $\beta = .20$, $p = .01$, respectively).

For interest in viewing sadness-evoking photos, the overall regression equation was significant, $R^2 = .11$, $F(6, 190) = 5.18$, $p < .001$. In this analysis, more negative attitudes toward sadness and toward disgust predicted less interest in viewing sadness-evoking photos ($\beta = .17$, $p = .02$, and $\beta = .29$, $p = .0004$, respectively).

For interest in viewing neutral photos, the overall regression equation was not significant, $R^2 = .05$, $F(5, 191) = 1.87$, $p = .10$. In this analysis, more negative attitudes toward sadness predicted more interest in viewing neutral photos ($\beta = -.15$, $p = .04$). This latter result may be consistent with studies showing depressed individuals have negative cognitive/emotional biases toward neutral stimuli (e.g., Schwartz, Fair, Salt, Mandel, & Klerman, 1976).

Controlling for trait emotional experience. To assess whether the above relationships would continue to exist when controlling for trait emotional experience, simultaneous regression analyses were conducted in which the predictors included scores for (a) attitude toward a specific emotion; (b) a specific, relevant trait emotion; and (c) interest in viewing neutral pictures. The criterion was participants’ interest in viewing the emotion-relevant pictures. For instance, in a regression examining participants’ interest in viewing fear stimuli, the predictors included attitude toward fear, trait fear, and interest in viewing neutral stimuli. It is important to note that correlations between DES emotions and attitudes toward emotions were not strong enough to suggest multicollinearity: Attitude Toward Joy correlated directly with DES Enjoy ($r = .33$, $p = .001$); Attitude Toward Anger correlated

³ In presenting regression analyses, we use the language of regression and denote independent variables as predictor variables. The use of the term predictor is not intended to imply causation.

Table 3
Correlations of ATE Subscales With Interest in Viewing Emotional Pictures, Study 2

Variable	ATD	ATF	ATS	ATJ	ATA	D-Int	S-Int	F-Int	J-Int	N-Int
ATD	—									
ATF	.48***	—								
ATS	.15*	.27***	—							
ATJ	-.20**	-.13	-.13	—						
ATA	.36***	.29***	.07	-.12	—					
D-Int	.39***	.29***	.14	-.10	.09	—				
S-Int	.32***	.21**	.23**	-.11	.04	.51***	—			
F-Int	.31***	.30***	.13	-.18*	.09	.45***	.47***	—		
J-Int	-.20**	-.15*	-.05	.19*	-.10	-.26***	-.13	-.17*	—	
N-Int	-.12	-.13	-.17*	-.05	-.09	-.08	-.02	-.04	.27***	—

Note. ATE = Attitudes Toward Emotion Scale; ATD = Attitude Toward Disgust; ATF = Attitude Toward Fear; ATS = Attitude Toward Sadness; ATJ = Attitude Toward Joy; ATA = Attitude Toward Anger; D-Int = interest in viewing disgust photographs; S-Int = interest in viewing sad photographs; F-Int = interest in viewing fear photographs; J-Int = interest in viewing joy photographs; N-Int = interest in viewing neutral photographs.
* $p < .05$. ** $p < .01$. *** $p < .001$.

directly with DES Anger ($r = .28, p = .001$); Attitude Toward Sadness correlated directly with DES Sadness ($r = .23, p = .001$); Attitude Toward Disgust was not correlated with DES Disgust ($r = .13, p = .08$); and Attitude Toward Fear was not correlated with DES Fear ($r = -.04, p = .61$). Lack of multicollinearity was also supported by tolerance tests and small changes in estimated regression coefficients when the predictor variables were added.

Results indicated that participants' interest in viewing fear stimuli was predicted by their attitude toward fear ($\beta = .30, p < .001$), but not trait experience of fear ($\beta = -.03, p = .65$). Interest in viewing disgust stimuli was predicted most strongly by attitude toward disgust ($\beta = .36, p < .001$) and independently by trait disgust, albeit more weakly ($\beta = .13, p = .05$). Interest in viewing sadness stimuli was predicted by attitude toward sadness ($\beta = .22, p < .001$), but not trait sadness ($\beta = .07, p = .35$). Interest in viewing joy stimuli was predicted by attitude toward joy ($\beta = .15, p = .04$) and independently by trait enjoyment ($\beta = .16, p = .02$).

Means for ATE subscales. For Study 2, the means and standard deviations for each ATE subscale were as follows: Anger, $M = 1.91, SD = 0.64$; Disgust, $M = 1.78, SD = 0.73$; Fear, $M = 2.27, SD = 0.83$; Sadness, $M = 2.57, SD = 0.58$; and Joy, $M = 4.79, SD = 0.34$.

Discussion

In Study 2, attitudes toward specific emotions predicted interest in viewing stimuli that evoke that specific emotion. Specifically, attitudes toward fear, disgust, sadness, and joy predicted interest in viewing stimuli that evoke fear, disgust, sadness, and joy, respectively, independent of the effects of trait emotions. Whereas attitudes toward emotions consistently predicted interest in attitude-relevant emotional stimuli, trait emotional experience did not. Overall, these results are consistent with the prediction that specific attitudes toward emotions would relate to interest in attitude-relevant emotional stimuli.

Although the results suggested specificity between attitudes toward a particular emotion and interest in viewing stimuli associated with that emotion, there were a few cases of attitudes toward disgust predicting interest in viewing stimuli associated with other emotions, even after statistically controlling for the influence of

the other attitude toward a specific emotion. In addition to predicting interest in viewing disgust stimuli, the attitude toward disgust predicted interest in viewing fear-evoking and sadness-evoking stimuli after controlling for attitude toward fear and attitude toward sadness, respectively. We are unsure why attitude toward disgust stood out in this particular way, but taken together with the overall pattern of results, these results supported the general predictive validity of the ATE subscales and theoretical construct. In addition, these results suggest that attitudes toward emotions may predict the kind of activities in which individuals engage, though future research will be needed to test this idea.

Study 3

Study 3 was designed to assess the relationships between ATE subscales and trait measures of specific emotions. We expected that the trait affect measures would correlate moderately with ATE subscales but that the direction of correlation between ATE subscales and trait affect would depend on the motivational direction of the specific emotion. Approach-oriented emotions are predicted to be directly correlated with liking for the specific emotion. Thus, liking for anger should be associated directly with trait anger, and liking for joy should be associated directly with trait positive affect. In contrast, withdrawal-oriented emotions are predicted to be inversely correlated with liking for the specific emotion. Thus, liking for fear should be associated inversely with trait fear, and liking for disgust should be associated inversely with trait disgust. For sadness, we did not have a definite prediction because sadness is often viewed as a low approach emotion (Carver, 2004; Henriques & Davidson, 2000), but other times it is viewed as a withdrawal emotion (K. A. Buss et al., 2003).

As discussed earlier, we base these predictions on the fact that both emotional experience and attitudes toward emotion assist in guiding and energizing behavior. That is, they both assist in motivating behavior that corresponds to the emotion itself. Disgust and the dislike of disgust both promote avoidance motivation. When individuals are disgusted, they are motivated to avoid the situation causing the disgust. In contrast, anger promotes approach motivation (Carver & Harmon-Jones, 2009). When individuals are angry, they are motivated to approach the situation or target

causing the anger. If they like the experience of anger, they should be even more motivated to approach the anger and the situation causing anger.

In addition, we included a measure of trait approach and withdrawal motivation, the Behavioral Inhibition/Behavioral Activation Scales (BIS/BAS; Carver & White, 1994); they relate to other emotional variables (E. Harmon-Jones, 2003; Peterson, Gable, & Harmon-Jones, 2008). We predicted that high levels of behavioral activation sensitivity (BAS) would relate to more positive attitudes toward the approach emotions anger and joy. BAS may also relate to more positive attitudes toward the withdrawal emotions fear and disgust, because individuals high in BAS seek out sensations or exciting situations that may occur along with fear and disgust (e.g., rollercoaster rides).

Method

Participants and procedure. Participants were 191 introductory psychology students (138 women, 53 men) who completed a set of questionnaires in exchange for extra course credit. The questionnaires were completed in groups of 20–30 participants in a classroom. After providing informed consent, the students completed questionnaires, presented in a random order. In addition to the ATE, participants completed the following questionnaires.

Materials. The Positive and Negative Affect Schedule—Expanded (PANAS–X; Watson & Clark, 1991) contains 60 items designed to assess 11 specific affective traits: fear, sadness, guilt, hostility, shyness, fatigue, surprise, joviality, self-assurance, attentiveness, and serenity. Participants were asked to indicate to what extent they had felt each of the feelings “in general, that is, on the average.” All subscales were internally consistent in the present sample (Cronbach’s $\alpha > .75$).

Because the PANAS–X does not include a measure of disgust (perhaps because individuals do not report experiencing disgust as a long-term mood), we administered the widely used Sensitivity to Disgust Scale (Haidt, McCauley, & Rozin, 1994) and the Attitude Toward Disgust subscale to a separate sample of participants ($n = 75$). The Sensitivity to Disgust Scale contains 32 items, with half requiring true–false responses and half being rated along a 3-point scale as 1 (*not disgusting*), 2 (*slightly disgusting*), or 3 (*very disgusting*). Example items included “I might be willing to try eating monkey meat under some circumstances” (true–false) and “You see someone put ketchup on vanilla ice-cream and eat it” (rated on the 1–3 scale). The scale’s reliability and validity have been established (Haidt et al., 1994). In the current sample, both versions were reliable (true–false scale: Cronbach’s $\alpha = .68$; ratings scale: Cronbach’s $\alpha = .81$).

The A. H. Buss and Perry (1992) Aggression Questionnaire includes 29 items that form four subscales: (a) Physical Aggression, which assesses the frequency of physically aggressive behavior; (b) Verbal Aggression, which assesses the frequency of verbally aggressive behavior; (c) Anger, which assesses the emotional component of aggression; and (d) Hostility, which assesses the cognitive component of aggression, described as “feelings of ill will and injustice” (A. H. Buss & Perry, 1992, p. 457). As in past research (E. Harmon-Jones & Allen, 1998), anger was the focus of the present study, although results for the other subscales are also presented. All subscales were internally consistent in the present sample (Cronbach’s $\alpha > .78$).

The Beck Depression Inventory (BDI; Beck, Steer, Ball, & Ranieri, 1996), a 21-item multiple choice inventory, contains items relating to depression symptoms such as hopelessness and irritability and cognitions such as guilt or feelings of being punished. It also includes items assessing physical symptoms such as fatigue and lack of interest in sex (Cronbach’s $\alpha = .91$).

Carver and White’s (1994) BIS/BAS questionnaire assesses individual differences in behavioral inhibition sensitivity (BIS) and behavioral activation sensitivity (BAS). The BIS scale contains seven items. The BAS scale consists of three subscales: (a) Reward Responsiveness, which contains five items that “focus on positive responses to the occurrence or anticipation of reward”; (b) Drive, which contains four items that pertain “to the persistent pursuit of desired goals”; and (c) Fun Seeking, which has four items “reflecting both a desire for new rewards and a willingness to approach a potentially rewarding event on the spur of the moment” (Carver & White, 1994, p. 322). The BIS/BAS questionnaire has acceptable reliability and validity, and it relates to putative substrates of BIS and BAS (Amodio, Master, Yee, & Taylor, 2008; E. Harmon-Jones & Allen, 1997). As in past research, the three subscales were combined to form the index of BAS (subscales were intercorrelated, $r_s > .28$, $p_s < .001$). Responses were measured using a 4-point scale (1 = *strongly disagree* to 4 = *strongly agree*). Cronbach’s alphas were .81 for BAS Total, .62 for BAS Reward Responsiveness, .76 for BAS Fun Seeking, .80 for BAS Drive, and .78 for BIS.

Results

Correlations between scores on the ATE subscales and scores on the other questionnaires are presented in separate tables for ease of comprehension. Some participants failed to complete all questionnaires; therefore, degrees of freedom differ depending on the questionnaires analyzed.

Correlations with PANAS–X subscales. Table 4 presents the correlations of the ATE subscales with the PANAS–X subscales. As explained earlier, we expected that the trait affective experience measures would correlate moderately with ATE subscales but that the direction of correlation between ATE subscales and trait affect would depend on the motivational direction of the specific emotion.

We expected that among the approach-oriented emotions, joy and anger, liking for the emotion would be associated directly with trait emotion. In contrast, among the withdrawal-oriented emotions, fear and disgust, liking for the emotion would be associated inversely with trait emotion. We did not have a specific prediction regarding sadness, as previous work has viewed it as an approach (Henriques & Davidson, 2000) or withdrawal emotion (K. A. Buss et al., 2003).

Consistent with hypotheses, individuals who had a relatively positive attitude toward anger reported greater trait hostility but lower trait PA, joy, attentiveness, serenity, and surprise than individuals who had a relatively negative attitude toward anger.

Attitude toward joy related to many PANAS–X subscales, such that individuals with a relatively positive attitude toward joy reported greater trait positive activation, joy, self-assurance, attentiveness, and serenity but lower trait negative activation, hostility, guilt, sadness, shyness, and fatigue.

Table 4
Correlations of ATE Subscales With PANAS-X Subscales, Study 3

ATE subscale	NA	PA	FE	Hos	GU	Sad	Joy	SA	AT	Shy	FA	SE	SU
ATS	.06	-.15*	-.02	.13	.21**	.22**	-.18**	-.20**	-.05	.10	.08	.10	-.13
ATD	.01	-.02	.02	.12	.07	-.08	-.03	.15*	-.05	-.09	.00	-.02	.07
ATA	.14	-.16**	.04	.41**	.08	.14	-.21**	.07	-.23**	.11	.10	-.14*	-.16*
ATJ	-.17*	.27**	-.09	-.24**	-.25**	-.32**	.38**	.19**	.19**	-.20**	-.17*	.23**	.12
ATF	-.10	-.06	-.14*	.08	-.02	-.02	-.05	.25**	-.16*	-.06	.04	.11	-.04

Note. ATE = Attitudes Toward Emotion Scale; ATS = Attitude Toward Sadness; ATD = Attitude Toward Disgust; ATA = Attitude Toward Anger; ATJ = Attitude Toward Joy; ATF = Attitude Toward Fear; NA = Negative Activation; PA = Positive Activation; FE = Fear; Hos = Hostility; GU = Guilt; Sad = Sadness; Joy = Joviality; SA = Self-Assurance; AT = Attentiveness; Shy = Shyness; FA = Fatigue; SE = Serenity; SU = Surprise.
* $p < .05$. ** $p < .01$.

Individuals with a relatively positive attitude toward disgust reported lower sensitivity to disgust (two versions of disgust scale, $r = -.39$, $p < .001$, and $r = -.44$, $p < .001$), and they scored higher in self-assurance than individuals with a relatively less positive attitude toward disgust.

Individuals with more positive attitudes toward fear reported lower trait fear and attentiveness but greater self-assurance than individuals with more negative attitudes toward fear.

Finally, individuals with a relatively positive attitude toward sadness reported greater trait sadness and guilt than individuals with a relatively negative attitude toward sadness. In addition, individuals who had a relatively positive attitude toward sadness reported lower trait positive activation, joy, and self-assurance than individuals who had a relatively negative attitude toward sadness.

These results were consistent with predictions. The direction of the correlations depended on the motivational direction of the emotion: Correlations involving anger and joy attitudes and moods were direct, whereas correlations involving disgust and fear attitudes and moods were inverse.

Correlations with other emotive traits. Table 5 presents the correlations of the ATE subscales with other trait emotive scales. Attitude toward anger was directly correlated with physical aggression, verbal aggression, hostility, anger, depression, and BAS Drive. Attitude toward joy was directly correlated with BAS Total, BAS Reward Responsiveness, and BAS Fun Seeking but inversely correlated with depression, physical aggression, and hostility.

Attitude toward disgust was directly correlated with BAS Total and BAS Fun Seeking. Attitude toward fear correlated directly

with physical aggression, verbal aggression, BAS Total, BAS Fun Seeking, and BAS Drive. Also, attitude toward fear correlated inversely with BIS.

Finally, attitude toward sadness was directly correlated with depression and hostility. That is, individuals with a relatively positive attitude toward sadness reported feeling more depressed as well as hostile. These patterns of correlations are consistent with predictions.

Gender differences. A 2 (male, female) \times 5 (ATE: sadness, disgust, anger, joy, fear) mixed-factors ANOVA was performed to test whether gender was related to attitudes toward specific emotions. A main effect for ATE and a Gender \times ATE interaction occurred, $F(4, 708) = 12.604$, $p < .001$. The interaction indicated that women and men did not differ in their attitudes toward anger or joy. However, they did differ on the other attitudes. Women had more positive attitudes toward sadness ($M = 3.02$, $SD = 0.69$) than men did ($M = 2.67$, $SD = 0.66$), $p < .01$. Men had more positive attitudes toward disgust ($M = 2.14$, $SD = 0.56$) and fear ($M = 2.49$, $SD = 0.85$) than women did (disgust, $M = 1.93$, $SD = 0.47$; fear, $M = 1.92$, $SD = 0.73$), $ps < .05$. Multiple regressions were run to examine whether gender and any of the attitudes on which the genders differed interacted to predict the affective traits reported above. No significant interactions emerged.

Means for ATE subscales. For Study 3, the means and standard deviations for each ATE subscale were as follows: Anger, $M = 1.98$, $SD = 0.79$; Disgust, $M = 1.99$, $SD = 0.51$; Fear, $M = 2.10$, $SD = 0.82$; Sadness, $M = 2.91$, $SD = 0.69$; and Joy, $M = 4.76$, $SD = 0.41$.

Table 5
Correlations of ATE Subscales With Emotive Traits, Study 3

ATE subscale	BDI	PAG	VAg	Hos	Ang	BIS	BAS	RR	Fun	Drive
ATS	.25**	.01	.06	.17*	.11	.01	-.08	-.05	.01	-.12
ATD	.01	.13	.14	.10	.13	-.08	.21**	.09	.23**	.14
ATA	.20**	.33**	.29**	.28**	.41**	-.06	.12	.06	.08	.14*
ATJ	-.38**	-.16*	-.09	-.21**	-.09	.08	.25**	.31**	.24**	.05
ATF	-.03	.33**	.22**	.07	.14	-.30**	.21**	-.08	.33**	.15*

Note. ATE = Attitudes Toward Emotion Scale; ATS = Attitude Toward Sadness; ATD = Attitude Toward Disgust; ATA = Attitude Toward Anger; ATJ = Attitude Toward Joy; ATF = Attitude Toward Fear; BDI = Beck Depression Inventory; PAG = Buss-Perry Physical Aggression; VAg = Buss-Perry Verbal Aggression; Hos = Buss-Perry Hostility; Ang = Buss-Perry Anger; BIS = Carver-White Behavioral Inhibition Sensitivity; BAS = Carver-White Behavioral Activation Sensitivity; RR = BAS Reward Responsiveness; Fun = BAS Fun Seeking; Drive = BAS Drive.

* $p < .05$. ** $p < .01$.

Discussion

As expected, attitude toward anger was directly correlated with trait anger, aggression, hostility, and BAS Drive. These relationships suggest that individuals high in trait anger and aggression have greater liking for angry experiences. The present results suggest that individuals with a more positive attitude toward anger may also score higher on the Beck Depression Inventory, which measures irritability as well as depression.

Attitude toward joy was directly correlated with many positive affects and BAS (Total, Reward Responsiveness, and Fun Seeking) and inversely correlated with many negative affects and depression, aggression, and hostility. Thus, individuals who like joy relatively more than others report greater approach motivation, but less depression, aggression, and hostility.

Attitude toward disgust was correlated inversely with trait disgust, suggesting that those who experience greater disgust have less positive attitudes toward disgust. Attitude toward disgust was correlated directly with BAS Total and BAS Fun Seeking, suggesting that individuals high in approach motivation have a more positive attitude toward disgusting experiences.

Attitude toward fear was correlated inversely with trait fear, suggesting that those who experience greater fear have less positive attitudes toward fear. Attitude toward fear was also correlated directly with aggression and BAS but inversely correlated with BIS. These correlations suggest that individuals high in BIS have less liking for fearful experiences, whereas individuals high in BAS or high in aggression have greater liking for fearful experiences.

Attitude toward sadness was directly correlated with sadness, depression, and hostility. These relationships suggest that individuals high in trait sadness and depression have greater liking for sad experiences. The results also suggest that individuals high in hostility have greater liking for sadness, perhaps because hostility is associated with depression.

These results are consistent with our prediction that the motivational direction of emotions would moderate the relationship between the intensity of trait emotion and liking for that emotion. Specifically, greater trait approach-oriented emotions such as joy and anger were directly related to liking of those emotions, whereas greater trait withdrawal-oriented emotions such as fear and disgust were inversely related to liking of those emotions. Sadness is considered approach oriented by some researchers and withdrawal oriented by others. Consistent with results for the other approach-oriented emotions, trait sadness was directly related to liking for sadness. These results provide evidence for the construct of attitudes toward emotions being separate from the construct of trait emotions, because if attitudes tapped the same construct as trait emotions, the correlations between attitudes and traits would have all been direct.

One of the most consistent set of results involving other inventories concerned BAS. That is, BAS related to several attitudes toward emotions, such that higher levels of BAS were associated with more liking of anger, joy, fear, and disgust. These emotions are all moderate to high in arousal. Compared with individuals low in BAS, individuals high in BAS may like arousing emotional experiences, perhaps because these individuals like excitement and sensations.

Study 4

Study 4 was designed to test whether attitudes toward emotions would relate to emotional reactivity. In Study 3, trait experience of

approach-related emotions was directly related to greater liking, whereas trait experience of withdrawal-related emotions was inversely related to liking. Finding similar results for state emotional experience would be important because these predictions are unique to the current perspective and would not be predicted by a perspective that considered only emotional valence without incorporating motivational direction.

Similar to the predictions (and results) of Study 3, in Study 4 we predicted that individuals high in liking for approach-oriented emotions would experience more of the emotions in response to joy- and anger-evoking stimuli, whereas individuals high in liking for withdrawal-oriented emotions would experience less of the emotions in response to fear- and disgust-evoking stimuli. On the basis of the results of Study 3 that suggest a direct correlation between attitude toward sadness and trait sadness, we expected greater liking for sadness to directly predict state sadness in response to sadness-evoking stimuli.

In addition to assessing relations of the ATE subscales with emotional reactivity, we also included measures of ideal affect (Tsai et al., 2006) and appropriate affect (Eid & Diener, 2001), two constructs somewhat similar to the ATE. However, as noted above, these constructs and their associated research programs differ from the present one in that they have focused primarily on cultural differences, whereas the present work focuses on individual differences that operate within a culture and how these individual differences relate to other aspects of emotion.

Method

Participants were 131 introductory psychology students. After being greeted by the experimenter, participants were told that the study concerned cognition and personality and that during the experiment, they would complete some personality questionnaires and a computer task. Participants then provided informed consent.

At the beginning of the session, participants completed the ideal affect measure from the Affect Valuation Index (Tsai et al., 2006), the appropriate affect measure from Eid and Diener (2001), and the ATE Scale. Ideal affect is based on the affective circumplex, or the mapping of different emotional states onto dimensions of arousal and valence. Thus, it includes eight subscales, or octants: high-arousal states (aroused, surprised, astonished), high-arousal positive states (enthusiastic, excited, strong, elated), positive states (happy, satisfied, content), low-arousal positive states (calm, at rest, relaxed, peaceful, serene), low-arousal states (quiet, still, passive), low-arousal negative states (dull, sleepy, sluggish), negative states (sad, lonely, unhappy), and high-arousal negative states (fearful, hostile, nervous). Participants were asked to rate "how much they ideally want to feel each state on average" (on a scale from 1 = *not at all* to 5 = *an extreme amount*). In the present sample, the subscales were for the most part internally consistent (Cronbach's α s > .63). However, internal consistency was lower for the low-arousal positive (.57), low arousal (.44), and high-arousal negative (.59) subscales, although these coefficients were similar to the published alpha levels in Tsai et al. (2006). The Eid and Diener measure asks participants "to indicate how appropriate or desirable it is to experience certain emotions" on 7-point scales (1 = *extremely desirable and appropriate*, 2 = *desirable and appropriate*, 3 = *slightly desirable and appropriate*, 4 = *neutral [neither desirable nor undesirable]*, 5 = *slightly undesirable and inappropriate*, 6 = *undesirable and inappropriate*, and 7 =

extremely undesirable and inappropriate). Emotion items included “joy,” “affection,” “pride,” “contentment,” “anger,” “fear,” “sadness,” and “guilt.” The items were not combined in Eid and Diener.

Participants then viewed six sets of pictures. Each set consisted of one emotion category (neutral, fear, sadness, disgust, joy, and anger). Five of the picture sets were those used in Study 3. The anger picture set was designed to evoke anger, with images of burning United States flags and the 9/11 World Trade Center attacks (collected from the Internet).

Pictures were presented for 6 s. The neutral picture set was always presented first, followed by the five other emotional picture sets presented in a random order. Following each picture set, participants rated how much they felt the following emotions: afraid, fearful, angry, mad, sad, down, disgusted, grossed out, happy, and joyful (on 1 = *not at all* to 7 = *extremely* scales). Similar emotion words were averaged together (e.g., angry and mad).

Results

Emotional reactivity to the picture manipulation. We first tested whether the pictures presented to participants evoked the intended emotion by conducting a 6 (picture set) \times 5 (emotion ratings) repeated-measures ANOVA. It produced a significant interaction, $F(20, 2580) = 315.29, p < .001$. We probed this interaction by examining the emotion ratings within each picture set using repeated-measures ANOVA.

In response to pictures intended to evoke joy, a significant effect occurred, $F(4, 520) = 834.23, p < .001$. It indicated that joy pictures evoked more self-reported joy than any other emotion ($ps < .001$), and the other emotions did not differ from one another (see Table 6).

In response to pictures intended to evoke anger, a significant effect occurred, $F(4, 520) = 182.10, p < .001$. It indicated that anger pictures evoked more self-reported anger than any other emotion ($ps < .001$). Also, all emotions differed from each other ($ps < .02$).

In response to pictures intended to evoke sadness, a significant effect occurred, $F(4, 520) = 296.18, p < .001$. It indicated that sad pictures evoked more self-reported sadness than any other emotion ($ps < .001$). Also, sad pictures caused greater anger, disgust, and fear than joy ($ps < .001$). Sad pictures caused more fear than disgust ($p < .02$), but nonsignificantly different amounts of fear and anger ($p > .20$) and anger and disgust ($p > .20$).

In response to pictures intended to evoke disgust, a significant effect occurred, $F(4, 516) = 227.59, p < .001$. It indicated that disgust pictures evoked more self-reported disgust than any other emotion ($ps < .001$). Also, disgust pictures evoked more anger, sadness, and fear than joy ($ps < .001$). Disgust pictures caused

more sadness than anger and fear ($p < .02$), but nonsignificantly different amounts of fear and anger ($p > .70$).

In response to pictures intended to evoke fear, a significant effect occurred, $F(4, 520) = 98.92, p < .001$. It indicated that fear pictures evoked more fear than any other emotion ($ps < .001$). Fear pictures evoked more disgust, anger, and sadness than joy ($ps < .001$). Fear pictures caused more disgust than anger and sadness ($ps < .02$) and more anger than sadness ($p < .03$).

The emotional pictures had the intended effects on emotional experience (even though the negative emotion pictures often evoked slight increases in other negative emotions). Next, we examine relations between attitudes toward emotions and emotional reactions to these pictures.

Correlations between ATEs and emotional reactivity. More approach-oriented emotional experiences are predicted to be associated with more liking of the corresponding emotions, whereas more withdrawal-oriented emotional experiences are predicted to be associated with more disliking of the corresponding emotions.

Consistent with these expectations, attitude toward joy correlated directly with self-reported joy in response to the joy pictures. Attitude toward joy did not correlate with any other emotional reactions, except anger experienced toward the sad pictures. See Table 7 for all correlations of ATE subscales with emotional reactions to pictures.

As expected, attitude toward anger correlated directly with experienced anger in response to the anger pictures. Attitude toward anger also correlated inversely with fear to the anger pictures, inversely with experienced joy to the joy pictures, and inversely with experienced anger to the disgust pictures.

Predictions were supported for the withdrawal-oriented emotions as well. Attitude toward disgust correlated inversely with experienced disgust to the disgust pictures. Attitude toward disgust also correlated inversely with experienced anger, sadness, and fear to the disgust pictures. In addition, in response to the fear pictures, attitudes toward disgust correlated inversely with experienced sadness, disgust, and fear.

Attitude toward fear correlated inversely with experienced fear to the fear pictures. Attitude toward fear also correlated inversely with experienced anger and disgust to the fear pictures. In response to the anger pictures, attitude toward fear correlated inversely with experienced sadness and fear. In response to the disgust pictures, attitude toward fear correlated inversely with experienced disgust.

Attitude toward sadness correlated directly but not significantly with sadness to the sad pictures ($r = .13, p = .13$; we report exact

Table 6
Mean (SD) Ratings of Experienced Emotion in Response to Emotional Pictures, Study 4

Picture type	Joy	Anger	Sad	Disgust	Fear
Neutral pictures	2.37 (1.35)	1.21 (0.57)	1.36 (0.70)	1.17 (0.48)	1.30 (0.64)
Joy pictures	5.16 (1.36)	1.12 (0.65)	1.10 (0.30)	1.12 (0.35)	1.23 (0.52)
Angry pictures	1.17 (0.58)	4.96 (1.80)	3.28 (1.83)	2.89 (1.64)	2.15 (1.52)
Sad pictures	1.30 (0.65)	1.79 (1.09)	4.70 (1.40)	1.66 (1.13)	1.93 (1.29)
Disgust pictures	1.23 (0.61)	2.74 (1.74)	3.11 (1.60)	5.74 (1.57)	2.68 (1.85)
Fear pictures	1.29 (0.64)	2.52 (1.68)	2.03 (1.29)	2.85 (1.87)	4.05 (1.78)

Note. The boldfaced means (and SDs) are the targeted experienced emotion for the emotional pictures.

Table 7
Correlations of ATE Subscales With Emotional Reactions to Pictures, Study 4

Picture type—rating	ATA	ATJ	ATS	ATD	ATF
Neut-Joy	-.13	-.03	-.00	.10	-.03
Neut-Anger	-.11	-.00	-.09	-.08	-.09
Neut-Sad	-.08	-.16	.01	-.02	-.01
Neut-Disgust	-.13	-.11	-.13	-.06	-.13
Neut-Fear	-.15	.06	.07	-.07	-.15
Anger-Joy	-.13	.03	-.04	-.08	-.07
Anger-Anger	.18*	.05	-.14	-.06	.01
Anger-Sad	-.01	.11	.16	-.19*	-.29***
Anger-Disgust	.11	-.04	-.02	-.17	-.16
Anger-Fear	-.18*	.06	.11	-.23**	-.25**
Joy-Joy	-.20*	.34***	.01	-.25**	-.13
Joy-Anger	.12	.04	-.08	.14	-.05
Joy-Sad	-.03	-.09	.01	.07	-.04
Joy-Disgust	.03	-.06	.00	.04	-.04
Joy-Fear	-.06	.10	-.08	-.05	-.01
Sad-Joy	-.04	-.18*	.04	.07	-.07
Sad-Anger	.04	.01	.05	.02	-.05
Sad-Sad	-.07	.11	.13	-.15	-.13
Sad-Disgust	-.01	-.05	-.01	.09	-.01
Sad-Fear	-.17	-.02	-.03	-.08	-.09
Disgust-Joy	-.07	-.12	.08	.15	-.03
Disgust-Anger	-.21*	.14	-.04	-.21*	-.11
Disgust-Sad	-.04	.05	.12	-.18*	-.09
Disgust-Disgust	-.07	-.00	-.08	-.28***	-.06
Disgust-Fear	-.14	.05	.09	-.22*	-.22*
Fear-Joy	.01	-.09	.04	.04	-.11
Fear-Anger	-.04	.04	-.05	-.05	-.23**
Fear-Sad	-.05	.05	.02	-.17	-.15
Fear-Disgust	-.16	.11	-.06	-.18*	-.25**
Fear-Fear	-.13	.19	-.08	-.26**	-.22*

Note. Picture type is indicated by the first word in the left-most column; emotion rating is the second word in the same column. ATE = Attitudes Toward Emotion Scale; ATA = Attitude Toward Anger; ATJ = Attitude Toward Joy; ATS = Attitude Toward Sadness; ATD = Attitude Toward Disgust; ATF = Attitude Toward Fear.
* $p < .05$. ** $p < .01$. *** $p < .001$.

ps relevant to hypotheses; see Gigerenzer, 2004). Attitude toward sadness did correlate directly with sadness to the anger pictures.

For the neutral pictures, no significant correlations emerged between attitudes toward specific emotions and experienced emotional reactions.

Regressions controlling for other ATEs. To control for the influence of other ATEs on the predicted relationship between a given ATE (e.g., attitudes toward anger) and its associated emotional reaction (e.g., reported anger) to the target stimulus (e.g., anger pictures), regression analyses were conducted in which all ATEs and the targeted emotional reaction (e.g., reported anger) to the neutral stimulus were entered as predictors of the targeted emotion to the targeted stimulus (e.g., anger pictures).

For anger pictures, the only significant predictor was attitude toward anger ($\beta = .23, p = .01$). For joy pictures, attitude toward joy was a significant predictor ($\beta = .25, p = .001$); attitude toward disgust was a significant (inverse) predictor ($\beta = -.21, p = .03$); and joy ratings to neutral pictures were also a significant predictor ($\beta = .36, p < .001$). For sad pictures, no predictors were significant, but attitude toward sadness remained a direct but nonsignif-

icant predictor ($\beta = .13, p = .13$). For disgust pictures, the only significant predictor was attitude toward disgust ($\beta = -.33, p = .001$). For fear pictures, the only significant predictor was fear ratings to neutral pictures ($\beta = .21, p = .02$). Thus, all ATEs showed unique relations with targeted emotional reactions to the targeted stimuli except for attitude toward fear. This latter result may have occurred because both attitude toward fear and attitude toward disgust predict fear responses, and these two ATEs are highly correlated, perhaps because they are withdrawal related, negative, and high in arousal. It is important to note that although disgust and anger are high-arousal, negative emotions that occupy the same space in Valence \times Arousal dimensions, attitude toward disgust was inversely correlated with disgust reactions, but attitude toward anger was directly correlated with anger reactions.

Correlations between ATE and other measures.

Ideal affect. Attitudes toward emotions were moderately correlated with some of the ideal affect measures from the Affect Valuation Index (see Table 8). These correlations were, for the most part, in expected directions. For instance, attitudes toward anger, fear, and disgust were correlated directly with ideal high-arousal negative affect. Attitude toward joy correlated directly with several ideal positive affects and inversely with several ideal negative affects. However, attitude toward sadness was not correlated with ideal low-arousal negative affect. Inspection of correlations of this ATE subscale with individual items from the ideal affect measure revealed that attitude toward sadness correlated significantly and inversely with arousal ($r = -.22, p = .01$). The correlation of attitude toward sadness and ideal sadness was close to significant ($r = .15, p = .08$).

Appropriate affect. The correlations of the ATE subscales and the Eid and Diener (2001) single-item measures were as expected.

Table 8
Correlations of ATE Subscales With Ideal Affect and Appropriate Affect Measures, Study 4

Measure	ATA	ATJ	ATS	ATD	ATF
Ideal affect					
High-arousal positive	-.07	.41***	-.10	-.11	.03
Positive	-.12	.40***	-.14	-.17	-.13
Low-arousal positive	-.19*	.25**	-.02	-.26**	-.12
Low arousal	.05	-.11	.07	.08	-.00
Low-arousal negative	.17*	-.42***	.02	.27**	.18*
Negative	.10	-.36***	.15	.15	.09
High-arousal negative	.20*	-.33***	.05	.21*	.21*
High arousal	-.06	.12	-.17	.19*	.19*
Appropriate affect					
Joy	-.14	.58***	-.15	-.27**	-.13
Affection	-.10	.38***	-.14	-.22*	-.10
Pride	.13	.13	-.15	-.03	.13
Contentment	.12	.09	.08	-.16	-.06
Anger	.47***	-.32***	.17*	.17	.24**
Fear	.22*	-.09	.09	.12	.32***
Sadness	.18*	-.19*	.22*	-.01	.08
Guilt	.19*	-.07	.11	.02	-.02

Note. ATE = Attitudes Toward Emotion Scale; ATA = Attitude Toward Anger; ATJ = Attitude Toward Joy; ATS = Attitude Toward Sadness; ATD = Attitude Toward Disgust; ATF = Attitude Toward Fear.
* $p < .05$. ** $p < .01$. *** $p < .001$.

Attitudes toward anger, joy, sadness, and fear were directly correlated with appropriate anger, joy, sadness, and fear, respectively.

Correlations of emotional reactivity with ideal affect and appropriate affect. To reduce the large number of possible correlations, we focused on examining only those correlations relevant to the predictions for ATE and specific emotional reactions to the targeted emotional pictures (e.g., reported anger to anger pictures). See Table 9 for results. For the Tsai et al. (2006) ideal affect measure, no significant correlations emerged between ideal affect and experienced targeted emotions. For instance, ideal high-arousal negative affect did not correlate with experienced fear to fear pictures. We suspect that the lack of correlations involving ideal high-arousal negative affect may have occurred because this octant mixes fear and anger. Our results suggest that the attitudes toward these emotions should not be mixed. Although anger and fear are both high-arousal, negative emotions, fear is withdrawal motivated, whereas anger is approach motivated, and motivational direction is important in the relationship between attitudes toward emotions and the experience of emotions.

For the Eid and Diener (2001) appropriate affect measure, several expected correlations emerged. For example, appropriate joy correlated directly with experienced joy to joy pictures. Appropriate anger correlated directly with experienced anger to anger pictures. However, appropriate fear did not correlate with fear to fear pictures. We did not conduct regressions controlling for appropriate affect on ATE and emotional reactivity relationships because ATE and appropriate affect measures are conceptually similar.

Means for ATE subscales. For Study 4, the means and standard deviations for each ATE subscale were as follows: Anger, $M = 1.97$, $SD = 0.81$; Disgust, $M = 1.89$, $SD = 0.70$; Fear, $M = 2.21$, $SD = 0.86$; Sadness, $M = 2.34$, $SD = 0.71$; and Joy, $M = 4.75$, $SD = 0.39$.

Table 9
Correlations of Emotional Reactions to Pictures With Ideal Affect and Appropriate Affect Measures, Study 4

Measure	Anger	Joy	Sadness	Disgust	Fear
Ideal affect					
High-arousal positive	.07	.20*	.01	-.02	.09
Positive	.03	.12	-.02	-.01	.11
Low-arousal positive	-.14	.10	-.07	-.07	.04
Low arousal	.04	.00	.15	.09	.09
Low-arousal negative	-.01	-.19*	-.12	-.03	-.19*
Negative	-.06	-.08	.10	.03	-.09
High-arousal negative	.13	-.03	.15	.11	.04
High arousal	.12	.15	.10	.02	-.03
Appropriate affect					
Joy	.04	.34***	.26**	.10	.19*
Affection	-.01	.23**	.13	-.06	.09
Pride	.10	-.06	.04	-.07	-.12
Contentment	.06	-.03	.15	.04	.17
Anger	.19*	-.23**	-.07	.01	-.03
Fear	.14	-.14	.03	.10	.02
Sadness	.09	-.00	.02	-.01	.09
Guilt	.14	.01	.04	.03	.13

Note. The correlations are for specific emotional reactions to the targeted emotional pictures (e.g., reported anger to anger pictures).

* $p < .05$. ** $p < .01$. *** $p < .001$.

Discussion

As predicted, attitude toward anger related to more experienced anger when anger was the primary emotion evoked, and attitude toward joy related to more experienced joy when joy was evoked. As predicted, attitude toward fear related to less experienced fear when fear was evoked, and attitude toward disgust related to less experienced disgust when disgust was evoked.

In addition to these tests, Study 4 also examined the relations between ATE subscales and the ideal affect measure of Tsai et al. (2006) and the appropriate affect measure of Eid and Diener (2001). For the most part, ATE subscales related in expected ways with ideal affects and appropriate affects, but the correlations were modest. We suspect some of these correlations were modest because the ideal affect measure combines fear and anger into high-arousal negative affect, and our theoretical approach separates fear and anger. Also, the appropriate affect measure includes only one item for each emotion and may have less reliability than the ATE.

Finally, the ideal affect and appropriate affect measures performed less well than the ATE in predicting experienced emotional reactions to emotional stimuli. The ideal affect measure yielded no significant correlations, but the appropriate affect measure yielded two of three expected correlations. The ATE subscales, on the other hand, correlated in predicted directions with experienced emotional reactions.

Study 5

In Study 5, we examined the relationship between attitude toward emotion and efforts at emotion regulation. Study 2's results could also be interpreted in terms of emotion regulation, but we believe that a stronger case for emotion regulation can be made if individuals are induced to experience emotion and then they are given an opportunity to regulate that evoked emotion. Individuals may attempt to reduce their experience of negative emotion because they dislike that emotion. However, this assumption has never been tested. Therefore, in the present study, we tested whether attitudes toward fear would predict attempts to down-regulate fear specifically following the evocation of fear, because fear is an emotion individuals often try to down-regulate. Participants were exposed to a neutral or fear-eliciting film clip and then were given an opportunity to regulate their emotional experience by choosing to expose themselves to something other than fearful or other negative stimuli. Gross and Thompson (2007, p. 11) suggested this as one way to regulate an emotion, when they wrote, "emotion regulation involves taking actions that make it more (or less) likely that we will end up in a situation we expect will give rise to desirable (or undesirable) emotions."

Method

Participants were 97 introductory psychology students who participated in exchange for extra course credit (66% of participants were women; results were similar across both genders). At least 1 month prior to the lab study, participants completed the ATE and the Differential Emotions Scale (DES-IV; Izard et al., 1993). Scores were averaged for the Fear subscale to produce a trait fear score (Cronbach's $\alpha = .80$).

Participants were run individually and informed that the experiment was testing materials that would be used in future studies.

After providing informed consent, they watched a short film clip and completed a questionnaire about it. Participants were randomly assigned to watch either a no-fear video clip (chase scene from *Bullit*) or a fear-inducing video clip (hiding in closet scene from *Halloween*); the clips were equal in length (5 min) and *Bullit* was chosen because it is an arousing film likely to engage attention as much as *Halloween*. Following the viewing of the film, participants completed a questionnaire that asked them to indicate the extent to which they experienced certain emotions “right now,” on scales ranging from 0 (*none*) to 8 (*the most in my life*). Emotion words were “fearful,” “sad,” “happy,” “disgusted,” “afraid,” “down,” “joyful,” and “grossed out.”

Next, responses to the video clip manipulation were assessed using the measure described in Study 2. That is, participants viewed five separate sheets of paper, each displaying five color pictures taken from the IAPS. Prior to giving participants a notebook containing the five pieces of paper, the experimenter explained that the participant should look over the pictures and complete questionnaires about them. The experimenter also explained that the participant should select one of the five picture sets to be viewed during the remainder of the experiment. That is, they would be able to view only one of the five types of pictures because of time constraints, and they would view 20 pictures of that picture type and provide ratings of those 20 pictures. Following the completion of the questionnaires about the five picture sets and prior to the expected viewing of the additional 20 pictures, the experimenter reentered the participant’s cubicle and began a funneled debriefing in which the participant was carefully probed for suspicion and then informed of the hypotheses. Participants never viewed the 20 pictures; we were interested only in their ratings of the picture types given their expectation that their picture ratings would relate to an actual decision.

Results

Emotional reactivity to film manipulation. As expected, the fear film evoked more fear than the no-fear film. This effect was revealed in a significant 2 (film clip) between-subjects \times 8 (emotion item) within-subject ANOVA, $F(7, 665) = 7.39, p < .001$. Compared with the no-fear film, the fear film caused higher ratings on the items “fear” ($M = 1.39, SD = 1.34$ vs. $M = 2.32, SD = 1.96$) and “afraid” ($M = 1.32, SD = 1.29$ vs. $M = 2.13, SD = 2.01$). The fear film also caused higher ratings on “disgusted” ($M = 0.85, SD = 1.04$ vs. $M = 1.87, SD = 1.89$) and “grossed out” ($M = 0.34, SD = 0.62$ vs. $M = 1.66, SD = 2.03$), $ps < .05$. The films were not rated differently on “sad,” “down,” “joyful,” or “happy” ($ps > .06$).

Correlations of attitude toward fear and interest in viewing fear pictures. Within the no-fear film condition, attitude toward fear was not significantly related to interest in viewing any of the photographs. However, attitude toward fear was directly, though not significantly, related to interest in viewing fear photographs ($r = .21, p = .20$). This correlation is of similar direction and magnitude to that found in Study 2 but did not reach significance, perhaps because of the smaller sample size in the current study.

Our central hypothesis concerned participants’ responses after watching the fear film. Within this condition, attitude toward fear was significantly related to interest in viewing fear photographs ($r = .51, p < .001$). Importantly, this correlation between attitude

toward fear and interest in viewing fear photographs was significantly larger in the fear film condition than in the no-fear film condition ($z = 1.64, p = .05$; one-tailed). This effect is consistent with the prediction that the evocation of fear would cause individuals with more negative attitudes toward fear to be less interested in exposing themselves to further instances of fear.

Regressions controlling for other variables. Within the fear film condition, attitude toward fear related to interest in viewing disgust ($r = .38, p < .01$) and sad photographs ($r = .30, p < .03$) but inversely related to interest in viewing neutral photographs ($r = -.27, p < .05$). A simultaneous regression analysis in which attitude toward fear and interest in viewing each type of nonfear photograph predicted interest in viewing fear photographs revealed that attitude toward fear predicted interest in viewing fear photographs above and beyond interest in any other type of photograph ($\beta = .28, p = .01$).

In addition, we tested whether the link between attitude toward fear and emotion regulation was driven by fear reactivity (fear to the film). To do this, a regression was conducted in which attitude toward fear and fear reactivity were entered simultaneously to predict interest in viewing fear pictures. In this regression, only attitude toward fear significantly predicted interest in viewing fear pictures ($\beta = .56, p < .001$). Conceptually replicating Study 4, attitude toward fear was inversely correlated with fear reactivity ($r = -.43, p = .001$).

To assess whether this interest in viewing fear stimuli was due to attitude toward fear or trait fear, another regression analysis was conducted in which attitude toward fear and trait fear were entered simultaneously, and interest in viewing fear-evoking photographs was the outcome (within the fear film condition). Results indicated that attitude toward fear uniquely predicted interest in viewing fear photographs ($\beta = .48, p < .001$), overall $R^2 = .27, F(2, 53) = 9.61, p < .001$. The effect of trait fear was not significant ($\beta = -.10, p = .39$).

Planned contrasts. The above results support the hypothesis that individuals with the most negative attitudes toward fear would be the most motivated to avoid further fear after viewing the fear film clip, as measured by ratings of desire to view fear-inducing photographs. After the no-fear film, individuals with the most negative attitudes toward fear would also be motivated to avoid fear but not as much as the individuals who just viewed the fear film. Finally, individuals with less negative attitudes toward fear would not be as motivated to avoid fear regardless of fear film condition. To further test this specific predicted pattern, a median split was performed on attitude toward fear scores. Then, the following set of contrast coefficients, as recommended by Rosnow and Rosenthal (1995),⁴ was used to test the predicted pattern of results: high negative attitudes toward fear/fear film condition

⁴ We tested our predicted pattern of results using planned contrasts, on the basis of recommendations of Rosenthal and Rosnow (1985), Rosnow and Rosenthal (1995), and Rosenthal, Rosnow, and Rubin (1999). Contrast analysis is designed to address focused, predicted tests of the data. It provides greater statistical power and clearer substantive interpretations of the results. A significant interaction from an ANOVA can occur even when the results are not in line with predictions. Furthermore, an interaction is a planned comparison. And a 2×2 interaction is most likely to be significant when the data form a perfect crossover pattern (i.e., an “X” pattern), that is, when an interaction is testing a contrast of $1 - 1 - 1 1$. This “X” pattern is clearly not predicted by the current work. That is, an “X” pattern would predict that individuals who dislike fear the most should demonstrate the greatest approach toward fear stimuli in the no-fear film condition.

(-3); high negative attitudes toward fear/no-fear film condition (-1); low negative attitudes toward fear/fear film condition (2); low negative attitudes toward fear/no-fear film condition (2). This planned comparison was significant, $t(90) = 4.37, p < .001$. Moreover, the high negative attitudes toward fear/fear film condition differed from all other conditions ($ps < .05$). Similar results were obtained when the extreme quartiles on attitude toward fear were used. Individuals in the fear film condition with the most negative attitudes toward fear expressed the least interest in viewing the fear photographs.

The same set of contrast coefficients was used to test whether interest in viewing other emotion picture types conformed to the predicted pattern for attitude toward fear and fear film condition. None of these comparisons was significant. Interest in viewing the neutral pictures, however, did produce a significant but negative t value for the planned comparison, $t(90) = -2.47, p = .02$. This negative t value suggests that the obtained pattern for interest in viewing neutral pictures was opposite to the predicted ordering of means for interest in viewing fear pictures. As shown in Figure 1, individuals who disliked fear the most and watched the fear film were more interested in viewing neutral pictures than other participants. Knowing they would have to view one of the sets of pictures, perhaps these participants replaced their avoidance of the fear pictures with an interest in viewing the neutral pictures.

Omnibus ANOVA. In response to a reviewer's request, we also conducted a 2 (attitude toward fear) \times 2 (fear vs. no-fear film) \times 5 (preferences for fear, disgust, sad, neutral, and joy pictures) ANOVA. It produced a significant three-way interaction, $F(4, 360) = 3.55, p = .007$. Only interest in viewing fear pictures conformed to the predicted pattern tested with the planned comparison.

Means for ATE subscales. For Study 5, the means and standard deviations for each ATE subscale were as follows: Anger, $M = 1.90, SD = 0.64$; Disgust, $M = 1.78, SD = 0.75$; Fear, $M =$

2.28, $SD = 0.88$; Sadness, $M = 2.61, SD = 0.56$; and Joy, $M = 4.81, SD = 0.29$.

Discussion

Study 5 revealed that attitudes toward emotion relate to efforts at emotion regulation, tested here in the context of fear. Specifically, individuals with the greatest dislike of fear were the ones most motivated to avoid viewing fear-arousing stimuli after viewing a fear-inducing film clip. These results suggest that individuals attempt to reduce their experience of negative emotions because they dislike those emotions. To our knowledge, this is the first direct test of this idea, and consequently, this study extends the implications of attitudes toward emotions to research and theory on the motivation to down-regulate emotions.

We interpret the current study's results in terms of emotion regulation, which is often defined broadly, in that emotion regulation processes may dampen, intensify, or simply maintain an emotion. They can be automatic or controlled, conscious or unconscious, and intrinsic or extrinsic processes, and they unfold over time and thus may influence the latency, rise time, magnitude, duration, and offset of responses in behavioral, experiential, or physiological domains (Gross & Thompson, 2007). Following this definition, we suggest that when individuals who strongly disliked fear indicated that they did not want to view other fear-provoking images after watching a fear-inducing film, they were attempting to regulate their fear. However, our results could be due to mild avoidance or a desire to experience different emotions, although these motivations could also be due to emotion regulation processes.

General Discussion

The present research developed a new approach to the study of attitudes toward emotions by examining how they differ among

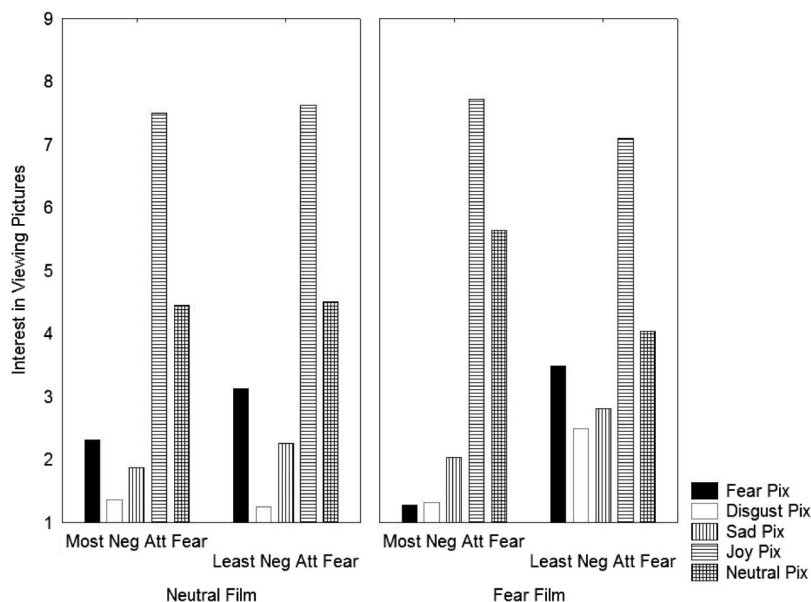


Figure 1. Interest in viewing emotion-evoking photographs as a function of attitude toward fear and film viewing condition. Neg Att Fear = negative attitude toward fear; Pix = pictures.

individuals within a culture and how they predict other important emotion-related variables. Study 1 suggested that there are specific attitudes toward joy, anger, disgust, fear, and sadness and that these distinctions are reliable and valid. Factor analyses supported the distinction of attitudes for specific emotions above alternative factor structures. Study 2 revealed that attitudes toward emotions predicted emotional situation selection, such that more liking of a particular emotion was correlated with being more likely to want to view stimuli that would evoke that emotion. Together, the first two studies validated the basic concept of attitudes toward emotion and demonstrated that the ATE Scale was a reliable measure that possessed basic predictive validity independent of trait emotions. In general, emotions that are typically thought of as negative were evaluated as negative by individuals. The mean rating for each of these emotions was below the midpoint of the scale. However, individuals showed reliable differences in the degree to which they evaluated those emotions as negative, and these attitudes correlated with situation selection.

Study 3 tested hypotheses about the relationship between attitudes toward emotion and trait emotions. Consistent with hypotheses, attitudes toward emotions correlated with trait emotions, but the direction of these correlations depended on the motivational direction of the emotion. That is, liking of approach-oriented emotions, such as anger and joy, was directly associated with more of the trait emotion, whereas liking of withdrawal-oriented emotions, such as fear and disgust, was inversely associated with more of the trait emotion. Study 4 followed up on Study 3 by examining the relationships between attitudes toward emotions and the intensity of reactions to emotional stimuli. It revealed that liking for the approach emotions joy and anger was correlated with greater experienced joy and anger to stimuli that evoke these emotions, whereas liking for the withdrawal emotions fear and disgust was correlated with less experienced fear and disgust to stimuli that evoke these emotions.

A major contribution of the attitudes toward emotion construct is that it provides a theoretical account for why people may choose to down-regulate a particular emotion. Our model acknowledges that emotions organize an organism's adaptive response to an evocative event, and thus a negative emotional response may be beneficial even though one holds a negative attitude toward it. The ATE model suggests that attempts to regulate an emotion are driven by attitudes toward the emotion, independent of the emotion itself. Supporting this idea, Study 5 revealed that individuals who evaluated fear as more negative were more likely to avoid fear-arousing stimuli after fear was activated. This suggests that attitudes toward fear moderated the degree to which individuals engaged in attempts at emotion down-regulation, thus extending work on emotion regulation by showing an implicit assumption of emotion regulation—that individuals try to down-regulate emotions they dislike (Gross & Thompson, 2007)—is valid. Hence, these results provide a link between the basic concept of attitudes toward emotion and an interesting new direction for theories of emotion regulation.

Comparison to Other Conceptualizations

Following presentations of our work on attitudes toward emotions, some listeners/readers have suggested that attitudes toward emotions are a meta-emotion construct or secondary emotional

experience. This is possible. However, like Izard (1971), Eid and Diener (2001), and Ekman (2003), we believe that the attitude toward the emotion may be an intrinsic part of the emotional experience itself. Future research with methods that measure mental processes on the order of milliseconds may be necessary to address questions of this sort.

Our work is similar to work by Eid and Diener (2001), which found that different cultures have different norms for the expression and experience of the various emotions. The Eid and Diener research is similar and complementary to the current work, although it also differs in some important ways. Results of Study 4, in particular, revealed some associations between our ATE subscales and the Eid and Diener one-item measures of appropriate emotions. Whereas Eid and Diener focused on cultural differences in emotion norms, the present studies focused on individual differences in emotion attitudes within a culture. Importantly, the present research examined how attitudes toward emotion related to emotion situation selection, trait emotions, emotional reactivity, and emotion regulation, things no previous work has done. Future work should incorporate these two perspectives by testing whether cultural differences in attitudes or norms influence emotion regulation, emotion reactivity, or situation selection.

Another related concept is affect valuation theory's (Tsai et al., 2006) ideal affect, which assesses the affective states that people value and would ideally like to feel. According to affect valuation theory, ideal affect primarily involves different positive states, whereas the current work focuses primarily on different negative states. Moreover, the present work differs from Tsai et al.'s (2006) conceptualization because it focuses on liking for specific emotions, not ideal states. Also, our conceptualization emphasizes a specific emotion perspective that is interested in differences between emotions such as fear and anger—emotions that are considered similar in the ideal affect framework, given that both are high in negative valence and arousal. As revealed in Study 3, attitude toward fear correlates inversely with trait fear, whereas attitude toward anger correlates directly with trait anger, suggesting that anger and fear should be analyzed separately. Also, Study 4 revealed that ATE subscales were better at predicting emotional reactivity than the ideal affect scales, perhaps because ideal affect fails to take into account motivational direction. Future research on attitudes toward emotions would benefit by following the lead of affect valuation theory in examining attitudes toward specific positive emotions, particularly those that differ in approach motivational intensity (Gable & Harmon-Jones, 2008, 2010).

Limitations

The present studies were cross-sectional correlational studies, and as such the direction of causation cannot be determined. For instance, does liking an approach emotion lead to experiencing that emotion more, or does experiencing an approach emotion more lead to liking that emotion more? Does liking a withdrawal emotion lead to experiencing that emotion less, or does experiencing a withdrawal emotion more lead to liking that emotion less? We suspect that both directions of causation occur, but future research is necessary to test these ideas.

In the current research, we focused on the traditional list of basic emotions and consequently included only one traditional positive emotion—joy. This limits our exploration of attitudes toward

positive emotions, something affect valuation theory has demonstrated is important in comparisons of low- versus high-arousal positive affect in Eastern versus Western cultures. Future research on attitudes toward emotions should incorporate more positive emotions.

Conclusions

The present research provided a new conceptualization of individual differences in attitudes toward specific emotions and presented a measure showing that five of the most researched emotions load on five separate attitude factors. Attitudes toward emotions were associated with trait affective experience, and they predicted emotional reactivity, emotional situation selection, and emotion down-regulation. By expanding our understanding of attitudes toward emotions, we will expand and clarify our understanding of emotional valence because the two concepts are so intertwined. In particular, referring to an emotional (or mood) state or trait as positive or negative is ambiguous. Researchers should explicitly state their definition of emotional valence and whether it refers to the emotion's consequences, eliciting circumstances, or subjective feel or attitude. Moreover, by clearly delineating the concept of emotional valence, researchers should be better positioned to empirically address what aspect of emotional valence is driving an outcome ostensibly caused by the emotion. The results of Study 5 provided initial evidence in line with this idea: Individuals may be motivated to down-regulate certain negative emotions because of their dislike for the negative feeling state.

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Received September 15, 2010

Revision received May 23, 2011

Accepted June 28, 2011 ■