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The Emotionally Intelligent Decision Maker: Emotion-Understanding Ability Reduces the Effect of Incidental Anxiety on Risk Taking

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Abstract

In two experiments, we examined how a core dimension of emotional intelligence, emotion-understanding ability, facilitates decision making. Individuals with higher levels of emotion-understanding ability can correctly identify which events caused their emotions and, in particular, whether their emotions stem from events that are unrelated to current decisions. We predicted that incidental feelings of anxiety, which are unrelated to current decisions, would reduce risk taking more strongly among individuals with lower rather than higher levels of emotion-understanding ability. The results of Experiment 1 confirmed this prediction. In Experiment 2, the effect of incidental anxiety on risk taking among participants with lower emotion-understanding ability, relative to participants with higher emotion-understanding ability, was eliminated when we informed participants about the source of their anxiety. This finding reveals that emotion-understanding ability guards against the biasing effects of incidental anxiety by helping individuals determine that such anxiety is irrelevant to current decisions.

Keywords

emotions, emotion control, anxiety, risk, decision making, emotion understanding, emotional intelligence

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Emotional intelligence provides a host of benefits that enhance success and well-being in various spheres of life (Goleman, 1995; Mayer & Salovey, 1997). There is evidence supporting the benefits of some dimensions of emotional intelligence: Studies have shown that the ability to perceive emotions accurately is associated with outcomes such as successful negotiations (Elfenbein, Foo, White, Tan, & Aik, 2007) and effective leadership (Rubin, Munz, & Bommer, 2005), whereas the ability to regulate emotions effectively is associated with such outcomes as improved social relationships (Lopes, Salovey, Côté, & Beers, 2005).

By contrast, there is a paucity of research examining the benefits of other aspects of emotional intelligence, such as the ability to understand emotions. To more completely ascertain these benefits, we examined whether emotion-understanding ability improves decision making. We propose that emotion-understanding ability distinguishes people who are less likely to rely on their incidental emotions from people who are more likely to rely on their incidental emotions (i.e., emotions that are caused by events unrelated to a current decision) as sources of information in making a decision. We theorized that higher levels of emotion-understanding ability attenuate the biasing effects of incidental anxiety on risk taking and that the mechanism underlying this effect involves pinpointing the correct source of anxiety and, in turn, becoming aware that incidental anxiety is irrelevant to decisions involving risk.

Emotional Intelligence

Emotional intelligence is a set of abilities that allows one to reason about emotions and to use emotions and emotional knowledge adaptively (Salovey & Mayer, 1990). This definition is based on an *ability approach* that construes emotional intelligence as variation in how well individuals can solve certain categories of problems about emotions (Mayer & Salovey, 1997; Salovey & Mayer, 1990).

We favor the ability approach to emotional intelligence because it is consistent with traditional conceptions of intelligence (Côté & Miners, 2006; Mayer, Roberts, & Barsade, 2008). By contrast, the competing *trait approach* (Petrides, Pérez-González, & Furnham, 2007; Tett, Fox, & Wang, 2005) construes emotional intelligence as a set of personality traits,

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which are "dimensions of individual differences in tendencies to show consistent patterns of thoughts, feelings, and actions" (McCrae & Costa, 1990, p. 23). The trait approach is problematic because the definition of traits as typical behavior differs fundamentally from the definition of intelligence as maximal performance (Carroll, 1993; Côté & Miners, 2006; Mayer et al., 2008). In addition, measures of emotional intelligence based on the trait approach are highly correlated with extant constructs, such as the Big Five traits of personality, whereas measures based on the ability approach exhibit smaller correlations (see Joseph & Newman, 2010, for meta-analytic estimates).

Emotion-Understanding Ability

Emotion-understanding ability is one of the core dimensions in Mayer and Salovey's (1997) ability model of emotional intelligence. It pertains to the skill of analyzing the cause-and-effect relations between events and emotions forward (predicting future emotions based on current events) and backward (identifying which past events elicited current emotions; MacCann & Roberts, 2008; Mayer et al., 2008; Mayer & Salovey, 1997).

Individuals develop the ability to understand emotions via multiple processes. Through experience, children notice that certain situations tend to elicit specific reactions in other people (Saarni, 1999). For instance, infants learn the connection between events and emotions when they adapt their behavior on the basis of their parents' emotionally expressive responses to events, such as when infants attend to their parents' expressions of anxiety when crawling near a cliff (Sorce, Emde, Campos, & Klinnert, 1985). Children also develop emotion-understanding ability by modeling the behavior of their parents. For example, children mimic their mothers' tendencies to connect their children's emotions to the events that their children encountered (Steinberg & Laird, 1989). In addition, some parents provide emotional coaching to their children. For instance, when children experience anxiety, some parents provide explanations to their children about the source of their anxiety (Saarni, 1999).

By adulthood, individuals with higher emotion-understanding ability can more correctly identify the events that caused specific emotions, whereas individuals with lower emotion-understanding ability are more likely to identify the wrong causes.[1] For example, an investor with higher emotion-understanding ability can identify which event caused him or her to become anxious (e.g., a car accident on the way to work), but an investor with lower emotion-understanding ability may identify the wrong cause of his or her anxious state (e.g., a business meeting).

Emotion-Understanding Ability and the Effect of Incidental Anxiety on Risk Taking

We propose that a benefit of emotion-understanding ability is that it helps individuals discount the effects of anxiety that is unrelated to current decisions involving risk. There is considerable evidence that incidental emotions, which arise from environmental factors unrelated to current decisions, influence decision making; this phenomenon has been labeled the *affect heuristic* (Slovic, Finucane, Peters, & MacGregor, 2002). Past research has shown, for instance, that incidental emotions influence to what extent people are attracted to others (Dutton & Aron, 1974), how much people are willing to pay for products (Lerner, Small, & Loewenstein, 2004), and how satisfied people are with their lives (Schwarz & Clore, 1983).

One robust instance of the affect heuristic is the negative effect of incidental anxiety on risk taking (Loewenstein, Weber, Hsee, & Welch, 2001). Anxiety involves feelings of apprehension and tension, and the activation of the autonomic nervous system (Spielberger, 1966). Events that cause anxiety are events over which individuals believe they have little control (Lazarus, 1991; Smith & Ellsworth, 1985). For example, the investor who was involved in a car accident on the way to work would become anxious in response to the uncertainty about how he or she is going to repair the car and about the lack of control over the costs associated with the repair.

When anxious, people pay close attention to potential threats in the environment and are highly vigilant so as to preserve themselves and their resources (Eysenck, 1997; Pacheco-Unguetti, Acosta, Callejas, & Lupiañez, 2010). This attention to threat and vigilance leads people to avoid risk (Loewenstein et al., 2001). In an early demonstration, anxiety elicited by having participants read stories about a person's death influenced their perceptions of risk in the domain covered by the story and in various other domains (e.g., health, fire, and crime; Johnson & Tversky, 1983). In a more recent study, incidental anxiety and incidental sadness were elicited by having participants imagine experiencing the events described in a hypothetical scenario that they read. Inducing incidental anxiety resulted in a greater preference for investments with low risk and low reward than did inducing incidental sadness (Raghunathan & Pham, 1999).

The effect of incidental anxiety on risk taking, like other instances of the affect heuristic, occurs when people misattribute their anxiety to current decisions rather than to the correct sources (Schwarz & Clore, 1983; Slovic et al., 2002). In a classic investigation, male participants exhibited more attraction to a female experimenter while crossing a high, wobbly bridge known to trigger anxiety than when crossing a low, solid bridge (Dutton & Aron, 1974, Experiment 1) or when at least 10 min had passed after crossing the high, wobbly bridge (Dutton & Aron, 1974, Experiment 2). These results demonstrated a tendency for male participants to incorrectly attribute their anxiety to the attractiveness of the female experimenter rather than to the act of crossing the "dangerous" bridge.

Because misattribution underlies the effect of incidental anxiety on risk taking, emotion-understanding ability may dampen this effect. Individuals with higher levels of emotion-understanding ability should be more likely to know that their anxiety is unrelated to current decisions because they can

correctly identify the sources of their emotions. Through this mechanism, these individuals should be better able to limit the carry-over effect of incidental anxiety on risk taking than should individuals with lower emotion-understanding ability. For instance, an investor who feels anxious from a car accident that occurred on the way to work needs to determine whether the car accident is relevant to making a later decision involving risk, such as purchasing a new stock with high risk and high returns. If the investor has a higher level of emotion-understanding ability and determines that this anxiety is irrelevant to the investment decision, the carry-over effect of anxiety on the investment decision should be diminished, and the investor should purchase the stock.

By contrast, individuals with lower emotion-understanding ability should be more likely to incorrectly attribute their feelings of anxiety to current decisions because they have difficulty identifying the actual source of their anxiety. As a result, these individuals should be more likely to exhibit a negative carry-over effect of incidental anxiety on risk taking. For example, the investor with lower emotion-understanding ability should be more heavily influenced by incidental feelings of anxiety and refrain from purchasing the stock with high risk and high returns, because that investor is less likely to know that the anxiety stems from an unrelated event.

On the basis of this reasoning, we predicted that the negative effect of incidental anxiety on risk taking would be more pronounced among individuals with lower emotion-understanding ability than among their higher-ability counterparts. We conducted two experiments to test this prediction and explore the mechanism underlying this effect.

Experiment 1

In this initial experiment, we tested our prediction by eliciting incidental anxiety and examining its effect on risk taking.

Method

Participants. Participants were 108 undergraduate commerce students (68% female, 32% male) at the University of Toronto. Their average age was 20 years (*SD* = 1.51).

Procedure. Participants were scheduled for two separate sessions: a 60-min group-testing session and, within 10 days, a 30-min individual experimental session. We collected the data in two sessions to reduce suspicion about the goals of the research. This procedure made it more difficult for participants to realize that we were interested in how emotion-understanding ability (measured in the testing session) predicted the extent to which incidental anxiety influenced risk taking (in the experimental session). In the testing session, participants completed a measure of emotion-understanding ability and demographic questions.

In the experimental session, each participant was randomly assigned to either an incidental-anxiety or a neutral condition. Participants were told that they would complete different studies for different researchers. Participants in the incidental-anxiety condition were told that they had 60 s to prepare a 3-min speech on "why you are a good job candidate." The experimenter told participants that their speeches would be video-recorded using a camcorder, and the video recording would be shown to peers in another study for evaluation of participants' academic and social standing at the university. In past research, participants reported feeling anxious and exhibited physiological changes associated with anxiety as a result of similar procedures (Tugade & Fredrickson, 2004). Participants in the neutral condition were instructed to prepare a mental list of grocery items for 60 s.

Following the 60-s preparation period, the experimenter told participants in the incidental-anxiety condition that he or she had to go down the hall to retrieve a memory stick for the video recording. The experimenter told participants in the neutral condition that he or she had to go down the hall to obtain paper for writing the grocery list. In both conditions, before the experimenter left the room, he or she asked participants to complete unrelated tasks for another researcher. The tasks included a measure of risk taking and filler tasks. After participants completed these tasks, they were told to complete a questionnaire, which was a manipulation check for anxiety. Participants were then told that the study was over and that they would not deliver a speech or write a grocery list. Participants were debriefed and compensated for their participation with course credit.

Measure of emotion-understanding ability. To measure emotion-understanding ability, we administered the 32 items of the Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) that assess the Understanding Emotions dimension of emotional intelligence (Mayer, Salovey, & Caruso, 2002; M = 91.69, SD = 13.72; α = .72). In some test items, hypothetical situations describe a person who experiences a specific emotion and then encounters an event, and respondents identify the emotion that results from the event. Other test items consist of questions about how various emotions blend together to form a specific emotion, and respondents identify the resulting emotion. For all test items, respondents are asked to select the best answer among a set of options of varying degrees of correctness based on the judgments of expert emotion researchers. Raw scores are transformed into standard scores with a mean of 100 and a standard deviation of 15.

Manipulation check. As a manipulation check, we asked participants to rate the extent to which they felt nervous, anxious, and tense (Raghunathan & Pham, 1999) on a scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). The items were averaged to form a composite score (M = 3.26, SD = 1.60; α = .91).

Measure of risk taking. We adapted a risk-taking measure from past research (Raghunathan & Pham, 1999). Participants were asked whether they preferred Gamble A, which offered a 100% chance of winning \$1, or Gamble B, which offered a 10% chance of winning \$10 and a 90% chance of winning

Table 1. Results of the Logistic Regression Analysis Predicting Risk Taking in Experiment 1 (N = 108)

Variable	*b*	*SE*	Wald
Emotion condition	−0.58	0.42	1.91
Emotion-understanding ability	−0.01	0.02	0.20
Emotion Condition × Emotion-Understanding Ability	0.07*	0.03	4.19
Constant	−0.26	0.29	0.79

Note: Emotion condition was coded as follows: 1 = incidental anxiety; 0 = neutral emotion. Risk taking was coded as follows: 1 = higher-risk decision (Gamble B: 10% chance of winning $10 and 90% chance of winning $0); 0 = lower-risk decision (Gamble A: 100% chance of winning $1).

*p < .05.

$0. Gamble B was more risky because it involved more uncertainty and a greater likelihood of negative consequences (Campbell & Goodstein, 2001; Highhouse, 2001). In a pilot between-persons study (N = 87) that we conducted separately, participants rated the riskiness of each gamble on a scale from 1 (*not risky at all*) to 11 (*very risky*). In the pilot study, Gamble B was rated as more risky (M = 8.46, SD = 2.75) than Gamble A (M = 2.15, SD = 2.40), $t(85) = 11.34$, $p < .001$.

Results and discussion

The manipulation of anxiety was successful. Participants in the incidental-anxiety condition (M = 3.91, SD = 1.59) reported higher anxiety than did those in the neutral condition (M = 2.53, SD = 1.26), $t(105) = 4.98$, $p < .01$.

Using binary logistic regression, we tested our hypothesis that incidental anxiety reduces risk taking more strongly among individuals lower in emotion-understanding ability than among individuals higher in emotion-understanding ability. We regressed risk taking on emotion-understanding ability, emotion condition (incidental anxiety vs. neutral), and the interaction between them (see Table 1). The interaction was significant. Following Aiken and West (1991), we decomposed the interaction by examining the effect of incidental anxiety on risk taking at two conditional values: 1 standard deviation above and 1 standard deviation below the mean score for emotion-understanding ability. As expected, there was a negative effect of incidental anxiety on risk taking among individuals with lower emotion-understanding ability, $b = -1.47$, SE = 0.64, Wald(1) = 5.30, $p < .05$, but there was no effect among individuals with higher emotion-understanding ability, b = 0.31, SE = 0.57, Wald(1) = 0.29, p = .59 (Fig. 1). This finding supports our prediction.

Experiment 2

In Experiment 2, we extended the findings of our initial experiment by examining a mechanism by which emotion-understanding ability reduces the carry-over effect of incidental anxiety on risk taking. Our theoretical analysis suggested that higher emotion-understanding ability reduces the effect of incidental anxiety because it helps individuals identify the correct source of the anxiety and, thus, know that the anxiety is irrelevant to current decisions. If this account is correct, then individuals lower on this ability should also exhibit less effect of incidental anxiety on risk taking when they are made aware that their anxiety is unrelated to their current decisions. In such a condition, the interaction found in Experiment 1 should disappear, because individuals with higher and lower emotion-understanding ability would know that incidental anxiety is irrelevant to decisions.

Indirect evidence suggests that making individuals aware that their emotions are incidental limits the carry-over effects of these emotions on their decisions. In one study, the negative effect of experimentally induced negative emotions on well-being judgments dissipated when participants were told that the soundproof room where the experiment took place could make them feel unpleasant (Schwarz & Clore, 1983,

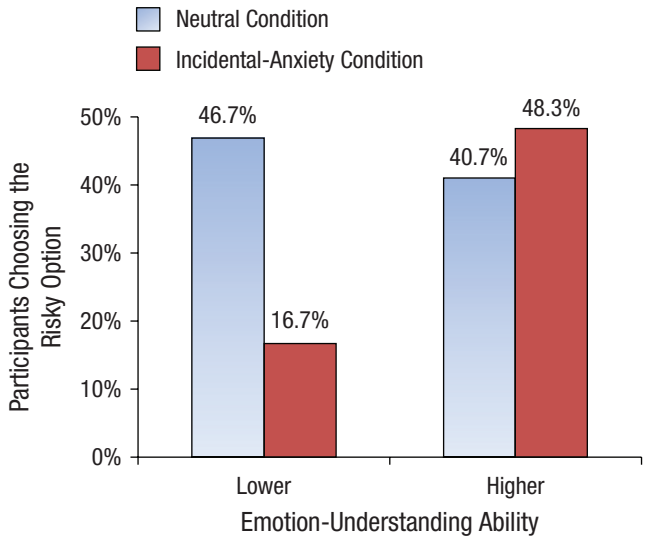

Fig. 1. Results from Experiment 1: percentage of participants who chose the riskier of two options as a function of their level of emotion-understanding ability (lower = 1 *SD* below the mean, higher = 1 *SD* above the mean) and emotion condition.

Experiment 1). In another study, the association between the weather and quality-of-life judgments dissipated when participants were made aware that they may feel unpleasant because of the poor weather (Schwarz & Clore, 1983, Experiment 2).

This reasoning and evidence suggest that, as in Experiment 1, emotion-understanding ability should moderate the effect of incidental anxiety on risk taking when individuals are not made aware that their anxiety is irrelevant to the decision. By contrast, the moderating effect of emotion-understanding ability should dissipate when individuals are made aware that their anxiety is irrelevant, so that neither individuals with higher nor individuals with lower emotion-understanding ability should exhibit an effect of incidental anxiety on risk taking.

In addition to illuminating the mechanism by which emotion-understanding ability operates in Experiment 2, we extended the results of Experiment 1 in two other ways. Whereas risk taking was assessed with responses to a hypothetical gamble in Experiment 1, we examined a more concrete and personally relevant decision in Experiment 2. In addition, we controlled for cognitive ability to rule out the possibility that it carries the effect of emotion-understanding ability. Past research has shown that cognitive ability and emotion-understanding ability are positively correlated (Côté, Lopes, Salovey, & Miners, 2010; Joseph & Newman, 2010) and, also, that cognitive ability dampens some decision-making biases (Frederick, 2005; Funder & Block, 1989). Thus, an alternative explanation of the results of Experiment 1 is that cognitive ability dampened the effect of incidental anxiety on risk taking. To examine this alternative explanation, we measured cognitive ability in Experiment 2.

Method

Participants. Participants were 132 undergraduate commerce students (67% female, 33% male) at the University of Toronto. Their average age was 21 years (SD = 2.2).

Procedure. The procedures were the same as in Experiment 1, except for three aspects. First, in the experimental session, each participant was randomly assigned to either an incidental-anxiety or a neutral condition. After participants took 60 s to mentally prepare a speech (in the incidental-anxiety condition) or a grocery list (in the neutral condition), we manipulated awareness of half of the participants in each emotion condition by indicating that their emotion was irrelevant to the current decision. In the incidental-anxiety condition, we gave participants written information that they "may feel anxious because people often get anxious when preparing to deliver a speech." In the neutral condition, participants read that they "may feel no emotion because people often feel no emotion when mentally preparing a grocery list." The other half of the participants in each emotion condition did not receive such information. Second, we used a more concrete and personally relevant measure of risk taking than the measure used in Experiment 1. Third, in the testing session, we measured cognitive ability in addition to emotion-understanding ability and demographics.

Measure of emotion-understanding ability. As in Experiment 1, we measured emotion-understanding ability by administering the 32 items of the MSCEIT that focus on Understanding Emotions (M = 92.77, SD = 15.55; α = .73).

Manipulation check. As a manipulation check, we used the same items and averaged them together as in Experiment 1 (M = 3.45, SD = 1.55; α = .86).

Measure of risk taking. Participants read an excerpt from an official statement issued by the provincial Ministry of Health. The statement said that influenza is an illness that causes sickness that usually lasts 2 to 7 days. It indicated that in some cases, symptoms last for weeks, and in extreme cases, people can develop complications and require hospitalization. The statement mentioned that the flu shot can substantially reduce chances of getting the flu and that the university offers flu-shot clinics. The experimenter asked participants whether they would like to write their e-mail address on a list to attend an upcoming flu-shot clinic on campus. We subsequently contacted participants who signed up to provide information about the flu clinics. Choosing not to sign up for the clinic was more risky than signing up for the clinic because it entailed more uncertainty (about whether participants would catch the flu) and a greater likelihood of negative consequences (catching the flu; Campbell & Goodstein, 2001; Highhouse, 2001).

In a pilot between-persons study (N = 87) conducted separately, participants rated the riskiness of signing up for the flu-shot clinic on a scale from 1 (*not risky at all*) to 11 (*very risky*). Not signing up was rated as more risky (M = 4.54, SD = 2.31) than signing up (M = 3.24, SD = 2.89), $t(85) = 2.38$, $p < .05$.

Measure of cognitive ability. To measure cognitive ability, we administered the Wonderlic Personnel Test (Wonderlic, 1992; M = 104.19, SD = 10.93; α = .90). In this test, respondents are given 12 min to respond to 50 verbal, mathematical, and analytical problems. Raw scores are computed by adding up the number of correct responses. Raw scores are then transformed into standard scores with a mean of 100 and a standard deviation of 15.

Results and discussion

Participants in the incidental-anxiety condition reported higher levels of anxiety (M = 3.92, SD = 1.42) than did those in the neutral condition (M = 3.01, SD = 1.56), $t(128) = 3.48$, $p < .01$. To test our hypothesis, we performed binary logistic regression, regressing risk taking on emotion-understanding ability, emotion condition (incidental anxiety vs. neutral), awareness-of-source condition (aware vs. unaware), and all two-way and three-way interactions terms (see Table 2). There was a significant three-way interaction. We interpreted the interaction by examining whether there was an interaction between emotion-understanding ability and emotion condition predicting risk taking in the unaware condition but not in the aware condition.

Table 2. Results of the Logistic Regression Analysis Predicting Risk Taking in Experiment 2 (N = 132)

Variable	*b*	*SE*	Wald
Emotion condition	−0.99	0.61	2.62
Awareness condition	−0.16	0.52	0.10
Emotion-understanding ability	−0.00	0.03	0.01
Emotion Condition × Emotion-Understanding Ability	0.11*	0.05	4.74
Emotion Condition × Awareness Condition	1.02	0.80	1.63
Awareness Condition × Emotion-Understanding Ability	0.02	0.03	0.46
Emotion Condition × Awareness Condition × Emotion-Understanding Ability	−0.12*	0.06	4.24
Constant	0.05	0.37	0.02

Note: Emotion condition was coded as follows: 1 = incidental anxiety; 0 = neutral emotion. Awareness condition was coded as follows: 1 = aware; 0 = not aware. Risk taking was coded as follows: 1 = higher-risk decision (not signing up for the flu-shot clinic); 0 = lower-risk decision (signing up for the flu-shot clinic).
*p < .05.

In the unaware condition, in which we did not make participants aware that their emotion was irrelevant, there was an interaction between emotion-understanding ability and emotion condition, b = 0.11, SE = 0.05, Wald(1) = 4.74, p < .05 (Fig. 2). There was a negative effect of incidental anxiety on risk-taking among individuals with lower emotion-understanding ability, b = −2.64, SE = 0.93, Wald(1) = 8.08, p < .01. However, there was no effect of incidental anxiety on risk-taking among individuals with higher emotion-understanding ability, b = 0.66, SE = 1.02, Wald(1) = 0.42, p = .52. As expected, the results in the unaware condition replicated the findings of Experiment 1.

In the aware condition, in which we made participants aware that their emotion was irrelevant, there was no interaction, b = −0.02, SE = 0.03, Wald(1) = 0.20, p = .66 (Fig. 2). There was no effect of incidental anxiety on risk taking among individuals with lower emotion-understanding ability, b = 0.26, SE = 0.82, Wald(1) = 0.10, p = .75, or higher emotion-understanding ability, b = −0.19, SE = 0.61, Wald(1) = 0.10, p = .75. As expected, these results were different from those of Experiment 1.

Subsidiary analyses controlling for cognitive ability revealed the same conclusions. In particular, the three-way interaction among emotion-understanding ability, emotion condition, and awareness-of-source condition held, b = −0.12, SE = 0.06, Wald(1) = 3.71, p = .05, as did the two-way interaction between emotion-understanding ability and emotion condition in the unaware condition, b = 0.11, SE = 0.05, Wald(1) = 4.74, p < .05. These subsidiary findings indicate that the role of emotion-understanding ability occurred independently of cognitive ability.

General Discussion

In the investigation reported here, we found that emotion-understanding ability was beneficial because it limits a robust instance of the affect heuristic: the negative effect of incidental anxiety on risk taking. In the absence of guidance about the relevance of anxiety to a decision, only individuals with lower emotion-understanding ability exhibited an effect of incidental anxiety on risk taking. These findings reveal, for example, that

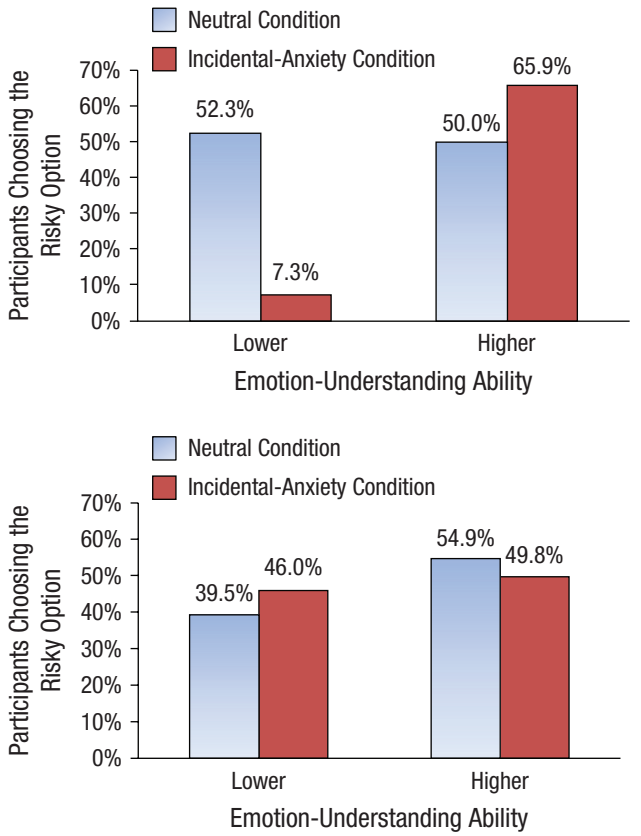

Fig. 2. Results from Experiment 2: percentage of participants who chose the riskier of two options as a function of their level of emotion-understanding ability (lower = 1 *SD* below the mean, higher = 1 *SD* above the mean) and emotion condition. Results are shown separately for participants who were not made aware that their anxiety was irrelevant to the decision they were making (top panel) and participants who were made aware that their anxiety was irrelevant to the decision they were making (bottom panel).

investors with lower emotion-understanding ability are more likely to allow anxiety stemming from a car accident to influence unrelated financial decisions, whereas investors with higher emotion-understanding ability are more likely to limit this influence.

In Experiment 2, the effect of incidental anxiety on risk taking among individuals with lower emotion-understanding ability was attenuated when we told them that their anxiety was irrelevant to the decision. This finding suggests that individuals with lower emotion-understanding ability fall prey to the effect of incidental anxiety because they do not realize that it is irrelevant to current decisions. For instance, the financial decisions of investors with lower emotion-understanding ability may be affected by anxiety stemming from a car accident because these investors have difficulty becoming aware that their anxiety is irrelevant to these decisions.

More broadly, the present investigation shows that a robust instance of the affect heuristic, the effect of incidental anxiety on risk taking, is not a universal phenomenon. In research on decision making, it has often been implicitly assumed that biases are universal. Recent perspectives on decision making, however, suggest that many biases are driven by only a subset of individuals. There is evidence, for instance, that individuals with lower cognitive ability make more impatient decisions than do their higher ability counterparts (Frederick, 2005; Funder & Block, 1989). Little research has examined whether affect-driven biases are universal or limited to only some individuals. Here, we built on past research on cognitive ability and incorporated emotional abilities. Just as in research on cognitive biases, our findings suggest that affect-driven biases may be limited to only a subset of individuals who are lower on the ability to understand emotions.

The results of this investigation also have practical implications. Debiasing the effect of incidental anxiety on risk taking is important because individuals may adopt overly safe strategies if irrelevant feelings of anxiety influence their decisions. Our results highlight a particular strategy—identifying which events elicited emotions to determine the relevance of emotions to current decisions. We found that individuals with higher emotion-understanding ability naturally use this strategy in a decision-making context, and individuals with lower emotion-understanding ability could potentially adopt it as well. Researchers have developed school-based interventions that teach students to build their emotion vocabulary and link feeling words to real-world events (Brackett, Alster, Wolfe, Katulak, & Fale, 2007). These interventions could educate individuals about the intimate connections between events and emotions to help them better identify the sources of their anxiety and, in turn, reduce the effect of incidental anxiety on their decisions involving risk.

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Declaration of Conflicting Interests

The authors declared that they had no conflicts of interest with respect to their authorship or the publication of this article.

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Note

1. We refer to *higher* and *lower* emotion-understanding ability because we view differences in this ability as differences in relative levels rather than absolute levels. In the statistical analyses reported, *higher* and *lower* refer, respectively, to 1 standard deviation above the mean and 1 standard deviation below the mean on the measure of emotion-understanding ability.

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