The Effect of an Interruption on Risk Decisions

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Interruptions during consumer decision making are ubiquitous. In seven studies, we examine the consequences of a brief interruption during a financial risk decision. We identify a fundamental feature inherent in an interruption's temporal structure—a repeat exposure to the decision stimuli—and find that this re-exposure reduces decision stimuli's subjective novelty. This reduced novelty in turn reduces decision makers' apprehension and increases the amount of risk they take in a wide range of risky financial decision contexts. Consistent with our theoretical framework, this interruption effect disappears when a stimulus's subjective novelty is restored after an interruption. We further find that these consequences are often unique to interruptions are often do not result from other interventions (e.g., time pressure and elongated thinking); this is because an interruption's unique temporal structure (which results in a repeat exposure to the decision stimuli) underlies its consequences. Our findings shed light on how and when interruptions during decision making can influence risk taking.

Keywords: risk taking, decision making, interruption

Individuals are constantly interrupted. For example, office workers are interrupted every 5 minutes during their work, and undergraduates are interrupted every 2 minutes while they study (Benbunan-Fich and Truman 2009; Jackson, Dawson, and Wilson 2001). Often such interruptions are relatively short, and people go back to their tasks after these brief moments of discontinuity. However, do these interruptions nonetheless affect people's subsequent behaviors on the interrupted task? For example, consider a consumer who is deciding how much money to invest in a stock, but is interrupted by a phone call. When she returns to the decision, will she make a different decision than if she had not been interrupted?

Given the ubiquity of interruptions, researchers have long been interested in their effects on behavior. We extend this literature by proposing a theory of one fundamental way in which interruptions can affect decisions—through repeat exposure and subjective novelty reduction—and test novel consequences of interruptions predicted by this theory.

TYPES OF INTERRUPTIONS

Interruptions to information processing and decision making can take place in many forms. Previous research has examined various types of interruptions that differ in their temporal sequence. One type of interruption is an event that terminates a task before it is completed; that is, an individual has no ability to return to the task even after the interruption concludes. We call this type of interruption a "premature termination." Premature terminations heighten consumers' desire to return to the interrupted task, which increases activation of information relevant to the interrupted task and prompts an unsatisfied need for closure that

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spills over onto other tasks (Goschke and Kuhl 1993; Kupor, Reich, and Shiv 2015; Marsh, Hicks, and Bink 1998; Savitsky, Medvec, and Gilovich 1997; Zeigarnik 1927).

An interruption with a different temporal structure—and thus different consequences—is one that temporarily pauses the delivery of a task's information before it is fully revealed. We term this type of interruption an "information suspension." An interruption with this temporal structure sparks curiosity about the remaining interrupted content, and thus increases processing of the remaining content when it resumes (Kupor and Tormala 2015). Importantly, this increase in curiosity occurs only when an interruption intercedes before the decision information is fully revealed—when an interruption occurs after the complete information delivery, interruptions no longer boost curiosity and processing (Kupor and Tormala 2015).

Another interruption with a different temporal structure—and which thus unleashes different consequences—is one that occurs after the delivery of information is complete but before a consumer has formulated her decision, and whose conclusion allows the decision maker to resume the interrupted task. Thus, no new information is introduced after the person resumes her decision post-interruption. We call this type of interruption a "decision suspension." The current research focuses on how decision suspensions affect decision outcomes. In particular, we identify a fundamental feature inherent in this interruption's temporal structure—a repeat exposure to the decision stimuli—and illuminate the manner in which this feature systematically alters decision making. For ease of exposition, in the remainder of this article we refer to a decision suspension as an "interruption."

EFFECT OF AN INTERRUPTION ON RISK DECISIONS

Decision makers often experience the following sequence: when they are first exposed to decision information, they review the information, deliberate, and make a decision. When they are uninterrupted, the responses engendered in one stage (i.e., information processing) are input into the next stages (i.e., deliberation and choice; Bettman 1979).

However, an interruption changes this sequence. In particular, an interruption introduces a second instance of exposure to the decision information. That is, when consumers return to the decision stimuli after an interruption, they experience a second exposure to the same decision stimuli. They then review this information until they make their decision. In short, an interruption changes the decision-making process from an initial exposure-processing-choice sequence to an initial exposure-processing-interruption-second exposure-reprocessing-choice sequence.

Does an interruption alter the decision outcome? The answer to this question hinges on whether the second exposure and subsequent processing generates the same response to the decision information as the initial exposure and processing. If it is the same, then an interruption will not alter the decision outcome; however, if the response evoked by an initial exposure versus a post-interruption re-exposure differs, then the decision outcome may also differ.

We posit that the response evoked by an initial exposure versus a post-interruption re-exposure differs substantially. Specifically, research shows that the first exposure to a novel stimulus instinctively evokes apprehension (Berlyne et al. 1963; Carrillo-Diaz et al. 2012; Zajonc 1968). Importantly, it is the mere novelty of a stimulus that prompts this apprehension—thus, this apprehension occurs even when the stimulus content is neutral (e.g., nonsense letter strings; Winkielman et al. 2003; Zajonc 1968). However, if no negative consequences occur during the initial encounter, a second exposure to the same stimulus evokes significantly less apprehension (Berlyne et al. 1963; Zebrowitz and Zhang 2012).

Drawing on this literature, we predict that when consumers initially encounter a novel risk decision, they similarly experience novelty-induced apprehension. However, holding constant the duration between the initial exposure and final decision, we theorize that these initially high levels of apprehension fade more quickly during interrupted exposure than during continuous exposure. Inherent in an interruption's temporal structure is that it breaks consumers' exposure to the decision stimuli, and previous theories suggest that the intensity of affect experienced upon exposure to emotionally evocative stimuli declines more rapidly when exposure to that stimulus is terminated versus when it continues (Solomon and Corbit 1974; Solomon 1980). As a result, when an interruption breaks consumers' exposure to a novel risk context, it may cause the initial high levels of apprehension sparked by consumers' first exposure to the risk context to more rapidly degrade than they would during a continuous exposure. When interrupted consumers are subsequently re-exposed to the decision context after the interruption, it no longer appears brand new, and this ease of recognition evokes less apprehension than the initial exposure. We theorize that the resulting milder apprehension consequently drives interrupted consumers' decisions. Importantly, whereas this subjective experience of ease of recognition occurs in the first moments in which a perceiver is re-exposed to a previously viewed stimulus, it is less likely to occur when an individual is in the midst of continuously perceiving a stimulus (Jacoby, Kelley, and Dywan 1989). Thus, because an interruption breaks consumers' exposure to a risk context and introduces a moment of re-exposure (which is absent in continuous exposure), we theorize that the high levels of apprehension prompted by consumers' first exposure to a

novel risk stimulus fade more rapidly among interrupted (vs. uninterrupted) decision makers, and thus are less likely to influence interrupted decisions. Instead, we predict that the reduced apprehension at re-exposure is more likely to influence interrupted consumers' decisions. Because apprehension is a primary driver of risk aversion (Loewenstein et al. 2001; Song and Schwarz 2009), we further posit that an interruption during a risk decision therefore increases risk taking.

Of note, we focus our investigation on risky financial decision making. We focus on these decisions not only because they are heavily influenced by decision makers' apprehension (Guiso, Sapienza, and Zingales 2013; Loewenstein et al. 2001; Schulreich, Gerhardt, and Heekeren 2016), but also because of their immediate relevance to everyday consumer contexts—indeed, consumers' financial welfare depends on which financial risks they take and avoid (Vlaev, Chanter, and Stewart 2009; Yeung and Morris 2001). In the General Discussion, we explore the possibility that the proposed phenomenon might extend to other types of risks.

RELATION OF CURRENT THEORIZING TO PRIOR RESEARCH

Our theorizing expands beyond research offering initial evidence that interruptions can increase risk taking in reward-probability tradeoffs (e.g., choices between a large gain with a small probability vs. a small gain with a large probability). Specifically, Liu (2008) found that when consumers face reward-probability tradeoffs, interruptions can reduce consumers' attention to feasibility attributes (i.e., information relevant to consumers' secondary goals, which is probability information in the context of risk decisions) but does not alter consumers' attention to desirability attributes (i.e., information relevant to consumers' primary goals, which is magnitude information in the context of risk decisions; study 1 in Liu 2008). Thus, Liu (2008) documented a cognitive outcome of interruptions: reduced attention to feasibility attributes. We argue that this earlier finding is one (but not the only) downstream consequence of our theory. Indeed, Liu (2008) speculated that—but did not empirically examine whether—the reason interruptions reduced attention to feasibility attributes was because consumers recognized the decision stimulus during their re-exposure to it after the interruption. Thus, the effect shown in Liu (2008) stems from the same fundamental feature of an interruption we theorize here (i.e., an interruption-induced re-exposure).

While Liu (2008) theorized that this re-exposure has cognitive consequences, we theorize that it also has affective consequences (i.e., a reduction in apprehension). Investigating this possibility provides crucial insight into the architecture of interrupted decision making. This is because when an event can produce both affective and cognitive consequences, affective consequences are more primary (i.e., occur sooner; Armony et al. 1997; LeDoux 1996) and are more dominant (Loewenstein et al. 2001). Drawing on this literature, the affective consequence that we posit is likely a first-order—and more consequential—outcome of interruptions. Further, due to the influence of affect on a wide array of risk decisions, this affective consequence predicts that interruptions impact numerous types of decisions that the prior cognitive theory does not.

For example, consider risk decisions involving options with the same probabilities but different outcomes, such as this risk: option A offers a 50% chance of $1 and a 50% chance of $2, and option B offers a 50% chance of $0 and a 50% chance of $3. An examination of this decision through the lens of Liu's (2008) cognitive focus theory suggests that an interruption would have no impact; after all, the outcomes contained in both options are equally feasible (e.g., probable), and the decision entails a tradeoff between different levels of desirability (which prior research reveals is uninfluenced by interruptions; study 1 in Liu 2008). In contrast, our theoretical framework suggests that an interruption alters this decision by decreasing apprehension. Because reduced apprehension increases choices of riskier options (i.e., options that have a larger outcome spread; Bernanke 1983), our theorizing suggests that an interruption increases choices of option B.

Another common type of risk decision involves gain-loss tradeoffs (e.g., risks that offer a chance of a gain but also come with a chance of a loss). Neither preventing losses nor accruing gains is a feasibility concern (i.e., because both are relevant to outcomes' content rather than their probability; Trope and Liberman 2003). Rather, obtaining gains and preventing losses are two primary goals, and their relative prominence varies by person and context (Carver and White 1994; Rothman and Updegraff 2010; Thaler et al. 1997). Thus, a cognitive shift in attention away from feasibility would not reliably influence decision making in this context, whereas an affective mechanism of reduced apprehension predicts greater risk taking.

Furthermore, an affective mechanism also predicts greater risk taking when risks' parameters are ambiguous (i.e., when risks' outcomes and probabilities are not precisely specified; Johnson and Slovic 1995). When risk parameters are ambiguous, people often rely on affective (vs. cognitive) inputs to guide their decision making (Finucane and Holup 2006; Hsu et al. 2005; Sayegh, Anthony, and Perrewé 2004). Thus, extant literature reveals that affective inputs (e.g., reduced apprehension) are more likely to operate in such contexts than are cognitive inputs. Therefore, the affective mechanism that we propose suggests that interruptions can increase risk taking

in a much wider range of risk contexts than does the previously documented cognitive mechanism.

In sum, we propose and test a theoretical framework that illuminates a fundamental feature of interruptions—a repeat exposure to decision stimuli—and we examine its downstream consequences. Further, our theory makes novel and broader predictions about interruptions' effect on risky decisions that were not predicted by prior narrower theorizing centering on interruptions' impact on cognitive attention. Thus, our research provides a more comprehensive understanding of interruptions' effects on decision making.

INTERRUPTIONS VERSUS OTHER DECISION INTERVENTIONS

Interruptions are not the only events that can intervene on decision making processes. For example, distractions also frequently intervene during decision making. Distractions are events that occur contemporaneously with a decision process (Bodenhausen 1990; Roch et al. 2000; Shiv and Fedorikhin 2002). Time pressure—another common form of external interference—artificially reduces the amount of time that consumers can devote to their decisions (Finucane et al. 2000; Maule and Svenson 1993). A third form of intervention does the opposite—instead of hastening the decision, it forcefully extends the amount of time that a consumer spends on a task beyond what he or she naturally would.

In the current research, we not only examine our prediction that interruptions increase financial risk taking by reducing novelty and thus apprehension, but we also examine whether this outcome is a unique consequence of interruptions, or whether it similarly results from these other decision interventions. Our theoretical framework predicts the former. As previously noted, we theorize that the interruption effect stems from the unique temporal structure of an interruption (which includes a repeated exposure to the decision stimuli), and this temporal structure is frequently absent in these other disruptors. Thus, we expect the effect of an interruption on risk decisions to often be differentiable from the effects of other types of disruptors.

Further, to the best of our knowledge, previous research has not examined the impact of elongated thinking on risk taking, and initial evidence suggests that cognitive load and extreme time pressure *reduce* risk taking (Whitney, Rinehart, and Hinson 2008; Suri and Monroe 2003; but see Franco-Watkins, Pashler, and Rickard 2006 for reinterpretation). Thus, while we predict that an interruption increases risk taking, we have no reason to expect that cognitive load, elongated thinking, or time pressure will increase risk taking.

OVERVIEW OF STUDIES

We present seven studies that test the proposed theoretical framework in the context of financial risk taking. Studies 1A–1D examine the effect of an interruption on financial risk taking across different types of risks, and find that interruptions increase risk taking by reducing apprehension. Study 2 examines the critical role of stimuli novelty reduction in driving this effect. Finally, studies 3A and 3B examine whether cognitive load, time pressure, or elongated thinking contributes to these results.

Of note, we focus our empirical examination on momentary, single, and affectively neutral interruptions. We focus on momentary interruptions because we suspect that there may be a threshold after which an interrupted stimulus continues to be perceived as subjectively novel upon reexposure; this threshold likely depends on the limits of decision makers' long-term and working memory. Also important, we focus on affectively neutral interruptions because interruptions that amplify apprehension (e.g., an interruption by one's demanding boss), dampen apprehension (e.g., an interruption by one's supportive colleague), or create other emotions may also influence risk taking and thus confound our investigation. Finally, we examine the impact of a single interruption because frequent interruptions can induce negative affect (whereas a single brief interruption is less likely to; Zijlstra et al. 1999), and negative affect alters risk decisions (Raghunathan and Pham 1999; Wright and Bower 1992). Focusing our investigation within these parameters enables us to distill the impact of a "mere interruption" (absent confounding influences) on risk taking, and thus builds a foundation on which future research can examine how adjusting these parameters may alter an interruption's consequences.

STUDY 1

Studies 1A–1D test the reach of interruptions' influence on risk taking across four different types of financial risks. Studies 1A and 1B examine gain-loss conflicts that involve a continuous willingness-to-risk response mode and a binary response mode, respectively. Study 1C examines the effect of an interruption in a gain-gain conflict (i.e., a decision involving options with the same probabilities but different outcomes). As previously described, gain-loss conflicts and gain-gain conflicts do not involve feasibility tradeoffs; thus, a cognitive shift in attention away from feasibility considerations would not influence risk taking in these contexts. Study 1D further generalizes the proposed interruption effect to a financial risk context in which the risk representation is ambiguous (i.e., the risk's probabilities and outcomes are not precisely specified), and directly tests the mediating role of an interruption-induced reduction in subjective novelty leading to reduced apprehension.

STUDY 1A

Study 1A tests an interruption's influence on financial risk taking in a gain-loss conflict. Further, this study uses a decision with real monetary incentives in which every participant's payment hinged on his or her risk decision.

Method

Two hundred one participants (mean age = 34.2 years, 109 males) recruited from Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. All participants completed an incentive-compatible risky decision (adapted from Charness, Gneezy, and Imas 2013; Gneezy and Potters 1997) and a filler task. In this and all studies, all participants learned that one goal of the study was to investigate multitasking, and that they therefore might be prompted to switch between different tasks during the progression of the study session; to that end, participants were instructed to simply follow the study instructions throughout the session.

Participants randomly assigned to the interruption condition viewed the risk task on the survey's first page. When they reached the bottom of the page, they encountered an instruction informing them that they would return to this decision later in the survey. This instruction was accompanied with an arrow; when participants clicked it, they were presented with the filler task on the next survey page. After participants completed the filler task, they clicked an arrow that returned them to the risk decision information. This time, they were able to finish making the decision (and the information was followed by an empty response box in which participants could enter their decision). Thus, participants' decision in the interruption condition was interrupted. Of note, this interruption procedure (whereby the interruption commenced after each participant viewed all of the decision information, rather than at the same fixed time for all participants) ensured that the interruption interceded after participants had been exposed to the complete risk information. In study 1, we recorded the duration participants viewed the decision information in order to statistically control in the analysis for any effect of natural variations in time spent on the task. Moreover, in study 3, we manipulate exposure duration to further empirically examine whether it underlies an interruption's impact on risk taking.

In contrast to participants in the interruption condition, participants in the no interruption condition completed the filler task prior to starting the risky decision, thereby equating any filler task effects between conditions. After participants in the no interruption condition completed the filler task, they viewed the risk information on the next survey page, and entered their decision into an empty response box at the bottom of this page. Thus, uninterrupted participants made their decision without interruption.

In the filler task, participants viewed four landscape photographs (depicting mountains, a field of flowers, a beach, and a grassy meadow), and were asked to rate their liking of each photograph on separate seven-point scales (1: Not at all; 7: Very much).

In the risky decision, participants read that they had been given 150 points, which could translate into additional payment depending on their decision. Specifically, they read that they could invest any portion of their endowed points (between 0 and 150 points, inclusive) in a risky option. They learned that there was a 50% chance that the investment would be successful, in which event they would receive 2.5 times the amount they chose to invest; if the investment was unsuccessful, they would lose the amount invested. They further learned that at the end of the survey a random-number generator would determine whether their investment was successful, and they would be paid $.01 for each point they had. Thus, all participants received a payout according to their investment decisions. Participants entered their decision into an empty field. Finally, a random-number generator determined the investment outcome for each participant, and participants were paid accordingly.

Results and Discussion

As predicted, participants in the interruption condition invested more points (which converted to money) in the risky option (M = 79.76, SE = 4.05) than participants in the no interruption condition (M = 67.40, SE = 4.27), $t(199) = 2.10$, $p = .037$ (Cohen's $d = .30$). Analysis of the time data revealed that participants in the no interruption condition viewed the decision information for an average of 58.09 (SE = 4.78) seconds, while participants in the interruption condition viewed the decision information for an average of 68.20 (SE = 3.36) seconds (i.e., 42.00 seconds [SE = 2.32 seconds] before the interruption, and 26.20 seconds [SE = 1.91 seconds] after the interruption); these durations marginally differed, $t(199) = 1.73$, $p = .084$. However, most relevant to the current theorizing, further analysis revealed that the effect of condition on risk taking remained significant when we controlled for exposure duration, $F(1, 198) = 5.83$, $p = .017$. Thus, study 1A suggests that interruptions can increase financial risk taking, and that exposure duration does not drive this effect. Nevertheless, in study 3 we directly manipulate exposure duration to further empirically examine whether exposure duration accounts for the impact of an interruption on risk taking.

STUDY 1B

This study tests the effect of an interruption on financial risk decisions with a gain-loss conflict in a binary choice setting.

Method

Two hundred one participants (mean age = 34.7 years, 97 males) from Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. All participants made a risky financial decision. Participants were randomly assigned to an interruption condition or a no interruption condition, and the interruption was manipulated as in study 1A.

Participants imagined that they had been given $50, and that they were choosing whether or not to invest it in a risky option. Specifically, the risky option had a 10% chance of success, and yielded 20 times their $50 (i.e., $1,000) if it succeeded. If it failed, they would lose their $50. Participants chose between keeping their $50 or investing it in the risky option.

Results and Discussion

As predicted, interrupted participants more often chose to take the risk (56.9%) than did uninterrupted participants (35.4%; χ^2 ($df = 1$, $N = 201$) = 9.35, $p = .002$; Cohen's $d = .43$). Thus, conceptually replicating study 1A, study 1B found that an interruption increases financial risk taking in a gain-loss conflict with a binary choice mode.

STUDY 1C

Study 1C tests the effect of an interruption in a financial risk context involving a gain-gain conflict (i.e., a risky choice between two options that yield different non-negative magnitudes with the same probability). In particular, participants faced a choice between an option that offered a 50% chance of $4 and a 50% chance of $7, or an option that offered a 50% chance of $0 and a 50% chance of $18. Study 1C therefore examines another financial risk context in which feasibility tradeoffs are absent (and thus in which prior research would not predict an effect of an interruption on risk taking). In contrast, and as previously noted, our theoretical framework predicts that an interruption increases risk taking (e.g., choices of options with larger outcome spreads, Bernanke 1983; Loewenstein et al. 2001) by reducing apprehension. Study 1C employs a mediation design to directly test for the role of apprehension in driving the interruption effect.

Method

Two hundred one participants (mean age = 36.3 years, 102 males) on Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. All participants faced a risky decision between two options: option A offered a 50% chance of $4 and a 50% chance of $7, and option B offered a 50% chance of $0 and a 50% chance of $18. Participants were randomly assigned to be interrupted or not, and the interruption was manipulated as in study 1A.

After participants entered their decision (by selecting a radio button labeled either "Option A" or "Option B"), we assessed participants' apprehension by asking them the following question: While making your decision, how apprehensive did you feel about the situation? Participants responded on a seven-point scale (1: Not at all; 7: Very much).

Results and Discussion

Analysis revealed that interrupted participants chose option B more frequently (51.5%) than uninterrupted participants (32.7%), χ^2 ($df = 1$, $N = 201$) = 7.28, $p = .007$ (Cohen's $d = .39$). Moreover, interrupted participants felt less apprehensive ($M = 3.74$, SE = .21) than uninterrupted participants ($M = 4.36$, SE = .19), $t(199) = 2.18$, $p = .030$ (Cohen's $d = .31$). Further consistent with our theorizing, a mediation model with bootstrapping (Hayes 2013) revealed that the interruption increased risk taking through reduced apprehension (95% CI: .0047 to .1598; see figure 1). Thus, reduced apprehension increased financial risk taking in a context without feasibility tradeoffs.

STUDY 1D

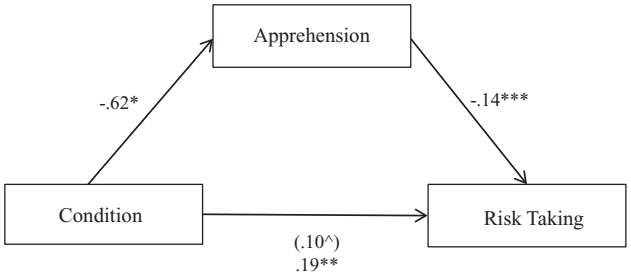
In study 1D we test the interruption effect in yet another risk context—one in which the risk is ambiguous (e.g., the risk's probabilities and outcomes are not precisely specified). As previously noted, when risk parameters are ambiguous, people are more likely to resort to feelings to make their decisions because the information is difficult to assess precisely (Finucane and Holup 2006; Hsu et al. 2005; Sayegh et al. 2004). Consequently, the proposed reduction in apprehension may be a key input into such decisions. Also important, in this study we employ a mediation design to directly examine the theorized role of reduced subjective novelty after an interruption as the driver of reduced apprehension and thus greater risk taking.

Method

Two hundred four participants (mean age = 33.2 years, 93 males) from Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. The interruption was inserted via the procedure described in study 1A, but to further test the robustness of the interruption effect, we administered a different set of neutral tasks during the filler task. Specifically, participants

FIGURE 1

MEDIATION OF CONDITION ON RISK TAKING IN STUDY 1C



NOTES.—The path coefficients are unstandardized betas. The value in parentheses indicates the effect of condition on risk taking after controlling for the mediator. *p < .05 **p < .01 ***p < .001 ^p < .100.

viewed two abstract drawings composed of blue shapes, and were asked to note two similarities and two differences between the drawings.

In the risky decision, participants imagined that they currently work at a job that pays them a small amount and is very secure. Participants then read that they could instead work as a freelance consultant in the same field, in which case they would have the potential to be paid a lot more money. They further read that they had a lot of money in savings as a financial cushion and that they could most likely get their current job back if taking the new job did not work out, but that taking the new job was nevertheless somewhat risky because it did not offer job security. Participants faced a binary choice between staying at their current secure job or taking the risk of switching jobs to be a consultant. Participants entered their decision by selecting a radio button labeled either "I would stay at my current job" or "I would take the risk of leaving my current job to work as a consultant."

After participants entered their decision, we assessed the subjective novelty of the risk context with a two-item index. Specifically, participants responded to the following two questions: The last time that you saw the job decision information, how new did the information look to you? The last time that you saw the job decision information, how familiar did the information look to you? (reverse-coded). Of note, "the last time" that uninterrupted participants saw the information was their initial exposure to it, but for interrupted participants it was their second exposure to it. Participants entered their responses on separate seven-point scales (1: Not at all; 7: Very much). A factor analysis of these items yielded only one factor with an eigenvalue greater than 1, so responses were averaged into a single composite index of subjective novelty ($r = .65$, $p < .001$). We next assessed participants' apprehension via the same measure employed in study 1C.

Results and Discussion

Conceptually replicating the previous studies, interrupted participants more often chose to take the risk (79.4%) than did uninterrupted participants (63.7%; χ^2 ($df = 1, N = 204$) = 6.17, $p = .013$; Cohen's $d = .35$). Further consistent with our theorizing, interrupted participants perceived the risk information to be less novel ($M = 2.47$, SE = .14) than did uninterrupted participants ($M = 4.04$, SE = .17), $t(202) = 7.32$, $p < .001$ (Cohen's $d = 1.03$). Also as predicted, interrupted participants reported less apprehension ($M = 3.79$, SE = .16) than did uninterrupted participants ($M = 4.27$, SE = .16), $t(202) = 2.13$, $p = .035$ (Cohen's $d = .30$). Furthermore, and also consistent with our theorizing, a serial mediation model with bootstrapping (Hayes 2013) revealed that the interruption increased risk taking because it decreased subjective novelty, which in turn reduced apprehension, which increased risk taking (95% CI: .2343, .6330; see figure 2).

STUDY 2

Study 1D provided mediation evidence suggesting that an interruption can increase financial risk taking by decreasing the subjective novelty of the interrupted risk information. Importantly, this mechanism predicts that if a risk continues to appear novel after an interruption, then the interruption will no longer increase risk taking. In other words, our theorizing predicts that the subjective constancy of the risk context before and after the interruption is necessary for an interruption to increase risk taking. In study 2 we tested this theorizing by directly manipulating stimuli novelty post-interruption. We did so by changing the risk's presentation (background color and font) post-interruption. We theorized that these presentational changes would cause the risk to appear subjectively novel post-interruption, and thus that the interruption effect would attenuate.

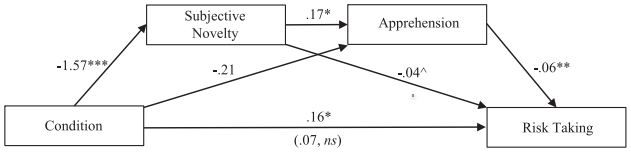
To ensure that any effect of the post-interruption format change was not caused by the specific formats, we counterbalanced the initial and subsequent formats. Thus, study 2 had a 3 (interruption condition: no interruption vs. interruption vs. interruption-with-format-change) × 2 (starting format: format 1 vs. format 2) design. Format 1 and format 2 can be collapsed if there are no differences between them.

Method

Four hundred four participants (mean age = 30.9 years, 204 males) on Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. In the risky decision task, participants were given $1.50 as bonus pay for the study, but could wager any amount of it toward an investment that had a 10% chance of success,

FIGURE 2

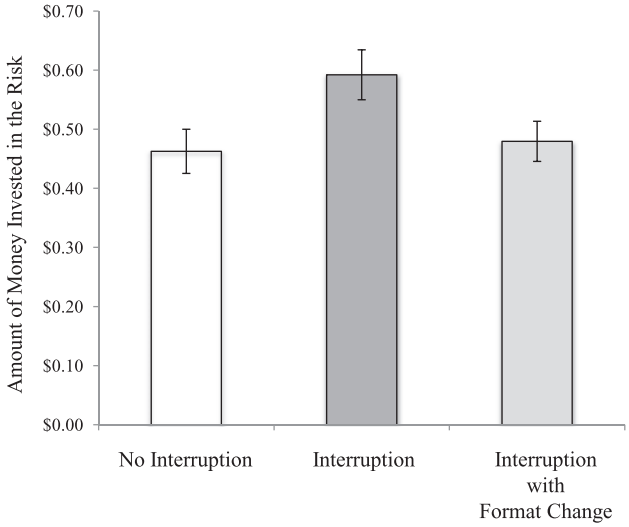
MEDIATION OF CONDITION ON RISK TAKING IN STUDY 1D



NOTES.—The path coefficients are unstandardized betas. The value in parentheses indicates the effect of condition on risk taking after controlling for the mediators. *p < .05 **p < .01 ***p < .001 ^p < .100.

FIGURE 3

RISK TAKING IN STUDY 2



NOTES.—Error bars are standard errors.

and that would yield 10 times the amount invested if it succeeded. However, an unsuccessful investment would result in the loss of the amount wagered.

The interruption was inserted via the procedure described in the previous studies. However, we altered the content of the interruption task to increase its realism. Specifically, participants were asked to imagine that they had received text messages from a friend ("Hey how's it going?" and "I'm thinking of buying a tea kettle right now - should I get one that's blue or red?"), and type how they would respond to these text messages in an empty field.

In the interruption-with-format-change condition, the risky decision was presented in a different format after the interruption. Format 1 presented the risky decision in Arial font and a white background, while Format 2 presented the same information in Courier New font and a teal background. Importantly, the content of the risk information was identical before and after the interruption in all of the interruption conditions.

Results and Discussion

As predicted, a 3 (interruption condition: no interruption vs. interruption vs. interruption-with-format-change) × 2 (starting format: format 1 vs. format 2) ANOVA on amount invested revealed neither a significant main effect of format ($F(1, 398) = .08$, $p = .780$) nor a significant interaction between format and interruption conditions, $F(2, 398) = .13$, $p = .880$. Therefore, we collapsed across format condition.

With format condition collapsed, an ANOVA of interruption condition on risk taking revealed a main effect, $F(2, 401) = 3.39$, $p = .035$ (figure 3). Planned comparisons showed that participants in the interruption condition invested more (real) money in the risky option ($M = .59$, SE = .04) than participants in the no interruption condition ($M = .46$, SE = .04; Fisher's LSD: $p = .017$), replicating the results in the previous studies. However, as hypothesized, this interruption effect was not significant for participants in the interruption-with-format-change condition ($M = .48$, SE = .03), who invested the same amount as those in the no interruption condition, Fisher's LSD: $p = .750$. Also as expected, participants in the interruption condition invested more than participants in the interruption-with-format-change condition (Fisher's LSD: $p = .036$). Thus, changing the risk's appearance such that it appeared novel again when individuals returned to it after the interruption eliminated the interruption effect, which provides further evidence that reduced stimuli novelty underlies an interruption's influence on financial risk taking.

STUDY 3A

The previous studies provide converging evidence that an interruption increases financial risk taking because the repeat exposure inherent in an interruption can reduce the subjective novelty of the risk information, and thus reduce apprehension. Study 3A examines two alternative explanations. First, perhaps an interruption introduces cognitive load, and the resulting degraded processing underlies the current results. Because previous research suggests that a single interruption is unlikely to produce cognitive load (Griffin and Ricchiute 2011), we suspect that this possibility is unlikely. Further, previous research suggests that cognitive load does not increase risk taking (Franco-Watkins et al. 2006; Whitney et al. 2008). Nevertheless, in this study, we empirically contrast an interruption with cognitive load—we

predict that an interruption increases risk taking, but we have no reason to expect that cognitive load increases risk taking.

Second, perhaps an interruption increases risk taking by generating time pressure, which (like cognitive load) similarly degrades processing (i.e., reduces systematic processing; Sonbonmatsu and Fazio 1990; Suri and Monroe 2003). We suspect that this possibility is also unlikely because prior research reveals that moderate time pressure does not impact risk taking, and that extreme time pressure *decreases* risk taking (because extreme time pressure heightens stress, which increases consumers' desire to alleviate this stress by taking less risk; Zur and Breznitz 1981). Nevertheless, in study 3A we tested this possibility by directly comparing the effect of an interruption to the effect of time pressure; we predicted that an interruption would increase risk taking and that time pressure would not.

Study 3A also compared expected versus unexpected interruptions. Our theorizing suggests that it is the repeated exposure inherent in an interruption—regardless of whether that repeated exposure is expected or unexpected—that underlies the current results. Therefore, we predicted that an interruption has the same effect on financial risk taking regardless of whether it is unexpected or not.

Method

Seven hundred forty-one participants (mean age = 36.4 years, 349 males) on Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. All participants were asked to imagine that they were choosing between two options: option A offered a 100% chance of $5, while option B offered a 50% chance of $12 and a 50% chance of $0. Participants were randomly assigned to one of five conditions: no interruption, unexpected interruption, expected interruption, cognitive load, or time pressure.

Participants randomly assigned to the expected interruption condition and unexpected interruption condition were asked to switch to a filler task during the financial decision (thus their decision was interrupted). The unexpected interruption condition was implemented as in the previous studies. In contrast, participants in the expected interruption condition read at the beginning of the survey that they would view information about a risky decision on the next page, but that before they made their decision, they would be asked to complete an unrelated task; after completing that unrelated task, they would again see the risky decision information, at which point they could make their decision. Thus, participants in the expected interruption condition expected that their forthcoming decision would be interrupted.

In contrast, participants in the cognitive load condition completed a validated cognitive load manipulation while making their risk decision. Significant literature reveals that tasks requiring participants to count the total number of instances of an ongoing event (the number of times that participants blink, the number of flashing boxes that appear on a screen, the number of times that a particular word appears in text, etc.) can reduce working memory and thus induce cognitive load (Fitzsimons and Williams 2000; Kupor and Tormala 2015; Monahan and Laliker 2002; Raghubir and Krishna 1999; Ülkümen, Thomas, and Morwitz 2008). We administered one form of this frequently used load manipulation (Kupor and Tormala 2015; Khan and Kupor 2017) among participants in the cognitive load condition: specifically, while participants viewed the risk information, they counted the number of times that blue and red boxes flashed on their screen.

Finally, participants in the time pressure condition read instructions that they should read the risk information and make a choice within 7 seconds. To increase the salience of this time pressure, a stopwatch appeared at the top-left corner of the screen and counted down from 7 to 0 seconds.

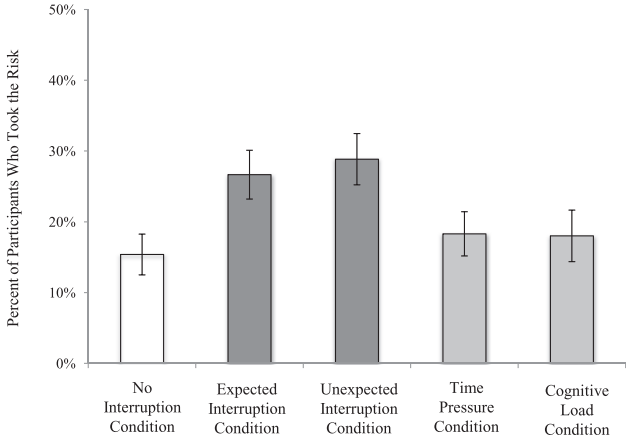
As previously noted, participants in the interruption conditions were interrupted with a filler task. In contrast, participants assigned to the cognitive load, time pressure, and no interruption conditions completed this same filler task prior to starting the financial decision; thus, all participants completed the same filler task, thereby controlling for any filler task effects. The filler task was composed of two neutral subtasks. In the first, participants listed two similarities and two differences between two presented drawings (as in study 1D). Next, participants unscrambled 11 neutral words (e.g., hair, see, and walk).

Results and Discussion

An omnibus chi-square revealed that condition significantly influenced risk decisions, χ^2 ($df = 4$, $N = 741$) = 12.66, $p = .013$ (figure 4). As expected, post-hocs revealed that participants in both the expected interruption condition (26.7%; $\chi^2 = 6.11$, $p = .013$) and the unexpected interruption condition (28.8%; $\chi^2 = 8.21$, $p = .004$) took greater risk than participants in the no interruption condition (15.4%), but as predicted, participants in the expected interruption and unexpected interruption conditions took equivalent risk, $\chi^2 = .19$, $p = .663$. In contrast, neither time pressure (18.3%; $\chi^2 = .47$, $p = .493$) nor cognitive load (18.0%; $\chi^2 = .33$, $p = .568$) increased risk taking compared to participants in the no interruption condition; moreover, participants in the former conditions took equivalent risk ($\chi^2 = .00$, $p = .953$). Further, participants in the unexpected interruption condition took greater risk than did participants in the time pressure condition ($\chi^2 = 4.76$, $p = .029$) and the cognitive load condition ($\chi^2 = 4.13$, $p = .042$), and participants in the expected interruption condition took marginally greater risk than those in the time pressure condition ($\chi^2 = 3.17$, $p = .075$) and the cognitive load condition ($\chi^2 = 2.79$, $p = .095$). Finally, an analysis comparing the interruption conditions (collapsing the expected interruption and unexpected interruption

FIGURE 4

RISK TAKING IN STUDY 3A



NOTES.—Error bars are standard errors.

conditions, which did not significantly differ; $\chi^2 = .19$, $p = .663$), the degraded processing conditions (collapsing the time pressure and cognitive load conditions, which did not significantly differ; $\chi^2 = .00$, $p = .953$), and the no interruption condition revealed that the interruption increased risk taking relative to both the processing degradation conditions ($\chi^2 = 7.36$, $p = .007$) and the control condition ($\chi^2 = 8.85$, $p = .003$), the latter of which did not differ ($\chi^2 = .54$, $p = .462$).

In sum, as expected, study 3A revealed that participants in the unexpected interruption condition took significantly greater risk than did participants in both the degraded processing conditions. However, it is important to note that—although participants in the expected interruption condition took greater risk than did participants in the no interruption condition, and the same amount of risk as participants in the unexpected interruption condition—the difference in risk taking between participants in the expected interruption condition and the degraded processing conditions was unexpectedly marginal. Therefore, we encourage future research to explore the dynamics underlying expected interruptions, and how they may be similar to, or different from, other interventions during decision making.

STUDY 3B

Study 3B tests another alternative mechanism: perhaps an interruption leads participants to deliberate about their decision for a longer duration, and perhaps extended deliberation increases risk taking. We test this possibility by comparing an interruption to elongated thinking. To the best of our knowledge, previous research has yet to examine whether elongated thinking alters risk taking. Thus, in study 3B we empirically contrast an interruption with elongated thinking.

Method

Seven hundred one participants (mean age = 36.7 years, 357 males) on Amazon Mechanical Turk participated in an online experiment in exchange for monetary payment. In the risky decision, participants imagined that they were deciding how much of $150 they wished to invest in a risky option. They read that the risky option had a 10% chance of success, and that if it succeeded they would receive 20 times their investment. If it failed, they would lose the amount they invested. Participants entered the amount that they would invest into an empty response box.

Participants were randomly assigned to one of four conditions: a no interruption condition, an interruption condition, or a 60- (or 110-) second extended deliberation condition. The interruption was inserted via the procedure described in the unexpected interruption condition in study 2. In the 60- (vs. 110-) second extended deliberation condition, participants were instructed to look at and think about the decision information for 60 (vs. 110) seconds before making their decision, and were able to enter their decision after 60 (vs. 110) seconds had elapsed. We selected these two durations after conducting a pretest revealing that interrupted participants viewed the decision information for an average of 60.62 seconds in total. Thus, we selected the 60-second interval to match the total duration that interrupted participants viewed the decision information page. The same pretest revealed that interrupted participants viewed the filler task page for an average of 49.22 seconds (SD = 38.27 seconds); thus, we selected the 110-second interval to match the duration that interrupted participants devoted to both the filler and decision task, thereby equating the amount of time that elapsed between the initial exposure and final decision in the interruption condition and the extended deliberation (110-second) condition.

Results and Discussion

An ANOVA of condition on risk taking revealed a significant effect, $F(3, 697) = 3.41$, $p = .017$. As before, participants in the interruption condition took greater risk ($M = 49.56$, SD = 43.88) than participants in the no interruption condition ($M = 37.65$, SD = 36.24; Fisher's LSD: $p = .004$). Moreover, they also took more risk than participants in the 60-second extended duration condition ($M = 38.95$, SD = 44.82; Fisher's LSD: $p = .011$) and participants in the 110-second extended duration condition ($M = 39.42$, SD = 39.07; Fisher's LSD: $p = .046$). Participants in these latter three conditions took equivalent financial risk (Fisher's LSDs: $ps > .726$).

In sum, study 3B provides initial evidence that an interruption's impact on risk taking is unlikely to be due to the mere passage of time. When approximate duration was equated, an interrupted exposure to a risk context produced different risk decisions than did a continuous exposure to that same context. In fact, we observed no difference between risk taking in the no interruption condition and the extended duration conditions. However, it is important to note that study 3B equated duration by exposing participants in the extended duration conditions to the decision information for the duration that interrupted participants viewed the decision information and the filler task in a pretest. Despite the fact that interrupted participants in the pretest and the main study viewed the identical decision information and filler task, it is nevertheless possible that the time they expended on these tasks differed. Thus, although study 3B provides initial evidence consistent with the possibility that an interruption's impact on risk taking is unlikely to be due to the mere passage of time, future research could profit from further investigating this possibility.

It is also important to note that study 3B's examination was limited to contexts in which the continuous exposure duration totaled less than 2 minutes. Our theorizing does not preclude the possibility that continued exposure extending longer durations could reduce the impact of novelty-induced apprehension on consumers' final decisions. For example, if a decision maker deliberated continuously about study 3B's decision for several hours, it is possible that this extended duration could reduce the impact of the original novelty-induced apprehension on the consumer's ultimate decision. Importantly, however, reduced apprehension is not the only possible consequence of extended exposure and elaboration; research reveals that such extended elaboration can distort decision making by altering the weighting of decision attributes, which in turn can generate suboptimal decisions (Payne et al. 2008; Thorsteinson and Withrow 2009). Whether these consequences of extended deliberation (i.e., this distorted attribute weighting in combination with potentially reduced apprehension) increase risk taking is unclear; investigating this possibility is a useful direction for future study. Most relevant to the current research, study 3B finds that—within the frequent instances in which consumers make decisions over shorter durations—an interruption can increase risk taking.

GENERAL DISCUSSION

Across seven studies, with two involving real monetary consequences, the current research finds that an interruption can increase risk taking across a wide range of financial risk contexts. We empirically document the causal role of reduced subjective novelty in driving this effect through both mediation (study 1D) and moderation (study 2). Across studies, we find that an interruption's affective consequences impact risk taking across many types of financial risk contexts, including contexts that a purely cognitive framework predicts would be unimpacted by an interruption. Uncovering interruptions' affective consequences thus provides crucial insight into the architecture of interrupted decision making.

This research also builds on the mere exposure literature. As previously noted, significant literature documents that repeated exposure to neutral and positive stimuli increases positive responses to them (Bühler and Hetzer 1928; Zajonc 1968). Of note, however, research has also revealed that repeated exposure to negative stimuli can increase the unpleasantness of the negative stimuli (Brickman et al. 1972; Kruglanski, Freund, and Bar-Tal 1996; Perlman and Oskamp 1971; Witvliet and Vrana 2007). Because the prospect of a loss is negative, this literature could suggest that an interruption during a gain-loss risk (and the resulting repeated exposure to the prospect of a loss) would intensify the perceived unpleasantness of a loss, and increase a decision maker's desire to avoid a loss as a result (thereby reducing risk taking in a gain-loss risk context). However, the current studies examining gain-loss risks reveal the opposite effect. If repeated exposure increases the perceived unpleasantness of negative stimuli, why do we not find that an interruption decreases risk taking in gain-loss risk contexts? One possibility arises from the fact that gain-loss risk stimuli inherently contain both a positive component (e.g., a potential upside) and a negative component (e.g., a potential downside). Consequently, a repeated exposure may both intensify negative responses to the risk's downside as well as intensify positive responses to the risk's upside (because mere exposure increases liking of positive stimuli; Kruglanski et al. 1996; Witvliet and Vrana 2007). As a result, the overall effect of repeated exposure on reactions to the risk *content* may be neutral. On top of that, however, mere exposure reduces sensory novelty and thus reduces apprehension (regardless of stimulus content; Bühler and Hetzer 1928), and the current results suggest that it is this sensory novelty reduction that drives the interruption effect. In this way, our research provides novel insight into the effects of repeated exposure in a decision context containing both negative components and positive components, and in which consumers often rely on their feelings when forming their decisions.

In the current research, we found that an interruption can increase risk taking in a wide range of risk contexts. We encourage future research to investigate whether this interruption effect also occurs for risks with loss-loss tradeoffs (i.e., tradeoffs between two loss options). In contrast to an interruption during a gain-loss risk decision, an interruption during a loss-loss risk decision (and the resulting repeated exposure to the exclusive prospect of losses) may intensify negative responses to the risk's downsides without the countervailing intensification of positive responses

that occurs in gain-loss risks (in response to the repeated exposure to a potential gain). Thus, whether an interruption during a loss-loss risk increases risk taking may hinge on the magnitude of these negative responses; when these responses are much larger than the mere-exposure-induced decrease in apprehension (which occurs regardless of stimulus content; Bühler and Hetzer 1928), content-based negative responses may trump any change in novelty-induced apprehension, and an interruption may no longer increase risk taking. We encourage future research to investigate this possibility.

Another caveat of the current research is that the gain-gain risk examined in the current research (in study 1C) contained outcomes that were all positive except for one, which was zero dollars—thus, not all potential outcomes in this study were strictly positive. The theorizing outlined above suggests that an interruption will similarly increase risk taking when all possible outcomes are strictly positive, and we encourage future research to directly test this prediction.

Also important, the magnitude of apprehension evoked by consumers' first exposure to a risk context (i.e., before an interruption occurs) may also moderate an interruption's influence on risk taking. For example, interruption-induced decreases in apprehension may be insufficient to impact decisions that evoke substantial apprehension (e.g., decisions between medical treatments for a potentially terminal disease). On the other extreme, when the content of the risk information engenders little or negligible amounts of apprehension (as may be the case when a risk's stakes are extremely small), an interruption may also not impact risk taking. This is because when there is very little apprehension evoked by a risk's content, there may be little room for an interruption to reduce the total amount of apprehension. Thus, it is possible that the impact of an interruption on risk taking is curvilinear—an interruption may have the greatest effect on risk taking when the apprehension evoked by the risky situation is moderate, rather than very low or very high. As an initial test of this possibility, we conducted an exploratory study in which we examined the impact of interruptions on risks that elicited varying levels of apprehension. In particular, we manipulated apprehension by varying the size of the financial stakes in the risky decision, which is a common dimension along which risks in the real world vary—to that end, 1,453 Mechanical Turk participants were either interrupted or not while choosing between a sure \$0.12 (vs. \$0.50, \$2, \$8, \$32, \$128, or \$512) gift certificate to their preferred coffee shop, versus a 75% chance of \$0 and a 25% chance of a \$0.50 (vs. \$2, \$8, \$32, \$128, \$512, or \$2,048, respectively) gift certificate to their preferred coffee shop. Consistent with our theorizing, a curvilinear effect emerged, $b(1447) = -16.37$, $z = -2.70$, $p = .007$. However, we hesitate to draw definitive conclusions from this single exploratory study; thus, we encourage future research to further examine how the magnitude of the interruption effect changes—and whether it changes in a curvilinear fashion—with the size of the stakes of a risky decision.

FUTURE DIRECTIONS: THE POTENTIAL MODERATING ROLE OF RISK TYPE AND INTERRUPTION TYPE

Our theoretical framework suggests that several other features of the risk context and interruption type may also moderate an interruption's influence on risk taking. First, in the current research, we examined decisions that involve the processing of novel financial risk information. Our results indicate that novel risks become less subjectively novel after an interruption, which leads to less apprehension and greater risk taking. An interesting question is whether this effect extends to other novel risk contexts beyond financial risks (e.g., health risks, social risks, or recreational risks; Weber, Blais, and Betz 2002). We posit that when risky situations involve distinct external stimuli (e.g., external visual or auditory content), the subjective novelty reduction mechanism documented in the current research may similarly unfold. However, some risk contexts involve mentally represented risk information (e.g., a mentally represented fear of cancer); it is unclear whether resuming deliberation of mentally represented information after an interruption similarly reduces that information's subjective novelty.

Also important, the novelty reduction mechanism suggests that the current effect may attenuate in risky decisions that are routine or already highly familiar to the decision maker, because interruptions may be unlikely to further reduce such already low levels of novelty. For example, for decision makers who face the same kind of decisions frequently (e.g., professional gamblers, stock traders), it is unclear how much novelty is present at the beginning of such routine decisions, and hence whether an interruption can produce further reductions in subjective novelty. We encourage future research to investigate whether an interruption may impact risk taking in such contexts.

In a similar vein, individual differences that reduce the impact of subjective novelty on risk decisions may moderate the current results—for example, shifts in novelty may be less likely to impact individuals whose risk decisions are driven primarily by impulsivity rather than the apprehension generated from specific risk contexts (e.g., Eysenck and Eysenck 1977; Zuckerman 1983).

Also relevant to future research, our theorizing predicts that an interruption may similarly increase risk taking if it is initiated by the consumer rather than an external source—regardless of its genesis, we predict that it is the repeated exposure inherent in an interruption that underlies its effect. However, this possibility warrants investigation

because the consequences of internally generated interruptions may be moderated by several endogenous factors (e.g., why and when individuals interrupt their decisions).

We also encourage future research to investigate whether an interruption needs to prompt a complete and continued cognitive break from the decision task in order to increase risk taking. Of note, the current results do not provide insight into whether interrupted participants experienced a complete cognitive break during the interruption, or whether they deliberated about their decision during the interruption. Most relevant to the current theorizing, however, we find initial evidence consistent with the possibility that elongated deliberation does not underlie an interruption's impact on risk taking (study 3B). We theorize that this is because an interruption increases risk taking by introducing an instance of visual re-exposure—when consumers see decision information for a second time, they experience an ease of recognition that evokes less apprehension. Consistent with this possibility (and as previously noted), the current research provides initial evidence that extended elaboration alone is insufficient to increase risk taking. Thus, one possibility is that an interruption does not need to prompt a complete cognitive break from the decision task to increase risk taking. We encourage future research to investigate this possibility.

Finally, the current research may also have implications beyond risk contexts. We find that an interruption can alter decision making by diminishing apprehension, and this process may similarly alter decision making when apprehension drives decision making in riskless contexts. For example, consider a consumer deciding when to schedule an apprehension-inducing dentist appointment. If this apprehension would otherwise lead the consumer to schedule the dentist appointment for a date in the distant future, an interruption during this decision may ease the consumer's apprehension and increase this consumer's willingness to schedule the appointment sooner. Future research could profit from investigating the potential implications of the current findings in such apprehension-evoking riskless decision contexts.

MANAGERIAL IMPLICATIONS

In addition to providing theoretical insight, this research has significant practical implications. For example, marketers may strategically introduce short interruptions (pop-up ads, wait times, etc.) into the consumer environment to influence customers' risk decisions. More specifically, online retailers may present choice options that consumers perceive to be risky (e.g., products that consumers perceive to be disfluent and/or unfamiliar; Campbell and Goldstein 2001; Song and Schwarz 2009) on a first web page, and then require consumers to enter their choice on a subsequent web page that displays the same options and requires a few moments to load (and thus introduces a moment of re-exposure). Of course, it is possible that such strategies could carry a cost—for example, consumers may negatively evaluate retailers that are susceptible to such interruptions and delays. However, some types of interruptions may be less likely to trigger this negative backlash—for example, a brief spinning disk that is labeled as a helpful momentary search for updates may be more likely to garner appreciation rather than frustration; moreover, a consequent message that there are no updates may further amplify the current results by heightening subjective familiarity. Retailers that profit from consumer risk taking may need to market-test various types of interruptions in order to optimize consumer responses.

In sum, the current research provides novel insight into how and when an interruption increases financial risk taking. We encourage future research to further investigate the boundaries and implications of interruptions' impact on risk taking.

DATA COLLECTION INFORMATION

All of the authors ran the studies on Mechanical Turk in 2015–2017. The authors jointly reviewed and analyzed the data.

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