Attention, Attitudes, and Action:

When and Why Incidental Fear Increases Consumer Choice

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CONTRIBUTION STATEMENT

We use the functional perspective to explore incidental fear in choice deferral. Although much research has examined how discrete emotions affect consumer choice generally, participants are rarely given the opportunity to defer choice. Research that has allowed for deferral (e.g., Luce 1998), shows that the general negativity inherent to a particular choice set increases deferral. In contrast, we find that when participants are explicitly given the opportunity to defer, incidental fear –fear unrelated to the current choice — actually increases the likelihood that consumers make a choice. Thus, we contribute to the deferral literature by showing that a negative emotion can result in lower (vs. higher) deferral, and that incidental (vs. integral) emotions can also impact consumers' likelihood of making a choice.

The functional approach to emotions links fear to narrowed attention, negative expectations of unknown events outside of the present environment, and a readiness for action; collectively suggesting fear may *increase* consumer choice and *reduce* deferral by heightening attention to and liking of the current choice set, while concurrently compelling consumers to act. In six experiments, we find consistent support for this process. Notably, our work highlights the unique effect of fear on reducing deferral and contributes to work on discrete emotions by comparing it to other specific negative and positive emotional states that vary in their appraisal tendencies. We show that generalized uncertainty alone does not result in the same behavior, and demonstrate the effects are limited to choices made in the present time frame. In addition, we provide evidence for our proposed theoretical model using both hypothetical and consequential choices, as well as attitudinal and attentional based mediation analyses. Together, these findings demonstrate incidental fear affects the decision to choose or defer through increased attention and liking and an overarching desire to take action.

ABSTRACT

Past research finds general negativity inherent to a choice set increases deferral. In contrast, we adopt a functional perspective—linking fear to narrowed attention, negative expectations of the future, and an increased readiness for action—and propose that incidental fear *increases* the likelihood of consumer choice and *reduces* deferral. Six experiments find consistent support for this view, using both hypothetical and consequential choices. We demonstrate relative to other emotions (disgust, sadness, hope, pride, anger) and general feelings of uncertainty, those experiencing incidental fear choose significantly more and defer less. This increased choice, however, is only realized for decisions made in the present (vs. future), when information about the deferred options is not available. Importantly, increased choice from incidental fear is mediated by increased attention and liking. Moreover, we also demonstrate individuals with high levels of trait fear (versus trait anger), are more likely to choose and less likely to defer.

Closing the sale is the final and one of the most critical components of any consumer transaction. As such, marketers have long been interested in finding better and more effective ways to encourage a purchase on any given shopping occasion. Although prior research has considered a number of actions that firms and sales teams can employ to close the sale (Boles, Babin, Brashear and Brooks 2001; Hawes, Strong and Winick 1996; Moe and Fader 2004; Oakes 1990), little work has examined situational factors that reduce choice deferral. In the current investigation, we propose that one such situational factor may be the incidental emotion of fear.

Researchers have demonstrated that fear influences a range of consumer behaviors: processing of advertising messages, the effectiveness of persuasion tactics, preferences for diversity and variety, the role of self-control in choice, and the usefulness of specific health communications (Block 2005; Block and Williams 2002; Griskevicius et al. 2009; Keller and Block 1996; Keller and Lehmann 2008; Morales, Wu, and Fitzsimons 2012; Winterich and Hawes 2011; White, Kenrick, and Newberg 2013). In the present research, we examine how incidental fear might influence a person's desire to choose now or defer until later. To do so, we adopt a functional framework that links discrete emotions, such as fear, to mechanisms adapted to help people overcome recurring threats or opportunities (Griskevicius et al. 2009; Kenrick et al. 2010; Kenrick, Saad, and Griskevicius 2013; Lazarus 1991). Increasingly, researchers have used this functional approach to generate and test unique predictions about consumer behavior; these investigations have produced a series of novel findings (Durante et al. 2011; 2013; Townsend and Shu 2010; Townsend and Sood 2012; Sundie et al. 2011; White et al. 2013).

According to previous research, general feelings of negativity increase the likelihood that consumers will defer the decision (Luce 1998). Taking a functional approach, however, we suggest that under some circumstances, the negative emotion of fear may actually *reduce*

deferral because of its specific set of associated psychological and behavioral responses. Fear is part of the threat management system (Bracha 2004). It produces a narrowing "tunnel vision" on the present environment to help identify and assess threats (Tooby and Cosmides 2008), makes objects outside of the current context seem more risky and uncertain (Lerner and Keltner 2000), and compels people to take immediate action to overcome threats (Blanchard et al. 2011).

Importantly, we propose that the coordinated set of reactions triggered by fear can carry over to influence unrelated, consumer choice decisions by propelling consumers to act, while increasing attention and liking. Although prior research has shown incidental fear can influence financial decision-making—such as when to sell a stock—by making choices unrelated to the fear-causing event seem riskier (Lee and Andrade 2011), no research to date has examined the implications of the coordinated set of responses to fear acting in conjunction with one another. Rather, previous work has tended to consider how one isolated response associated with a given emotion might carry over and impact a subsequent decision. Building on this body of research, in six experiments we examine the effect of the three responses associated with incidental fear and demonstrate how they collectively impact consumers' willingness to choose now or defer until later by increasing attention to and liking of the current choice set, while concurrently compelling consumers to take action.

FEAR, DECISION MAKING, AND DEFERRAL

Previous research has shown that incidental fear can impact decision-making, resulting in more negative evaluations of targets, promoting more complex thinking, and reducing reliance on mental shortcuts (Gorn, Goldberg, and Basu 1993; Murry and Dacin 1996; Pham 1998). Fear

has also been linked, through appraisals of uncertainty, to increased risk aversion and systematic information processing (Lerner and Keltner 2000; Tiedens and Linton 2001). Additionally, incidental fear can increase the effectiveness of social proof heuristics, reduce the effectiveness of scarcity heuristics, and alter preferences for diversification and variety (Griskevicius et al. 2009; White et al. 2013). In the current investigation, we propose another way in which incidental fear influences consumer decision-making—the likelihood of choosing vs. deferring.

The consumer behavior literature has examined a range of factors that can affect choice among alternatives. The majority of this research, however, forces participants to choose among the alternatives—without an option to defer or delay their choice. Because real world decisions often involve a tension between making a choice in the present or deferring until some point in the future, we contend that it is important for both scholars and practitioners to better understand the specific factors that shape choice and deferral processes.

Extant research suggests that deferral is a means of coping with and alleviating the negativity generated by choice uncertainty and decision-difficulty (Luce 1998). Indeed, deferral is more common when no single option dominates a choice set and when consumers are faced with difficult trade-offs (Dhar 1997; Dhar and Simonson 2003; Tversky and Shafir 1992). More generally, any factor that affects decision-difficulty also impacts the likelihood of deferral. For example, adding a new product to a choice set can either increase or decrease deferral, depending on whether it enhances or reduces decision-difficulty (Dhar 1997). When a new option is similar to existing options, lessening distinctions between products, deferral tends to increase. However, when a new option is inferior to existing options, and easily eliminated from consideration, deferral tends to decrease. Likewise, presentation styles that have little to do with the actual products in the choice set but nevertheless affect decision-difficulty can also impact deferral:

using more abstract attribute ranges, harder to read font, or presenting options with incomplete information increases decision-difficulty, and as a consequence, also increases deferral (Dhar and Simonson 2003; Gunasti and Ross Jr. 2008; Novemsky et al. 2007).

As a whole, research has examined how several factors, from product features to presentation style, can influence deferral. Much of this work is grounded in the notion that deferral is a means of coping with the general negativity created by decision-difficulty (Luce 1998). We seek to advance this work in three important ways. First, previous research on the impact of emotion on choice has only focused on general negativity, showing that decision difficulty created by the choice set itself reduces choice. We build on this by considering when a negative emotion may actually *increase* the likelihood of making a choice. Second, instead of examining the relationship between general negative affect and consumer choice, we posit that it may be useful to explore how discrete emotions influence choice. Specifically, we contend that there is an important relationship between incidental fear and choice. Third, while prior deferral research has focused predominantly on *integral* negativity (i.e., affect arising from the decision itself; Luce 1998), we consider how an *incidental* negative emotion – which is not at all related to the current choice — can actually decrease the likelihood of choice deferral.

Fear and Choice Deferral

Prior work makes it clear that emotions not only lead people to perceive the world in a particular manner (Lerner and Keltner 2000), but also to respond with coordinated behavioral actions (Ekman 1992; Griskevicius et al. 2009; Kenrick and Shiota 2008). Thus, to understand the downstream consequences of discrete emotions, it is important to recognize the specific ways

in which each emotion impacts both psychological and behavioral responses. Because each specific emotion is linked with a coordinated set of appraisals, perceptions, cognitions, and behaviors that helps people respond quickly to specific problems or opportunities (Griskevicius et al. 2010; Lerner and Keltner 2000), these emotion-related responses may be so strong that the responses carry over from the emotion-eliciting context to other, unrelated events, leading to incidental effects of the activated emotion (Quigley and Tedeschi 1996). We thus predict that the suite of responses engendered by fear (attention, attitude, action) will increase choice and reduce deferral by increasing attention to and liking of the current set of options, alongside an overarching compulsion to act. In the sections that follow, we describe each of these pieces in turn, and provide specific hypotheses about incidental fear and deferral.

Fear is an integral component of the threat management system that helps humans survive life and death circumstances (Bracha 2004; Ohman and Mineka 2001). This primary function has led to a diverse set of responses to fearful circumstances. Most notably, fear influences attention and memory in the present. Temporally, a person experiencing fear becomes focused on the present threat, and concerns about the past or future temporarily vanish (Tooby and Cosmides 2008; Langer, Wapner, and Werner 1961). This shift toward the present is also associated with "tunnel vision" and situational vigilance; an intense focus on the threat and situational strategies for escaping it (Blanchard et al. 2011; Blanchard and Blanchard 1989; Izard and Youngstrom 1996). Enhanced situational vigilance helps threatened individuals take into account important characteristics of the threat (e.g., type and location), and the situation (e.g., presence of an escape route or hiding place), and to use these inputs to determine which defense will be best (Blanchard et al. 2011; Phelps and LeDoux 2005). One consequence of this tunnel vision is that a person's subjective sense of time seems to slow down; participants exposed to

pictures of threatening faces overestimate the amount of time the faces were displayed (Gil and Droit-Volet 2012; Tipples 2011). Owing to the increased importance of attending to and tracking potential threats, people concerned with fear, relative to other emotions, show enhanced memory for people or objects in their immediate environment (Becker 2009; Phelps, Ling, and Carrasco 2006). Consequently, we expect that increased vigilance in the present, driven by incidental fear, will lead to heightened attention toward the immediate environment, but reduced attention toward (and memory for) items outside the current choice set.

Heightened attention to objects can also increase their evaluations (Fazio et al. 1986; Pieters and Wedel 2004; Zajonc 1968). Indeed, one purpose of attention is to allow the cognitive system to manage information processing in a complex environment. It is functional for the system to direct attention toward stimuli that have hedonic consequences (Kahneman and Triesman 1984). As visual attention is oriented toward a specific stimulus, its evaluation becomes available, and as attention focuses on that object, the connection between the object and its evaluation is strengthened (Janiszewski 1990, 1993; Roskos-Ewoldsen & Fazio 1992; Shapiro, MacInnis, & Heckler 1997). Thus, as fear increases attention, it should also strengthen the attitudes of the objects that are within the selected attentional area.

In addition to narrowing attention on the present, fear also generates negatively-biased evaluations for objects or events outside of the immediate context. In particular, people concerned with fear are more likely to overestimate the likelihood of aversive future events and to perceive future events as risky (Amin and Lovibond 1997; Hermann, Ofer, and Flow 2004; Lerner and Keltner 2000; Tomarken, Mineka, and Cook 1989). This overestimation of aversive future events has been documented for a wide range of outcomes, from anticipating how frequently threatening stimuli will appear on a computer screen (Tomarken et al. 1989) to

estimating the likelihood of negative events occurring over the course of one's lifetime (Lerner and Keltner 2000). Consequently, we expect that experiencing incidental fear will heighten attitudes toward items in the present choice set, relative to items outside the current context.

Through fear, the threat management system also has a number of behavioral consequences. Complementing enhanced situational vigilance, fear activates a "readiness for reaction" that can be translated into a number of functional actions, such as fight, flight, freeze, or seeking safety, depending on the unique circumstances associated with the current threat (Blanchard 2011; Griskevicius et al. 2006; Griskevicius et al. 2009; Ohman and Mineka, 2001 Phelps and LeDoux 2005; White, et al. 2012). For instance, threats tend to elicit flight if an escape route is available, freezing if a threat is ambiguous, or defensive attack as the threat gets closer (Blanchard et al. 2011). In the current context, we suggest the desire to act triggered by fear will prompt consumers to actively make a choice, rather than delay through deferral.

Considering this coordinated suite of appraisals, perceptions, cognitions, evaluations and behaviors together, we propose that incidental fear will lead to increased consumer choice and reduced deferral. As discussed above, fear collectively enhances situational vigilance and activates "tunnel vision" that leads to a greater focus and attention on objects in the immediate choice set, creates negatively biased evaluations of the future, and compels a readiness for action in the present. In the context of consumer choice, this suggests that individuals feeling incidental fear will focus their attention on options in the immediate environment. The increased attention then leads to higher liking. In addition, relative to deferred options (i.e., options outside of the current choice set), these presently available products should consequently be evaluated to be safer and more favorably, as fear also leads to greater uncertainty and more negativity directed towards future events. Finally, in addition to evaluating present options more positively, the

increased need to take action associated with fear promotes a heightened desire to act in the current consumer context. Thus, rather than postponing the decision, the increased readiness to take action, along with increased attention and liking, will lead consumers to make a choice.

More specifically, we suggest that the relationship between incidental fear and a readiness to choose in the present will be mediated sequentially by attentional (and related memory) processes and liking for the present options. These two mediational mechanisms follow directly from the psychological and behavioral responses triggered by fear, and are acted upon because of the concurrently activated desire to take action. In particular, we predict that incidental fear will narrow attention to the current choice set. This increased attentional focus will result in lower memory for information unrelated to the products that are presently available. In combination with the negatively-biased evaluations for objects outside of the immediate context that fear triggers, this increased attention will also result in more favorable evaluations of the current options. When experienced concurrently with a heightened desire to act, the increased attention and liking will prompt consumers to make a choice, rather than defer. Consequently, we propose a serial mediation such that incidental fear will increase choice in the present because of the narrowed attention and more favorable attitudes toward the current choice set.

This prediction is expected to hold when choosing between a known product in an immediate choice set and a deferred product outside of the choice set. However, it may be important to consider how fear would affect choice if none of the products were in the immediate set. For instance, when consumers are making decisions for the future, all choice options lie outside of the immediate environment. As noted above, previous research demonstrates that people experiencing fear see future events as riskier and more aversive (Lerner and Keltner 2000). Likewise, though selecting a product in the current choice set may satisfy a need to take

action, selecting a product from a future choice set may not placate the same need. When considering *future* choice sets, people concerned with fear may evaluate all options more negatively. If so, fear should *not* increase consumer choice for future decisions. In fact, if future choices are evaluated more negatively, fear may actually reduce choice. Thus, because fear focuses attention and increases readiness for action specifically in the current environment and negatively biases evaluations of options outside of the present context, an important boundary condition on the relationship between incidental fear and deferral is whether the choice involves products in the immediate environment or decisions about products in the future.

Summary and Experimental Overview

Building on prior work that shows fear is associated with specific psychological and behavioral responses — narrowed attention to the present environment, negative evaluations of things outside the current context, and a compulsion to act — we predict that incidental fear will *increase* consumer choice and *reduce* deferral when decisions involve present choice sets. By increasing attention to and attitudes toward present options at the same time it compels action, fear increases the likelihood that consumers will choose. Importantly, we contend that it is the heightened desire to act that propels consumers to respond to increased attention and liking by making a choice, as opposed to merely resulting in more favorable product attitudes. In contrast to previous work that has considered the impact of one specific appraisal on subsequent decisions (i.e., Lerner and Keltner 2000; 2001), we propose that it is the entire set of responses associated with fear working in combination, rather than one appraisal dimension, that leads to increased choice and lower deferral. We test this perspective in a series of six experiments, using

four types of emotion manipulations, both hypothetical and consequential choices, comparing fear to five different emotion states as well as general uncertainty, and consistently find support for our predictions. While previous research on deferral has largely suggested that anything that increases negative affect is likely to increase deferral, the current studies suggest that incidental fear can instead reduce deferral and increase choice.

EXPERIMENT 1: INCIDENTAL FEAR IMPACTS CONSUMER CHOICE

Experiment 1 investigates the impact of incidental fear, compared to other positive and negative emotions, on choice deferral in a current choice set. As outlined above, we expect that the coordinated set of responses prompted by incidental fear (increased attention to the present, negative evaluations of the future, and a readiness to act) will carry over to the unrelated decision, encouraging choice and reducing deferral by increasing attention and liking, along with a compulsion to act. In contrast to previous work that has examined a single specific appraisal on subsequent decisions (Lerner and Keltner 2000; 2001), we propose that the entire suite of fear-related responses work together to reduce deferral. We thus examine the impact of various emotions that differ in valence, but share appraisals with fear, to demonstrate that any one specific appraisal dimension is not enough to drive the predicted effects. Specifically, in Experiment 1 we compare incidental fear to other incidental emotions sharing similar appraisals of uncertainty (hope, sadness), situational control (sadness), attention (pride), and valence (disgust, sadness). In doing so, we not only demonstrate the unique relationship between incidental fear and choice, but also provide initial support for the proposed process by showing that it is the full set of functional responses that makes consumers less likely to defer.

Method

Participants. Two hundred sixty-three participants (63.4% female; $M_{age} = 34.98$) were recruited from Amazon Mechanical Turk and paid a nominal amount to complete the study.

Design and procedure. Experiment 1 had a one-factor between subjects design (Emotion: fear, hope, sadness, pride, disgust, control). Participants were told they would participate in two separate studies. The first involved a photo-rating task of images used in advertising (which served as our experimental manipulation). The second was on decision-making.

Emotion manipulation. Participants viewed a series of three images and were asked to evaluate them along several broad dimensions (e.g., good-bad, favorable-unfavorable, positive-negative). Participants were randomly assigned to rate photos chosen to elicit one of six emotion conditions (fear, disgust, sadness, pride, hope, and a neutral control). For example, photos in the fear condition displayed images of a shark attack, a person clinging to the side of a mountain, and a man with a gun pointed toward the person viewing the picture.

To ensure that the pictures activated the intended emotions, we conducted a separate pre-test with 109 participants (42% female; $M_{age} = 33.50$). Participants were randomly assigned to one of the six emotion conditions (fear, disgust, sadness, pride, hope, and a neutral control). Using the same procedure as above, participants saw three images and evaluated them along several dimensions (e.g., good-bad, like-dislike). After evaluating the photos individually, participants were asked to think back to the entire set of photographs and rate the extent to which

the photos made them feel various emotions on a scale from $1 =$ "not at all" to $9 =$ "more strongly than ever." Results confirmed that each photo activated the intended emotion: the fear photos ($M_{fear} = 4.73$) elicited more fear than any other photos (M_{others} range from 1.17 to 2.93; all $p < .005$), the disgust photos ($M_{disgust} = 6.97$) elicited more disgust than other photos (M_{others} range from 1.11 to 3.73; all $p < .001$), the sadness photos ($M_{sadness} = 5.08$) elicited more sadness than any other photos (M_{others} range from 1.30 to 3.10; all $p < .001$), the pride photos ($M_{pride} = 5.35$) elicited more pride than any other photos (M_{others} range from 1.87 to 3.62; all $p < .005$), and the hope photos ($M_{hope} = 6.13$) elicited more hope than any other photos (M_{others} range from 1.50 to 4.17; all $p < .005$). Further, each set of photos elicited the strongest emotions on the target emotion; for instance, the fear photos elicited more fear ($M_{fear} = 4.73$) than other emotions (M_{others} range from 2.16 to 3.73; all $p < .05$), see Table 1 for further details.

Dependent Measure. Following the emotion manipulation, participants were told that they would complete several decision-making tasks for a separate study. The dependent measure was a modified version of the choice deferral task created by Gunasti and Ross Jr. (2008). Specifically, participants were presented with a series of eight choice sets—each displaying five products that varied along three evaluative dimensions (see Appendix A). Each choice set presented a different type of product evaluated along various dimensions. For example, in one choice set, participants were presented with watches that were evaluated on "precision," "physical appearance," and "durability." In another, participants were shown toasters evaluated on "quality," "manufacturer's warranty," and "physical appearance." In each choice set, three of the products (A, B, and C) displayed evaluation information for all three dimensions, but two of the products (D and E) displayed no information along any of the dimensions. Participants could

select a product, indicating whether they chose product A, B, or C, or select one of two deferral options, by either indicating "I would wait to get more information about options D and E," or "I would go to a different store—that might have a better selection." Responses were coded such that participants received a score of "1" every time they made a choice and "0" each time they selected one of the deferral options. Responses were aggregated across the eight choices and could range from 0 (always deferred) to 8 (always chose).
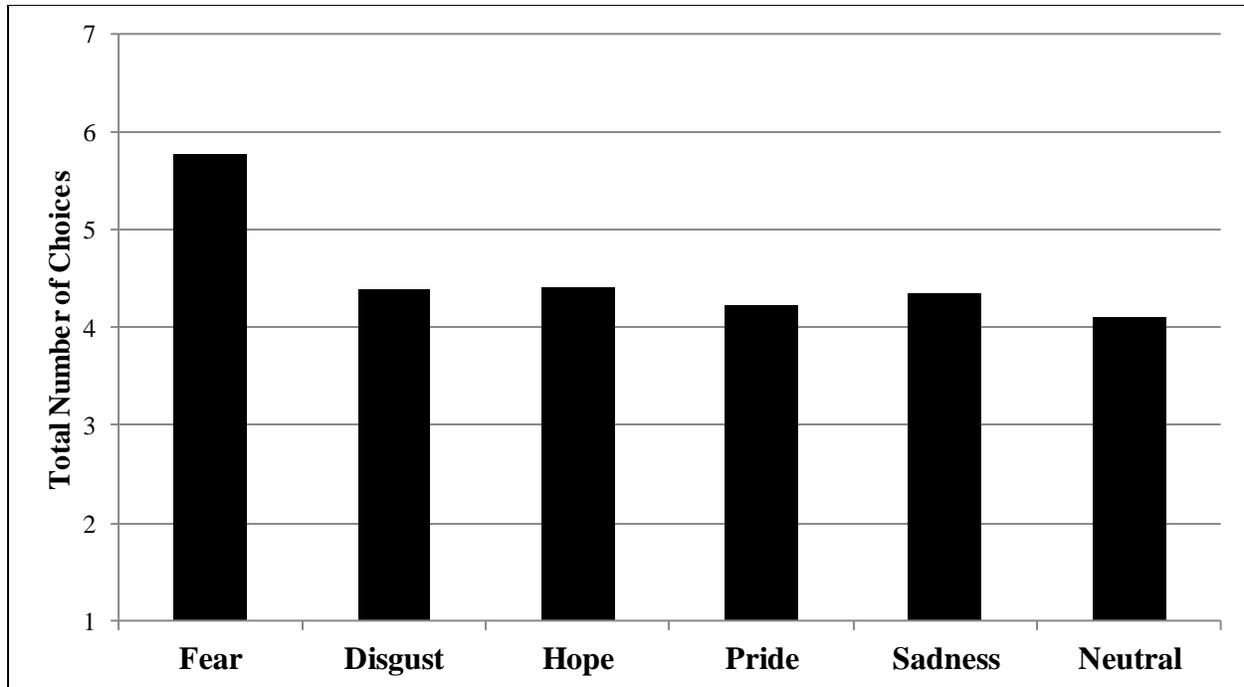
Results and Discussion

A one-way ANOVA predicting number of choices revealed a significant main effect of emotion condition (F (5, 257) = 2.613, p = .025, see figure 1). A planned-contrast comparing fear to all other emotion conditions revealed a significant main effect of fear on choice (F (1, 257) = 7.195, p = .008). Further analyses showed that participants in the fear condition (M_{fear} = 5.78) chose significantly more and deferred less than those in all other conditions ($M_{disgust}$ = 4.40, F = 2.39, p = .018; $M_{sadness}$ = 4.34, F = 2.89, p = .009; M_{pride} = 4.22, F = 2.70, p = .003; M_{hope} = 4.41, F = 2.48, p = .011; $M_{neutral}$ = 4.11, F = 2.81, p = .002). There were no significant differences between any of the other emotion conditions (Fs < .5, all p > .60).

Experiment 1 provides initial support for our view, demonstrating that incidental fear uniquely affects choice deferral, inclining participants to choose products available in the current choice set, rather than deferring choice. Emotions known to activate similar appraisals of uncertainty (hope, sadness), situational control (sadness), attention (pride), and negative valence (disgust, sadness) did not reduce deferral in the same way, suggesting that the observed effects

are instead the result of the specific set of psychological and behavioral responses uniquely associated with fear. We examine a potential boundary condition in the next experiment.

FIGURE 1

EXPERIMENT 1: THE EFFECT OF EMOTION ON CONSUMER CHOICES

Note: Cell sizes ranged from 40 to 50 in each condition.

EXPERIMENT 2: CHOICES IN THE PRESENT OR THE FUTURE

Experiment 1 suggests that it is the unique set of coordinated responses triggered by incidental fear that make consumers choose more (defer less), as emotions with similar, single, appraisal tendencies did not also increase choice. In Experiment 2, we build on these initial results by explicitly comparing the effects of incidental fear with a generalized sense of uncertainty. We focus specifically on the uncertainty appraisal because it is linked with negative

evaluations of the future, which is one of the three key responses associated with fear in our theoretical model. Research on the Appraisal Tendency Framework (ATF) suggests that individuals are motivated to minimize uncertainty, and that this desire to reduce uncertainty can lead to carry-over effects from fear in subsequent decisions (Raghunathan and Pham 1999; Lee and Andrade 2011; Tiedens and Linton 2001). By explicitly comparing the effects of incidental fear with uncertainty, we show that uncertainty, without the other functional responses associated with incidental fear, does not increase choice. Uncertainty alone is not enough to reduce deferral; rather, the increased attention and readiness to act associated with far are also needed.

In addition, Experiment 2 also considers a potential boundary condition on the relationship between fear and consumer choice. Our theory suggests that incidental fear increases consumer choice because it leads to increased attention on the present, negatively-biased expectations about options outside of the choice set, and a heightened desire to take action. Because fear shifts focus to the present environment and increases the uncertainty associated with unknown events, the increased choice observed in Experiment 1 should not hold if all choices are outside of the present time frame. Specifically, we predict that if the decision occurs in the future, fear should no longer increase the likelihood of making a choice. To test this possibility, in Experiment 2 we manipulated both emotion and the decision time frame, so that participants either make a choice in the present vs. the future, and expect incidental fear, but not general uncertainty, will increase choice and reduce deferral for present but not future decisions.

Method

Participants. Two hundred sixty-eight participants (55.9% female; $M_{age} = 34.11$) were recruited from Amazon Mechanical Turk and paid a nominal amount to complete the study.

Design and procedure. Experiment 2 was a 3 (emotion: fear, uncertainty, neutral) X 2 (time frame: present vs. future) between-subjects ANOVA. Participants were randomly assigned to read one of three guided visualization stories—fear, general uncertainty, or neutral. The *uncertainty* story described a person searching their house for a lost set of keys, and has been shown to arouse feelings of uncertainty and unpredictability (Griskevicius et al. 2011). The *fear* story described a person, home alone during a stormy night, who realizes there is an intruder in his/her house. The *neutral* story described a person organizing his/her office. These stories have been used in past research on emotion and decision-making and have been shown to uniquely activate their intended emotional states (Griskevicius et al. 2009; White et al. 2013).

Before answering the choice questions, participants in the future time frame conditions were instructed, "We are also interested in how people make decisions in preparing for the future. As you are responding to these questions, please imagine yourself facing this decision in 3 months time." Each choice question was also framed in terms of the future, "If you were faced with this choice set in 3 months time, which option would you choose?" Participants in the present time frame condition were not given instructions about preparing for the future and were simply asked, "If you were faced with this choice set now, which option would you choose?"

Participants completed a modified version of our deferral dependent variable used in Experiment 1. In it, participants were presented with a series of three choice sets—each displaying three products that varied along three evaluation dimensions (see Appendix B). Each choice set presented a different type of product (health clubs, wireless services, and laptop

computers) and varied the evaluation dimensions that were displayed. For instance, participants

viewed three health clubs that were evaluated on "membership fee," "variety of exercise

machines," and "commute time to health club." To increase the likelihood that participants

would defer choice, some information was missing for each product, so that no product received

ratings on all three dimensions (Gunasti and Ross J. 2008). Participants were asked which

product they would select and could select a specific product (A, B, or C), or defer choice by

selecting "none of these." Responses were coded such that participants received a score of "1"

for each choice and a score of "0" each time they deferred choice. Responses were aggregated

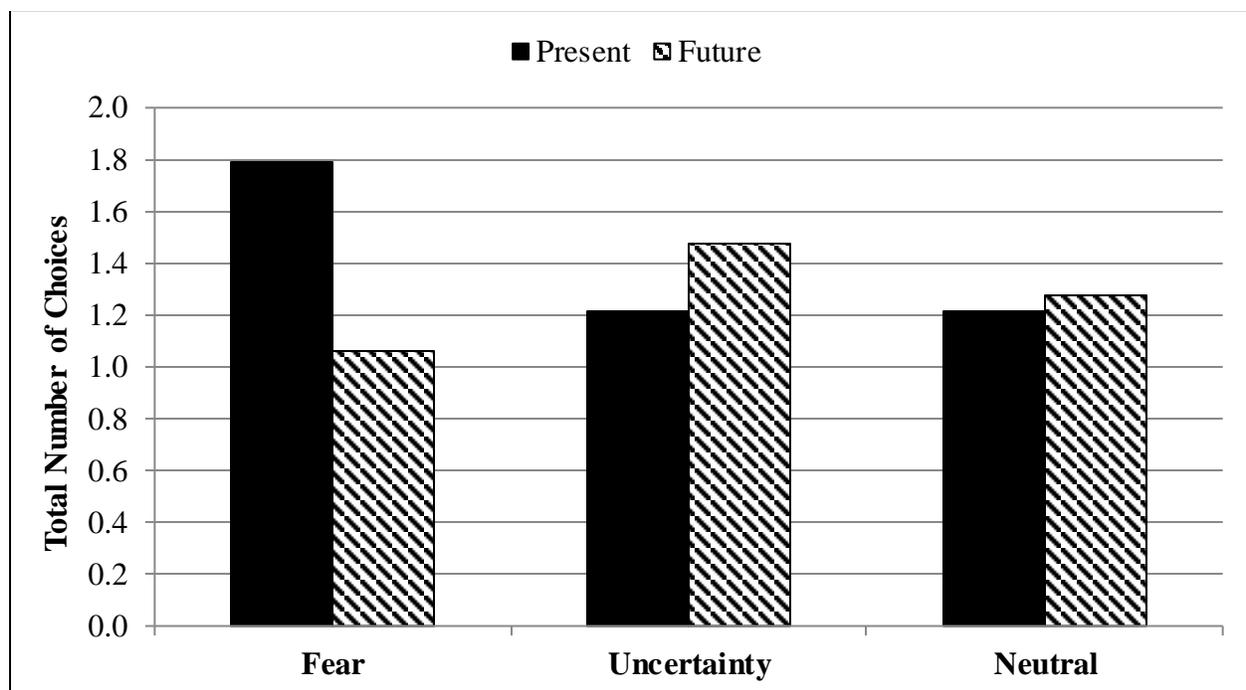across the three choice sets and could range from 0 (always deferred) to 3 (always chose).

Results and Discussion

A two-way ANOVA revealed a significant emotion by time frame interaction (F (2, 262)

= 4.471, p = .012, see Figure 2). Follow-up analyses showed a significant main effect of

emotion in the present time frame condition (F (2, 262) = 3.512, p = .031). As in Experiment 1,

those in the fear condition (M = 1.79) chose more and deferred less than those in the general

uncertainty (M = 1.21, F = 2.50, p = .020) and neutral conditions (M = 1.22, F = 2.27, p = .029).

The uncertainty and neutral conditions were not significantly different (F < .05, p > .95).

In the future time frame condition, there was no effect of emotion condition (M_{fear} = 1.06,

$M_{uncertainty}$ = 1.48, $M_{neutral}$ = 1.22, F = 1.418, p = .24). In fact, for the future time frame condition,

those concerned with fear seemed more likely to *defer*—though this effect was only marginally

different from the general uncertainty condition (F = 1.72, p = .093), and not significantly

different from control (F = .86, p = .40). Importantly, the impact of time frame was significant

within the fear condition, such that participants in the present chose more ($M = 1.79$) than those in the future ($M = 1.06$; $F(1, 262) = 8.731$, $p = .003$). There was no effect of time frame in either the uncertainty ($F = 1.163$, $p > .28$) or control ($F < .05$, $p > .8$) conditions.

FIGURE 2

EXPERIMENT 2: THE EFFECT OF EMOTION AND TIME ON CONSUMER CHOICES

Note: Cell sizes ranged from 37 to 47 in each condition.

The results of Experiment 2 offer two important implications. First, by showing that generalized uncertainty does not also lead to increased choice, it suggests that it is the full set of responses associated with fear that compel people to choose. Uncertainty alone is not enough to reduce deferral; consumers also need to focus on the present options and feel compelled to act. Second, it highlights an important boundary condition on the relationship between incidental fear and choice. Notably, the results demonstrate that incidental fear only increases choice when

consumers are considering products in the present, but not when the decision is in the future. These findings fit with the notion that in addition to prompting consumers to act, fear narrows attention to the current environment and negatively biases expectations about the future.

EXPERIMENT 3: INCIDENTAL FEAR IMPACTS ATTENTION AND CHOICE

In Experiment 3, we extend our examination of the effects of incidental fear on choice and deferral in a variety of ways. First, though we compared incidental fear with a variety of other positive and negative incidental emotions that differed on various appraisal dimensions in Experiments 1 and 2, we did not include a similarly high arousal, action-oriented negative emotion in the comparative set. This is particularly important in order to show that it is not the readiness to act alone that leads to increased choice, just as Experiment 2 demonstrated that negative evaluations of the future alone (i.e., generalized uncertainty) do not also result in increased choice. As such, in the present experiment, we compare incidental fear with incidental anger – a high arousal, action-oriented negative emotion that is also characterized by approach behavior—along with sadness, disgust, and a generalized sense of uncertainty.

Second, while the previous two studies relied upon choice sets used in past research on deferral to increase internal validity, they lacked external validity. In the current study, we present different choice sets that resemble realistic purchasing contexts frequently encountered on Amazon.com (see Appendix C). These are vivid, visual, choice sets that are presented in a format similar to the "comparison table" available on Amazon.com. Importantly, by using these visual choice sets, we are able to test the first of our two proposed mediators: attention.

Our theory predicts that incidental fear will increase choice (decrease deferral) relative to other incidental emotions, as fear prompts participants to focus on their current situation, hold more negative evaluations of objects outside of the present context, and become predisposed to act within that current situation. Consistent with the increased focus on the present environment, we therefore expect the impact of incidental fear to create "tunnel vision" such that participants in the fear condition attend more to the choice task at hand, focusing narrowly on information relevant to the decision, and ignoring other, peripheral information that has no bearing on the choice. Following prior work that has frequently used recall for peripheral objects as a measure of attention for focal objects (Erdelyi and Applebaum 1973; Erdelyi and Blumenthal 1973; Paulhus and Levitt 1987; Srull and Wyer 1986), we predict that participants in the incidental fear condition will exhibit lower recall for peripheral information. In Experiment 3, we test the first part of our proposed sequential mediation process by showing that memory for such peripheral information mediates the effect of incidental fear on choice. Later, in Experiments 5 and 6, we test the full model, whereby fear leads to increased attention and attention leads to higher liking, but we focus only on attention for Experiments 3 and 4.

Finally, Experiment 3 also uses a different emotion prime to increase the generalizability of the empirical work. Whereas Experiment 1 relied upon photos to manipulate emotions and Experiment 2 used guided visualization of stories, in Experiment 3, we instead manipulate emotions by asking participants to recall their own past emotional experiences via a writing task used in many previous publications (e.g., Strack, Schwarz and Gschneidinger 1985).

Method

Participants. Two hundred fifty individuals from a large southwestern university participated in this study for course credit. Due to a survey error, we did not collect age and gender, however, session statistics indicated a sample that was 53% female, $M_{age} = 21.6$ years.

Design and procedure. The study was a 6 emotion (fear, anger, disgust, sadness, uncertainty, control) between subjects design. Participants were told they would complete two separate studies. First, they were told that researchers were interested in the way that individuals recall life events and they would recall and describe a personal event: the emotion manipulation. In the second task, participants were told that researchers were interested in how people make choices online. They were presented with a series of product choice sets, presented as they might be on Amazon.com, and were asked in to indicate their choice (or deferral) in each set.

Emotion manipulation. In the first part, participants were randomly assigned to the fear, anger, disgust, sadness, uncertainty, or control emotion conditions. Following a writing procedure used in many previous studies (e.g., Strack, Schwarz and Gschneidinger 1985), participants were first instructed to write about "the 3-5 things that make you the most afraid (angry, disgusted, sad, uncertain)" or about "the 3-5 activities you did today" (control condition). After listing these items, participants were asked to think about each of the situations they had described, and determine "the one that had been the scariest (angriest, most disgusting, saddest, most uncertain)" day of their lives. Then they continued to a second writing task in which they were asked to "write down what they remember" from that one day in their lives, remembering it as vividly as they can and write a detailed description such that someone reading their description "might feel scared (angry, disgusted, sad, uncertain) on your behalf just from

learning about the situation." In the control condition, participants were asked to "think about the activities that typically occur in your evening." Control condition participants were further asked to "write down a description of your activities" so that "someone reading this might able to reconstruct the way in which you, specifically, spend your evenings."

Consistent with previous research using this writing task, a separate pre-test with 179 participants (56% female; $M_{age} = 31.87$) confirmed that these emotion manipulations mapped onto the target feelings. Participants were randomly assigned to one of the six conditions (fear, anger, disgust, sadness, uncertainty, and a neutral control). After writing their passages, participants rated the extent to which they were experiencing various emotions on a scale from 1 = "not at all" to 9 = "extremely." Results confirmed that each condition activated the intended emotion: writing about fearful experiences ($M_{fear} = 5.42$) elicited more fear than any other condition (M_{others} range from 1.99 to 2.73; all $p < .001$), angry ones ($M_{anger} = 5.22$) elicited more anger than other conditions (M_{others} range from 1.93 to 3.59; all $p < .001$), disgusting events ($M_{disgust} = 4.85$) elicited more disgust than other conditions (M_{others} range from 2.01 to 3.71; all $p < .005$), sad memories ($M_{sadness} = 5.45$) elicited more sadness than other conditions (M_{others} range from 2.30 to 3.72; all $p < .001$), and uncertain situations ($M_{uncertain} = 5.00$) elicited more uncertainty than other conditions (M_{others} range from 2.00 to 3.75; all $p < .01$). Further, each passage elicited the strongest emotions on the target emotion; for instance, the fear task elicited more fear ($M_{fear} = 5.42$) than other emotions (M_{others} range from 3.37 to 3.75; all $p < .001$), see Table 2. There were no differences in the difficulty of recalling these memories (all $p > .20$).

Choice sets. Immediately following the emotion manipulation, participants were asked to complete several decision making tasks for an ostensibly separate study. The dependent measure was a modified version of the choice deferral task created by Gunasti and Ross Jr. (2008), designed to look like Amazon.com, and thus to be richer and more reflective of current consumer shopping environments. Participants were presented with choice sets from five different product categories (headphones, sunglasses, water bottles, padfolios and pedometers), with each featuring three products that varied along five dimensions, including price (See Appendix C). Following Gunasti and Ross Jr. (2008), no single option was dominant in any choice set. For example, in one set, participants were shown a set of three different headphone alternatives. They saw a photo of each option and descriptions of those options based upon (fictional) brand name (Bentley, Geega, Ausdom), price ($49.99, $59.99, $59.99), Bluetooth capability (Yes/No), foldability (Yes/No), noise cancelling features (Yes/No) and phone control (Yes/No). In each choice set, all three options were described fully and were available for choice.

Participants were asked to indicate which item they preferred in each choice set (A, B or C), or to indicate that they preferred to search for other options on Amazon.com, or to go to a different website to search for options. Responses were coded such that participants received a score of "1" when they chose Option A, B or C and a score of "0," indicating deferral, if they elected to search more on Amazon.com or go to another website. Responses were aggregated across the five choice sets and could range from 0 (always deferred) to 5 (always chose).

Mediating variable. On each product choice page, participants saw the options, their descriptions, a banner across the top that resembled the top of an Amazon.com product page, and a series of banner ads, some to the right and one below the choice set. The banner ads (for

Quaker Oats Cereal, a Capital One credit card, the Dish Network, and Jack Links Beef Jerky) were identical across each choice page and always appeared in the same position. Immediately after completing the five choices, participants were asked a series of five questions to test their memory for those ads ("On the product evaluation pages, you saw an ad for Quaker Oats cereal. How many grams of protein are in the Quaker Oats cereal?" "How much of a bonus is Capital One offering in that ad?" "Which cable network is being advertised?" "How much is the monthly bill for the cable network, according to that ad?" "What brand of beef jerky was advertised?"). Two of the questions were recognition (cable network name, beef jerky brand); participants selected the correct response from among four options for each. The other three (grams of protein, Capital One bonus, cable network bill) were recall questions, where respondents had to fill in the correct answer. Answers that were within "rounding error" of the correct answer were coded as correct (i.e., for the cable bill, if they wrote $50 instead of the correct $49.99, it was coded as correct). Responses were coded as "1" when they indicated the correct answer and "0" when they did not. Responses were aggregated across the five memory questions and could range from 0 (always incorrect) to 5 (always correct).
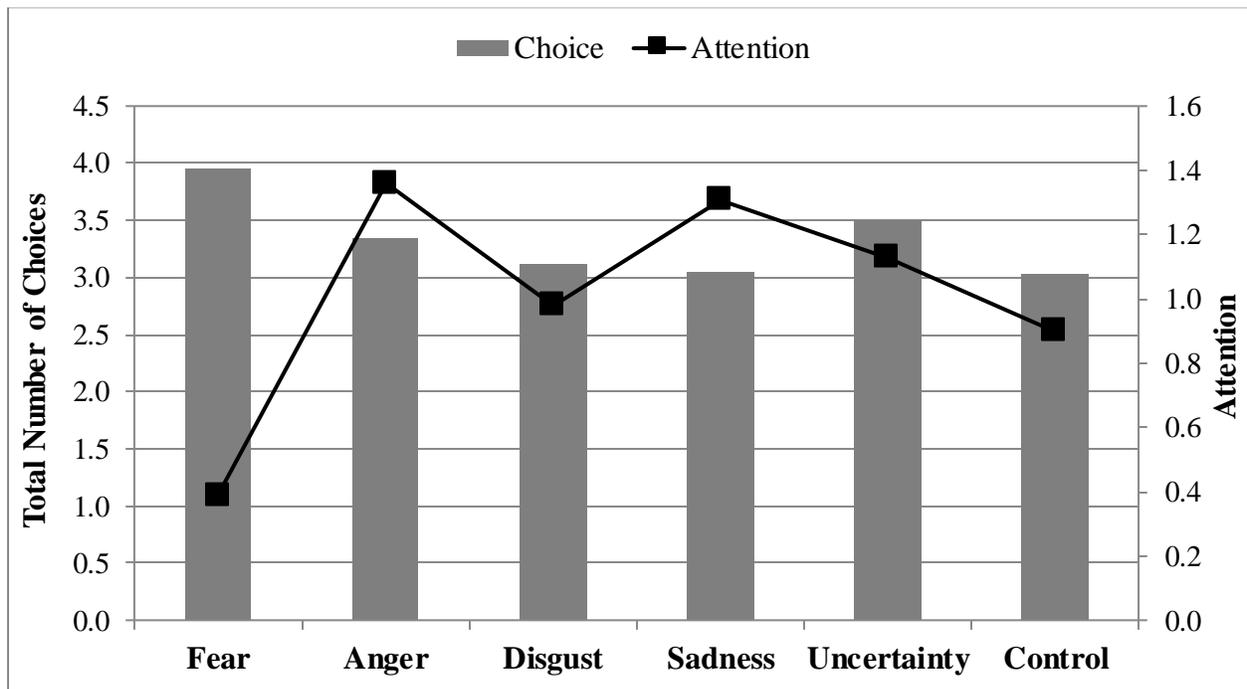
Results and Discussion

A one-way ANOVA found a significant effect of emotion condition on the total number of choices made (F (5, 244) = 2.84, $p < .02$) as predicted. Follow up analyses show that individuals in the fear condition ($M = 3.95$) made more choices (deferred less) than participants in the anger ($M = 3.34$, F (1, 244) = 4.307, $p < .04$), disgust ($M = 3.12$, F (1, 244) = 8.025, $p < .01$), sad (M = 3.05, F (1, 244) = 8.987, $p < .01$), and control ($M = 3.03$, F (1, 244) = 9.759, $p <$

.01) conditions. However, there was not a significant difference in total number of choices

between the fear and uncertainty ($M = 3.5$, $F(1, 244) = 2.434$, $p = .12$) conditions in total

choices. No other differences between conditions were significant ($p > .13$, see Figure 3).

FIGURE 3

EXPERIMENT 3: THE EFFECT OF EMOTION ON CHOICE AND ATTENTION

Note: Cell sizes ranged from 40 to 44 in each condition.

To assess attention, a one-way ANOVA found a marginal effect of emotion condition on

total memory ($F(5,244) = 5.01$, $p = .09$, see Table 3). Follow up analyses show that individuals

in the fear condition ($M = .39$) recalled significantly less information from the banner ads than

did participants in the anger ($M = 1.36$, $F = (1, 244) = 11.299$, $p < .001$), disgust ($M = .98$, $F(1,$

$244) = 6.933$, $p < .01$), sad ($M = 1.31$, $F(1, 244) = 11.114$, $p < .001$), uncertainty ($M = 1.125$, F

$(1, 244) = 11.094$, $p < .001$), and control ($M = .90$; $F(1, 244) = 5.086$, $p < .03$) conditions.

Individuals in the anger condition recalled significantly more information than those in the neutral condition ($F(1, 244) = 4.307$, $p < .05$); no other contrasts were significant.

Mediation. As proposed, we expect that experiencing fear leads to tunnel vision, such that attention is narrowed to the choice set in front of the individual. This narrowing should result in decreased recall among participants feeling fear as they focus more on the choice set and pay less attention to other information in front of them that is not choice related. To test the mediational path for recall on choice, we used PROCESS 2.13 (Hayes 2013), model 4, with 10,000 bootstrapped samples and a 95% confidence interval. The indirect effect of fear on choice through recall was significant, (-.4445, 95% CI -.8304, -.1347) as the confidence interval does not contain zero (see Table 4 for the full mediation output). Note that this mediation is comparing the fear condition (coded as 1) to all others (coded as 0), as PROCESS cannot compute a multicategorical X variable; these results hold for all pairwise comparisons (e.g., fear = 1, anger = 0), and no other emotion condition has a significant mediation through recall on choice. The first part of our proposed mediational process is thus supported.

Discussion. Consistent with the previous studies, Experiment 3 demonstrates that incidental fear increases choice compared to other negative emotions – including the action-oriented emotion of anger. Importantly, we find these results in more realistic choice scenarios as well as a different emotion manipulation, increasing the generalizability of the first two experiments. Even more critically, Experiment 3 provides initial support for the first part of our process through which we propose the effects of incidental fear on choice occur. In particular, we demonstrate a pattern of results that is consistent with our theory wherein fear narrows

attention to the task at hand. Compared to participants in the other conditions, participants experiencing incidental fear displayed significantly worse recall for information that was peripheral to the choice task and the lower recall mediated the effect of incidental fear on choice. While we made no predictions about other emotions' effects on recall, it is interesting that anger increased recall for peripheral information; perhaps due to the action-orientation of anger, there was increased attention to the overall situation.

EXPERIMENT 4: FEAR IMPACTS REAL CHOICE

While the previous three experiments have provided consistent support for our theory about the impact of incidental fear on choice and deferral, all of the choices were hypothetical. Experiment 4 tests the strength of the effect by using a real choice. Contrasting fear with sadness and a control condition, we examined the effect of incidental fear on real snack choices. We compared fear to sadness in particular in order to provide a stronger test of our theory, as sadness has been linked with increased hedonic consumption (Garg, Wansink, and Inman 2007). As in Experiment 3, we also collected a measure of attention – memory for peripheral information, in order to provide additional support for the first part of our proposed underlying process.

Method

Participants. One hundred sixty-nine individuals (56.6% female; $M_{age} = 20.63$) from a large northeastern university participated in this study for extra credit.

Design and procedure. This study was a 3 emotion (fear, sadness, control) between subjects design. Participants were told that they were participating in a single study, and that they could choose a snack as a thank you for their participation. In the "study," participants were told that researchers were interested in the way individuals recall life events, and that they would be asked to recall and describe a personal event; the same emotion manipulation as in Experiment 3. In the "reward" portion, participants were able to select a snack as a thank you—but only three snacks were currently available, while another two would be brought at the end of the class session (approximately 60 minutes later). This served as our measure of choice (vs. deferral).

Emotion manipulation. In the first part of the study, participants were randomly assigned to the fear, sadness, or neutral conditions. This was the same writing task used in Experiment 3.

Choice. On the last page of the paper-and-pencil packet, participants saw a table describing the five snack options (A, B, C, D, and E). This was a modified version of the choice deferral task created by Gunasti and Ross Jr. (2008). Specifically, the snacks were rated on three dimensions: "salty," "sweet," and "overall rating," where 3 of the snacks (labeled A, B, and C) displayed full evaluation information, but the final products (D and E) had no information. Participants were told "As a thank you for completing this study, we have a snack for you. There are 3 snacks available now (A, B, and C), and 2 other snacks that will also be available at the end of class (D and E). Please indicate which snack you want by circling the option below."

Participants could select a product from the choice set, by indicating whether they wanted snack A, B, or C, or select one of two deferred options outside of the set, by either indicating "I want to wait to get more information about options D and E at the end of class," or "I don't want

any snacks right now." Responses were coded such that participants received a score of "1" for choosing snacks A, B, or C, and a score of "0" if they selected one of the deferral options.

Mediating variable. On the paper survey, in the page header and footer, we printed six symbols (Wingdings). The same six symbols appeared on all four pages of the survey, and recognition of the symbols served as our measure of attention. At the end of the class period, when the two other snack options were brought in, all participants filled out a 1-page survey where they were asked about the symbols that appeared on the original survey from a matrix of forty symbols. Specifically, participants read: "Think back to the survey at the start of today's class. There were six symbols on the top and bottom of the page. Please circle the symbols that you remember seeing. (If you cannot remember seeing any symbols, don't circle anything)." This served as our measure of memory for peripheral information, and was coded as 1 for a correct identification, such that the measure could range from 0 to 6. At this point, anyone who had selected to wait for options D and E also received their chosen snack.

Covariates. On the first page of the survey, participants indicated their current hunger level on a 1 = "Not at all Hungry" to 7 = "Extremely Hungry" scale. Participants also indicated their class section, as the study was run across three sections, their age, and gender.
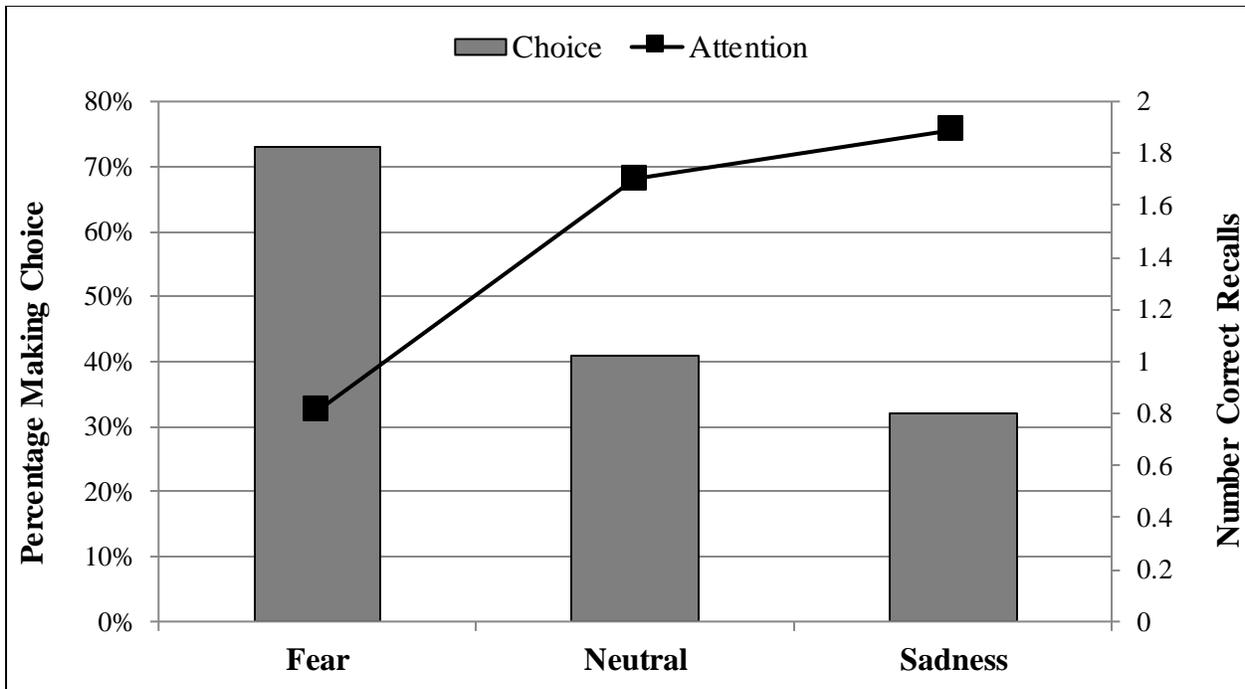
Results and Discussion

We expected that participants in the incidental fear condition would be more likely to make a choice than participants in the control or sadness conditions. A logistic regression was

run on choice, with fear and sadness conditions as predictors. Consistent with our theory, there was a significant effect of the fear condition on choice ($b = 1.425$, Wald $\chi^2(1) = 11.721$, $p < .001$), such that participants in the fear condition were 4 times more likely to make a choice ($\exp(b) = 4.16$, see Figure 4). There was no significant effect of the sadness condition on choice ($b = -.37$, Wald $\chi^2(1) = .886$, $p > .3$). Importantly, this result holds even when including current hunger as a covariate ($b = .339$, Wald $\chi^2(1) = 9.390$, $p < .005$); fear still significantly increased choice ($b = 1.232$, Wald $\chi^2(1) = 8.218$, $p < .005$) while sadness did not ($p > .2$).

FIGURE 4:

EXPERIMENT 4: EFFECT OF FEAR ON REAL CHOICE AND RECALL

Note: Cell sizes ranged from 54 to 59 across conditions.

To assess attention, a one-way ANOVA was run on the number of symbols correctly remembered by participants, revealing a significant main effect of emotion ($F(1, 156) = 9.010$, $p < .001$) on memory, as predicted. Participants in the fear condition ($M = .811$) remembered

significantly fewer symbols than individuals in the sad condition (M = 1.887; $F(1, 156)$ = 18.594, $p < .001$) or the control condition (M = 1.698; $F(1, 156)$ = 11.995, $p < .001$). There was no difference in memory between the sad and control conditions ($p > .5$).

Mediation. We propose that experiencing incidental fear narrows attention onto the choice set, which increases choice. To test this, we used PROCESS 2.13 (Hayes 2013), model 4, with 10,000 bootstrapped samples and a 90% confidence interval. As PROCESS cannot be used with a multicategorical predictor, we ran two separate mediation models; one with fear as the predictor and one with sadness as the predictor. In both models memory was the mediator and choice the outcome. For the fear model, the indirect effect of fear on choice, through the mediator of memory, was marginally significant at the 90% level (.1777; 90% CI .0589, .4424). Further, the mediation model remained significant when including hunger as a covariate (.1319; 90% CI .0231, .3876). Thus, our proposed mediation is supported (see Table 5 for full mediation output). The mediation model for sadness was not significant (-.1294; 90% CI -.3609, .0116).

Discussion. Experiment 4 finds the proposed effect of incidental fear increasing consequential choices, and replicates evidence of mediation through attention, via memory for peripheral information. While the mediation was only significant at the 90% confidence level, we provide these analyses as they are consistent with the prior results and our theory. Specifically, we found that individuals in the fear condition recalled fewer choice-irrelevant pieces of information (symbols on the edges of the survey), suggesting that they were more focused on the information about the snacks. This reduced attention to peripheral information mediated the effect of fear on choice, consistent with the first part of our proposed mediational

process. This study replicates our earlier results, but extends them to a consequential choice (a snack that most students promptly ate) and examines memory after a delay of about 60 minutes.

EXPERIMENT 5: OUT-OF-STOCK BUT STILL IN CHOICE SET

In Experiment 5 we examine the effect of incidental fear on choice, but in a situation where product information about the deferred option is available. In all of the previous experiments no information was included about the deferred options. Participants delayed their choice by waiting "to get more information about options D and E" or "search for other options." In other words, the choice implied that other options existed, but no information about these unknown options was provided. Thus, in Experiment 5, we consider how the impact of incidental fear on choice might change if the deferred option in the choice set is temporarily unavailable (out-of-stock or OOS) but product information about the option is nevertheless included in the present choice set (we thank an anonymous reviewer for this suggestion). Our theory predicts that fear leads to heightened attention to the present, which along with the negative evaluations of the future, increases attitudes of options in the present choice set. This implies that attitudes toward any product in the present choice set—in-stock or not—should become more favorable and therefore more likely to be chosen by consumers experiencing incidental fear. In contrast, attitudes for products outside the present choice set (like our previous options D and E), should be more negative and thus, less likely to be chosen.

Applying this reasoning to out of stock options, if a product is included (i.e., all of the attribute information is provided) in the present choice set but is temporarily out of stock, attitudes toward the OOS option should still become more favorable as a result of the increased

attention triggered by fear. This means that consumers may be just as likely to choose the OOS option as the other (available) options, thereby increasing the likelihood of deferral by increasing the probability that the OOS option (a deferral option) will be chosen. However, in cases where no information is given about the OOS option (as in our previous studies), the increased attention to the present triggered by incidental fear does not increase attitudes for the OOS option, and deferral is less likely. Thus, by looking at how choice of the OOS option shifts depending on whether product information is presently available, we provide a strong test of the proposed underlying process of increased attention. Specifically, we are able to show that the heightened attention to the present context prompted by incidental fear increases choice of OOS options for which information is presently provided, but not when information (about the OOS option) is unavailable. Moreover, the shift in choice of the OOS option is specific to fear and does not occur for other emotions (e.g., anger). To provide additional process evidence, we also measure both of our two proposed mediators that are predicted to operate in serial: attention and attitudes.

Method

Participants. Two hundred fifty-nine individuals (54.3% female; $M_{age} = 21.49$) from a large southwestern university participated in this study for course credit.

Design and procedure. This study was a 2 emotion (fear, anger) by 3 choice set (full information, full information OOS, partial information OOS) between subjects design. Participants were told that they would participate in two separate studies. In the first study, participants were told that researchers were interested in the way individuals recall life events,

and that they would recall and describe a personal event, as in Experiments 3 and 4: our emotion manipulation. In the second task, participants were told that researchers were interested in how people make choices online, and that they would be presented with a series of product choices, as in Experiment 3. This included our manipulation of choice set.

Emotion manipulation. In the first part of the study, participants were randomly assigned to either the fear or anger emotion condition, manipulated with the same writing task from Experiments 3 and 4 (Strack, Schwarz, and Gschneidinger 1985).

Choice sets. Immediately following the emotion manipulation, participants were told that they would complete several decision-making tasks for a separate study. This was a version of the choice deferral task created by Gunasti and Ross Jr. (2008), similar to the one used in Experiment 3. Specifically, participants were presented with a series of five choice sets—each displaying four products that varied along five evaluation dimensions (see Appendix D). Each set presented a type of product evaluated along various dimensions, including price. In each choice set, three of the products (labeled A, B, and C) displayed evaluation information for all three dimensions as in Experiment 3, but the final product (D) varied across the three conditions.

Specifically, in the full information condition participants were presented with information about all four options (including D), across all five evaluation dimensions. Thus, in the full information condition, choosing any one of the four products (options A, B, C, or D) would be considered a choice. In the full information OOS condition, participants saw the same product table as in the full information condition—complete information about all four products—but there was a label across option D that read "sold out." Thus, in the full

information OOS condition, if participants chose option D, they would be deferring choice because it was currently unavailable (and the choice option read: "Wait for Option D to become available"). Finally, in the partial information OOS condition, participants only saw product information about options A, B, and C; option D was indicated in the table, but its information was grayed out, and the "sold out" label was present. Thus, the partial information OOS condition mirrors our previous choice sets, such that option D is unknown to the participants—the only difference here is that the "sold out" label is presented as well.

Participants could select a product from the choice set, by indicating whether they preferred product A, B, or C, or select one of three deferred options outside of the choice set, by either indicating "Wait for Option D to become available," "Search for other options on Amazon," or "Go to a different website to search for options." Responses were coded such that participants received a score of "1" every time they made a choice and a score of "0" when they selected a deferral options. Note that in the full information condition, option D was presented as a regular choice alongside options A, B, and C (Choose Option D); thus the deferral options were only to search for other options (either on Amazon or on another site). Responses were aggregated across the five choice sets and ranged from 0 (always deferred) to 5 (always chose).

Mediating variables. After indicating choices or deferrals, we also gathered information about our proposed mediating variables. Participants first indicated their self-reported attention to the product information (four items); "I paid close attention to the product information," "I was very focused on the product information," "I ignored everything unrelated to the products in the table," and "I only looked at the product information." As in the prior studies, we also collected recall of the banner ads, using five questions, coded as 1 for correct memory of the
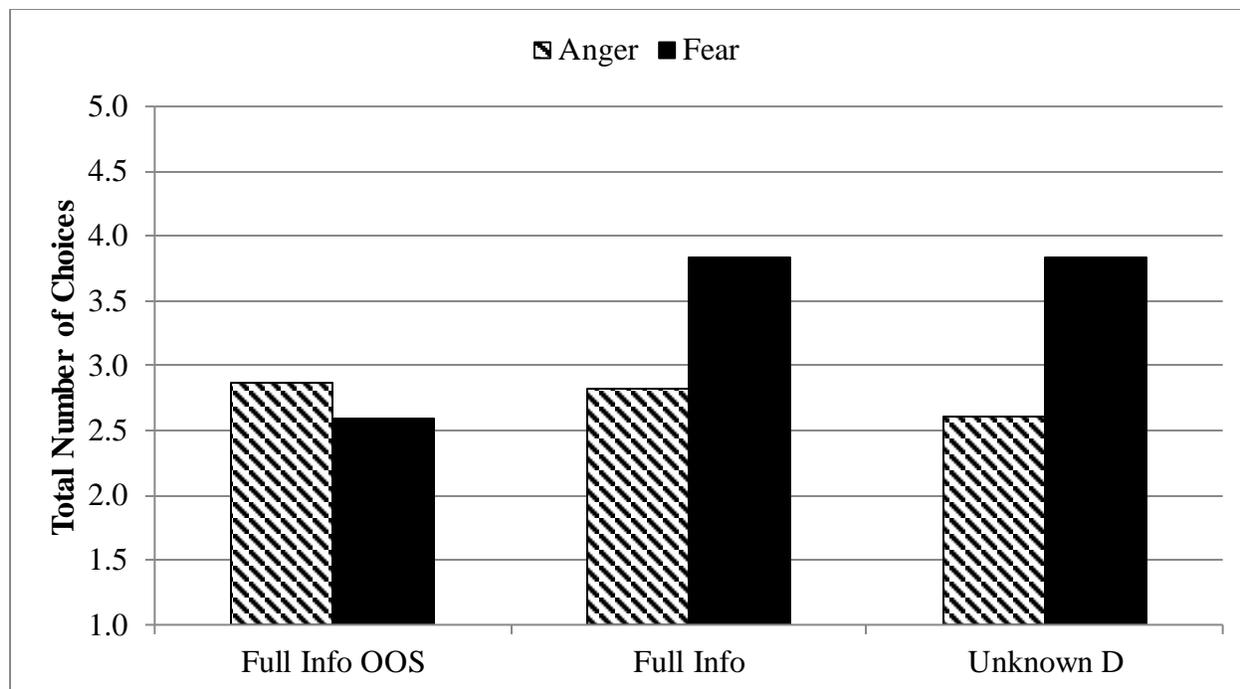
banner ad information and 0 otherwise. Finally, participants indicated their attitudes for the choice sets (three items; $\alpha = .794$); "The products I saw were better than I expected," "The product selection was better than expected," and "I was happy with the products presented."

Results and Discussion

A two-way ANOVA with emotion and choice set as predictors of the total number of choices made demonstrated significant main effects of both emotion ($F(1, 253) = 19.775$, $p < .001$) and choice set ($F(2, 253) = 6.085$, $p < .005$). As predicted, these effects were subsumed within a significant interaction of emotion and choice set ($F(2, 253) = 10.181$, $p < .001$, see Figure 5). Follow-up analyses showed that, in the partial information OOS condition, those in the fear condition ($M = 3.84$) chose more and deferred less than those experiencing anger ($M = 2.60$; $F(1, 253) = 23.739$, $p < .001$), replicating our prior results. In the full information condition, those experiencing fear ($M = 3.833$) also chose more and deferred less than those experiencing anger ($M = 2.82$; $F(1, 253) = 15.350$, $p < .001$). However, in the full information OOS condition—where option D was presented within the table but was a "deferral" option due to its current unavailability—individuals experiencing fear ($M = 2.60$) were equally likely to defer as those experiencing anger ($M = 2.87$; $F(1, 253) = 1.160$, $p > .25$).

FIGURE 5:

EXPERIMENT 5: EFFECT OF INCIDENTAL FEAR AND ANGER ON OOS CHOICES

Note: Cell sizes ranged from 39 to 50 across conditions

There was a significant main effect of emotion ($F(1, 253) = 11.853, p < .001$) on recall of the information in the banner ads; no other effects were significant. Participants in the fear condition ($M = .76$) recalled significantly fewer pieces of information from the peripheral ads than did individuals in the anger condition ($M = 1.11$). Similarly, on the four-item self-reported attention questions ($\alpha = .74$), there was a significant main effect of emotion condition ($F(1, 253) = 91.003, p < .001$); no other effects were significant. Participants in the fear condition ($M = 3.73$) reported paying significantly more attention to the products—to the exclusion of other information—than did individuals in the anger condition ($M = 2.64$). Finally, there was a significant main effect of emotion on attitudes toward the choice sets ($F(1, 253) = 18.791, p < .001$); no other effects were significant. Participants in the fear condition had higher attitudes for the product options ($M = 3.03$) than did participants in the anger condition ($M = 2.54$).

Serial mediation. We propose that experiencing fear leads to a "tunnel vision" effect, such that attention is narrowed onto the choice set in front of the individual. This narrowing of attention, in combination with the negatively-biased evaluations of the future, then leads to higher attitudes toward the products, which should therefore increase choice (and reduce deferral). To test this serial mediation pattern, we used PROCESS 2.13 (Hayes 2013), model 6, with 10,000 bootstrapped samples and a 95% confidence interval. Specifically, we dummy coded the interaction of emotion and choice set as our predictor variable, such that fear and partial information OOS was 1, and the others were coded as 0. We dummy coded the interaction, because tests of serial mediation within PROCESS cannot have moderation along the serial path (Hayes 2013), and thus coding the interaction incorporates the moderation. For the serial mediation, we included self-reported attention as the proximal mediator, overall attitude as the distal mediator, and choice as the outcome variable. The indirect effect of the interaction on choice, through the two mediators of attention and overall attitude, was significant (.0971, 95% CI .0466, .1805) as the confidence interval does not contain zero. Further, the total indirect effect (the sum of all separate indirect effects) is .9339, and is significant as the bootstrap confidence interval does not contain zero (.5305, 1.3374). Note that if we use the recall of peripheral information as the proximal mediator, we obtain qualitatively similar results, with the serial mediation marginally significant at the 90% level. Thus, our proposed mediation path is supported (see Table 6 for full mediation output).

Discussion. The results of Experiment 5 replicate and expand on the earlier results, showing that fear does not lead to increased choice when information about the deferred option is presently included in the choice set. When the choice set was similar to our previous studies

and information about Option D was not included, incidental fear increased choice relative to another incidental emotion (anger). Importantly, when information about Option D was included—but the product was temporarily unavailable, and thus represented a deferral option— incidental fear did not reduce deferral. A post-hoc analysis of "choosing Option D" helps elucidate why we observe this mitigated effect; fearful participants were significantly less likely to choose Option D when information was not included in the present choice set ($M = .07$), but increased their choice of D when information was included—regardless of product availability ($M_{OOS} = 1.17$ vs. $M_{in\text{-}stock}} = 1.14$; $F(1, 253) = .864$, $p > .8$). Thus, as our theory predicts, in addition to holding negative expectations for things outside of the current environment, individuals in the incidental fear condition were increasingly focused on the present choice set (and the included product information for all options), which made their attitudes toward all options in the present choice set more favorable, regardless of availability.

The proposed process is further supported through the serial mediation analysis. Specifically, we found that fearful participants paid significantly more attention to the product tables, which led to more positive evaluations of the products themselves, ultimately leading to higher overall choice, as long as information about the deferred option was not included in the choice set. As mentioned above, in cases where information about the deferred, out of stock option (Option D) was included, fear did not have a significant impact on deferral rates.

EXPERIMENT 6: TRAIT FEAR INFLUENCES CHOICE

In Experiment 6 we sought to expand our investigation from incidentally manipulated emotions to trait affect, thereby providing convergent evidence for our proposed theory. Trait

emotions assess the baseline differences in state affect that individuals experience; someone high in trait fear, for example, is more likely to be actually experiencing fear at any given moment (Lerner and Keltner 2000). Past research has found that trait and state fear can lead to similar downstream consequences. For instance, White et al. (2012) demonstrated that both trait and state fear produced similar changes in attitudes and cognition. Following this logic, if incidental fear – fear that is unrelated to the decision task at hand – is responsible for increased choice, then consumers who experience fear more generally should be more likely to make a choice and less likely to defer at any given moment for any given decision. Following the procedure from Lerner and Keltner (2000), we collected measures of trait fear and trait anger, and predict that individuals with higher levels of dispositional fear should make more choices (show less deferral) on average than individuals with higher levels of dispositional anger. As in Experiment 5, we also collected measures of our two serial mediators: attention and attitudes.

Method

Participants. Two hundred forty-two individuals (52.9% female; $M_{age} = 21.55$) from a large southwestern university participated in this study for course credit.

Design and procedure. This study was a 2 emotion (fear, anger) within subjects design. Participants were told that they would participate in two separate studies. The first study was presented as a "Student Wellness Questionnaire," that would help researchers understand typical college students' daily "concerns, emotions, and experiences." This survey contained the measures of dispositional fear and anger. In the second task, participants were told that

researchers were interested in how people make choices online, and that they would be presented with a series of product choices, as in Experiment 3. This served as our measure of choice (deferral) as well as the context to measure the mediating variables of attention and attitude.

Measures of dispositional fear and anger. Participants completed two measures that assess dispositional fear. First was the 21-item Fear Survey Schedule-II, which captures the degree of fear participants feel regarding 21 specific situations or objects (e.g., hypodermic needles, spiders; Bernstein and Allen 1969). This survey is assessed on a 0 (none) to 4 (terror) scale. Second, participants responded to Speilberger's (1983) 20-item trait anxiety scale, which measures the frequency with which participants feel anxious on a 1 (almost never) to 4 (almost always) scale. The correlation between these two scales was high ($r = .29$, $t(242) = 4.705$, $p < .001$), so we created a composite score by combining the two scales.

Participants also completed a measure of trait anger, taken from the Aggression Questionnaire (Buss and Perry 1992). Specifically, participants filled out the 7-item Anger sub-scale by indicating how characteristic each statement is of themselves, on a 1 (extremely uncharacteristic) to 5 (extremely characteristic) scale.

Choice. Immediately following the trait measures, participants completed several decision-making tasks for a "separate" study. As in the previous studies, the dependent measure was a modified version of the choice deferral task created by Gunasti and Ross Jr. (2008). Participants were presented with the five Amazon choice sets—each displaying four products that varied along five evaluation dimensions. Specifically, participants were presented with the

"partial information – out-of-stock" Amazon choice set from Experiment 5, such that they had full information about Options A, B, and C, but Option D was unknown and currently "sold out".

Participants could select a product from the choice set (A, B, or C), or select one of three deferred options outside of the choice set: "Wait for Option D to become available," "Search for other options on Amazon," or "Go to a different website to search for options." Responses were coded such that participants received a score of "1" every time they made a choice and a score of "0" each time they selected one of the deferral options. Responses were aggregated across the five choice sets and could range from 0 (always deferred) to 5 (always chose).

Mediating variables. In Experiment 6, after indicating choices or deferrals, we also gathered information about our proposed mediating variables. Participants first indicated their self-reported attention to the product information on the same four items as in Experiment 5 ($\alpha =$ .754). As in the prior studies, we also collected recall of the banner ads, using five memory questions, coded as 1 for correct information and 0 otherwise. Finally, participants were asked their attitudes toward the choice sets on the same three items as in Experiment 5 ($\alpha = .794$).
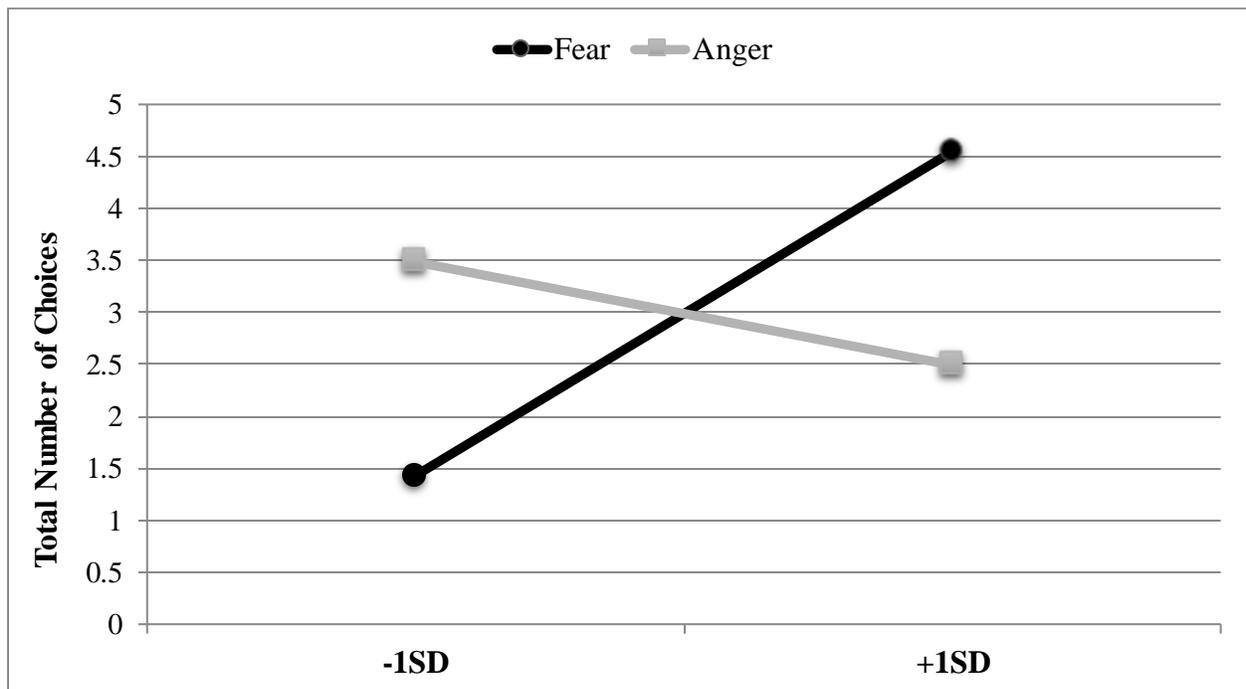
Results and Discussion

Preliminary analysis. We analyzed the association between the two emotion dispositions. Consistent with the shared valence between anger and fear, a significant correlation emerged ($r =$ .40, $t(242) = 6.764$, $p < .001$). To accommodate this, both dispositional fear and anger are simultaneously entered into the regression predicting choice (Lerner and Keltner 2000).

Inferential analyses. To determine the effects of dispositional fear and dispositional anger on choice, we entered both trait emotions into a regression with choice as the outcome measure. Dispositional fear was positively related to choice ($b = .144$, $t(239) = 2.161$, $p < .05$), and dispositional anger was negatively, but not significantly, ($b = -.066$, $t(239) = -.785$, $p > .4$) related to choice, as shown in Figure 6. This result replicates our earlier results; the higher individuals were on trait fear, the more choices (fewer deferrals) they made.

FIGURE 6

EXPERIMENT 6: TRAIT EMOTIONS AND CHOICE

There was no significant effect of trait fear ($t(242) = -.836$, $p > .4$) or trait anger ($t(242) = 1.411$, $p > .15$) on memory for the information in the banner ads. However, on the four-item self-reported attention questions, there was a significant effect of dispositional fear ($b = .029$, $t(239) = 3.138$, $p < .005$). Finally, there was a significant effect of trait fear on attitudes for the overall choice sets ($b = .008$, $t(239) = 2.559$, $p < .01$); no other effects were significant.

Serial mediation. As described above, we propose that experiencing fear leads to a "tunnel vision" effect, such that attention is narrowed onto the choice set in front of the individual. This narrowing of attention then leads to higher attitudes toward the products, which should therefore increase choice (and reduce deferral). To test this serial mediation pattern, we used PROCESS 2.13 (Hayes 2013), model 6, with 10,000 bootstrapped samples and a 95% confidence interval. Specifically, we used the dispositional fear score as the predictor variable, but included dispositional anger as a covariate due to the correlation between dispositional fear and anger (note that excluding anger as a control variable does not qualitatively change the results). For the serial mediation, we included self-reported attention as the proximal mediator, overall attitude as the distal mediator, and choice as the outcome variable. The indirect effect of trait fear on choice, through the two mediators of attention and attitude, was significant (.0021, 95% CI .0007, .0055) as the confidence interval does not contain zero. Further, the total indirect effect (the sum of all separate indirect effects) is .1160, and is significant as the bootstrap confidence interval does not contain zero (.0239, .3315). Thus, our proposed mediation path is supported (see Table 7 for full mediation output).

Discussion. Following Lerner and Keltner (2000) to assess the impact of trait-level emotions on decisions, Experiment 6 replicated our earlier results using trait fear and trait anger. Consistent with our theory, dispositional fear predicted a greater number of choices, while dispositional anger was negatively (but not significantly) related to choice. This suggests that these stable (Helson and Klohnen 1998) and neurologically-determined (Davidson, Jackson, and Kalin 2000) tendencies can influence even simple choice tasks. Further, Experiment 6 replicated the serial mediation demonstrated in Experiment 5, such that dispositional fear led to greater

attention to the product information, which then led to more positive attitudes toward the options, which ultimately led to greater choice. Importantly, while trait anger is correlated with trait fear, the serial mediation holds when controlling for trait anger.

GENERAL DISCUSSION

A functional approach to emotion suggests that incidental fear heightens attention to the present, makes the future seem more negative, and prompts consumers to take action. Together, these coordinated responses suggest that incidental fear should increase choice and reduce deferral by increasing attention and liking in the present, while propelling consumers to take action. Across six experiments we found consistent support for this central hypothesis and that the responses work together in combination to decrease deferral. Experiment 1 used traditional deferral choice sets and compared fear with four other incidental emotions (disgust, sadness, hope, pride), finding that participants in the incidental fear condition chose significantly more and deferred less than those in all other conditions. Notably, emotions similar to fear on individual appraisal dimensions did not result in increased choice.

In Experiment 2, we explored a boundary condition on the relationship between incidental fear and consumer choice and provided initial support for the proposed theory by examining choices framed in the present vs. the future. Since fear increases attention to the present and negative expectations about the future, we expected and found that fear to lead to increased choice only for decisions made in the present. Experiment 2 shows that participants in the present, fear condition chose more and deferred less than those in the general uncertainty and control conditions. The impact of incidental fear for future choices, however, was not significant.

Using a different manipulation of emotions and more realistic choice sets, in Experiment 3, we showed that individuals in the fear condition made more choices (deferred less) than participants in the anger, disgust, sadness, and control conditions. The divergence between fear and anger was particularly important, as it suggests that a readiness for action alone – which anger shares – is not enough to increase choice. Instead, the full set of responses associated with fear is necessary. Experiment 3 also demonstrated the mediational role of attention (captured as memory for peripheral information) on choice and deferral. Because fear leads to tunnel vision, attention is higher for choice-related (vs. peripheral) information, which leads to more choice.

Experiment 4 showed the strength of these effects in influencing a real, consequential, choice, while Experiment 5 examined how the impact of incidental fear on deferral is moderated when product information about a deferred (out-of-stock) option is included in the choice set. Experiment 6 provided convergent evidence for our proposed theory demonstrating that individuals with high levels of trait fear (versus trait anger), who experience fear more frequently, are also less likely to defer and more likely to choose.

Theoretical Contributions

The present research contributes to the extant literatures on choice deferral in several ways. First, it documents a novel factor influencing consumer choice and deferral. Previous research has examined how the general negativity generated by decision difficulty affects deferral (Dhar and Nowlis 2004; Dhar and Simonson 2003; Gunasti and Ross Jr. 2008; Luce 1998; Novemsky, Dhar, Schwarz and Simonson 2007). By focusing on fear, our research documents the role of a discrete negative emotion in consumer choice and deferral. Further, in

contrast to research showing that general negativity increases deferral, our findings demonstrate that a discrete negative emotion, incidental fear, actually reduces deferral and increases choice. Prior work on affect and deferral has only looked at emotions arising from the decision itself— either its difficulty, or the choice attributes (i.e., safety)—and has posited that deferral is a coping mechanism for the integral affect arising through choice (Luce 1998). In the present paper, we show that a completely unrelated, incidental, emotion can increase choice and reduce deferral.

We also extend the literature on discrete emotions to a novel consumer process—choice deferral. Although much research has examined how discrete emotions affect consumer choice more generally, participants in the typical study are rarely given the opportunity to delay or defer choice. Our results show that when participants are explicitly given the opportunity to defer, incidental fear actually increases the likelihood of consumers making a choice.

Our work also offers more support for the usefulness of the functional perspective, which emphasizes the coordinated suite of responses that specific emotions engender. Specifically, we demonstrate that there are three key aspects of fear that, together, lead to less deferral and greater choice: a narrowing of attention to the present, more positive attitudes towards options in the current environment, and a readiness for action. Importantly, we offer evidence for this serial mediational process in several studies. Across multiple studies we contrast fear with other emotions that have similar components; such as uncertainty and hope (riskiness of outside options) and anger (readiness for action, higher in attention). Despite matching on a variety of individual dimensions, we consistently find that only fear increases choice. This, combined with the serial mediation analyses, suggests that it is indeed the full suite of responses necessary for the downstream effects. From the functional perspective, appraisals are just one component of a larger, coordinated response to fear involving appraisals, perceptions, cognitions, evaluations and

behaviors. This more holistic consideration of discrete emotions linked fear to biased expectations about the future, enhanced attention, and increased readiness for action – the combination of which increased the likelihood of making a choice from the current set of options. For example, without the readiness for action that is triggered by fear, we believe that the increased attention and liking for the options in the choice set might not increase choice because consumers are not compelled to act in response to their cognitions. A fruitful area for future research may be identifying other circumstances in which the combination of functional responses leads to different predictions than those of individual appraisals.

Future Directions and Managerial Implications

Our results demonstrated that incidental fear increased choice and reduced deferral across a diverse set of products and services, ranging from pens and snacks to gym memberships and water bottles. As described above, we believe that fear has this broad effect because it increases attention on the present, leading to more favorable evaluations of products in the current choice set and lower evaluations of options outside of the choice set (e.g., any option to defer). Despite the consistency of our results, there still may be some circumstances in which fear does not affect choice, or even decreases choice. In all of our studies, participants were primed with incidental forms of fear. Thus, the source of participants' felt fear was not present in the choice environment. This acknowledgement becomes important when considering research on animal behavior, suggesting that fear produces a different pattern of responses when the source of fear is present and known versus absent and unknown. When the source of fear is not readily apparent or present in environment, animals scan the environment to detect the threat, are increasingly

vigilant, and become wary of unknown aspects of the environment (Blanchard et al. 2011, Blanchard and Blanchard 1989; Phelps and LeDoux 2005). This pattern of responses corresponds with our findings: when the source of threat was activated incidentally, and not present in the environment when people were making their product choices, uncertain and unknown products were rated less favorably. However, another pattern of results may emerge when the source of fear is apparent and present. When facing down an apparent threat, both animals and people orient toward the source of fear, directing the majority of their attention and processing capacity toward the threat. In light of these findings, one possibility is that an integral and present source of fear would have a different effect on consumer choice. Compared to the impending danger, the decision regarding which product to select becomes relatively less important, and, in most circumstances, is not relevant to surviving the immediate danger. Moreover, if processing capacity is directed toward the identified threat, people may not differentiate among products in the current choice set. Following this logic, known and present sources of fear may not affect choice, or may serve to increase deferral. Thus, it may be useful for future research to explore responses to direct, integral threats.

Though our results support the notion that incidental fear increases choice overall, we cannot speak to the optimality of those choices made in the present under the influence of fear. In our choices, all of the options are equally attractive. However, it may be interesting to consider the impact of fear not just on choice-making generally, but on how consumers discriminate between choice options. Would fear prompt consumers to make less than optimal decisions in a present choice environment? Would fear prompt them to compromise their preferences in favor of a choice to be made now? These are intriguing questions for future work.

In addition to contrasting incidental and integral fear, future research should develop a more comprehensive theory of deferral that incorporates other discrete emotions. Across our studies, only fear had a significant impact on choice—none of the seven other emotions examined had a significant or consistent effect on choices. Our contribution focused on building a theory of incidental fear and choice and these results support our contention that the full suite of fear responses is necessary for increased choice. However, it is fascinating that none of the other emotions changed behavior, and we leave it unanswered as to why the other conditions had similarly high levels of deferral. The other conditions vary considerably in their valence, appraisals, approach-avoidance tendencies, and behavioral responses; future research could dig deeper into these differences and develop a theory of decision-making that incorporates these responses, building a broader theory of discrete emotions in choice.

For example, in several studies we documented that disgust did not affect deferral. Yet, from a functional perspective it may make sense for disgust to increase choice under some conditions, and to reduce choice under others. Because disgust is linked to the motivation to avoid disease threats, disgust may increase choice among products that would assist in this goal, such as medicines or cleaning products. Alternatively, disgust may also reduce choice among products associated with germs and disease, such as laxatives or foods near their expiration date (Morales and Fitzsimons 2007). Considering these possibilities, future research could examine the relationship between discrete emotions and choice deferral among product categories.

These findings also have several important managerial implications. As described at the outset, "closing the sale" is perhaps the most important aspect of any consumer transaction. Though research has documented a number of actions that firms can employ to encourage choice, less is known about how situational factors might do so. Our findings highlight the role

that fear can play in closing the sale. Throughout our studies, we showed that merely inducing fear in circumstances unrelated to the actual consumer choice can increase the likelihood of making a choice and reduce deferral. Building on these findings, it is possible that retailers could increase choice if they present fear-inducing images, such as those used in Experiment 2, before the consumer has the opportunity to select a product. Indeed, past research has already shown that subtle fear-inducing images, such as flames in the background of a website, can influence consumer decision-making (Mandel and Johnson 2002). Relatedly, fear-inducing marketing material near the point of purchase (e.g., a magazine cover featuring a catastrophic event, national tragedy, or a scary movie) may increase consumers' willingness to buy now rather than later. As evidenced in Experiment 3, however, it is important for marketers to understand that these effects hold for choices in the present, and are less likely to occur for choices in the future.

CONCLUSION

We began this investigation by questioning the role of affect in consumer choice deferral. Specifically, we documented that: (1) incidental fear increases choice and reduces deferral, (2) this relationship holds for choices that are presently available, but not for choices in the future, (3) the link between fear and choice is mediated by increased attention and attitudes to the present choice set along with an overarching desire to take action, (4) other incidental discrete emotions and individual appraisals do not affect general tendencies to defer in the same way, and (5) the relationship between fear and choice deferral holds for both state and trait fear. Taken together, these results show how fear can help marketers increase the likelihood that consumers make a choice and thereby "close the sale."

APPENDIX A

EXPERIMENT 1 CHOICE TASK

	Precision	Physical Appearance	Durability
Watch A	6	5	4
Watch B	5	4	6
Watch C	4	6	5
Watch D	?	?	?
Watch E	?	?	?

Which option would you choose?

○ A

○ B

○ C

○ I would wait to get more information about options D and E

○ I would go to a different store--that might have a better selection

APPENDIX B

EXPERIMENT 2 CHOICE TASK

Health clubs	A	B	C
Membership fee ($20-$50)	23	42	--
Variety of exercise machines (poor-excellent)	--	--	very good
Commute time to health club (5-25 min)	--	6	18

Which health club would you choose?

○ A

○ B

○ C

○ None of them

APPENDIX C

EXPERIMENT 3 CHOICE SETS

APPENDIX D

EXPERIMENT 5 CHOICE SETS

Full Information

Full Information – Out-of-Stock

Partial Information – Out-of-Stock

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TABLE 1

EXPERIMENT 1: PHOTOGRAPH MANIPULATION PRETEST RESULTS

	Fear Scale		Disgust Scale		Sadness Scale		Hope Scale		Pride Scale		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	**N**
Fear	**4.73**	2.61	3.73	2.97	3.10	1.85	2.60	2.43	2.47	1.59	20
Disgust	2.93	2.09	**6.97**	1.95	2.33	1.12	1.50	1.03	1.87	1.02	17
Sadness	2.44	1.78	2.71	2.31	**5.08**	1.97	1.62	1.43	2.00	1.56	17
Hope	1.37	0.96	1.45	1.07	1.74	1.26	**6.13**	2.47	3.62	1.92	19
Pride	1.69	1.40	1.89	1.69	1.91	1.46	4.17	2.21	**5.35**	2.28	18
Neutral	1.17	0.37	1.11	0.37	1.30	0.57	2.22	1.86	2.88	2.00	17
Main Effect of Emotion	$F_{(5, 102)} = 11.351$, $p < .0001$		$F_{(5, 102)} = 22.065$, $p < .0001$		$F_{(5, 102)} = 15.494$, $p < .0001$		$F_{(5, 102)} = 15.391$, $p < .0001$		$F_{(5, 102)} = 9.519$, $p < .0001$		
Items	afraid, anxious, fear, scared		disgust, repulsed		sad, pessimistic, powerless		hope, hopeful		proud, powerful, impressive, confident		
Reliability	$\alpha = .937$		$\alpha = .916$		$\alpha = .762$		$\alpha = .945$		$\alpha = .872$		

Note: The means in bold are significantly different from all other means in both the row and column, at the $p < .05$ level or better. For example, the mean on the sadness scale for the sad photos ($M_{sadness} = 5.08$) is both significantly different from all other emotion conditions on experienced sadness (within the Sadness Scale column), but also those who saw the sad photos experienced more sadness than any other emotion (across the Sadness row); versus $M_{fear} = 2.44$; $t(16) = 4.826$, $p < .001$; versus $M_{disgust} = 2.71$; $t(16) = 3.016$, $p < .01$; versus $M_{hope} = 1.62$; $t(16) = 6.136$, $p < .001$; versus $M_{pride} = 2.00$; $t(16) = 5.423$, $p < .001$. For brevity, these contrasts are not fully described, but details are available from the authors upon request.

TABLE 2

EXPERIMENT 3: AUTOBIOGRAPHICAL WRITING MANIPULATION PRETEST RESULTS

	Fear Scale		Anger Scale		Disgust Scale		Sadness Scale		Uncertainty Scale		Difficulty		
	M	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	*M*	*SD*	**N**
Fear	**5.42**	1.55	3.37	1.54	3.57	1.45	3.55	1.60	3.75	1.89	32.60	31.87	30
Anger	2.55	1.62	**5.22**	1.47	3.21	1.35	3.40	1.25	3.41	2.12	31.31	31.49	29
Disgust	2.54	1.78	3.59	1.29	**4.85**	1.76	3.72	1.48	3.33	1.86	27.11	31.44	27
Sadness	2.40	1.31	3.34	1.27	3.52	1.37	**5.45**	1.36	3.11	2.41	35.97	30.25	31
Uncertainty	2.73	1.49	3.36	1.23	3.71	1.35	3.71	1.40	**5.00**	1.33	29.36	29.84	28
Neutral	1.99	0.95	1.93	0.83	2.02	0.94	2.31	1.02	2.00	0.90	18.97	19.78	34
Main Effect of Emotion	$F(5, 173) = 22.026$, $p < .0001$		$F(5, 173) = 20.816$, $p < .0001$		$F(5, 173) = 13.467$, $p < .0001$		$F(5, 173) = 17.918$, $p < .0001$		$F(5, 173) = 8.814$, $p < .0001$		$F(5, 173) = 1.308$, $p > .25$		
Items	afraid, anxious		angry, aggressive		disgusted, dirty		sad, depressed		unsure, uncertain		single-item		
Reliability	$\alpha = .727$		$\alpha = .610$		$\alpha = .732$		$\alpha = .870$		$\alpha = .672$				

Note: The means in bold are significantly different from all other means in both the row and column, at the $p < .01$ level or better. For example, the mean on the anger scale for the anger writing task ($M_{anger} = 5.22$) is both significantly different from all other emotion conditions on experienced anger (within the Anger Scale column), but also those who wrote about angry situations experienced more anger than any other emotion (across the Anger row); versus $M_{fear} = 2.55$; $t(28) = 8.905$, $p < .001$; versus $M_{disgust} = 3.21$; $t(28) = 5.366$, $p < .001$; versus $M_{sadness} = 3.40$; $t(28) = 6.241$, $p < .001$; versus $M_{uncertainty} = 3.41$; $t(28) = 3.886$, $p < .001$. None of the emotion conditions differed on difficulty. For brevity, these contrasts are not fully described, but details are available from the authors upon request.

TABLE 3

EXPERIMENT 3: THE EFFECT OF EMOTION ON CHOICE AND ATTENTION

Condition	Mean Choice (0-5)	Mean Attention (0-5)	N
Fear	3.95$_a$	0.39$_a$	41
Anger	3.34$_b$	1.36$_{bc}$	44
Disgust	3.12$_b$	0.98$_{bc}$	43
Sadness	3.05$_b$	1.31$_{bc}$	42
Uncertainty	3.50$_{ab}$	1.13$_{bc}$	40
Control	3.03$_b$	0.90$_b$	40

Note: Means (within each column) with differing subscripts are significantly different at the $p < .05$ level.

TABLE 4

EXPERIMENT 3: MEDIATION RESULTS

	Consequent							
	M (Attention)				*Y* (Choice)			
Antecedent	Coeff.	SE	*t*	*p*	Coeff.	SE	*t*	*p*
X (Fear)	-0.9734	0.2076	-4.6882	< 0.0001	0.1658	0.3166	0.5238	0.6018
M (Attention)	---	---	---	---	-0.4566	0.1488	-3.0677	0.0029
Constant	1.3636	0.1442	9.4566	< 0.0001	1.0364	0.2818	3.6774	0.0004
Model Summary	$R^2 = 0.0844$ $F(1, 208) = 19.1683, p < .0001$				$R^2 = 0.0725$ $F(2, 207) = 8.0848, p = .0004$			

TABLE 5

EXPERIMENT 4: MEDIATION RESULTS

	Consequent							
	M (Attention)				Y (Choice)			
Antecedent	Coeff.	SE	t	p	Coeff.	SE	z	p
X (Fear)	-0.9088	0.2367	-3.8387	0.0002	0.9566	0.3789	2.5247	0.0116
M (Attention)	---	---	---	---	-0.2058	0.1078	-1.6278	0.1036
Control (Hunger)	-0.1128	0.0684	-1.6492	0.1011	0.3382	0.1119	3.0232	0.0025
Constant	2.1605	0.2605	8.2945	< 0.0001	-1.5494	0.4289	-3.6123	0.0003
Model Summary	$R^2 = 0.1162$				Cox & Snell $R^2 = 0.1503$			
	$F(2, 156) = 10.2522, p = .0001$				-2 Log Likelihood $= 194.217$			

Note: the sample size is 169 but ten observations were dropped due to missing data.

TABLE 6

EXPERIMENT 5: SERIAL MEDIATION OUTPUT

	Consequent											
	M_1 (Attention)				M_2 (Attitude)				Y (Choice)			
Antecedent	Coeff.	SE	t	p	Coeff.	SE	t	p	Coeff.	SE	t	p
X (Fear*Partial Information OOS)	0.6531	0.1698	3.8458	0.0002	0.2542	0.1537	1.6541	0.0993	0.6788	0.1912	3.5499	0.0005
M_1 (Attention)	---	---	---	---	0.2611	0.0549	4.756	< 0.0001	0.0204	0.0709	0.288	0.7736
M_2 (Attitude)	---	---	---	---	---	---	---	---	0.5693	0.0773	7.361	< 0.0001
Constant	3.0628	0.07	43.756	< 0.0001	1.912	0.1791	10.678	< 0.0001	1.3006	0.2664	4.8822	< 0.0001
Model Summary	$R^2 = 0.0544$				$R^2 = 0.1071$				$R^2 = 0.2519$			
	$F(1, 257) = 14.7903$, $p = .0002$				$F(2, 256) = 15.3481$, $p < .0001$				$F(3, 255) = 28.6253$, $p < .0001$			

TABLE 7

EXPERIMENT 6: SERIAL MEDIATION OUTPUT

	Consequent											
	M_1 (Attention)				M_2 (Attitude)				Y (Choice)			
Antecedent	Coeff.	SE	*t*	*p*	Coeff.	SE	*t*	*p*	Coeff.	SE	*t*	*p*
X (Trait Fear)	0.0286	0.0091	3.1376	0.0019	0.0138	0.0092	1.5001	0.1349	0.0140	0.0153	0.9157	0.3607
M_1 (Attention)	---	---	---	---	0.2052	0.0641	3.2016	0.0016	0.1477	0.1078	1.3693	0.1722
M_2 (Attitude)	---	---	---	---	---	---	---	---	0.3630	0.1068	3.3996	0.0008
Control (Trait Anger)	0.0044	0.0064	0.6846	0.4942	0.0039	0.0063	0.6181	0.5371	0.0208	0.0104	1.9900	0.0477
Constant	3.9633	0.297	13.345	< 0.0001	1.6399	0.3887	4.2185	< 0.0001	0.0154	0.0153	1.0065	0.3152
Model Summary	$R^2 = 0.0397$				$R^2 = 0.0485$				$R^2 = 0.0906$			
	$F(2, 239) = 4.9442, p = .0079$				$F(3, 238) = 4.0440, p = .0079$				$F(4, 237) = 5.9002, p = .0002$			

Note: the sample size is 242, but two observations were dropped due to missing data.