Witnessing excellence in action: the 'other-praising' emotions of elevation, gratitude, and admiration

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Abstract

People are often profoundly moved by the virtue or skill of others, yet psychology has little to say about the 'other-praising' family of emotions. Here we demonstrate that emotions such as elevation, gratitude, and admiration differ from more commonly studied forms of positive affect (joy and amusement) in many ways, and from each other in a few ways. The results of studies using recall, video induction, event-contingent diary, and letter-writing methods to induce other-praising emotions suggest that: elevation (a response to moral excellence) motivates prosocial and affiliative behavior, gratitude motivates improved relationships with benefactors, and admiration motivates self-improvement. Mediation analyses highlight the role of conscious emotion between appraisals and motivations. Discussion focuses on implications for emotion research, interpersonal relationships, and morality.

Keywords

positive emotions; social relations; morality; gratitude; elevation; admiration

Introduction

People are often profoundly moved by leaders, saints, benefactors, and heroes, as well as by ordinary people who do extraordinary things. The positive emotional responses elicited by exemplary others are relatively unstudied, and may be useful to individuals and to society. In fact, positive emotions are experienced more frequently than negative emotions in day-to-day life (e.g., Fredrickson & Losada, 2005), and it has become clear that moments of positive emotion can be beneficial to the individual experiencing them (see Lyubomirsky, King, & Diener, 2005). Despite their potential impact, psychologists know very little about the terrain of positive emotions because only one of these emotions has been well-mapped: 'happiness.' We describe here a family of positive emotions that may enrich the lives of individuals in distinct ways that are not just variants of happiness: the 'other-praising' emotions. Drawing on the appraisal theory of Ortony, Clore, and Collins (1988), Haidt (2003a) described the other-praising family of emotions as arising from others' exemplary actions; members of this family include elevation, gratitude, and admiration. In this paper we present empirical evidence to show that the other-praising family of emotions exist as distinct patterns of positive emotional experience.

We sidestep the question of whether the other-praising emotions are 'basic' emotions (Ekman, 1992). We have found that basicness is a matter of degree (Haidt & Keltner, 1999). The other-

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praising emotions are newer, phylogenetically, and therefore less likely than anger or fear to meet all of the criteria for a basic emotion. We find Scherer's (1994) concept of 'modal emotions' to be useful for exploring the less studied regions of human emotionality. Most emotion researchers break emotions down into their component parts (appraisal, physiology, facial expression, action tendency) and Scherer says 'we need to empirically study the frequency with which certain patterns of sequential, synchronized changes in the different components of emotion episodes occur' (Scherer, 1994, p. 30). Those that occur often deserve labels. We believe that the other-praising emotions are likely to qualify as modal emotions.

Previous research on the other-praising positive emotions

Fredrickson (e.g., 1998) argued that positive emotions are fundamentally different from negative emotions. Whereas negative emotions narrow and focus one's attention on the matter at hand to solve a problem, positive emotions broaden one's perspective and motivate one to do things that will build skills or resources for the future. If the other-praising emotions exist, then they should fit into this framework; they should motivate changes in thinking and subsequent behavior that are beneficial in the long run. With this perspective in mind, we now review what little is known about the other-praising emotions. We will say what we can about the various components that make up each emotion, but we will focus on the situational appraisals that trigger emotions and on the motivations or action tendencies that result. It is in these two components that the greatest differences seem to lie.

Elevation—What is the name for the emotional response to moral exemplars? Our experience leading up to the present paper is that people have difficulty naming such feelings beyond such general terms as 'good,' 'happy,' or 'moved,' each of which can apply to a great variety of situations. There is no single word commonly used in English to describe an emotional response to witnessing acts of virtue or moral beauty. Haidt (2003b) argued that such an emotion exists, and he relied on Thomas Jefferson's choice of the word 'elevation' to describe it. Jefferson believed that great literature can foster a young person's moral development by triggering moral emotions:

> When any … act of charity or of gratitude, for instance, is presented either to our sight or imagination, we are deeply impressed with its beauty and feel a strong desire in ourselves of doing charitable and grateful acts also. On the contrary when we see or read of any atrocious deed, we are disgusted with its deformity and conceive an abhorrence of vice (Jefferson, 1771/1975, p. 349).

Jefferson went on to say that such experiences allow us to 'exercise' our virtuous dispositions, thereby making them stronger. He asked, rhetorically, whether wellwritten accounts of virtuous action 'do not dilate [the reader's] breast, and elevate his sentiments as much as any similar incident which real history can furnish?' (Jefferson, 1771/1975, p. 350).

In these passages, Jefferson lays out the basic features of elevation as clearly as any cognitive appraisal theorist could want. Elevation is elicited by acts of charity, gratitude, fidelity, generosity, or any other strong display of virtue. It leads to distinctive physical feelings; a feeling of 'dilation' or opening in the chest, combined with the feeling that one has been uplifted or 'elevated' in some way. It gives rise to a specific motivation or action tendency: emulation, the desire 'of doing charitable and grateful acts also.' It is the opposite of the disgust reaction towards vice. In sum, elevation is a response to acts of moral beauty in which we feel as though we have become (for a moment) less selfish, and we want to act accordingly.

Haidt (2003b) described several small research projects on elevation, including interviews in Japan and India. In these interviews, many participants said that witnessing good deeds gave them a pleasurable feeling, sometimes involving warm or pleasant feelings in the chest, that

triggered desires of doing good deeds themselves. Silvers and Haidt (2008) found that elevation, induced by a morally uplifting video, produced nurturant behavior in nursing mothers, including increases in hugging and suckling their infants, in contrast to mothers who watched an amusing video. These behaviors are associated with the hormone oxytocin, and suggest a possible underlying biological mechanism for this emotional response. However, we have not been able to find any other published empirical work on emotional responses to excellence in virtue. Several authors have looked at the power of prosocial models to increase prosocial behavior (e.g. Holloway, Tucker, & Hornstein, 1977; Spivey & Prentice-Dunn, 1990; Wilson & Petruska, 1984), but this effect has always been interpreted through cognitive mechanisms such as modeling, priming, self-perception, or changes in social outlook. The studies we report below may therefore be the first to document Jefferson's claims about the emotional response to virtue.

Gratitude—The only other-praising emotion for which there is a body of empirical work is gratitude. Gratitude is generally said to be triggered by the perception that one is the beneficiary of another's intentionally-provided benefit (e.g., McCullough, Kilpatrick, Emmons, & Larson, 2001; Tesser, Gatewood, & Driver, 1968). Although much of the early empirical work focused on gratitude as a mechanism for exchanging costly benefits (one could call this an economic perspective), recent evidence suggests that gratitude often serves a broader social function, namely, promoting relationships with responsive others. We recently demonstrated that the two most robust predictors of gratitude were the perception that the benefactor was being *responsive* to the needs and wishes of the recipient (i.e., thoughtful), and liking the benefit. In a prospective study of gift-giving in three sororities, we found that ratings of thoughtfulness mediated the effects of cost on feelings of gratitude, suggesting that cost may matter primarily as a signal of a benefactor's responsiveness (Algoe, Haidt, & Gable, 2008).

The 'characteristic expression' of gratitude (McCullough et al., 2001) seems to be that the recipient wants to return the favor to the benefactor, and effects of gratitude on repayment have been demonstrated in two recent behavioral studies (Bartlett & DeSteno, 2006; Tsang, 2006). However, in line with Fredrickson's model of positive emotion, gratitude may broaden one's cognitions in the moment with interpersonal implications beyond tit-for-tat 106 *S.B. Algoe and J. Haidt* repayment (2004). For example, Baumgarten-Tramer (1938) asked over 2000 Swiss children to imagine someone giving them something they had always wanted. Many reported wanting to repay the action in some way. But many children spoke of doing things that would connect them more closely with the benefactor, such as participating in an activity they both enjoyed (e.g., going for a ride together in the new car hypothetically bought for the beneficiary), or by offering such things as friendship or faithfulness in 'return' for the favor. Indeed, we recently demonstrated that recipients' gratitude during an organized gift-giving period predicted *benefactors*' positive ratings of the relationship with the recipients a month later, statistically controlling for other relevant positive emotions (Algoe et al., 2008).

Admiration—If elevation is a response to moral excellence that does not benefit the self, and gratitude is a response to generosity, thoughtfulness, or some other moral excellence that does benefit the self, what is the emotional response to non-moral excellence? What do people feel when they see extraordinary displays of skill, talent, or achievement? We nominate the term 'admiration.' Darwin (1872/1998, p. 269) described admiration as 'surprise associated with some pleasure and a sense of approval,' and modern dictionary definitions agree (e.g., the Oxford English Dictionary: 'Agreeable surprise; wonder mingled with reverence, esteem, approbation'). Ortony et al. (1988) use admiration as the most representative example of the 'appreciation emotions,' which are said to include also appreciation, awe, esteem, and respect. Admiration is sometimes used in ordinary English as a response to moral exemplars but, for the purposes of these studies, we define admiration as a response to non-moral excellence, whereas elevation is a response to moral excellence.

There is almost no empirical work on feelings of admiration. There is, however, a theoretical article on prestige that should open the door to empirical work. Henrich and Gil-White (2001) reviewed the anthropological literature on prestige to conclude that prestige, or 'freely-conferred deference,' is fundamentally different from dominance, which is obtained by the threat of force. They suggest that prestige evolved as part of the human capacity for culture. Once humans began to do most of their learning by copying others, it became important to find the best role models to copy. Individuals who excel in any culturally-valued skill therefore draw attention and draw followers. The followers, in turn (and consistent with Fredrickson, 1998), are motivated to build a relationship with the prestigious person to maximize their ability to learn further, and to share in the prestige. Followers feel admiration and a desire for proximity towards prestigious people, not fear and a desire for avoidance as is typical in dominance relationships.

There is a small empirical literature on the reaction to role models and 'superstars' (Lockwood & Kunda, 1997, 1999), emphasizing the role of social comparison and the conditions under which people feel self-deflation versus inspiration from a highly competent other. Participants exposed to models of academic excellence report increased motivation to work on their academic goals, but only if that excellence might be attainable by the self. Thrash and Elliott (2003, 2004) have studied inspiration more broadly. Inspiration joins feelings of energy and pleasure with feelings of transcendence and a motivation to enact a higher possibility that one has just glimpsed. Thrash and Elliot find that there are many sources of inspiration, but one common source is the outstanding accomplishments or abilities of others. Thrash and Elliott consider inspiration to be a motivational state, not an emotion, but it is clearly a part of many emotional episodes. Admiration as we conceive it involves inspiration as its motivational output, driving the learning and relationship effects that we predict below.

The present research

The evidence we have reviewed suggests that there are indeed positive emotional reactions to excellence in others, although it leaves open the degree to which these reactions deserve to be thought of as modal emotions. Assessing their status will require collecting empirical evidence that contrasts them with each other and with more well-established positive emotions. The most obvious contrast is with happiness. The term 'happiness' refers to a variety of states ranging from diffuse positive moods to several more specific emotional reactions. Theoretical work by Lazarus suggests that 'happiness' may be the label for a family of related emotional states. He suggests that common variants of happiness include joy, amused, satisfied, gratified, euphoric, and triumphant (1991, p. 269). In the present studies, we began with the most clearly defined variant (joy) said by Lazarus to be triggered by the appraisal that one is making reasonable progress toward one's goals. Izard (1991) offers a similar definition. In Studies 2a and 2b, we compared the other-praising emotions to amusement, to allow an even closer comparison in which all emotions are triggered by the actions of another person.

We tested two hypotheses: (1) the other-praising emotions are different from happiness; and (2) the other-praising emotions are different from each other. Our specific predictions for the components of each emotion are summarized in Table 1. Because elevation, gratitude, and admiration are proposed as members of the 'other-praising' family, we expect to find more overlap among them than between those emotions and members of the happiness family.

In Study 1, participants recalled a time when a specific type of situation, thought to elicit elevation, gratitude, admiration, or joy, had happened to them. In Study 2, we examined experiences of elevation and admiration right after they happened, triggered either by watching a video in the lab (Study 2a) or by observing an event in one's daily life (Study 2b). Finally, Study 3 compares the effects of gratitude and admiration on behavior relevant to relationship formation.

Study 1

The purpose of Study 1 was to collect patterns of recalled experience for each of the other-praising emotions, and to compare these patterns to each other and to joy. Participants recalled a time when they had experienced a specific type of event and then answered a comprehensive questionnaire about the components of emotional experience. Emotion elicitations were anchored on situational descriptions, rather than on single words (such as 'admiration'), because we have found that emotion words are often unstable anchors, particularly for the less common emotions (Haidt & Keltner, 1999), and because there is no widely known single word for elevation.

Method

Participants and procedure—Students at the University of Virginia ($n = 165$; 63 male, 99 female, 3 not reporting) participated in exchange for course credit in their psychology classes. Students' ages ranged from 17 to 22 years ($M = 18.4$). Seventy percent of the participants were Caucasian, 13% Asian, 6% African American, 2% Hispanic, and 6% were of 'other' ethnicity. Participants completed the study individually in sessions ranging in size from 5–23 participants in classrooms, and one session of 109 participants in a lecture hall. Experimental packets were handed out, randomized by emotion. Most participants completed the task in less than 35 minutes.

Design and materials—Each packet consisted of a page of instructions followed by a questionnaire. The instruction page contained the manipulation that differentiated between the four conditions of this study; the rest of the questionnaire was the same across all conditions.

Instructions and manipulation: Each participant was asked to vividly recall a specific situation he or she had experienced. Each of the four conditions had a similarly-phrased description of the type of situation to recall. For instance, the elicitor for the 'elevation' condition read:

> Please think of a specific time when you saw someone demonstrating humanity's higher or better nature. Please pick a situation in which you were not the beneficiary, that is, you saw someone doing something good, honorable, or charitable *for someone else*.

All elicitors began with the more general form seen in the first sentence of the example, and were followed by a clarification sentence. The elicitors for the other three conditions were: 'Please think of a specific time when someone did something really good for you. Please pick a situation in which you benefited because of someone else's kindness, helpfulness, or generosity' (gratitude); 'Please think of a specific time when you witnessed someone overcoming adversity. Please pick a situation in which someone else successfully overcame an obstacle or handicap' (admiration); 'Please think of a specific time when a really good thing happened to you. Please pick a situation in which something that you had really been hoping for, or wanting to happen, finally happened' (joy). The anticipated emotion (e.g., admiration) was never named in the instructions or elsewhere in the questionnaire. (We note that this study uses a different definition of admiration than the one we use in the rest of the article, although results are consistent across the two. The study was run prior to the publication of Henrich and Gil-White (2001). We see overcoming an obstacle as a specific way of displaying skill and triggering admiration; however we now prefer the broader statement of eliciting conditions used in Study 2b).

Participants were asked to think of a situation that 'resulted in *little or no negative feeling*, or at least in which the positive feelings were much stronger than the negative.' This instruction

was added because participants in pilot tests sometimes gave complex stories in which other-praising emotions were mixed with other criticizing emotions (e.g., elevation at witnessing someone defend someone else against a bully, and anger at the bully). We wanted to collect relatively pure stories of a single emotional experience, without overly constraining participants' reports. However, 30 participants (18%) either did not follow the basic instructions for their task, or reported having primarily negative feelings as a result of the story they told, so were not included in the analyses (8 in elevation, 2 in gratitude, 16 in admiration, [1] and 3 in joy). To determine whether participants had followed directions, three independent judges were given the four emotion-eliciting instructions. Unaware of the true eliciting condition for each story or study hypotheses, they marked the set of instructions that the story best matched, if any. Overall, judges had high agreement about whether participants followed directions: elevation (following Rosenthal and Rosnow, 1991, estimated reliability of an individual judge = $r_1 = 0.92$, effective reliability = $R = 0.98$), gratitude ($r_1 = 0.94$, $R = 0.98$), admiration ($r_1 = 0.94$, $R = 0.98$), and joy ($r_1 = 0.93$, $R = 0.98$). Discrepancies between judges were discussed and agreed upon by two members of the research team. The final sample consisted of 35 participants in the elevation condition, 38 in gratitude, 25 in admiration, and 37 in joy.

Dependent measures: This section provides a summary of the questions asked and the order in which they were asked. The specific questions will be presented in the results section. Prior to receiving the manipulation, participants gave a baseline rating of mood. After the manipulation the order was as follows: a series of questions designed to be descriptive of *general features of the event*, in terms of its intensity and timing; describing in their own words the details of what happened and the feelings that resulted; describing in their own words any *motivations, actions taken, and physical sensations*; completing a checklist of possible physical sensations; writing down the best single word to describe their feeling. As a manipulation check, participants were asked to check which of a list of appraisals they made, including whether the situation was primarily positive or negative. Participants then gave a second general mood rating on the same scale as used earlier.

To assess *changes in relationships*, participants were asked whether another person did something to cause the feelings that resulted from the situation. This question was intended to focus participants' attention on a specific other person about whom subsequent questions would be asked. Those who indicated 'yes' completed questions regarding ways their relationship with and cognitions about that person had changed, if at all.

For all free-response variables, coding schemes were created by two judges who read through all responses (unaware of condition) and established a list of response themes prevalent in the data. Three judges who were not involved in prior coding then applied the codes, unaware of condition and of our hypotheses, and discrepancies were resolved by consensus of the group of judges. For each code, the effective reliability (R) was computed for the group of judges, as was the estimated reliability for an average individual judge (r_1). These statistics will be given in the tables of means for each set of relevant measures.

Results

Overview of approach—Each analysis was formulated to address the two main hypotheses described in Table 1: (1) the other praising emotions differ from joy, and (2) the other praising emotions differ from each other. Most analyses were performed on dichotomous dependent measures, using logistic regression with joy as the reference variable, compared to each of the

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[1]In this study and in Study 2b, participants in the admiration condition were most likely to not follow the basic directions for the task or to experience negative emotions. These 'bad' data typically resulted because they wrote about something they themselves accomplished, things that simply *happened to* another person without display of skill or talent, or they focused on something negative about the story.

other-praising emotions. Our tables report the statistical tests we used to draw conclusions about the differences among emotion conditions (i.e., within each table row). We also use **boldface** to draw attention to the two or three most characteristic features of each emotion (i.e., within each column), although we did not perform statistical tests to compare the most common features to the less common features. Participant sex was included as a variable in all tests, to control for possible bias in recall (e.g., Robinson & Clore, 2002). There was one significant main effect of sex for a physical symptom, which we report below; all other effects were nonsignificant and are not reported.

Preliminary analyses

Reported feeling: To understand how participants classified their own experiences, they were asked near the end of the questionnaire to provide the single best word to describe their feelings at the time of the event. These words were combined into categories of closelyrelated synonyms by a coder unaware of eliciting conditions (e.g., 'grateful' and 'thankful' were coded with 'gratitude').

'Happiness' was the modal word choice for all four conditions, although it was listed approximately two times more frequently in the joy condition (84%, versus 40% for elevation, 42% for gratitude, 44% for admiration). Looking beyond these first choices, the second most common choices show differentiation in line with predictions. In the elevation condition, for which we believe there is no common label, the second most frequently mentioned word cluster was *awe/admiration* (20%). The gratitude condition elicited the word *gratitude* (29%). The admiration condition elicited the words *awe/admiration* (16%) and *pride* (16%). Previous analyses of free-response emotion words have shown the importance of examining not just the modal word, but the magnitude of the first choice and its ratio to the second choice (Haidt & Keltner, 1999). This approach indicates that happiness is indeed an excellent label for the feeling caused by making progress towards a goal (the next most frequent label was *pride*, 8%). But happiness is not an excellent label for the other three conditions.

General features of the events: We next examined whether participants in all conditions described situations that were comparable on several basic features. Joy participants found it easier to recall an example (0 = not at all to 6 = very easy; $M_J = 4.76$, $M_E = 3.69$, $M_G = 3.42$, $M_A = 3.04$; $F(3, 125) = 6.16$, $p = 0.001$), reported having thought about the event more in the 24 hours after it occurred (0 = never to 6 = all the time; $M_J = 4.73$, $M_E = 2.94$, $M_G = 3.76$, $M_A = 3.08$; $F(3, 125) = 10.32$, $p<0.001$), and said they had more intense feelings as a result of the event than those in the other-praising emotion conditions (0 = no real feelings to 6 = strongest ever felt; $M_J = 5.24$, $M_E = 4.26$, $M_G = 4.45$, $M_A = 4.12$; $F(3, 125) = 7.73$, $p<0.001$).

We also examined the social context of the stories. The number of participants in each condition who indicated that another person caused their positive feelings was 27 for elevation, 31 for gratitude, 21 for admiration, and 20 for joy. Of these 99 participants, 30% said that the person they had interacted with was a friend, with the next most frequent relationship being a family member (16%); this ordering held in all four conditions. There were no differences between conditions in the amount of time participants reported having known the other person prior to the event (an average of approximately a year; $F(3, 88) = 0.82$, $p = 0.70$).

Main analyses: Emotion components

Physical sensations: Participants used a checklist to indicate any physical sensations they remembered having; differences between conditions were tested using logistic regression with joy as the reference variable, followed with Mann-Whitney U-test between each of the other-praising emotion conditions to test the second hypothesis. Sex of participant was included as an independent variable in all analyses. For simplicity of presentation, all differences reported

are significantly different at $p<0.05$. Participants in the joy condition were more likely to report feeling light/bouncy, increased heart rate, or blushing than those in any of the other-praising emotion conditions, supporting our hypotheses about energization in Table 1 (light/bouncy E = 20%, G = 39%, A = 32%, J = 62%; heart rate increase E = 17%, G = 24%, A = 24%, J = 65%; blush E = 3%, G = 13%, A = 0%, J = 43%). On the other hand, admiration participants were more likely to report having had tears in their eyes than both joy and elevation participants (E = 23%, G = 34%, A = 44%, J = 22%), and more likely to report having had a lump in their throat than joy participants (E = 23%, G = 24%, A = 32%, J = 11%). Gratitude participants were more likely to report that their muscles felt relaxed than were admiration participants (E = 31%, G = 39%, A = 12%, J = 24%). Physical sensations were remembered less frequently for the other-praising emotions than for joy, and our specific predictions of higher rates of warm feelings in the chest for elevation were not supported (E = 49%, G = 39%, A = 40%, J = 54%). In addition, participants reported moderate levels of feeling 'chills or tingles,' but there were no significant differences across condition (E = 23%, G = 21%, A = 40%, J = 35%). There was one significant main effect of sex for the physical sensations: women were more likely to report having had tears in their eyes (40%) as a result of the event than were men (15%), Wald statistic $z = 7.10$, $p<0.01$, but this effect did not interact with condition.

Motivations and actions: Participants indicated whether they wanted to do anything, whether they did anything, or whether their body language expressed anything as a result of their feeling, and then described what that motivation or action was. These open-ended responses were coded for content. The first set of codes involved the promotion of *positive relationships*. 'Enhancement' included enhancing the reputation of the other person by talking to third parties (e.g., 'I told my suitemates and crew teammates … just that it was cool of my friend to send the package'). The 'acknowledgment' code was used when participants said they acknowledged or wanted to acknowledge the positive action, often by saying 'thank you' or sometimes by hugging the other person. 'Reward/Repayment' was an inclination to repay or reward the positive actions of the person in a direct way, sometimes materially, such as buying dinner. Finally, the 'affiliation' code was used when the participant reported wanting to spend more time with the other person.

The second set of motivational codes was related to *morality*. The 'prosocial' code was used when participants said they wanted to help people other than the virtuous person in any way. For instance, one participant wanted to volunteer at a battered women's shelter. An 'emulation' code was applied for those participants who indicated that they wanted to do what the other had done. In some cases a response received two codes, for example the person who paid for people behind him at highway tolls because he saw his brother do it was coded as both prosocial and emulation. Finally, 'moral self-improvement' was used when a participant wanted to become a 'better' person (e.g., kinder to others, more thoughtful).

The final set of motivational codes had to do with ways to *expend energy*. For instance, 'celebration' was used when people indicated that they wanted to do things like jump up and down, or shout with excitement. Participants were given a 'broadcast' code when they said that they wanted to tell people about their own good feelings.

Percentages of participants reporting each motivation code can be found in Table 2, along with the reliability of judges' ratings. Compared to people in the joy condition, those in the other-praising emotion conditions were more likely to want to enhance the reputation of the other, and to emulate the other's actions. This is consistent with our predictions about the other-praising and role-model-selecting effects of the other-praising emotions. However, there were also some distinct features of each other-praising emotion: elevation participants wanted to be prosocial and were most likely to want to emulate the other, and gratitude participants wanted to acknowledge the other's actions as well as to repay or reward the other person, through

words, actions, or material goods. Elevation and admiration participants were more likely to want to improve themselves than joy participants. In contrast to these findings, joy participants were more likely than those in the other conditions to want to tell others about their own good feelings and celebrate through things like shouting or jumping.

In general then, when people describe a situation hypothesized to evoke joy, even when they say that another caused their feelings, they are likely to focus on their own good feelings about the positive outcome (see 'total expended energy' in Table 2). On the other hand, people who describe positive experiences from the 'other-praising' family are more motivated to do things either for that specific other or for others in general (see 'total positive relationship' codes and 'total moral' codes).

Finally, as an additional test of the relationship building hypothesis for gratitude, results of a one-way ANOVA (limited to those who indicated that another had caused the positive feeling) with the four positive emotions as levels of the independent variable, indicated that the event had an effect on how much the participant would be 'willing to associate with' the person in the future (0 = less, 1 = no change, 2 = more; $M_G = 1.88$, $M_E = 1.64$, $M_J = 1.57$, $M_A = 1.41$; F (3, 89) = 3.54, $p = 0.02$). As predicted, gratitude participants wanted a closer relationship than did joy participants (planned contrast, $F(1, 89) = 4.20$, $p = 0.04$). Contrary to prediction, admiration did not differ from joy on this measure.

Change in cognitions about the other: We asked three questions of participants who indicated that another had caused their positive feelings: (1) 'Did your feelings *toward the person* change as a result of the situation, even briefly?' (2) 'Did this situation change the way you think about the other person?' (3) 'Did or does it [the situation] affect interactions with the person?' Eighty-four percent of this group answered affirmatively to one of these questions and provided openended responses for further analysis. Reliabilities and percentages for each of the three codes we applied to these responses are reported in the text below.

People in all other-praising conditions were more likely than those in the joy condition to say that they had a new perspective on a *positive quality* of the other (e.g., 'I think of him as a more generous person'; $r_1 = 0.58$, $R = 0.81$), E = 41%, G = 39%, A = 57%, J = 0%. Those in the elevation and admiration conditions were more likely to say that they *gained respect* for the other ($r_1 = 0.68$, $R = 0.87$) than those in the joy and gratitude conditions; E = 48%, A = 33%, J = 5%, G = 6%. Further, participants in the gratitude condition were more likely than those in the other three conditions to say that they had a *positive relationship focus*; they said they felt closer to the person or wanted to build the relationship ($r_1 = 0.87$, $R = 0.95$), G = 71%, E = 48%, A = 33%, J = 50% (the difference between gratitude and joy was marginally significant at $p<0.06$).

Mood ratings—Finally, as expected, participants' mood levels shifted as a result of writing their stories. Participants were asked prior to the experimental manipulation and in the middle of the survey (soon after writing the story) what their current mood was on a scale from 'the most miserable and depressed I have ever felt' (1) to 'the most happy and euphoric I have ever felt' (100). A repeated-measures ANOVA with the four conditions as levels of the between-subjects variable, and the two mood ratings as the within-subjects variable, was performed. Mood increased across all positive emotion conditions ($M_{T1} = 64.57$, $M_{T2} = 70.58$; $F(1, 119) = 44.92$, $p<0.0001$), but there was no difference between condition in the degree of increase, $F(3, 119) = 2.15$, $p = 0.08$, indicating that the effects are not being driven by differentially elevated mood.

Discussion of Study 1

Study 1 suggests that the other-praising emotions are different from joy in many ways (Hypothesis 1) and from each other in a few ways (Hypothesis 2). Overall, the 'other-praising' label for the emotions of elevation, gratitude, and admiration seems to be appropriate. Participants in those conditions focused their thoughts and motivations on people other than themselves, including desires to enhance relationships and to make changes that demonstrated (at least temporary) moral growth. Meanwhile, those in the joy condition had high energy and seemed to focus on themselves and their own feelings, even when they indicated that another person had caused their happiness. The fact that the joy participants did not greatly differ from gratitude participants on the 'positive relationship focus' code was puzzling until we looked at the stories themselves: in 9 of 10 joy stories with this code, the 'good thing' that happened was a better relationship; 8 stories were about getting a first date or furthering a romantic relationship. The relationship caused the joy, not the other way around.

Importantly, although there were many things that distinguished the other-praising emotions from joy, there were unique features of each emotion. To illustrate this point, we use our participants' own words. Just as Jefferson had said, elevation seems to open people's hearts and make them want to emulate virtuous others:

> Watching my grandmother aid this helpless, suffering woman near the days of her death, caused me to feel a sense of responsibility to those around me. I began to feel more appreciative for my well-being and the fact that I was healthy. I felt the desire to be like my grandma, and have the same goodwill and huge heart— I wanted to help!

Gratitude seems to make people want to repay and acknowledge the other's actions, which may serve to enhance a relationship with the other person:

> I wanted my family to acknowledge what she had done for us, with a card and flowers or something. I wanted some way to confirm to her I thought she was the best.

Admiration seems to make people want to tell others how great the person was, thereby potentially enhancing the person's reputation:

> I told everybody who knew Katie and a lot of people who didn't; I pretty much just told them the story and they felt the same way.

The main failure of our predictions was that the physical sensations reported by participants in this study were only different for 'energizing' symptoms reported for joy participants. Warm feelings in the chest were reported by roughly half of the participants in all four conditions. This lack of differentiation may be an artifact of the recall method. It may be harder for people to recall the subtle things they felt in their bodies several months ago, compared to the things they consciously wanted to do, or actually did do.

One strength of the recall method used in Study 1 was that participants could draw from years of memories to recall powerful exemplars of the situations in question. However, an important complement to such a method, given the potential concerns with recall just noted, is to induce the emotions in the lab, or to capture them in real time as they occur in everyday life. We used both of these methods in Study 2.

Study 2

The purpose of Study 2 was to examine what happens when people witness excellence in others in real time. For a 3-week period (Study 2b), participants recorded times when they witnessed someone being particularly kind or generous to another person (elevation); times when they saw someone exceed a standard of skill or talent (admiration); or times when someone told

them a joke with a set-up and punch line (amusement). Participants were introduced to this task by watching a video that elicited the target emotion in the lab (Study 2a), so the same participants were used in both studies. We used a broader definition of admiration in Study 2, informed by Henrich and Gil-White's (2001) theoretical analysis of prestige. We did not include gratitude in this study because it cannot be elicited by video (Study 2a), nor can it be easily elicited by reading newspapers or watching movies or television, which we expected to be common sources of events reported in Study 2b.

Amusement was used as a control condition for several reasons. First, it is pleasurable and is associated with happiness through the smiling and laughter that typically come with it (Lazarus, 1991). Additionally, amusing (or funny) video clips are widely used to induce positive affect (e.g., Kraiger, Billings, & Isen, 1989). Notably, like elevation and admiration (but unlike joy), amusement is often caused by another person, but it should not produce the social and moral cognitions and motivations to the same degree as the other-praising emotions.

Study 2a

The purpose of Study 2a was to test hypotheses about differences in elevation, admiration, and amusement by inducing these emotions in a controlled way, using a stimulus that would be objectively similar across participants within each condition. This approach also allowed participants to be trained with the event record they would be using to record their own experiences in Study 2b.

Method

Participants: A total of 130 members of the University of Virginia community participated in exchange for course credit or US$5 (96 female, 34 male). For the 114 participants who subsequently completed Study 2b, we have further demographic information. Their ages ranged from 18 to 25 ($M = 19.4$). Seventy-five percent of participants described themselves as White, 14% Asian or Pacific Islander, 6% Black, 3% Hispanic, and 2% Other.

Design and procedure: Participants signed up for a 3-week study on 'emotional experience in daily life,' and attended a 1-hour introduction session, individually or in small groups. They watched one of three randomly assigned videos chosen to induce elevation ($n = 39$), admiration ($n = 46$), or amusement ($n = 45$). Immediately after watching the video, participants answered a series of questions about what happened and how they felt during the video on a 1-page event record. They were then given instructions for the second phase of the study (Study 2b). As in Study 1, the name of the focal emotion was never mentioned.

Materials: Each video was 3–4½ minutes long. The video for the elevation condition featured a young man named Trevor who, as a boy, had established a homeless shelter in Philadelphia. The admiration video was taken from a documentary about basketball star Michael Jordan, and depicted scenes of him 'flying' through the air to dunk the basketball into the net. The amusement video consisted of clips from three stand-up comedians (Jay Leno, Conan O'Brien, and Mitch Hedberg) telling jokes with a set-up and punch line.

The event record asked about the eliciting event (the video in this case) and its effects. Participants first gave descriptive information, such as the date and time of writing, sex of the other person involved, intensity of the resulting feelings, and a description of what happened. They next reported their feelings and physical sensations. Both of these sets of questions began with a free-response question with a blank line for writing, followed by a checklist or rating scale derived from the results of Study 1. Next, participants completed a motivation scale created from the results of Study 1. It began: 'Sometimes, events change people's thoughts or feelings, even momentarily, about themselves or those people who are associated with the

events.' Participants then responded to 10 items that started with the prompt, 'As a result of this event, I feel …' by writing a number ranging from −4 (much less) to 0 (no change) to +4 (much more) in the space before each item (e.g., '… like I want to be a better person').

Participants also gave their appraisals of the situation and of the other person by rating the degree to which the other person had exceeded a normal person's 'talent, skill or ability,' or exceeded a normal person's 'kindness, generosity, or some other type of moral virtue.' These questions served as manipulation checks, allowing us to confirm that we had triggered the appraisals we were aiming for. Finally, participants described their relationship to the person.

Results—All analyses were performed using one-way ANOVA (for continuous dependent measures), or either logistic regression with amusement as the reference variable or Mann-Whitney U-tests (for binary dependent measures). Open-ended responses were coded using the procedure from Study 1. We performed all analyses on continuous variables with sex of participant as an independent variable in the model. There is one main effect of sex, which we report in the text; all other effects were non-significant and we do not report them.

Manipulation checks: Elevation participants rated Trevor very high ($M_{El} = 5.21$ on a scale of 0 to 6), and higher than the other conditions ($M_{Ad} = 3.15$, $M_{Am} = 0.36$), on exceeding standards of kindness/virtue, $F(2, 127) = 149.40$, $p<0.001$. Admiration participants rated Michael Jordan very high ($M_{Ad} = 5.74$), and higher than the other two conditions ($M_{El} = 3.95$, $M_{Am} = 3.09$), on exceeding standards of talent/skill, $F(2, 127) = 39.29$, $p<0.001$. Although we did not have specific cognitive appraisal ratings for amusement, the high ratings of the word 'amused' (Table 3) and the frequent reports of laughter (Table 4) confirm that this video was perceived to be amusing.

Reported feelings: Participants rated a list of 11 emotion words[2] for the degree to which they experienced them. We performed a principal components analyses on these 11 ratings, followed by promax rotation, which allows for correlated factors. It produced a three factor solution that accounted for 80% of the variance. The first factor was labeled 'admiration' and it included the items admiration, respect, moved, inspired, and awe; factor loadings ranged from 0.83 to 0.97. The second factor was labeled 'warmth,' and it included only the items love and gratitude, with loadings of 0.91 and 0.93, respectively. The third factor ('amusement') included the words entertained and amused, with loadings of 0.93 and 0.88. The first two factors were correlated at 0.58, whereas factor 3 had correlations of 0.22 and 0.08 with factors 2 and 1, respectively.

An average score was computed for each factor from the items that reliably loaded on it (see Table 3 for means and reliability). The results of one-way ANOVAs on these composite scores support our predictions about the feelings experienced in each condition: admiration participants had the highest ratings on the admiration factor, followed by elevation participants; elevation participants had the highest ratings on the warmth factor (there is no word for elevation, but words related to admiration plus words related to warmth or love is not a bad approximation); and amusement participants had the highest ratings on the amusement factor (followed by admiration participants). Of note, despite distinctions among conditions on ratings

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[2]Just before making these emotion ratings, participants were asked to say, in their own words, what emotion they had felt, if any. When we grouped words together into semantically related clusters, as in Study 1, the results were consistent with those reported in Table 3. Participants in both elevation and admiration conditions were more likely to feel 'uplifted' as a result of seeing Trevor and Michael Jordan (23% and 33%, respectively, versus 0% of amusement participants). Admiration participants also reported feelings of awe/admiration (61%, compared to 8% elevation and 0% amusement), and they reported excitement/energy (33%, compared to 0% elevation and 7% of amusement). Finally, 86% of amusement participants reported feelings related to amusement, compared to 0% of elevation participants, and 7% admiration participants.

of all other emotion words, there were no differences between conditions on ratings of happiness, and happiness did not load on any one factor.

Physical sensations: Participants checked off any physical sensations they experienced from a list provided; see the left half of Table 4. As predicted, elevation participants were more likely than amusement participants to say that they had a warm feeling in their chest; however, admiration participants said so too. Elevation participants were also more likely than admiration participants to report feeling a lump in the throat. Admiration was most characterized by feelings of high energy, and these participants also reported feeling increased heart rate. We also found, but had not predicted, that the admiration condition produced significantly more reports of chills than the other conditions; this finding was supported by the freely-reported physical symptoms as well (admiration, 22%, higher than amusement, 2%; elevation, 5%; $ps<0.05$). Amusement resulted in laughter, and these participants also were more likely to report feeling light/bouncy than elevation participants, as had the joy participants in Study 1.

Motivations: As predicted, participants in the elevation condition spontaneously wrote that they wanted to emulate Trevor's actions (51%); this was higher than the rate at which participants in the admiration condition wanted to emulate Michael Jordan (28%), which was, in turn, higher than the frequency of emulation reports in the amusement condition (9%). (Reliability for the emulation code: $r_1 = 0.55$, $R = 0.71$.) Elevation participants also wanted to be prosocial (e.g., 'I wanted to do random, nice, considerate things for other people'; 38%) compared to those in the other two conditions, who did not report this motivation ($r_1 = 0.73$, $R = 0.84$). Admiration participants reported that they wanted to engage in physical activity (e.g., go to the gym, go for a run; 43%) and in activities that would lead to professional or academic success (35%), whereas participants in the other two conditions reported almost none of these motivations. (Reliability for physical activity: $r_1 = 0.81$, $R = 0.90$; for success: $r_1 = 0.68$, $R = 0.81$.) There was no clear pattern of motives for amusement participants.

Participants also made ratings on a 10-item motivation scale that was created based on the results of Study 1; see the left half of Table 5.[3] Consistent with the other-focused effects found in Study 1, participants in the elevation and admiration conditions indicated that they wanted to be more like the person (Trevor and Michael Jordan, respectively), in contrast to amusement participants. Elevation participants reported the strongest motivations to be a better person and to do something prosocial (i.e., 'something good for another'). The unique and most characteristic effect of admiration was a strong endorsement of the desire to achieve success oneself. Results are consistent with our predictions about the specific effects of elevation and admiration (Table 1). There was no clear pattern of specific motivation for amusement participants. The only effect of sex was that women gave even lower ratings than did men on the item 'saying something negative to the other person' $F(1, 124) = 10.77$, $p = 0.02$.

Is emotion an active ingredient?: We are proposing that the effects reported above were caused by emotions, and that they reveal the components of those emotions. However, an alternative hypothesis is that the effects, particularly the motivational effects, might be due to non-emotional processes such as modeling (Bandura & Walters, 1963), the perception-behavior link (Chartrand & Bargh, 1999), or the non-conscious activation of goals (Bargh, Gollwitzer, Lee-Chai, Barndollar, & Troetschel, 2001). Emotion may play no mediating role. To examine this alternative we performed two sets of mediational analyses, as recommended by Kenny, Kashy, and Bolger (1998). We tested a simple model in which the cognitive appraisal

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[3]The individual items in the scale were not expected to combine into subscales. Exploratory factor analyses on the 10-item scale for Studies 2a and 2b did not produce consistent factor structures, so the data are presented for individual scale items in both studies.

of virtue or skill directly predicts reports of wanting to engage in prosocial or success-related activities, respectively. We then tested the admiration and warmth factors created in Table 3 as emotional mediators of these effects. We acknowledge the power of non-emotional and unconscious mechanisms in shaping behavior, but we predicted that the emotion factors would partially mediate these relationships. We tested four hypotheses. Specifically, we predicted that the admiration factor would partially mediate the effect of skill appraisals on success motivations (Hypothesis A) and the effect of virtue appraisals on prosocial motivations (Hypothesis B). We made these predictions because the admiration factor picked up self-reports of being moved and inspired, which should be common to both admiration and elevation. We also predicted that the smaller 'warmth' factor, which was distinctive of elevation, would partially mediate the effect of virtue appraisals on prosocial motivations (Hypothesis C), but would *not* mediate the effect of skill appraisals on success motivations (Hypothesis D).

For each hypothesis, we performed regression analyses to test the four steps suggested by Kenny et al. (1998), and followed these analyses with a Sobel (1982) test to determine whether the inclusion of a mediator (emotion) significantly reduced the direct effect of the appraisals on the motivations. Here, we report the results of the Sobel tests as a summary: all four mediational analyses support our hypotheses. The mediating effect of the admiration factor accounted for 62% of the total effect of skill appraisal on success motivation ($z = 4.84$, $p<0.001$) and 35% of the total effect of virtue appraisal on prosocial motivation ($z = 3.15$, $p<0.005$). Additionally, the mediating effect of the warmth factor accounted for 19% of the direct effect of virtue appraisal on prosocial motivation ($z = 2.32$, $p = 0.02$), but not a significant amount of the admiration condition finding ($z = 1.00$, $p = 0.35$). These analyses show that our results cannot simply be accounted for by unconscious and unemotional mechanisms. The conscious experience of emotion connected appraisals with motivations.

Discussion of Study 2a

Study 2a demonstrated specific effects of two otherpraising emotions which were induced using a single stimulus for participants in each condition. Results were consistent with those of Study 1: other-praising emotions have social and moral entailments, whereas amusement does not. Also, each other-praising emotion seems to have a characteristic motivation: elevation motivated people to be kind and caring to others, whereas admiration inspired people to work toward success (i.e., cultivating skill or talent).

Study 2a also found the predicted linkage of elevation and feelings of warmth in the chest. We believe that these findings, collected immediately after the events in question, are more reliable than those of Study 1, which relied upon memories for physical feelings that may not have been well-encoded. But perhaps our most unexpected finding was that admiration, and only admiration, produced reports of chills. On the whole, Study 2a provided strong evidence that elevation and admiration are different in many ways from amusement (Hypothesis 1), and that they differ from each other in several ways as well (Hypothesis 2).

Study 2b

The purpose of Study 2b was to examine everyday occurrences of elevation and admiration over a 3-week period. Although such events may be less intense on average than those elicited by specially chosen videos (Study 2a) or those recalled as exemplars (Study 1), this study adds ecological validity to the improvements made in Study 2a (i.e. immediate response collection and a more closely matched control condition).

Method

Participants and procedures: Of the 130 participants who completed Study 2a, 16 withdrew before completion of Study 2b (8 from elevation, 7 from admiration, 1 from amusement). The remaining 114 participants were given an additional US$15 or additional course credit for completing this part of the study. After participants had completed their event record for Study 2a, they were given further instructions. The experimenter explained that the video they had just seen was an example of the type of event they would be watching for over the course of the next 3 weeks. Each time they witnessed an event of that type they were to complete another event record. They were told that the event might involve anyone from a friend to a stranger, and might be something that they saw happen, something that they heard about, read about, or saw on television or in a movie. The script was nearly identical for all conditions, except that participants were instructed to fill out an event record each time that someone else 'does something good for another person (other than yourself)' (elevation); 'exceeds a standard of behavior or performance' (admiration); or 'tells a joke that includes a set-up and a punch line' (amusement). After giving the instructions, the experimenter gave additional guidance. For example, in the elevation condition the experimenter added: 'If you see a store clerk helping a customer to find a product, you probably wouldn't fill out a form for that event—it's that person's job. However, if the clerk really seems to go above and beyond the call of duty to be kind or generous, you may feel that merits filling out a record.' The experimenter then gave participants another blank event record and went over the questions in detail. As in the previous studies, the anticipated emotions were not named in the instructions.

Participants were asked to complete their event records as soon as possible after the events happened. They were instructed to drop completed forms in a locked box in the Psychology building every few days. Participants signed up for a 5 minute individual check-in session with the experimenter approximately 2 days later and on day 10. At the end of the 3 weeks, participants had individual final sessions, in which the experimenter asked the participant about the difficulty of completing the forms (to gauge compliance) and for speculations about what we were studying.

Data preparation and reduction: The 31 participants in the elevation condition completed a total of 162 event records; 39 admiration condition participants completed 199 event records, and 44 amusement condition participants completed 219 event records. As in Study 1, we performed a manipulation check by having two judges, unaware of eliciting condition, independently determine whether each event record followed one of the three pre-specified appraisal patterns; witnessing or hearing about someone doing something good for another person (elevation; $r_1 = 0.87$, $R = 0.93$), witnessing or hearing about someone exceeding a standard of behavior (admiration; $r_1 = 0.78$, $R = 0.88$), or hearing a joke with a set-up and punch line (amusement; $r_1 = 0.87$, $R = 0.93$). Additionally, to avoid assessment of mixed emotions, we eliminated event records that resulted in exclusively negative valence. Judges were very reliable in their ability to make these assessments ($r_1 = 0.82$, $R = 0.90$). The manipulation checks resulted in the removal of 24 elevation records (0 participants were eliminated), 106 admiration records (8 participants), and 68 amusement records (4 participants). Scores on each dependent measure were averaged for each participant across his or her multiple records, leaving each participant with one (averaged) score per dependent measure. This data set will be used for all analyses unless otherwise noted.

Results

Overview and manipulation check: All analyses were run using one-way ANOVA, followed by a Tukey's HSD post-hoc test ($p<0.05$), unless otherwise noted. (Using aggregated data is more appropriate for this data set than is multilevel modeling[4]). As in Studies 1 and 2a, we performed all analyses on continuous variables with sex of participant as an additional

independent variable. There was one significant sex − condition interaction on an emotion rating, which we will report below; we do not report non-significant tests. There were no differences in the average number of events that participants recorded over the course of the 3 weeks (M_{El} = 4.45, M_{Ad} = 3.00, M_{Am} = 3.78, $F(2, 94)$ = 2.32, p = 0.14). Participants in all conditions were most likely to report that a friend had been responsible for the event (46% of elevation, 38% of admiration, and 49% of amusement event records). As in Study 2a, the self-reported manipulation check demonstrated that participants appraised their targets as most virtuous in the elevation condition (M_{El} = 3.72, versus M_{Ad} = 2.39, M_{Am} = 1.14; contrast 2, −1, −1; $F(1, 96)$ = 36.38, $p<0.001$), and most skillful in the admiration condition (M_{Ad} = 4.42, versus M_{El} = 2.39, M_{Am} = 2.24; contrast 2, −1, −1; $F(1, 96)$ = 45.11, $p<0.001$).

Reported feelings: The emotion ratings[5] closely replicated the results of Study 2a. We performed a confirmatory factor analysis on emotion ratings from the unaggregated data set, using Varimax rotation to determine whether the factor structure found in Study 2a held up across people and situations. Indeed, the loadings on each factor were highly consistent with those in Study 2a, accounting for approximately 73% of the variance. The admiration factor loadings ranged from 0.80 to 0.86, with no loading on either of the other factors higher than 0.25; the exception was the loading for 'moved' which was 0.67 on the admiration factor and 0.47 on the warmth factor. The reliability of this factor remained high with the inclusion of 'moved' and it was retained in the factor for consistency with Study 2a. The warmth factor of love and gratitude included loadings of 0.78 and 0.75, with loadings on the first factor of 0.25 and 0.33, respectively. 'Happiness' also had a high loading on this factor (0.71), but was not included because it also had loadings of 0.31 and 0.38 on the admiration and amusement factors, respectively. Finally, 'entertained' and 'amused' had 0.93 and 0.92 loadings on the amusement factor, respectively, with 0.13 and −0.14 on the admiration factor. We created composite scores for each factor within the unaggregated set and then aggregated these composite scores for each person; the means are reported in the right half of Table 3. Once again, the admiration composite was rated the highest by the admiration participants, the warmth composite was rated highest by the elevation participants, and the amusement composite was rated highest by the amusement participants.

Physical sensations: Freely-reported physical sensations were similar to Study 2a; participants in the admiration condition reported feeling chills, goose-bumps, or tingles (10% compared to 1% in elevation and 0% in amusement), $F(2, 97)$ = 4.09, $p<0.05$. Amusement condition participants were most likely to report feeling 'light' (14%, compared to 2% in both elevation and admiration), $F(2, 97)$ = 4.93, $p<0.05$. Consistent with their free reports, admiration participants used the checklist to report feeling chills or tingles, as well as high energy. Consistent with the theme of energization or arousal, admiration participants were more likely than elevation participants to report increased heart rate and muscles tensed. Amusement participants reported laughter and feeling relaxed and, consistent with the joy participants in Study 1, 'light/bouncy.' See the right half of Table 4.

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[4]Although participants reported on multiple events, making this data set ideal for multi-level modeling, the median number of events was too low to test for within-person (Level 1) effects, which requires a minimum of three records per person. Testing our two primary hypotheses about group (i.e., person-level; Level 2) differences with a program like HLM is primarily beneficial if there is a large discrepancy in the number of events recorded per person. We did run HLM analyses anyway, and determined that the slight increase in number of additional significant contrasts (due to increase in power) did not change the overall interpretation of the results, while the added length and complexity of reporting the results made the analyses harder to follow. We therefore used the more conservative method of aggregation followed by ANOVA. Those interested in reading a report of the HLM analyses should contact the first author.

[5]The freely reported words are similar to those in Study 2a. Admiration participants most often used words related to awe/admiration (M_{Ad} = 53%, compared to M_{El} = 16% and M_{Am} = 0%), Admiration participants also experienced more excitement/energy (M_{Ad} = 36%, compared to M_{El} = 2% and M_{Am} = 10%). Amusement participants mostly used words related to amusement/humor (M_{Am} = 91%, compared to M_{El} = 1% and M_{Ad} = 3%).

Motivations and actions: Participants in this study were driven by many of the same motivations as in Study 2a. Participants in the elevation and admiration conditions spontaneously reported that they wanted to emulate the other person (e.g., 'made me want to join a rock band [too]'), $M_{El} = 36\%$ and $M_{Ad} = 32\%$. (Reliability: $r_1 = 0.64$, $R = 0.78$.) Elevation participants also wanted to be prosocial ($M_{El} = 25\%$ versus $M_{Ad} = 3\%$ and $M_{Am} = 0\%$; $r_1 = 0.58$, $R = 0.73$), whereas participants in the admiration condition had goals of success in the domain of fitness and exercise (e.g., 'it made me want to play ball again'; $M_{Ad} = 19\%$ compared to $M_{El} = 1\%$ and $M_{Am} = 1\%$; $r_1 = 0.73$, $R = 0.84$), and they wanted to praise the other person (e.g., 'Afterward, I told DC that he did a really decent thing for the opposing team'; $M_{Ad} = 21\%$, $M_{El} = 19\%$, $M_{Am} = 6\%$; $r_1 = 0.70$, $R = 0.82$). Again, as in the video induction (Study 2a), there was no specific pattern of reported motives for amusement.

Participants completed the 10-item rating scale about their motivations after each event; see the right half of Table 5. Participants in both the elevation and admiration conditions reported wanting to be more like the other person (emulation), and did not want to say anything negative to the other person. The unique findings for elevation were that participants wanted to become better people, do something good for the other person, and do good things for people more generally, whereas the admiration participants had a desire to become successful, and wanted to tell others about the person. There were no specific motivations for the amusement participants.

Discussion of Study 2b

Results of Study 2b closely replicated those of Study 2a. Despite the fact that we used very different elicitation methods in the two studies, we found very similar patterns of emotional response. Participants in the three conditions demonstrated different patterns of emotion ratings, physical sensations, and self-reported motivations. Elevation motivated people to be kind toward others, whereas admiration motivated people to achieve success and boost the prestige of the admired person. Amusement participants once again showed no distinct pattern of motivation. The other-praising emotions do seem to influence the thought-action repertoires of those experiencing them in daily life, as well as in the lab.

The evidence from Studies 1 and 2 suggests that the other-praising emotions are complex patterns of response to virtuous or skillful behaviors of others, and that they are distinct from joy and amusement. They appear to have both similar and unique influences on cognitions and motivations, with implications for a range of behaviors. However, one limitation of the previous studies is that we did not measure behavior. In Studies 1 and 2b, participants self-reported some actions that they took after the situation, intermingled with the self-reported motivations they felt after the situation. We made no attempt to code behavior specifically (as distinct from the reported motivations), or to verify that reported behaviors were enacted. We have, we think, amply demonstrated that these emotions change the way individuals view the world, but the question remains: do the other-praising emotions change the way people *act* in the world?

To test this, we took advantage of the well-documented loose links between emotion and behavior (e.g., Lerner & Keltner, 2000), which findings suggest that emotion-specific mental content are applied to behavior in whatever situation is at hand, even if the behavior is incidental to the emotional episode (see Schwarz & Clore, 2007). In addition, recent reviews of the emotion literature have concluded that, rather than reliably predicting any specific behavior, 'the direct effect of emotions are likely to be motivational, changing the accessibility and priority of goals' (Schwarz & Clore, 2007, p. 39); they also find that indirect effects of emotion on behavior, through mental updating, are likely more reliable than direct effects of emotion on behavior (Baumeister, Vohs, DeWall, & Zhang, 2007). In Study 3, we manipulate emotion to influence behavior, and also provide a statistical test of the path from emotion to behavior by way of mental content.

Study 3

The final study was a first step toward demonstrating that these emotions do in fact differentially influence behavior. As such, we compared two of the other-praising emotions (gratitude and admiration) on a behavior relevant to relationship formation. We used a letter-writing technique to induce the emotion toward a known individual who was not present, and then tested incidental effects of the emotion on choice of a different interaction partner.

Two types of emotion-specific mental content that may shape incidental behavior are appraisals (e.g., Lerner & Keltner, 2000) and motivations (e.g., Bartlett & DeSteno, 2006). Although there are family resemblances between the other-praising emotions on appraisals (i.e., praiseworthiness) and motivations (e.g., affiliation), each emotion has a signature pattern as well. Admiration arises from appraisals of another's skill or talent, with motivations to emulate the admired person and to improve the self. Gratitude arises from appraisals of another's thoughtful actions (Algoe et al., 2008), and appears to result in attention to the other's positive qualities as well as a motivation to be prosocial toward the benefactor.

Participants in this study were randomly assigned to a gratitude, admiration, or emotionally-neutral control condition, and were given a choice about having an upcoming Instant Messaging chat with a peer who contributed to the good of the community ('prosocial') or with a peer who had an interest in making friends ('social'). Although gratitude may ultimately promote relationships with attentive others (Algoe et al., 2008), immediate gratitude-specific cognitive content focuses on prosocial qualities of a benefactor and prosocial motivations toward the benefactor, which may be generalized to others. Bartlett and DeSteno (2006) found that, although grateful recipients' prosocial sentiment was intended for a benefactor, it generalized when presented with a chance to help a different person rather than the benefactor: gratitude-specific mental content was incidentally applied to a context-specific behavior. In the same vein, we predicted that participants in the gratitude condition would generalize their mental content to the choice about an incidental interaction partner in the lab, by being more likely to choose to interact with the prosocial individual than people in the other two conditions. Although admiration and gratitude both come from appraisals of others' exemplary actions, we expected that they would produce distinct mental content (measured by motivations), and that the gratitude-specific motivations would subsequently influence choice of interaction partner (see Figure 1).

Method

Participants—Participants were 109 (66F, 43M) first- and second-year students at the University of North Carolina, Chapel Hill (UNC), who participated in exchange for course credit. The majority of participants were 18 or 19 years old (range = 17–20, $M = 18.59$), and described themselves as White/Caucasian (78%). An additional 8.3% described themselves as African American, 2.7% described themselves as East or South Asian, 6.4% self-described as 'other' (unspecified), and 4.6% of the participants gave no information.

Design and procedure—Participants arrived at the lab individually for a study on 'the effects of interpersonal communication,' and were informed that they would be asked to participate in a number of tasks designed to assess different methods of communicating. After completing a brief background information sheet to bolster our cover story (see below), the first 'communication' task was a letter-writing task, which served as the emotion manipulation. Participants were randomly assigned to one of three conditions: gratitude, admiration, or an emotionally-neutral control. All participants wrote a letter to someone with whom they had regular interaction. Participants in the gratitude condition wrote a letter about a time when that person did something for them, for which they felt grateful; participants in the admiration condition wrote about a time when that person displayed great skill or talent, for which they

felt admiration; participants in the emotionally-neutral control condition wrote about the method by which they travel to class.

After the letter-writing task, participants were told that they would have an online Instant Messaging (IM) chat with 'one of the other participants in the study.' The experimenter presented the participant with background information sheets of two other people, who were described as being in the study at the moment, but in different rooms. In fact, there were no other participants, and the information sheets were fabricated to present two alternatives: a social individual, and a prosocial individual. The social individual was someone who demonstrated an interest in making new friends ('I just transferred to UNC, and am enjoying all the new people I'm meeting'), and the prosocial individual was someone who contributed to the good of the UNC community ('I give campus tours to UNC visitors, and know a lot of random facts about UNC'). In addition, both choices were described as being juniors (third year students) who were the same sex as the participant, and who had the same major as each other, but a different major than the participant indicated on his or her background information sheet (the major was chosen from a list of the 10 largest UNC majors, with the exclusion of psychology). Consistent with being a transfer student to this large state university, the social person was described as being born in Illinois, whereas the campus tour guide was described as being born in North Carolina.[6] After making their choice between the two possible partners, participants answered questions about their emotional and motivational responses to the writing task while ostensibly waiting for the experimenter to link their computer with their chat partner's computer.

Within this questionnaire, participants rated a number of positive and negative emotions on a scale ranging from 0 (not at all) to 6 (very much), as a manipulation check; the positive emotions relevant to the manipulation will be reported with the results. (All Ms for the negative emotion ratings were <2.13 in each condition, which was expectedly low, and they will not be discussed further.) A subset of participants ($n = 59$) was asked to rate their motivations as well, focusing on the extent to which they were interested in (1) meeting others like the person to whom they wrote, (2) improving some aspect of themselves, and (3) giving back to others, using a rating scale that ranged from 1 (strongly disagree) to 7 (strongly agree). Finally, participants rated how interested they were in having the IM chat on a scale ranging from −3 (not at all interested) to +3 (very interested). After finishing the questionnaire, they were debriefed about the nature of the study. Eight participants did not follow instructions for the emotion manipulation, and so are not included in these analyses (e.g., writing the admiration letter as a 'thank you,' effectively confounding the two conditions).

Results

Manipulation check: Emotional response—A series of one-way ANOVAs followed by Tukey's post-hoc tests revealed that the manipulations were successful in inducing different patterns of emotional response. Admiration participants gave higher ratings of admiration ($M_A = 4.84$) than did participants in the other two conditions ($M_G = 3.55$, $M_C = 0.65$; $F(2, 106) = 61.86$, $p<0.001$), whereas gratitude participants gave higher ratings on gratitude ($M_G = 5.08$) than did participants in the other two conditions ($M_A = 2.91$, $M_C = 0.97$; $F(2, 106) = 62.17$, $p<0.001$). In the control condition, no emotion was reported to have been felt at the midpoint of the scale or higher. The gratitude and admiration conditions produced similar reports of 'proud' ($M_G = 3.35$, $M_A = 3.75$) and of 'happy' ($M_G = 4.50$, $M_A = 3.66$); for both of these emotion ratings the control condition produced significantly lower reports (for proud, $M_C = 0.89$, $F(2, 106) = 24.84$, $p<0.001$; for happy, $M_C = 2.08$, $F(2, 106) = 22.49$, $p<0.001$).

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[6]We considered the possibility that this aspect of the description would be more or less appealing to participants who were also born in or out of the state of North Carolina. We created a variable to indicate whether participants were born in North Carolina (1) or not (0); this variable did not independently predict choice, nor did it moderate effects of condition on choice that are presented later.

Motivations—The results of Studies 1 and 2 helped us plan contrasts to test predictions about motivations. First, consistent with their 'other-praising' status, and relevant to the behavioral choice, participants in the gratitude and admiration conditions had higher ratings than did participants in the control condition on their desire to *meet others who were like the person* to whom they wrote ($M_G = 6.28$, $M_A = 6.21$, $M_C = 5.52$; contrast 1, 1, −2) $F(1, 55) = 5.46$, $p = 0.02$ (two-tailed); a contrast (1, −1, 0) revealed that gratitude and admiration condition participants did not differ in these ratings; $F(1, 55) = 0.04$, $p = 0.85$. On the other hand, the patterns of means for the other motivations are consistent with the proposed specificity of admiration and gratitude.

In line with the results of Study 2, participants in the admiration condition reported a greater desire to *improve some aspect of themselves* than participants in the gratitude or control conditions ($M_G = 5.05$, $M_A = 6.00$, $M_C = 5.00$; contrast −1, 2, −1) $F(1, 56) = 6.39$, $p = 0.01$ (two-tailed). There was not a significant difference between participants in the gratitude and control condition on this variable (contrast 1, 0, −1) $F(1, 56) = 0.01$; $p = 0.91$. In addition, in line with the results of Study 1 and other recent research, participants in the gratitude condition had a greater desire to *give back to others* than did participants in the admiration or control conditions ($M_G = 5.89$, $M_A = 5.26$, $M_C = 4.67$; contrast 2, −1, −1) $F(1, 56) = 5.13$, $p = 0.03$ (two-tailed). There was not a significant difference between participants in the admiration and control condition on this variable (contrast 0, 1, −1) $F(1, 56) = 1.57$, $p = 0.22$.

Behaviors—Participants in all conditions reported being equally interested (and slightly interested) in having the IM chat, $M_G = 0.73$, $M_A = 0.53$, $M_C = 0.89$, $F(2, 77) = 0.57$, $p = 0.45$, but chose different people with whom to interact. In the gratitude condition, 45% of participants chose the prosocial individual, compared with 25% and 19% in the admiration and control conditions, respectively. Results of a logistic regression reveal that gratitude participants were more likely to choose to interact with the prosocial individual than were participants in the other two conditions combined, $B = 0.54$, $p = 0.01$, OR = 1.72; planned contrasts showed that participants in the admiration and control conditions did not differ in their likelihood of choosing the prosocial individual, $B = 0.36$, $p = 0.54$.[7] These analyses included sex of participant and the sex by condition interaction; neither approached significance, ps>0.39. Importantly, gratitude ratings were the only positive emotion to predict the choice to interact with the prosocial individual in a logistic regression; $B = 0.20$, $p = 0.03$, OR = 1.22 (admiration, happy, proud, ps>0.24; two-tailed).

Emotion-motivation-behavior link—Finally, results from the three primary dependent measures (i.e., emotions, motivations, and partner choice) suggest that the manipulation influenced behavior (specifically, choice of interaction partner) via its impact on emotion and associated motivations. To test the theoretical path depicted in Figure 1, which suggests that the immediate effects of emotion are to change one's motives and goals, which are then applied to the situation at hand to influence context-specific behavior, we used the subset of individuals who provided responses to each measure. The structural equation model (SEM) presented in Figure 1 was tested using mPLUS, which can accommodate categorical outcome measures (i.e., choice of interaction partner). SEM allows a test of all the predicted regression coefficients simultaneously, and is therefore the recommended approach for testing a model such as the one proposed (Preacher & Hayes, 2004). This approach tests the indirect path that examines

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[7]For those who may be curious about additional analyses, a set of dummy codes was established for the condition variable, with gratitude as the reference, to test whether people in the gratitude condition were more likely than those in either of the other conditions to choose the prosocial individual. Indeed, as predicted, participants in the gratitude condition were more likely than those in the admiration condition to choose the prosocial individual, $B = -0.90$, $p = 0.09$, two-tailed; OR = 0.41; and those in the gratitude condition were more likely than those in the control condition to choose the prosocial individual, $B = -1.26$, $p = 0.02$, two-tailed; OR = 0.28. These analyses controlled for sex of participant and the sex × condition interaction, but these variables did not produce significant effects.

whether the effect of condition on motivations can be accounted for by emotion ratings; the indirect path (similar to a Sobel test) is the recommended way to test for mediation (MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002).

Rated motivations demonstrated that people in the admiration and gratitude conditions wanted to interact with others like the person they wrote about; for those in the gratitude condition, the other was prosocial. In addition, the dependent measure that most clearly demonstrated gratitude-specific motives was the desire to be prosocial oneself (i.e., to 'give back'); this is the variable used to represent gratitude-specific motivational changes that should facilitate the effect of emotion on behavior. The model produced a Root Mean Square Error of Approximation (RMSEA) value of 0.000, indicating that the model is a very good fit for the data; $\chi^2(2) = 1.49$, $p = 0.47$. Moreover, the pattern of significant path coefficients support the theoretical model outlined above. The experimental manipulation increased ratings of gratitude for those who were in the gratitude condition, which were then associated with increased self-reported prosocial motives for participants in that condition. That is, the direct effect of condition on prosocial motives is *not* significant (see figure 1), but the indirect path from condition to prosocial motives, through emotion, is significant ($B = 0.70$, $p = 0.05$). Finally, gratitude-specific motivational changes significantly predicted incidental action: prosocial motivations predict the choice to interact with a prosocial peer in the lab. The emotion changed what was in the mind, and this influenced subsequent behavior.

Discussion of Study 3

The results of this study demonstrate motivational and behavioral differences between grateful and admiring individuals. Despite the fact that each is an 'other-praising' emotion, triggered by the positive qualities in other individuals, they may have different implications for social and moral life. Specifically, whereas admiring individuals were motivated to improve themselves, grateful individuals appear to focus on opportunities to give back to others and, perhaps, are cued in to giving qualities of potential interaction partners. Typically, these grateful sentiments are focused toward the benefactor, but can be redirected under certain circumstances (also see Bartlett & DeSteno, 2006). These findings are consistent with our prior work (Studies 1 and 2; Algoe et al., 2008). Analyses demonstrated that the cognitive-motivational sequelae associated with the emotion of gratitude (i.e., motivation to 'give back') were linked with the choice to interact with the individual who contributes to the university community. This finding is consistent with theoretical predictions about the incidental effects of emotion on behavior in ways that are consistent with appraisals (e.g., Lerner & Keltner, 2000), or motivations (Bartlett & DeSteno, 2006), and extends those findings to interpersonal consequences. The behavior indicates one way in which excellent others might influence our social lives, and demonstrates that not all other-praising emotions are created equal. Together with recent research showing the role of elevation in nurturant behavior between mother and infant (Silvers & Haidt, 2008), this research adds to the growing evidence that witnessing the excellence of others stirs emotional responses that may contribute to intrapersonal and interpersonal enrichment.

General discussion

Participants in our studies experienced positive emotions, often strongly enough to cause chills or warm feelings in the chest, when they recalled or were exposed to cases in which another person displayed talent, perseverance, generosity, kindness, or other skills and virtues. These 'other-praising emotions' were different from members of the happiness family (joy and amusement) in many ways, supporting our first hypothesis. And, although there was some family resemblance, the other-praising emotions were different from each other in several ways, supporting our second hypothesis. Each other-praising emotion had a characteristic

motivational feature: elevation participants were motivated to be kind or warm toward others (Studies 1, 2a, and 2b), gratitude participants wanted to reach out to or connect with their benefactors (Study 1) or to 'give back' (Study 3), and admiration participants were energized and wanted to work harder to reach their own goals (Studies 2a, 2b, and 3).

Mediation analyses in Studies 2a and 3 indicated that emotional feelings were active ingredients linking together appraisals and motivations. Our results cannot be fully explained by unconscious cognitive mechanisms such as priming or mimicry. Furthermore, such mechanisms, if active, might have been pushing in the opposite direction. One can certainly prime kind behavior by using *words* that prime the concept of kindness, just as one can prime slow walking by using words that prime the concept of the elderly (Bargh, Chen, & Burrows, 1996). The surprising finding in automaticity research, however, is that when extreme *exemplars* of a trait are presented, as in our studies, they often induce a contrast effect: people see themselves as vastly inferior to the exemplar, and behave accordingly (Dijksterhuis et al., 1998).

We believe that this research has important implications for research on emotion. First, we introduced an emotion (moral elevation) known to Thomas Jefferson but unstudied by emotion researchers. Second, we called attention to a related emotion (admiration) that was described by Darwin (1872/1998) but that has received little attention from emotion researchers. Third, we extended the description of an emotion that has been gaining attention recently (gratitude) emphasizing the importance of looking beyond reciprocity to broader considerations of the relationship between benefactor and recipient. Although these three emotions are unlikely to meet all of Ekman's (1994) criteria for being 'basic' emotions, they are good candidates for being modal emotions (Scherer, 1994) and are worthy of further study. Fourth, it is noteworthy that these emotions fit neatly into Fredrickson's (1998) broaden-and-build hypothesis, lending support to the theory. These emotions may not lead to immediate behavior (such as fight or flight); rather, they change people's cognitions and motivations in ways that make it easier for them to build relationships and skills, especially if such opportunities present themselves in the environment. Finally, our findings of differentiation among positive emotions, and even perhaps between joy and amusement, suggests that researchers should be careful about using a single 'positive emotion' condition to contrast with negative emotions. Using comedy clips to induce positive affect may give an incomplete picture of positive emotions. Amusement was the only one of the five emotions we studied that led to no clearly identifiable motivation or action. All of the predictions we made in Table 1 received some support. In the rest of this discussion we draw out our findings by comparing the emotions on three features: consequences for social relationships, moral motivations, and phenomenology/physiology.

Social relationships

The sharpest contrast in Study 1 between the other-praising emotions and joy was that all three other-praising emotions produced frequent free-response reports of 'positive relationship' motivations (67% for elevation, 74% for gratitude, and 81% for admiration, versus 30% for joy). In other words, the other-praising emotions motivate people to do things that create or strengthen relationships, particularly with virtuous or skillful people. Participants in our other-praising conditions noticed particular positive qualities about the other person (e.g., kindness), and elevation and admiration participants said that they gained respect for the other person.

This relationship-building motivation was clearest for gratitude, in which the open-ended questions about the other person in Study 1 yielded the most frequent reports that, after the event, participants felt closer to the other person or wanted to build the relationship. For instance, gratitude participants said things such as, 'I went from not knowing him to having a new good friend,' 'My closeness and love for my friend were renewed and refreshed,' and 'We grew closer; I thought she was sweeter and hung out with her more.' Moreover, these

participants indicated on a rating scale that they would be more willing than joy participants to spend time with the other person in the future. This relationship-building effect of gratitude points to an extension of traditional thinking about the role of gratitude in reciprocal altruism. We found, as Trivers (1971) had first proposed, that gratitude does indeed motivate people to pay back favors, thus completing a reciprocal exchange that is mutually beneficial (see McCullough et al., 2001). Nevertheless, as Fredrickson (2004) suggested, gratitude is about more than simple tit-for-tat. We found that gratitude motivates people to get closer, to strengthen ties and, in the process, perhaps, to move beyond 'exchange' relationships and into 'communal' relationships (Clark & Mills, 1979). These findings are replicated in a diary study (Algoe et al., 2008; Study 1) in which gratitude participants wanted to repay the other, but also had approach motivations, such as wanting to spend time more with the other. Indeed, the results of Study 3 suggest that, in the absence of a benefactor, gratitude can be misdirected to include the choice to interact with peers who contribute to the good of the community, with implications for relationship formation.

Moral motives and self-improvement

The other-praising emotions draw people out of themselves. Compared to emotions from the happiness family, all three other-praising emotions resulted in a focus on others. Whereas gratitude seems to focus participants on the benefactor, elevation seems to open people up to others more generally. Elevation led to higher reports (compared to joy or amusement) of motivations to do good things for other people, become a better person oneself, and emulate the virtuous role model more generally. Admiration participants consistently wanted to emulate the admirable person and improve themselves. Admiration differed from elevation primarily in that admiration seems to arouse and energize people to work harder on their own goals and projects (see Thrash & Elliot, 2004, on inspiration), while elevation does not energize; it opens.

Although elevation and admiration are similar in that another person does something praiseworthy that does not benefit the self, elevation and gratitude are similar in that the other person does something praiseworthy in the moral domain. From the results of Study 1 alone, one might say that both elevation and gratitude resulted in prosocial responses, with the gratitude participants focusing their motivations primarily on the benefactor. However, there was also a small but significant effect in which 19% of gratitude participants in Study 1 (versus 0% of joy participants) wanted to emulate or copy the example of their benefactor (see Table 2). This last finding suggests a synergistic relationship between gratitude and elevation. Witnessing sincere expressions of gratitude might produce feelings of elevation directly, as Seligman (2002, p. 73) reports. Alternatively, gratitude itself might be 'tricked' into motivating prosocial action toward others, especially when it is impossible to directly repay or interact with a benefactor, such as in Study 3. Emmons and McCullough (2003) recently found that keeping a gratitude journal led to increased levels of social support for others, including those who were not one's beneficiaries. Jefferson believed that good deeds spread in this way when he wrote that witnessing acts of charity and gratitude make us 'feel a strong desire in ourselves of doing charitable and grateful acts also' (1771/1975, p. 349).

Phenomenology and physiology

Studies 2a and 2b provided a surprising finding on the physical sensations of the other-praising emotions. When we began this study we thought that chills would occur at low levels in both the elevation and admiration conditions. We did not predict a distinction. However, Studies 2a and 2b both showed a dissociation in which chills were most characteristic of admiration, whereas warm feelings in the chest were most characteristic of elevation. The 'warm' chest was never significantly greater for elevation than for admiration, yet if we disregard significance and just look down the columns for each emotion in Table 4, we see that 'warm' chest was always the most commonly reported physical sensation for elevation participants,

whereas it was never the most commonly reported feeling for admiration, or amusement. (This was true for elevation in Study 1 as well, when compared to the other three emotions.) When we look at physical sensations associated with energy (reports of 'high energy,' 'light/bouncy,' and low levels of 'muscles relaxed') we see a further contrast: admiration involves energization whereas elevation does not. Witnessing an extraordinary performance by another person is clearly one of many ways to elicit the motivational state of inspiration, and these findings on admiration match Thrash and Elliott's (2004) description of inspiration as overlapping with activated positive affect, which provides energy for immediate action. Elevation, on the other hand, is a calmer emotion which seems to increase openness and warmth towards others; it may not lead to immediate altruistic action when such action is difficult. This interpretation is buttressed by our recent finding that elevation may alter social behavior in part through the release of oxytocin (Silvers & Haidt, 2008). Oxytocin has sedative and stress-reducing effects (Uvnas-Moberg, 1998). If elevation and admiration each give rise to pleasant yet distinctive phenomenological experiences, then there is likely to be a complex set of hormonal and neurological interactions at work, about which much remains to be discovered.

Limitations and open questions

We believe that these studies are among the first empirical studies of the emotions of elevation and admiration. Study 1 is also the only study we know of to document the comprehensive pattern of emotion components of gratitude. Although these studies may provide a foundation upon which to base future research, it is important to note their limitations. There are limitations stemming from the self-report method we relied upon in Studies 1 and 2. First, we told participants in Studies 1 and 2b what kind of situations we were looking for. We believe this method has many advantages over the more common method of telling people the name of an emotion to report, but it does mean that we specified one of the components of the emotional experience (the appraisal). On the other hand, in Study 2a we gave no guidance about the appraisal and we got very similar results. Second, most of our conclusions about motivations and behavior are based entirely on self-reports, and it is crucial that future studies measure behavior objectively, as we began to do in Study 3.

Another limitation of these studies was that we ignored the negative emotions sometimes produced by witnessing excellence in others. Our admiration conditions, for example, had larger numbers of records removed in Study 1 and 2b than did the other conditions. Part of this difference was due to the presence of negative emotions such as resentment, for example, towards a roommate who got an A on an exam without studying. The higher (though still low) rates of negative emotions in the admiration condition for these two studies may be related to the effects documented by Lockwood and Kunda (1997), in which social comparison to outstanding others can lead to deflation and despair under some circumstances.

Conclusions

Witnessing and interacting with excellent individuals can create opportunities for enrichment of the self and society. Inspiring leaders, caring benefactors, and selfless saints do more than draw praise from emotionally-responsive witnesses; these exemplary others inspire people to improve themselves, their behavior, and their relationships. Elevation, gratitude, and admiration are not just flavors of happiness. They are a part of the human emotional repertoire that, until now has been largely unexplored, and whose potential remains largely untapped.

Acknowledgments

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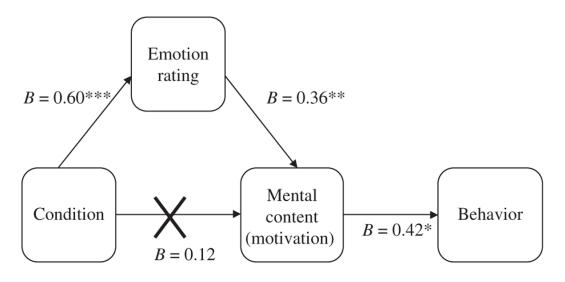
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Figure 1.
Conceptual model in which increases in emotional experience (assessed via ratings) are predicted to account for the effect of the manipulation (the condition) on increases in emotion-specific mental content; in turn, this mental content should influence context-specific behavior. As predicted in Study 3, the direct path from condition to prosocial motivations was no longer significant once gratitude ratings were taken into account, suggesting that the manipulation of emotion changed mental content, which predicted choice of the prosocial interaction partner. ***p<0.001; **p<0.01; *p<0.05.

Table 1

Predicted findings for major components of the emotions studied.

	Elevation	Gratitude	Admiration	Happiness (Joy)
Elicitor	Others exceeding standards of virtue	Others doing good deeds for the self	Others exceeding standards of skill or talent	Progress toward or achieving a goal
Feeling label	None[a]	Gratitude	Admiration	Happy
Physical sensations	Warm feeling in chest	None predicted	Energization	Energization
Motivations	Do good deeds, emulate, become better person	Repay benefactor, praise benefactor publicly	Emulate, work harder towards success, praise other	Celebrate, expend energy, tell others about good feelings
Relationship consequences	Openness to others in general	Want closer relationship with benefactor[b]	Want proximity; ingratiation	None

[a] Note: We expected no clear distinctive label to emerge. We expected 'happy' to be the modal label.

[b] While all of the other-praising emotions should lead to general relationship motivation, gratitude should show the strongest such effect.

Table 2
Study 1: Motivation codes by condition.

Motivation codes	Elevation	Gratitude	Admiration	Joy
Positive relationship[†]				
Enhancement ($r_1 = 0.56$, R = 0.79)	**44**[a]	29[a]	**57**[a]	05[b]
Acknowledgment ($r_1 = 0.69$, R = 0.87)	22[b]	**61**[a]	**33**[b]	05[b]
Reward/repayment ($r_1 = 0.72$, R = 0.88)	07[b]	**39**[a]	10[b]	05[b]
Affiliation ($r_1 = 0.59$, R = 0.81)	11	13	00	20
TOTAL (reported any of above 4 codes)	67[a]	74[a]	81[a]	30[b]
Moral				
Prosocial ($r_1 = 0.58$, R = 0.73)	**43**[a]	05[b]	04[b]	03[b]
Emulate[+] ($r_1 = 0.72$, R = 0.89)	**67**[a]	19[b]	**33**[b]	00[c]
Moral self-improvement ($r_1 = 0.42$, R = 0.69)	17[a]	08[ab]	20[a]	00[b]
TOTAL (reported any of above 3 codes)	71[a]	24[b]	52[a]	03[c]
Expend energy				
Broadcast ($r_1 = 0.75$, R = 0.90)	03[b]	11[b]	12[b]	**81**[a]
Celebrate ($r_1 = 0.71$, R = 0.88)	06[b]	11[b]	**32**[a]	**57**[a]
TOTAL (reported either of above 2 codes)	09[c]	18[c]	36[b]	89[a]

Note: $N = 135$, unless noted; tested using logistic regression with joy as the reference variable (unless 0, then only the following); followed with Mann-Whitney U-test between each of the other-praising emotion conditions to test the second hypothesis. Sex of participant is included as an independent variable in all analyses. Letters next to the means indicate significant differences between conditions, $p \leq 0.05$. Bold indicates the highest two percentages (for individual codes) in each condition (additional bold text was used when a third percentage was just one number less).

[+]Percentages for these codes were based on the sample of participants who indicated that another person had been responsible for their feelings, $N = 99$.

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Table 3

Studies 2a and 2b: Rated emotion words by condition.

Emotion word	Study 2a condition			Study 2b condition		
	Elevation	Admiration	Amusement	Elevation	Admiration	Amusement
FACTOR 1 (Admiration)						
Admiration	4.72^a	**5.33^a**	1.00^b	**3.25^b**	**4.62^a**	1.10^c
Respect	4.77^a	**5.27^a**	0.59^b	**3.38^b**	**4.31^a**	0.93^c
Moved	4.05^a	3.82^a	0.34^b	2.63^a	3.30^a	0.65^b
Inspired	4.03^a	4.56^a	0.57^b	2.26^b	3.82^a	0.72^c
Awe	2.69^b	4.40^a	0.45^c	1.53^b	3.26^a	0.57^c
Averaged rating, 3 = 0.95, 0.91	4.05^b	4.68^b	0.59^c	2.61^b	3.90^a	0.79^c
FACTOR 2 (Warmth)						
Gratitude	2.77^a	1.62^b	0.66^c	2.98^a	2.15^a	1.17^b
Love	2.21^a	1.24^b	0.41^b	1.42	1.48	0.95
Averaged rating, 3 = 0.82, 0.62	2.49^a	1.43^b	0.53^c	2.20^{a**}	1.82^b	1.06^b
FACTOR 3 (Amusement)						
Entertained	1.69^b	4.20^a	**3.80^a**	1.14^b	3.09^a	**3.62^a**
Amused	1.15^c	2.29^b	**3.82^a**	0.85^b	1.63^b	**3.29^a**
Averaged rating, 3 = 0.79, 0.86	1.42^c	3.24^b	3.81^{a*}	0.99^c	2.36^b	3.45^a
Pride	1.72^a	2.27^a	0.25^b	1.12^b	2.38^a	0.52^b
Happiness	3.33	3.51	2.64	2.91	3.50	2.71

Note: Words were rated on a scale from 0 (not at all) to 6 (very much). Study 2a, $N = 130$; Study 2b, $N = 100$. One-way ANOVA was used for all analyses, followed by Tukey's post-hoc test. Sex of participant was included as an independent variable in all analyses. Letters next to means indicate significant differences between conditions, $p<0.05$. Bold indicates the highest two ratings in each condition. The emotions of relief, discomfort, embarrassment, disgust, and resentment were not reported, because all means were below 1.50 for these items.

*
Tukey post-hoc test showed no differences between amusement and admiration in Study 2a. However, we tested our hypothesis that amusement participants would have higher ratings than those in the other two conditions with a planned contrast (2, −1, −1), which was significant, $F(1, 122) = 4.69$, $p<0.05$.

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Tukey post-hoc test showed no differences between admiration and elevation in Study 2b. However, we tested our hypothesis that elevation would cause higher ratings than the other conditions with a planned contrast (2, −1, −1), which was significant, $F(1, 93) = 6.83$, $p = 0.01$.

Table 4

Studies 2a and 2b: Physical sensations from checklist by condition.

Physical sensation	Study 2a condition			Study 2b condition		
	Elevation	Admiration	Amusement	Elevation	Admiration	Amusement
'Warm' chest	**51**[a]	**43**[a]	20[b]	**35**	31	30
Lump in throat	18[a]	02[b]	04[ab]	09[ab]	19[a]	04[b]
High energy	10[b]	**52**[a]	20[b]	16[c]	**56**[a]	36[b]
Increased heart rate	13[ab]	20[a]	04[b]	14[b]	**37**[a]	19[ab]
Chills	10[b]	37[a]	02[b]	06[b]	28[a]	02[b]
Light/bouncy	05[b]	28[a]	**47**[a]	23[b]	36[ab]	45[a]*
Laughter	03[c]	30[b]	**64**[a]	14[b]	24[b]	**90**[a]
Muscles relaxed	**31**	26	40	**31**[ab]	11[b]	**47**[a]
'Rising' or 'open' chest	13	20	20	20	09	21
Muscles tensed	08	15	04	08[b]	24[a]	11[ab]

Note: Study 2a, $N = 130$; tested using logistic regression with amusement as the reference variable; followed with Mann–Whitney U-test between elevation and admiration to test the second hypothesis. Study 2b, $N = 100$; tested using one-way ANOVA using Tukey's post-hoc test. Letters next to the means indicate significant differences between conditions, $p < 0.05$. Bold indicates the highest two percentages in each condition.

*
There are no differences among groups for this variable when we excluded the 24 events (5%) that were recorded more than 24 hours after the event occurred, $F(2, 94) = 2.66$, ns.

Table 5

Studies 2a and 2b: Rated motivational effects by condition.

'As a result of this event, I feel (more or less) like …'	Study 2a condition			Study 2b condition		
	Elevation	Admiration	Amusement	Elevation	Admiration	Amusement
… being like the other person	2.03[a]	1.85[a]	0.33[b]	1.61[a]	2.15[a]	0.49[b]
… getting to know the other person	1.15[ab]	1.67[a]	0.58[b]	1.27	1.32	0.75
… being a better person	2.28[a]	1.57[b]	0.16[c]	1.51[a]	1.13[ab]	0.49[b]
… doing something good for another	2.62[a]	1.39[b]	0.44[c]	2.02[a]	0.81[b]	0.35[b]
… making sure the other person is taken care of in the future	1.26[a]	0.39[b]	0.04[b]	0.86	0.62	0.40
… doing something for the other person	1.10[a]	0.33[b]	−0.09[b]	1.46[a]	1.13[ab]	0.50[b]
… saying something negative to the other person	−2.36[a]	−1.02[b]	−0.00[c]	−1.43[a]	−1.29[a]	−0.13[b]
… achieving success	1.82[b]	2.70[a]	0.62[c]	0.34[b]	1.97[a]	0.49[b]
… telling others about the other person	1.51	1.02	0.96	1.31[b]	2.45[a]	1.03[b]
… meeting new people	1.00	0.59	0.60	0.42	0.18	0.27

Note: The rating scale ranged from 'much less' (−4) to 'much more' (+4). Study 2a, $N = 130$; Study 2b, $N = 100$; tested using oneway ANOVA using Tukey's post-hoc test. Sex of participant was included as an independent variable in all analyses. Letters next to the means indicate significant differences between conditions, $p < 0.05$. Bold indicates the highest two ratings in the elevation and admiration conditions, and highest one in the amusement condition, because the ratings in this condition were very low.