

Self-Accountability Emotions and Fear Appeals: Motivating Behavior

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We examine the role of high self-accountability emotions in enhancing compliance with fear appeals. In two field experiments, we find that relative to straight fear appeals (negative) or adding hope (positive), which ascribes low accountability to the self, action-facilitative coping, intentions, and behaviors (using sunscreen, eating high fiber foods) are enhanced by adding guilt, regret (both negative), or challenge (positive), all of which induce feelings of high self-accountability. In addition, we find that cold perceptions of high accountability are necessary but insufficient to influence actual behaviors and that the corresponding emotion is an essential driver of behaviors.

An appeal used by the Partnership for a Drug Free America reads, "Smoking pot may not kill you but it will kill your mother," an inducement of fear and guilt. In this article, we examine the role of high self-accountability emotions, such as guilt, in enhancing compliance with fear appeal messages.

Studies on emotions have generally taken a valence approach, arguing for the salubrious effects of positive emotions (e.g., Isen 1993). Recent research posits that emotions differ on appraisals beyond valence and that these differences also guide decisions (e.g., Lerner and Keltner 2000). For example, Raghunathan and Pham (1999) find differences in risk seeking between sad and fearful participants who are similar on valence but vary on appraisals of loss and uncertainty.

Appraisal-based emotion research suggests links between an emotion, the underlying appraisals, and action. For example, fear, while prompting attention and processing, triggers flight because people feel neither responsible nor capable of mitigating the danger. Anticipatory regret effects preventive behaviors because people foresee distress if they act irresponsibly in protecting themselves (Simonson 1992). Thus, a key distinction among emotions is their ability to produce constructive action; emotions that do not make people feel accountable produce avoidance or no actions, while

emotions that make people feel responsible produce approach actions and behaviors.

We examine the effects on action of adding emotions high in self-accountability to fear appeals. Our research contributes in several ways. We study the appraisal of self-accountability, rather than valence. As in existing research (e.g., Williams and Aaker 2002), we assess stated intentions, but we also examine actual behaviors (using sunscreen and choosing high-fiber foods). In addition, although functional theorists have argued that emotions drive action, no empirical work exists to support this; we parse out the unique contribution of emotion from its dominant appraisal.

Our research examines compliance with fear appeals to which emotions that can be distinguished both on valence and self-accountability have been added. In study 1 and its follow-up, we find that relative to fear or mixed fear and hope, fear appeals mixed with regret, guilt, or challenge enhance perceptions of self-accountability, behavioral intentions, action-facilitative coping, and actual sunscreen use over 3 wk. In study 2, we find that a fear plus cognitive self-accountability appeal is less effective than fear plus regret in increasing fiber consumption. These studies indicate the importance of high self-accountability emotions for action.

EMOTIONS, APPRAISALS, AND ACTIONS

Although studies attest to the facilitative effects on decision making of pleasant states, we build on recent appraisal-based research, which has found differences among emotions of the same valence (e.g., Lerner and Keltner [2001] on optimism between fear and anger). We focus on emotions that instill a sense that the self is accountable and responsible (Smith and Lazarus 1993) for the outcome.

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It is important to note that the ability to act based on self-efficacy (Rogers 1983) is distinct from the desire to act inherent in self-accountability (Weiner 1985). Although individuals might feel capable of action, they must feel responsible and motivated to act if action is to occur.

Previous research demonstrates the impact of self-accountability on action-oriented responses. Using a recall task, Folkman and Lazarus (1988) found that appraisals of responsibility and self-accountability lead to action-facilitative coping (e.g., "I thought about what steps to take" or "I talked to someone who could do something concrete about the problem"). Roseman, Wiest, and Swartz (1994) found that guilt led to intentions to engage in corrective behaviors. Research on regret has focused on reducing anticipated regret via conventional options (Inman and Zeelenberg 2002). Conversely, feelings of threat led to avoidance coping (Dubachek 2005). Despite support for the facilitative effects of emotions that prompt self-accountability, such as guilt and regret, on intentions and constructive coping, intentions to achieve an end goal do not always translate into action (Brandstatter, Lengfelder, and Gollwitzer 2001), and the ability of high self-accountability emotions to motivate action remains untested.

Functional theories of emotion have argued that emotions motivate and drive behavior (Frijda 1986), yet there has been no empirical work that tests this basic contention; cognitions of self-accountability motivate intentions, but the drive for implementation or completion requires the additional impetus of an emotional experience. An emotion is more than even its dominant cognitive appraisal; it requires a confluence of appraisals, or a core relational theme, and the resulting emotional experience (Lazarus 1991). Thus, we test the behavioral drive of high self-accountability emotions over and above cold cognitions of accountability and responsibility.

To examine the effects of emotions varying on self-accountability and valence on behavior, five emotional patterns were investigated: fear, fear plus hope, fear plus guilt, fear plus regret, and fear plus challenge. In several problem-ridden or challenging situations, there is a base level of uneasiness and anxiety. In these mixed emotional situations, we argue that the action response to the fearful situation is determined by the added emotion. As we make our hypotheses based on the added emotion, we refer to the mixed emotions simply as fear, hope, guilt, regret, and challenge.

Fear is the response to threat and uncertainty (Smith and Lazarus 1993). The key appraisal associated with this negative emotion is other-accountability or situational-accountability. Fear provokes thoughts and actions to escape the crisis and not problem-oriented actions to address it. Protection Motivation Theory (PMT) has also shown that fear appeals generate denial (Keller and Block 1996). Fear is the emotion of flight.

Hope is a wish that something positive will just happen without direct effort and work. The key appraisals associated with hope are other-accountability/situational-accountability

and a positive expectancy. Its action tendency is a desire to relinquish control (Ellsworth and Smith 1988).

Guilt is self-blame for harming another, while regret is self-blame for harming one's self. Both are negative emotions appraised as high in self-accountability (Smith and Lazarus 1993) and therefore have comparable effects on action. Roseman and colleagues (Roseman et al. 1994; Roseman, Antoniou, and Jose 1996) found that guilty persons desired to make amends for past and anticipated wrongdoings. The self-blame and self-accountability associated with guilt and regret result in preventive/corrective behaviors.

Challenge is effortful optimism combined with the promise of success. Challenge is associated with strong appraisals of self-accountability and the motivation to act to prevent problems through mastery (Smith et al. 1993). The perception that problems were because of lack of one's knowledge and efforts creates a sense that the future will be better if mastery is achieved.

Based on these emotional patterns, we predict that high self-accountability emotions will enhance intentions to comply with fear appeals. Intentions to use sunscreen and to consume high-fiber foods reflect active intentions in line with the approach tendencies of guilt, regret, and challenge rather than with the denial of fear or the relinquishing of control of hope. We hypothesize no impact of valence. If people feel responsible, they will act, regardless of whether they feel positive or negative. Conversely, feeling positive, without feeling accountable, does not produce action.

H1: High self-accountability emotions such as challenge, guilt, or regret will result in stronger behavioral intentions than low self-accountability emotions such as hope, elevated fear, or just fear.

We examine attainable behaviors (using sunscreen, selecting high-fiber brands of cereal) and predict that high self-accountability emotions will affect behaviors.

H2: High self-accountability emotions will result in higher behavioral compliance with the advocated behavior than low self-accountability emotions.

We examine two conditions necessary for the impact of high self-accountability emotions on behaviors. First, detailed procedures are necessary for effective action (Sujan, Sujan, and Bettman 1988). We hypothesize that, although individuals might be able to generate coping strategies in the abstract, only individuals feeling emotions high in self-accountability will produce the implementation intentions, as opposed to broad goal intentions (see Brandstatter et al. [2001] for this distinction), that commit them to determine the when, where, and how needed to perform the needed behavior. Thus, we predict differences at the procedural level.

H3: High self-accountability emotions will result in more specific action-facilitative coping than low self-accountability emotions.

Second, we predict that, although self-accountability cognitions might motivate intentions, and even proceduralization at the specific rather than the abstract level, the urgency to complete implementation requires the impetus of emotion. Thus, we predict that it is the actual emotional feeling associated with high self-accountability emotions that drives behaviors.

H4: High self-accountability emotions will result in higher behavioral compliance than cold cognitions of high self-accountability.

STUDY 1A: EMOTIONS, INTENTIONS, AND COPING

Ninety-six undergraduates participated in a study on “skin cancer and sunscreen usage.” Six emotional conditions were manipulated via pamphlets: fear, elevated fear, regret, guilt, challenge, and hope. The internal pages of the pamphlet contained a first-person scenario describing Andy’s battle with malignant melanoma; the text, showing the chronological progression of the protagonist’s story, results in empathy so that the reader experiences the emotions. The first paragraph in all conditions induced fear by focusing on malignant melanoma. In the elevated-fear condition, Andy was in the final stages of cancer. In the regret condition, Andy admitted self-blame because of his poor decision making. Guilt was created by Andy’s concern for his mother. In the challenge condition, Andy confronted cancer by acknowledging the situation (to avoid self-blame) and focusing on understanding and mastery. Hope was demonstrated by Andy’s wishing that he would be well again. All scenarios concluded with a call to use sunscreen.

Participants completed a questionnaire to assess the checks and measures, on nine-point scales, and were then debriefed. Two items assessed each felt emotion: fear (“I felt afraid” and “I felt anxious that I might be at risk for developing skin cancer”), regret (“I felt regret” and “I felt blamable that because of my own doing, I might be at risk for developing skin cancer”), guilt (“I felt guilty” and “I felt ashamed that because of my own doing, I might be at risk for developing skin cancer hurting not only myself but loved ones as well”), challenge (“I felt challenged” and “I understood the problem and felt motivated to start protecting myself from UV rays”), and hope (“I felt hopeful” and “I felt wishful that everything would turn out well”; all measures $p < .01$, $r \geq 0.65$).

Self-accountability was assessed on three items: “How accountable would you feel if you were diagnosed with skin cancer?” “How accountable are you in protecting yourself from skin cancer?” “How strongly do you feel that it is your responsibility to use sunscreen?” ($p < .01$; $\alpha = 0.82$). Valence was assessed on three items: “How positive do you feel?” “The message made me feel really negative” (reverse coded).” And, to reflect on their perception of the message’s tone, “How positive do you feel about Andy’s chances for survival?” ($p < .01$; $\alpha = 0.69$).

In line with PMT, we measured response-efficacy, self-efficacy, severity, and vulnerability. No differences were found across these constructs.

We measured coping strategies using yes/no statements adapted from the COPE scale (Carver, Scheier, and Weintraub 1989). Three procedural statements measured the intent to take concrete steps (“I tried to come up with a specific way to start using sunscreen regularly,” “I made a plan for when I will apply sunscreen,” and “I wanted to discuss protecting myself with an expert, like a doctor”). Abstract statements, while suggestive of action, did not specify how the action would be achieved (“I thought about protecting oneself from developing skin cancer,” “I wanted to talk to someone about how I am feeling after reading this message,” and “I wanted to talk about protecting oneself from skin cancer”). In accord with previous research (Luce, Payne, and Bettman 1999), we counted the number of statements that an individual agreed with to form two indices, each ranging from 0 to 3, to reflect the extent of specific and abstract coping.

Occasional sunscreen use items were: “How likely are you to use sunscreen of SPF 15 or higher prior to prolonged sun exposure?” and “How likely are you to use sunscreen of SPF 15 or higher during the summer when you know you are going to be spending considerable time outside?” ($r = 0.86$, $p < .01$). Daily sunscreen use measures were: “How likely are you to use sunscreen of SPF 15 or higher on a daily basis?” and “How likely are you to use sunscreen of SPF 15 or higher regularly regardless of the weather or season?” ($r = 0.81$, $p < .01$).

Using one-way ANOVAs and contrasts, we compared the elevated-fear to the fear condition and the regret to the guilt condition. As expected, the elevated fear condition was higher on felt fear, and the guilt condition was higher on felt guilt; otherwise the comparisons were equivalent on all manipulation checks and dependent variables. These comparisons allow us to rule out confounds and alternative explanations. The equivalence of guilt and regret suggests that differences in self- versus other-referencing do not drive behavioral intentions (e.g., Keller and Block 1996). The equivalence of the fear and elevated fear conditions suggests that our results cannot be attributed to simply increasing emotional intensity. Further, a Varimax rotated factor analysis reduced the six emotional conditions to four components: regret/guilt, hope, fear, and challenge. The guilt and regret conditions were thus combined, as were the fear and elevated fear conditions into a 2 (high or low self-accountability) \times 2 (positive or negative) design. Table 1 gives the means and significant differences across the six emotion conditions, without collapsing.

The manipulations for appraisals of valence and self-accountability were as expected. The hope and challenge scenarios proved significantly more positive than the regret/guilt and fear/elevated fear scenarios. The regret/guilt and challenge scenarios significantly elevated feelings of self-accountability relative to the fear/elevated fear and hope scenarios.

TABLE 1
MEANS FOR STUDY 1A ON SUNSCREEN USAGE, INTENTIONS, AND COPING

Condition	Fear	Elevated fear	Hope	Regret	Guilt	Challenge
Felt emotions:						
Fear	3.88	5.38*	4.44	4.38	4.16	4.59
Hope	3.88	4.44	5.84*	4.25	3.59	4.19
Regret	3.97	3.69	3.91	5.28*	5.19*	4.31
Guilt	3.75	3.47	4.06	4.31	5.44*	3.97
Challenge	4.56	4.81	5.00	4.91	5.69	6.44*
Valence	3.92	2.42	5.71*	4.17	4.46	5.63*
Self-accountability	4.83	5.15	5.65	7.67*	7.56*	7.33*
Behavioral intentions:						
Occasional	3.75	4.97	4.41	7.25*	6.44*	7.03*
Daily	1.84	1.75	1.78	3.78*	2.94*	3.78*
Action coping:						
Procedural	1.44	1.56	1.44	2.25*	2.13*	2.31*
Abstract	1.62	2.06	1.75	1.94	1.81	1.81

*Comparison of mean(s) significant at $p < .05$.

Hypothesis 1 predicted an increase in intentions to use sunscreen in the high accountability conditions relative to the low accountability conditions. There was only a main effect of self-accountability in the predicted direction for both intention measures ($F(1, 92) = 38.7, p < .01$; 6.90 vs. 4.38 occasional intentions; $F(1, 92) = 26.0, p < .01$; 3.5 vs. 1.79 daily intentions).

Hypothesis 3 predicted coping differences at the procedural but not at the abstract level. As expected, there was only a main effect of self-accountability on procedural coping ($F(1, 92) = 14.92, p < .01$) with individuals in the high self-accountability conditions engaging in higher levels of procedural coping than participants in the low self-accountability conditions ($M = 2.23$ vs. $M = 1.48$). As expected, there were no differences on the abstract coping measure ($F(1, 92) < 1$, NS).

Thus, we find that fear-based messages that prompt high self-accountability emotions enhance behavioral intentions over messages that evoke low self-accountability emotions. The results are similar for the occasional usage measure and the more difficult daily intentions measure, providing some evidence that high self-accountability emotions may enhance routine and demanding behaviors. The impact of self-accountability is independent of valence. The negative conditions of regret and guilt and the positive condition of challenge are equivalent on intentions. Nor are there intention differences between the negative fear condition and the positive hope condition. Feeling good or bad is irrelevant for action, as long as one feels responsible to act.

We identified two levels of coping—abstract and specific—and demonstrated that high self-accountability emotions spontaneously produce implementation intentions that specify details essential for concrete plans such as when and how to act. These specific coping strategies, together with the intention measures, suggest that high self-accountability emotions increase action readiness. We tested the actual behavioral implications in a follow-up study.

We found no difference in perceptions of self-efficacy, response-efficacy, severity, or vulnerability. Under PMT (Rogers 1983), these constructs are considered primary motivators of behavior. This study illustrates that self-accountability and self-efficacy are separate concepts and that though one might be capable (self-efficacious), one must feel obliged (accountable) to ensure behavior. We introduce a new variable—emotions high in self-accountability—for persuasion.

STUDY 1B: EMOTIONS AND BEHAVIOR

Study 1A materials for challenge (high self-accountability, positive), regret (high self-accountability, negative), hope (low self-accountability, positive), and fear (low self-accountability, negative) were used to produce a 2 (high or low self-accountability) \times 2 (positive or negative valence) design. Thirty-three participants were recruited from a summer tennis course. Reading the brochure and completing the questionnaire took 15 min. At four unevenly spaced time periods (so that participants could not anticipate being asked)—the day after and 3, 10, and 18 days following the distribution of the pamphlet—the course instructor (not the researcher) asked his class to report whether or not they had applied sunscreen that day. All measures were significantly related ($r > .65, p < .01$, or $\alpha > 0.70$). Manipulations were as predicted. See table 2.

We expected higher intentions in the high accountability conditions. There was a main effect of accountability in the predicted direction for both intention measures ($F(1, 29) = 9.16, p < .01$; 5.89 vs. 3.66 occasional intentions; $F(1, 29) = 6.19, p < .01$; 3.08 vs. 1.60 daily intentions). No other effects were significant.

To examine behavioral compliance, we compared within the conditions of high (low) self-accountability using a chi-square analysis. As there were no significant differences in the proportion of participants using sunscreen among the

TABLE 2

MEANS FOR STUDY 1B ON SUNSCREEN INTENTIONS AND ACTUAL USE

Condition	Fear	Hope	Regret	Challenge
Felt emotions:				
Fear	5.18	3.86	4.56	4.00
Hope	4.00	5.71*	4.00	3.94
Regret	3.88	3.07	5.44*	3.33
Challenge	4.88	4.79	5.00	6.50*
Valence	3.92	5.67*	4.44	5.26*
Self-accountability	5.00	5.29	7.19*	6.93*
Behavioral intentions:				
Occasional	3.31	4.00	5.89*	5.89*
Daily	1.56	1.64	2.94*	3.22*
% Using sunscreen:				
Day after	25	43	78*	67*
3 days	25	29	78*	44*
10 days	25	14	44*	44*
18 days	25	29	44	33

*Comparison of mean(s) (percentages) marginally significant at $p < .10$.
 *Comparison of mean(s) (percentages) significant at $p < .05$.

high (low) self-accountability conditions, we combined regret and challenge and compared it to hope and fear. A significant difference between the combined regret and challenge conditions and the combined hope and fear conditions for reported sunscreen usage the day after and 3 days after pamphlet distribution (day after: $\chi^2(1) = 4.99$, 73% vs. 34%, $p < .05$; 3 days after: $\chi^2(1) = 3.92$, 61% vs. 27%, $p < .05$). Ten days later, there was a marginally significant difference ($\chi^2(1) = 3.27$, 44% vs. 20%, $p < .10$). Eighteen days later, the difference disappeared ($\chi^2(1) < 1$, 39% vs. 27%, NS). As expected, the high self-accountability emotions positively affected behaviors, but this effect diminished with time.

Our findings confirm the results of study 1 and demonstrate that the impact of high self-accountability emotions goes beyond intentions to behaviors. Participants in the high self-accountability emotion conditions, independent of the valence of the emotion, not only intended to use sunscreen but were significantly more likely to use sunscreen the day after and 3 days after message exposure. Thus, a single message exposure is powerful enough to result in measurable behavioral compliance over time. Thus, by enhancing fear appeals by adding secondary emotions associated with perceptions self-accountability, it is possible to have an impact on repeated behaviors.

Although these studies demonstrate that self-accountability emotions drive behavior and that this effect is indeed independent of valence, it is still unclear if the emotion itself is necessary or whether heightened perceptions of self-accountability would be equally effective. The purpose of study 2 was to test the fundamental hypothesis that emotions are indeed essential for behavioral outcomes. For better experimental control, we used the same appeal across all conditions and manipulated constructs outside the message. Given the necessary length and detail in our messages, this let us rule out unintended differences in the scenarios on

factors like message strength and call-for-action as potential confounds and explanations for our findings.

STUDY 2: EMOTIONS VERSUS COGNITIVE APPRAISALS

Ninety-two participants were recruited from a subject pool and had the expectation to participate in multiple research projects during a 1 hr. period. The hypothetical first study, our priming task was described as a “Memory and Processing of Life Events Study.” The hypothetical second study was introduced as a “Fiber for Health Study”; all participants read a fear appeal on the health problems of insufficient dietary fiber. Up to 1 wk. after completing the study and prior to debriefing, actual choice between a high- and low-fiber cereal was recorded.

To separate the behavioral consequences of emotions high in self-accountability from the possible behavioral consequences of accountability itself, we ran a 2 (emotion present or absent) \times 2 (self-accountability high or low) design. Participants were primed with one of four constructs: fear (emotion, low self-accountability), responsibility (no emotion, high self-accountability), regret (emotion, high self-accountability), or a neutral place (no emotion, low self-accountability). Hypothesis 4 predicted that the group primed with the high self-accountable emotion of regret would produce the most behavioral compliance. Participants in the three experimental groups were asked to recall and describe an event that made them feel afraid, responsible, or regretful. In the control group, participants described a place based on neutral primes such as “evergreen.” Each prime was instantiated using six synonyms (e.g., for fear: “Describe an event from your life that made you feel afraid. Recall how anxious and scared you felt. Discuss how the event unfolded paying attention to the events that triggered alarm, unease, and nervousness”). Participants completed the filler tasks and then, to reinforce the prime, recalled as many “fear,” “responsibility,” “regret,” or “place” words as possible. There were no differences across conditions in the length of the description (42.2 words on average) or recall of prime-related words (4.5 words on average).

In the hypothetical second experiment, all participants were exposed to a health pamphlet titled “Not Eating Fiber Can KILL,” highlighting key reasons why fiber intake is essential for young adults. Participants then answered two questions concerning their intentions to consume high-fiber products in general (“How likely are you to start selecting high fiber products over low fiber products?” “How likely are you to try and increase the amount of fiber in your daily diet?” ($r = 0.77$, $p < .01$)), as well as four questions concerning their intentions to eat specific high-fiber whole grain foods (cereals, waffles, breads, and muffins ($\alpha = 0.90$)). Manipulation checks for felt-emotions, accountability, and the PMT variables were assessed using the two-item measures in study 1. No differences in the PMT variables were observed; thus, they are not discussed further.

About a week later, the course instructors brought single-

TABLE 3
MEANS FOR STUDY 2 ON HIGH-FIBER BRAND CHOICE

Condition	Fear	Regret	Accountable	Control
Felt emotions:				
Fear	6.39	6.08	6.17	6.07
Regret	3.31	6.23*	3.86	3.00
Self-accountability	4.18	6.11*	6.62*	4.59
Purchase intentions	4.39	6.27*	6.04*	4.07
Behavioral intentions	5.11	6.46*	6.43*	4.61
Behavior: % chose high fiber				
	3	71*	29	27

*Comparison of mean(s) significant at $p < .05$.

serving boxes of raisin bran (high-fiber content) and frosted flakes (low-fiber content) to class, and participants selected a brand. While participants were eating, the instructors asked them to record their choice.

The data were analyzed based on a 2 (emotion vs. no emotion) \times 2 (high self-accountability vs. low self-accountability) between-subjects analysis of variance. Table 3 provides the means and indicates significant differences across conditions.

The manipulations checks were as expected. There was a main effect for accountability on perceptions of self-accountability ($F(1, 88) = 30.55, p < .01$). Participants exposed to the regret and accountability primes felt more accountable than those in the fear or neutral primes. In addition, there was no difference in felt self-accountability between the regret and accountability participants. Also, as expected, there was a significant two-way interaction on the emotion of regret ($F(1, 88) = 10.21, p < .01$). More regret was felt in the regret condition than in any other condition, including the accountability condition. There were no differences in fear, hope, or challenge across conditions. Thus, we successfully created conditions that were the same on perceptions of accountability, but which differed on the emotion of regret.

We expected the regret and accountability conditions relative to the fear and neutral conditions to increase intentions to consume high-fiber foods. This was reflected in only a main effect of accountability on the intentions ($F(1, 88) = 31.19, p < .01$; 6.16 vs. 4.22 for general intentions; $F(1, 88) = 20.53, p < .01$; 6.45 vs. 4.86 for specific intentions). The regret and the accountability conditions were higher than the fear and neutral conditions, but there were no differences within levels of accountability.

Following hypothesis 4, we expected that only the regret condition, as it was the only condition to generate perceptions of self-accountability through emotion, would result in behavioral change. There were no differences in choice of high-fiber cereals among the emotion of fear, accountability, and neutral conditions ($\chi^2(1) < 1, NS$). Thus, we collapsed these three conditions into a single group. There was a significant difference between the regret condition and the other three conditions (71% vs. 29%, $\chi^2(1) = 12.59, p < .05$). Consistent with the hypothesis, regret produced sig-

nificantly more behavioral change than the accountability condition.

Thus, self-accountability via the emotion of regret and self-accountability via perceptions of responsibility equally enhanced intentions, but only the emotion of regret resulted in increased choice of high-fiber cereal. Fear alone did not increase behavioral intentions or behavior. Our findings provide needed support for functional theories of emotions—high self-accountability emotions play a critical role in persuading individuals to take responsibility and act.

GENERAL DISCUSSION

Our studies demonstrate that, in the context of fear, the negative emotions of regret and guilt are as effective as the positive emotion of challenge in motivating action and more effective than the positive emotion of hope. Our appeals likely followed the problem-solution format in communication (e.g., Keller and Block 1996), with fear being necessary to gain attention and signal a problem and the added emotion directing the solution. Since all our emotional appeals included a baseline of fear, we possibly mitigated the impact of valence, yet our results are provocative. We demonstrate that appraisals other than valence are important for action. Using the appraisal of self-accountability, we predicted and demonstrated differences by adding emotions of the same valence (regret and fear), and similarities by adding emotions opposite in valence (regret and challenge). Mixed emotions occur in a variety of consumer situations (e.g., Otnes, Lowrey, and Shrum 1997; Williams and Aaker 2002). Future research that examines single emotions and mixed emotions within one framework could more cleanly address the important issue of the motivating effects valence, other emotion dimensions, and their interaction.

Empirical support for theories of emotion that confer special status to emotions as drivers of behavior is limited, and our research begins to fill this void. Emotions induce behavior, including extended behaviors (food choices a day to a week later and sunscreen use over 10 days). We demonstrate that, although cognitive appraisals of self-accountability are necessary, alone they are insufficient. Emotions have impact over and above the cold cognitions that accompany them.

Recent research in consumer behavior examines the role of consumption emotions and felt efficacy on coping strategies (Dubachek and Iacobucci, forthcoming). Our data add to this effort and suggest that high self-accountability emotions prepare individuals for behavior by creating implementation intentions that support concrete action steps. Along with the recent work, our distinction between abstract and specific strategies may explain the prevalent inconsistencies observed in the coping literature (Skinner et al. 2003). The dominant classification of strategies as problem focused or not may be inadequate. Our research suggests that what is important for action is that problem-focused strategies specify procedural details such as how and where. Our findings add to the work on goal achievement (Brandstatter et al. 2001) by showing that emotions spontaneously

instantiate the implementation intentions that initiate action. Our work further separates intentions from implementation and clarifies the role of emotions in this process.

Previous research on fear appeals using PMT suggests that persuasion is enhanced through improving self-efficacy/response-efficacy (e.g., Rogers 1983). Our research demonstrates the clear distinction between the construct of self-efficacy, or ability, and the appraisal of self-accountability. Examples of health-protection behaviors that are simple to enact (self-efficacious) and effective (response-efficacious), yet not widely adopted, are seat belts, dental floss, or, as in our studies, using sunscreen and eating more fiber. For such behaviors, there are practical limits to enhancing perceptions of already high efficacy. Our research shows the importance of self-accountability over efficacy interventions. Future research will be needed to establish the importance of self-accountability emotions when self-efficacy and/or response efficacy are also in question (e.g., quitting smoking, mammogram screening). Research is needed in areas of complex and effortful behaviors in order to determine the impact of self-accountability.

In summary, our research has important theoretical implications for emotion theories and significant practical implications for persuasion research. We find renewed support for appraisals other than valence in describing the role of emotions in judgments and choice, and we illustrate the critical role of emotions in persuasion, especially for translating action tendencies into action.

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