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경영학석사 학위논문

**The Effect of Motivation Type and
Reward Uncertainty on Consumers'
Marketing Promotion Participation**

동기 유형과 보상불확실성이 마케팅 프로모션
참여의도에 미치는 영향

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서울대학교 대학원

경영학과 경영학 전공

Zhang Yanjie

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지도 교수 김 상 훈

이 논문을 경영학석사 학위논문으로 제출함
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경영학과 경영학 전공
Zhang Yanjie

Zhang Yanjie 의 경영학석사 학위논문을 인준함
2017년 6월

위 원 장 _____ 김재일 _____ (인)

부위원장 _____ 박기완 _____ (인)

위 원 _____ 김상훈 _____ (인)

Abstract

The Effect of Motivation Type and Reward Uncertainty on Consumers' Marketing Promotion Participation

Zhang Yanjie

College of Business Administration

The Graduate School

Seoul National University

Marketers struggle to design effective and profitable promotional campaigns. The current research examines the role of uncertainty in promotions involving rewards, because several previous findings point to either possible positive or negative effects of adding uncertainty to this type of promotion. The current research proposes to fill the research gap by testing how reward uncertainty, different types of motivation, as well as individual risk-taking attitude affect customers' promotion participation. The study design is a 2 (reward uncertainty: certain vs. uncertain) \times 2 (motivation type: intrinsic motivation vs. extrinsic motivation) \times 2 (risk-taking attitude: high vs. low) between-subjects design, where individual risk-taking attitude is a measured chronic personality trait, and consumer's intention to participate in the promotion is regarded

as a dependent variable. The results show that being offered with an uncertain reward, relative to individuals with extrinsic motivation, individuals with intrinsic motivation will have greater intention to participate in marketing promotion. In contrast, being offered with a certain reward, relative to individuals with intrinsic motivation, individuals with extrinsic motivation will have greater intention to participate in marketing promotion. The experimental results further reveal that the two-way interaction effect is moderated by individual risk-taking attitude. In specific, the mentioned participation intention difference only exists among consumers having a low level of risk-taking attitude. For consumers having a high level of risk-taking attitude, their participation intention shows no significant difference between the two motivation type groups, under both certain and uncertain reward conditions. With an understanding of how consumers response heterogeneously to promotions involving rewards, marketers can better understand not only how to use this promotional tactic more effectively, but also how to better allocate their budget for promotions.

Keyword: Reward Uncertainty, Motivation Type, Risk-taking Attitude, Promotion

Student Number: 2015-22302

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1. Introduction

1.1. Research Background

Consumer promotions constitute a significant part of the marketing effort of consumer goods and services. Companies' expenditure on sales promotions is on the constant increase, outweighing that spent on advertising (DelVecchio, 2005; Pauwels, Hanssens, & Siddarth, 2002; Raghurir, Inman, & Grande, 2004). Consumer promotion spending in the United States alone was \$77.2 billion in 2016 (Marketing Fact Pack, 2016). Promotions have become more usual, more repetitive, and longer practices than before, and companies are becoming increasingly creative in the types of promotions that they are offering consumers. Nowadays, consumers encounter seasonal price off, special price discount, BOGOF (buy one get one free), sweepstakes, contests, free samples, trial packages, loyalty reward programs, free gift, and other promotions in their daily lives (Promo Magazine, 2010).

Offering consumers rewards when they reach some requirements (e.g., the purchase of a product, participation in a promotional event) is a common type of promotion. The largest industry to adopt such a promotion is cosmetics, with 60% of department store makeup and 40% of prestige fragrance sales associated with such offers (Sexton, 1987). These rewards promotions may sometimes mention the value of the reward and other times not (Raghurir, 2004; Raghurir, Inman, & Grande, 2004). In some occasions, consumers know exactly what the reward is (e.g., "Participate in the event and get three pieces of Godiva Chocolate for free"), while

in some other occasions, consumers will receive one of an array of possible rewards (e.g., “Participate in the event and get either one or five pieces of Godiva Chocolate for free”). The current research seeks to answer a foundational question in consumer psychology: how reward uncertainty affects promotion participation. Does uncertainty increase or decrease participation intention?

Previous research offers contradictory answers. On the one hand, both normative theories (e.g., Expected-Utility Theory: Bernoulli, 1738; Von Neumann & Morgenstern, 1944) and descriptive theories (e.g., Prospect Theory: Kahneman & Tversky, 1979) predict that consumers are risk averse and will thus prefer a sure reward over an uncertain reward of equal expected value. This preference is robust and universal in evaluations of outcomes, and thus it is possible that people would express higher participation intention toward a certain reward. On the other hand, from an affective experience perspective, the reward uncertainty can give rise to several types of psychological processes and recent evidence suggests that people sometimes view uncertainty positively (Laran & Tsiros, 2013; Lee & Qiu, 2009; Mazar *et al.*, 2012; Shen *et al.*, 2015). Thus, it is also possible that people would express higher participation intention toward an uncertain reward.

1.2. Current Research

Given the mixed predictions based on existing theories as well as findings from previous research in marketing, it is still unclear if, how and why an uncertain reward in promotions differs from a sure reward of equal expected monetary value —

questions that should be of importance for marketers that are trying to improve on their promotion strategies. Therefore, the main objective of the current research is to find a framework that could explain both when reward uncertainty will harm and when it will benefit consumer promotions.

Prior researches have already examined some relevant boundary conditions (e.g., effort requirements, cognitive vs. affective decision, process vs. outcome focus; see, e.g., Kivetz, 2003; Laran & Tsiros, 2013; Shen *et al.*, 2015). Based on their findings, the current research will mainly examine the consumer heterogeneity in response to uncertain rewards. Clustering groups according to consumers' characteristics and implementing specific marketing promotional strategies are extremely important for enhancing promotional effectiveness. However, to the best of my knowledge, there is little research on consumer heterogeneity in response to uncertain rewards in marketing promotions. With a reasonably rigorous understanding of how a specific group of consumers evaluate a promotional event offering certain or uncertain rewards, marketers can better understand both when to use a specific promotional tactic and, in turn, how to better allocate their budget for effective consumer promotions.

The current research predicts that the effectiveness of promotions offering uncertain rewards depends on the consumer's motivation type. In the current research, reward uncertainty refers to which reward consumers will receive (reward of a higher expected monetary value vs. reward of a lower expected monetary value) rather than whether they will receive a reward or not, as is the case with other

promotional strategies (e.g., sweepstakes, contests). Individuals with extrinsic motivation have a higher reward expectation than individuals with intrinsic motivation. Uncertainty is not appreciated, because consumers do not know whether the reward of a higher expected monetary value will be received and thus will have a feeling of loss. In contrast, individuals with intrinsic motivation are likely to lower their reward expectations, become more open to being surprised with a reward, and believe in a higher likelihood of receiving the higher valued reward. This will make consumers more likely to participate in a promotional event in the presence of uncertainty when there is intrinsic motivation involved. Further, this study proposes one boundary condition to the above joint effect by introducing consumer's risk-taking attitude into the conceptual model.

The following sections of this paper are organized as follows. Section 2 reviews and discusses previous studies on consumer promotions, reward uncertainty, motivation type and risk-taking attitude. Based on the previous research, the paper explores when uncertainty increases promotion participation and develops research hypotheses. The research methods and results of the analysis are presented in Section 3, while the closing section summarizes the findings, implications, limitations, and directions for future research.

2. Theoretical Background

2.1. Consumer Promotions

A consumer promotion is a short-term incentive targeted directly at consumers and includes coupons, rebates, free offers, patronage rewards, and other incentives (Raghubir *et al.*, 2004). A rich literature in consumer promotions has focused on identifying their effects on consumer purchase behavior and accelerate sales volume in the short and long term. There are many advantages to using consumer promotions. First, many researchers in consumer promotions have shown that short-term sales are positively affected by offering promotions (Bawa & Shoemaker, 1987; Bemmaor & Mouchoux, 1991; Blattberg & Wisniewski, 1989). Second, using a consumer promotion campaign can facilitate a reduction in advertising and marketing costs (Sonal & Preeta, 2005). Third, consumer promotion is also a key marketing tool in communication programs that influences brand equity (Valette-Florence *et al.*, 2011).

Some previous researchers have distinguished promotional tools as either monetary or non-monetary, depending on whether a price-saving opportunity has been offered (Chandon *et al.*, 2000; Lichtenstein *et al.*, 1995). Most previous researches on consumer promotions focus on monetary promotions, such as price discounts, coupons and rebates. These kinds of immediate reward actions enable the consumer to purchase a product at a price lower than usual. Chandon *et al.* (2000) have characterized this price-lowering outcome as a utilitarian benefit that has an

instrumental, functional, and cognitive nature. Monetary promotions help consumers acquire monetary savings, increase utility of their purchase and enhance the efficiency during their shopping experiences. In transactions where value for money is paramount, monetary promotions have been proven effective, especially in the case of purely utilitarian products (Chandon *et al.*, 2000). However, for some products, monetary promotions have been shown to induce negative quality perceptions (Darke & Chung, 2005; DelVecchio *et al.*, 2006) and erode brand associations (Martínez *et al.*, 2009).

On the contrary, non-monetary promotions, such as free samples, sweepstakes, contests and free gifts, are becoming increasingly important in promotional strategies (Palazón & Delgado-Ballester, 2009). The incentive of these kinds of delayed reward actions is not directly evidenced in a lower purchase price. Chandon *et al.* (2000) have characterized non-monetary promotions as hedonic benefits with a non-instrumental, experiential, and affective nature, because they are intrinsically rewarding and are related to experiential emotions, pleasure, and self-esteem. Non-monetary promotion strategies can help differentiate brands, enhance brand equity and positively influence perceived quality (Buil *et al.*, 2013; Chu & Keh, 2006; Mela *et al.*, 1998; Papatla & Krishnamurthi, 1996).

The focus of the current research is a common type of non-monetary promotion that offers consumers a reward for their efforts (e.g., money, time). The effectiveness of rewards has been mixed, while some prior studies suggest such offer can help increase deal value (Darke & Chung, 2005; Lobb, 1997), others insist the

promotional strategy can have negative effects on the brand value of the product that has been offered as a reward (Raghubir, 2004).

In terms of the framing of this kind of promotion, some may clearly mention the value of the reward and some may not (Raghubir, 2004; Raghubir, Inman, & Grande, 2004). In some occasions, consumers know exactly what the reward is (e.g., “Participate in the event and get three pieces of Godiva Chocolate for free”), while in some other occasions, consumers will receive one of an array of possible rewards (e.g., “Participate in the event and get either one or five pieces of Godiva Chocolate for free”). These strategies have also been diversified to telling consumers the probabilities associated with winning some rewards over others (Laran & Tsiros, 2013).

2.2. The Interacting Effect of Reward Uncertainty and Motivation Type

2.2.1. Reward Uncertainty

People invest money, time and effort in pursuit of rewards (Amir & Ariely, 2008; Kivetz, 2005; Kivetz *et al.*, 2006; Koo & Fishbach, 2010; Nunes & Dreze, 2006; Soman, 1998). Most prior researchers distinguish between two basic types of rewards that people pursue: certain and uncertain. While a certain reward has a fixed and known expected value, an uncertain reward offers several possible results with known or unknown possibilities. In the real market place, many companies are

running promotions offering rewards to attract customers. For the majority of these promotions, receipt of the reward is a certainty, but there are also several promotions where it is not. Examples include sweepstakes, contests, instant-win games and lucky draws. Typically, such promotions offer consumers the possibility of receiving a reward in exchange for their patronage or in exchange for their efforts.

Considering the widespread use of consumer promotions involving uncertainty, retailers must consider it an effective and cost-saving method of attracting customer's participation. However, academic research suggests that the effectiveness of reward uncertainty can be limited. Specifically, consumers have been found to be risk-averse, even extremely so, in a variety of situations (Gneezy *et al.*, 2006; Narayanan & Manchanda, 2009; Roberts & Urban, 1988). For example, the "certainty effect" as coined by Kahneman and Tversky (1979) posits that "people overweight outcomes that are considered certain, relative to outcomes which are merely probable" (for all $0 < p < 1$, $\pi(p) + \pi(1-p) < 1$). Similar to the certain effect, the "uncertain effect" (Gneezy *et al.*, 2006) posits that people may value an uncertain reward even less than an event's worst possible reward. Yet for very small stakes, consumers have been shown to be risk neutral (Rabin, 2000), which would imply indifference between the two promotions. Uncertainty can also affect people's likelihood of taking an action. The disjunction effect (Tversky & Shafir, 1992) posits that not knowing the outcome of an event (e.g., grade on a final exam) makes people less likely to act (e.g., go on a cruise) even though they would act independently of the outcome (e.g., go on a cruise independently of the grade on the exam). Thus,

these findings indicate that uncertainty can be perceived less valuable and may prevent people from taking actions until it is resolved. They are also aligned with the notion that in many aspects of human behavior, there exists the need to transform uncertainty into certainty and reduce the associated anxious feelings (Calvo & Castillo, 2001).

Although in general uncertainty is not favored by consumers, laboratory experiments have also found positive consumer responses to reward uncertainty in situations with certain restrictions. Mobley, Bearden, and Teel (1988) and Dhar *et al.* (1999) show that consumers prefer tensile claims, where the size of the discount is uncertain, over certain discounts when the probability of getting a discount is low. Goldsmith and Amir (2010) show that in a low-stakes situation that does not demand much thinking, consumers prefer uncertain rewards almost as much as the more preferred outcome, and suggest that this is driven by innate optimism. Kivetz (2003) demonstrates that the absence of effort requirements enhances the preference for large-uncertain rewards over sure-small rewards. Mazar *et al.* (2012) show that given a choice between a certain promotion (e.g., 1/3 off the price of a candy bar) versus an uncertain promotion of equal expected value (e.g., 1/3 chance of getting the candy bar free), consumers are generally more likely to choose the latter because they want to avoid the “pain of paying”. Laran and Tsiros (2013) demonstrate that when the decision involves affective thinking, people like to be surprised and appreciate uncertainty in the purchase process. Shen *et al.* (2015) show that when the focus is on the process of reward pursuit, a reward of an uncertain magnitude can be more

motivating than a reward of a certain magnitude, even if the uncertain reward has a lower expected value.

However, the reward uncertainty discussed in the current research differs from the uncertainty studied previously in important ways that leave open the question of its effectiveness. Firstly, and most conspicuously, it requires the customer to make an effort (e.g., participate in a promotional event), other than to make a purchase decision with the possibility of getting a reward. Thus the “pain of paying” does not exist and the positive results in previous studies may not apply to the current research because of the different dependent variables (participation intention vs. purchase intention). Although in the research of Shen *et al.* (2015), participants are also required to make an effort to get the reward, the two studies are still different since the process of reward pursuit is not involved in the current research. In addition, the uncertainty of rewards discussed in the current research depends not on the stated odds as in the studies discussed above, but on the consumer's subjective belief in personal luck (e.g., participants have to flip a coin by themselves to decide the specific reward).

2.2.2. Motivation Type and Uncertainty

Motivation is demonstrated by an individual's choice to engage in an activity and the intensity of effort or persistence in that activity (Garris *et al.*, 2002). Current approaches concern two dominant clusters that play a role in determining

consumer's motivation: extrinsic and intrinsic motivation (Deci, Koestner, & Ryan, 1999; Ryan & Deci, 2000).

According to Self-Determination Theory (Deci & Ryan, 1985; Deci, Koestner, & Ryan, 1999; Ryan & Deci, 2000), intrinsic motivation refers to performing a behavior for its own sake—out of interest or for the pleasure and inherent satisfaction derived from the experience. In other words, intrinsic motivation emphasizes experience-driven reasons, stems inherently from the activity, and is closely tied with individual interests. Therefore, an intrinsically motivated activity is inherently enjoyable, and thus represents a pleasurable end in itself (e.g., participating in the favorite brand's promotional event). Some examples of intrinsic motivators are excitement, enjoyment, accomplishment and achievement (Gorman, 2004; Holbrook *et al.*, 1984).

Conversely, extrinsic motivation centers on behaviors that one performs for instrumental values, such as monetary rewards, or for goals that are separable from the behavior (Deci & Ryan, 1987; Deci *et al.*, 1991). According to this definition, individuals can be viewed as extrinsically motivated when their behaviors are based on reasons that can be separated from the activity itself. Therefore, an extrinsically motivated activity becomes a means to an end rather than an end in itself (e.g., participating in a promotional event for a reward). Some examples of extrinsic motivators are money, prize, praise, relationship building, and career progression (Gorman, 2004; Morris & Empson, 1998).

Extant studies suggest that the type of motivation has a significant effect on people's valuation of options as well as preferences. Platow and Shave (1995) show that when individuals are intrinsically motivated, they feel less sacrifice upon the task completion. Park (2015) demonstrates that if the achievement is to be attributed to extrinsic motivation, people feels more perceived loss, and want to receive a reward for compensation.

Based on the prior studies, the current research predicts an interacting effect of reward uncertainty and motivation type on consumer's promotion participation intention. Specifically, extrinsic motivation gives rise to reward expectations, and therefore to a feeling of loss when an uncertain reward is afforded. In contrast, people who see themselves as intrinsically motivated to engage in an effort activity are less likely to make the attribution that they are engaging in the activity only to obtain some extrinsic intensive and are rather more likely to attribute their participation to the enjoyment and interest inherent in the activity itself (Deci & Ryan, 1985; Kivetz, 2003; Lepper, 1981; Lepper & Greene, 1978). Therefore, the intrinsic motivation is likely to lower or even diminish their expectations of the external reward and thus leads to a higher preference for uncertainty. Furthermore, when the intrinsic motivation induces individuals' positive emotions (e.g., excitement, fun), they may grow more open to the prospect of being surprised, and thus regard an uncertain reward as more attractive than a certain reward (Laran & Tsiros, 2013; Shen *et al.*, 2015). Thus:

Hypothesis 1a: Being offered with an uncertain reward, relative to individuals with extrinsic motivation, individuals with intrinsic motivation will have greater intention to participate in marketing promotion.

Hypothesis 1b: Being offered with a certain reward, relative to individuals with intrinsic motivation, individuals with extrinsic motivation will have greater intention to participate in marketing promotion.

2.3. The Moderating Role of Risk-taking Attitude

The impact of extrinsic motivation on lower participation intention toward uncertain promotions was predicted based on the notion that extrinsic motivation gives rise to reward expectations, and therefore to a feeling of loss when an uncertain reward is afforded. However, individual's risk-taking attitude may contribute to the heterogeneity in response to uncertain rewards even within the same motivation type group. To be specific, risk is often closely associated with uncertainty in consumer behavior research. Perceived risk increases with higher level of uncertainty and/or the chance of greater associated negative consequences (Campbell & Goodstein, 2001; Dowling, 1986; Oglethorpe & Monroe, 1987). Therefore, consumer's risk-taking attitude may affect the evaluation of a risky situation (e.g., receiving an uncertain reward), and thus may moderate the joint effect of reward uncertainty and motivation type on participation intention.

Researchers have defined risk as an everyday experience, and everyone experiences it to varying degrees (Pizam *et al.*, 2004). People differ in the way they

resolve work-related or personal decisions that involve risk and uncertainty. Such differences are often described or explained by differences in risk-taking attitude. Blais and Betz (2002) define risk-taking attitude as an individual's likelihood of involvement in risky behavior. According to Schoemaker (1990), people's risky choices are often inconsistent across different domains and situations, both in laboratory studies and managerial contexts. For example, MacCrimmon and Wehrung (1990) find that business managers show different degrees of risk taking in gambling, financial investing, business, and personal decisions, and thus appear to have different risk attitude when making decisions involving personal versus company money, or when evaluating financial versus recreational risks.

Most prior studies assess risk-taking behaviors in five content domains: financial decisions (separately for investing versus gambling), health/safety, recreational, ethical, and social decisions (Blais & Betz, 2002; Cheung *et al.*, 2013; Figner & Weber, 2011; Hanoch *et al.*, 2006). Among the five domains, individual's risk-taking attitude in the financial domain is mainly discussed in the current research because of the similarities between uncertain promotions and gambling. To be specific, uncertain promotions have entertainment values and share some elements with gambling (e.g., both rely on chances), so gambling proneness may be associated with response to uncertain reward. For example, McDaniel (2002) finds a positive relationship between gambling participation and involvement in uncertain promotions such as contests and sweepstakes.

In sum, the current research predicts that the joint effect of reward uncertainty and motivation type on participation intention will be moderated by consumer's risk-taking attitude in financial domain. Specifically, as mentioned in the former part, in the uncertain reward condition, relative to intrinsically motivated individuals, who are likely to have low reward expectations and be open to surprise, extrinsically motivated individuals have higher expectations toward the promotional reward and thus are more easily to have a feeling of loss considering the possibility of receiving the less valued reward. However, high risk-taking attitude is expected to increase the preference for risky choice (receiving an uncertain reward) and thus reduces the participation intention difference between the two motivation type groups. On the contrary, in the certain reward condition, high risk-taking attitude is expected to reduce the satisfaction of extrinsically motivated individuals with a certain reward, and thus will reduce the participation intention difference between the two groups. In other words, relative to intrinsically motivated consumers, extrinsically motivated consumers are more sensitive and have much higher expectations toward the promotional reward, and thus are expected to be more affected by individual risk-taking attitude. Formally,

Hypothesis 2a: Being offered with an uncertain reward, high risk-taking individuals with intrinsic motivation and extrinsic motivation will show no significant differences in participation intention of marketing promotion.

Hypothesis 2b: Being offered with an uncertain reward, low risk-taking individuals with intrinsic motivation (vs. extrinsic motivation) will have greater intention to participate in marketing promotion.

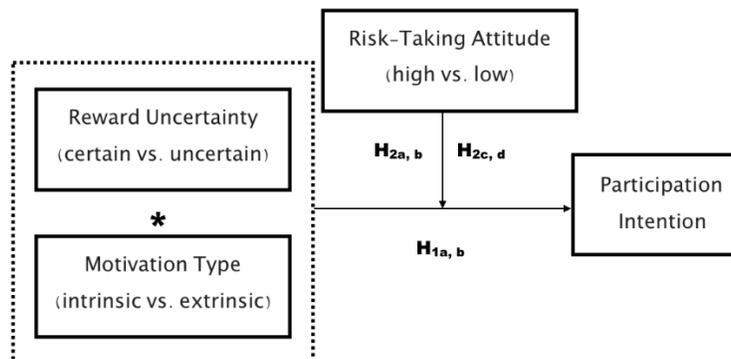
Hypothesis 2c: Being offered with a certain reward, high risk-taking individuals with intrinsic motivation and extrinsic motivation will show no significant differences in participation intention of marketing promotion.

Hypothesis 2d: Being offered with a certain reward, low risk-taking individuals with extrinsic motivation (vs. intrinsic motivation) will have greater intention to participate in marketing promotion.

2.4. Research Model and Summary of Hypotheses

Based on the aforementioned literature, Figure 1 illustrates the proposed theoretical framework, follows by the summary of research hypotheses.

Figure 1. The Conceptual Model



Hypothesis 1a: Being offered with an uncertain reward, individuals with intrinsic motivation (vs. extrinsic motivation) will have greater intention to participate in marketing promotion.

Hypothesis 1b: Being offered with a certain reward, individuals with extrinsic motivation (vs. intrinsic motivation) will have greater intention to participate in marketing promotion.

Hypothesis 2a: Being offered with an uncertain reward, high risk-taking individuals with intrinsic motivation and extrinsic motivation will show no significant differences in participation intention of marketing promotion.

Hypothesis 2b: Being offered with an uncertain reward, low risk-taking individuals with intrinsic motivation (vs. extrinsic motivation) will have greater intention to participate in marketing promotion.

Hypothesis 2c: Being offered with a certain reward, high risk-taking individuals with intrinsic motivation and extrinsic motivation will show no significant differences in participation intention of marketing promotion.

Hypothesis 2d: Being offered with a certain reward, low risk-taking individuals with extrinsic motivation (vs. intrinsic motivation) will have greater intention to participate in marketing promotion.

3. Experiment

The hypothesized two-way interacting effect of reward uncertainty and motivation type on promotion participation intention, as well as the moderating effect of individual risk-taking attitude are tested in the following main study. The study design is a 2 (reward uncertainty: certain vs. uncertain) \times 2 (motivation type: intrinsic motivation vs. extrinsic motivation) \times 2 (risk-taking attitude: high vs. low) between-subjects design, where risk-taking attitude is a measured personality trait. The motivation type and reward uncertainty are to be manipulated by two scenarios respectively (see Appendix 1 and Appendix 2). Moreover, the study treats the degree of effort requirement as a confounding variable because the degree of effort requirement has been regarded as an important determinant of reward preference in prior research (Kivetz, 2003; Kivetz & Simonson, 2002; Soman, 1998).

In the study, coffee shop promotions are selected as the scenarios mainly for the following two reasons. Firstly, coffee shop promotions are commonly witnessed in consumers' daily lives due to the large number of coffee shops worldwide and the highly developed marketing promotion tactics in the field. Secondly, coffee is widely loved worldwide, and that coffee consumers usually have their own favorite coffee brands, which means that it would be relative easy for respondents to recall their favorite coffee brands and therefore arouse intrinsic motivation.

3.1. Pretest

In order to test the manipulation effect of the motivation type scenarios (see Appendix 1), a pretest was conducted to compare the aroused intrinsic and extrinsic motivation across the two scenarios.

3.1.1. Method

30 participants (17 males and 13 females, 80% of which age between 25-34) were recruited through Amazon's Mechanical Turk (MTurk) for a small amount of incentive. Participants were first asked to answer 4 general questions about coffee habits and favorite coffee brand to arouse coffee related memories.

Afterwards, participants were randomly assigned to two motivation type conditions (intrinsic motivation vs. extrinsic motivation, see Appendix 1). In the intrinsic motivation condition, participants were asked to imagine that their favorite coffee brand shop was running a promotional event, and their participation could help decide the company's new seasonal beverages. In the extrinsic motivation condition, participants were told that a newly opened coffee shop was running a promotional event, and that their participation could win them one free gift as the reward. In both conditions, participants were informed that participating in the promotional event would cost them approximately 5 minutes.

After reading the scenarios, participants were asked to rate on how much they felt intrinsic motivated and extrinsic motivated when thinking about the promotional event using 8 SIMS items (Cronbach's Alpha = 0.89). SIMS (F Guay, RJ Vallerand

& C Blanchard, 2000) is developed to assess the motivation of engaging in an activity. In the current study, 4 items are served as measure of intrinsic motivation (e.g., “I think that the event itself will be quite interesting”, “I will enjoy participating in the event”) and extrinsic motivation (e.g., “I am supposed to participate in the event for some benefits”, “I feel that I have to participate in the event for the benefits”) respectively using a 7-point Likert scale.

3.1.2. Results

To check whether the manipulation was successful, a one-way ANOVA with the intrinsic and extrinsic motivation as the dependent variables and the motivation type as the factor was conducted. As expected, participants exposed to intrinsic motivation scenario perceived themselves to participate in the promotional event more out of intrinsic motivation than those exposed to extrinsic motivation scenario ($M_{\text{intrinsic}} = 5.38$ vs. $M_{\text{extrinsic}} = 4.70$, $p < .05$). On the contrary, participants assigned to extrinsic motivation scenario indicated a higher extrinsic motivation than those assigned to intrinsic motivation ($M_{\text{extrinsic}} = 5.35$ vs. $M_{\text{intrinsic}} = 3.67$, $p < .01$), suggesting a successful manipulation.

3.2. Main Study

The objective of the main study is to investigate the two-way interacting effect of reward uncertainty and motivation type on promotion participation intention, as well

as the moderating effect of individual risk-taking attitude. It is designed to find out (1) whether intrinsically motivated (vs. extrinsically motivated) consumers show higher participation intention for promotion offering uncertain reward, while extrinsically motivated (vs. intrinsically motivated) consumers show higher participation intention for promotion offering certain reward; (2) if so, whether the participation intention difference only exists among consumers having a low level of risk-taking attitude, while a high risk-taking attitude will attenuate the difference.

3.2.1. Method

In the main study, I presented the participants with a set of scenario-based promotion information with different motivation type conditions and reward uncertainty frames, after which I compared their intentions to participate in the promotional event, and then measured their personal risk-taking attitude.

Participants and Design

289 participants (170 males and 119 females, 52% of which age between 25-34) were recruited through Amazon's Mechanical Turk (MTurk) for a small amount of incentive. The study design is a 2 (reward uncertainty: certain vs. uncertain) \times 2 (motivation type: intrinsic motivation vs. extrinsic motivation) \times 2 (risk-taking attitude: high vs. low) between-subjects design.

Procedure

Participants were first asked to answer 4 general questions about coffee habits and

favorite coffee brand to arouse coffee related memories (see Appendix 3). As those in Pretest did, participants then read one of the two motivation type scenarios and rated on multiple items for the measurement of intrinsic and extrinsic motivation. Next, to eliminate possible confounding effects, participants were asked to rate on the degree of effort they have to make to participate in the promotional event on a seven-point scale (1 = very low, and 7 = very high).

Then, participants were randomly assigned to two reward conditions. In the certain reward condition, participants were told that they would get three pieces of Godiva Chocolate as the reward for their participation. In the uncertain reward condition, they were told that they would get either one or five pieces of Godiva Chocolate, and that they would flip a coin to determine whether the reward would be one or five chocolate pieces. After reading the scenario, participants rated on three seven-point items (Chen & Teng, 2003) about their promotion participation intention. Participants in the uncertain reward condition were also asked to rate on their percentage likelihood of receiving the five pieces of Godiva Chocolate.

Participants then indicated their risk-taking attitude through five seven-point items (Weber *et al.*, 2002). Finally, they completed further questions about brand perception of Godiva Chocolate, reported demographic information, and were thanked for their participation.

Measures

Manipulation check. SIMS (F Guay, RJ Vallerand & C Blanchard, 2000) was adapted to assess the participants' motivation of engaging in the promotional event.

The scale is developed to assess the motivation of engaging in an activity, and thus fits the purpose of the main study. With a total of 16 items, the questionnaire uses a seven-point scale ranging from 1 (strongly disagree) to 7 (strongly agree) to assess individual's intrinsic and extrinsic motivation. Based on the specific scenarios used in the study, I deleted several unrelated items and made a slight revision to the original questionnaire to better fit the promotional event context (Cronbach's Alpha = 0.89; see Appendix 3).

Promotion participation intention. Participants were required to indicate their participation intention using three items (Cronbach's Alpha = 0.86; see Appendix 3) and a seven-point scale anchored at 1 (strongly disagree) and 7 (strongly agree). The scale has been adapted and modified from Chen and Teng (2013).

Risk-taking attitude. As mentioned previously, risk-taking attitude measures individual's likelihood of engaging in risky behaviors (Cheung *et al.*, 2013). In the main study, participants' risk-taking attitude was assessed by the 30-item domain-specific risk-taking scale (the DOSPERT Scale, Blais & Weber, 2006). The DOSPERT scale is developed to evaluate the likelihood with which respondents might engage in risky activities/behaviors originating from five domains of life (ethical, financial, health/safety, social, and recreational risks), using a seven-point rating scale ranging from 1 (extremely unlikely) to 7 (extremely likely). The version of DOSPERT scale used in the study was downloaded from the online open source of Columbia Business School.

Considering the specific scenarios used in the study, I only kept the five items related to the finance domain, which is the only related domain in the current study. To be specific, since the expected values of the two possible rewards in the uncertain reward condition are largely different, and that receiving a less valued reward can be seen as a monetary loss, participants' risk-taking attitude in financial related decisions might affect their preferences toward the uncertain rewards. Participants were asked to indicate their likelihood of engaging in each activity or behavior (e.g., "Betting a day's income at the horse races", "Betting a day's income at a high-stake poker game"). Reliability was satisfactory (Cronbach's Alpha = 0.87) and responses to the items were averaged. All participants were divided into either high or low level of risk-taking attitude groups, according to whether their scores were higher or lower than the mean (Mean = 3.19). In this way, 149 participants were assigned to the low level of risk-taking attitude group, and 140 participants were assigned to the high level of risk-taking attitude group. I have also tried to use the median value (Median = 3.00) to divide the participants, and the results turned out to be the same (149 in low level group, 140 in high level group). The specific items are attached in the appendix (see Appendix 3).

Confounding variables and other variables. To eliminate any confounding variables, the main study measured the degree of effort requirement by using one item and a seven-point scale anchored at 1 (very low) and 7 (very high) (Kivetz, 2003; Kivetz & Simonson, 2002; Soman, 1998). Meanwhile, in order to eliminate the influence of Godiva Chocolate brand, the following two items were used to assess participants'

brand perception of Godiva: “Do you know the brand Godiva?” “Do you like Godiva Chocolate?” Furthermore, in order to eliminate the influence of coffee drinking habits, the following two questions on a seven-point scale were used to assess participants’ coffee habits: “Do you like coffee?” “On average, how often do you visit a coffee shop?” Finally, in light of prior research, the likelihood of receiving the higher valued reward (5 pieces of Godiva Chocolate) in the uncertain reward condition was also assessed by one item on a sliding scale from 1 to 100. Reczek, Haws and Summers (2014) found that loyal customers (intrinsically motivated customers in the current study) reported higher subjective likelihoods for randomly determined outcomes (uncertain reward in the current study), which led the subjective likelihood for higher valued reward to be a possible mediator under the uncertain reward condition in the current study.

3.2.2. Results

Manipulation check

A one-way ANOVA with the intrinsic and extrinsic motivation scores as dependent variables and the motivation type as an independent variable was conducted to check whether the manipulation was successful. The results revealed that participants exposed to extrinsic scenario indicated a higher extrinsic motivation than those assigned to intrinsic motivation ($M_{\text{extrinsic}} = 4.80$ vs. $M_{\text{intrinsic}} = 4.15$, $p < .01$). On the contrary, participants assigned to intrinsic motivation scenario indicated a higher

intrinsic motivation than those exposed to extrinsic motivation scenario ($M_{\text{intrinsic}} = 5.66$ vs. $M_{\text{extrinsic}} = 5.35$, $p < .01$), suggesting a successful manipulation.

Two-way interaction effect

The ANOVA with promotion participation intention as the dependent measure elicited a significant effect of the interaction term of reward uncertainty \times motivation type ($F(1, 279) = 28.837$, $p = .000$; see Table 2). Godiva Chocolate brand perception and preference were included as covariates in order to rule out any possible explanations regarding them. The degree of effort requirement and participants' coffee habits were also included as covariates in the model, yet would not be discussed further since their effects were not significant. The significant two-way interaction effect indicates that under uncertain reward message frame, participants with intrinsic motivation displayed greater promotion participation intention than those with extrinsic motivation ($M_{\text{intrinsic}} = 5.89$ vs. $M_{\text{extrinsic}} = 4.96$), supporting H1a. On the other hand, under certain reward message frame, participants with extrinsic motivation displayed greater promotion participation intention than those with intrinsic motivation ($M_{\text{extrinsic}} = 5.87$ vs. $M_{\text{intrinsic}} = 5.27$), supporting H1b (see Fig. 2 and Table 1).

Planned contrasts further revealed that intrinsically motivated individuals who exposed to uncertain reward message showed greater participation intention ($M_{\text{uncertain} * \text{intrinsic}} = 5.89$, $SD = 0.833$) than those exposed to certain reward message ($M_{\text{certain} * \text{intrinsic}} = 5.27$, $SD = 1.347$; $p = .005$). Similarly, extrinsically motivated individuals who exposed to certain reward message showed greater participation

intention ($M_{\text{certain} * \text{extrinsic}} = 5.87, SD = 0.709$) than those exposed to uncertain reward message ($M_{\text{uncertain} * \text{extrinsic}} = 4.96, SD = 1.223; p = .000$). Taken together, these results indicate a significant interacting effect of reward uncertainty and motivation type on participant's promotion participation intention, supporting H1.

Figure 2. The Two-way Interaction Effect between Reward Uncertainty and Motivation Type on Participation Intention

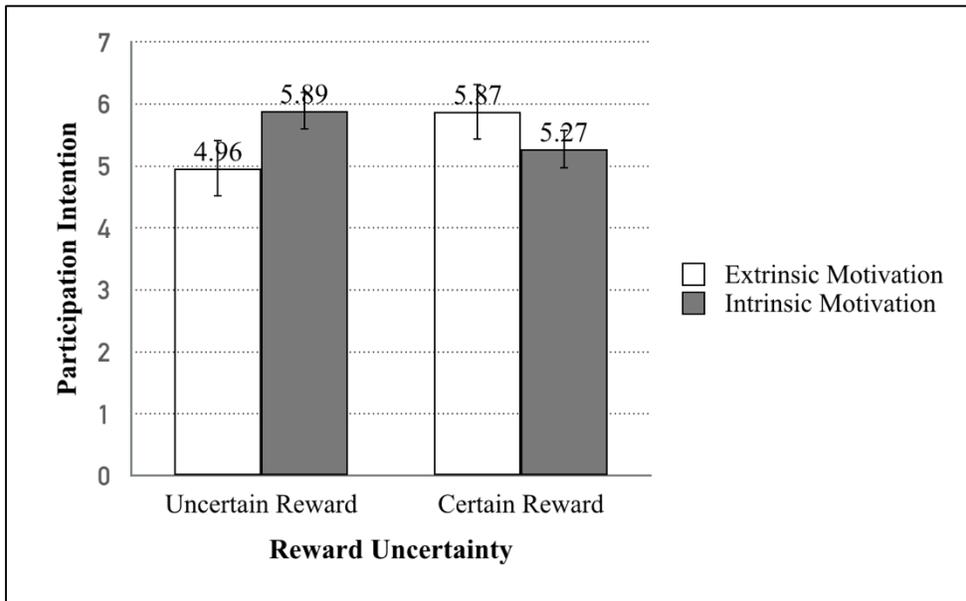


Table 1. The Two-way Interaction Effect between Reward Uncertainty and Motivation Type on Participation Intention

Dependent variable: Participation Intention

Reward Uncertainty	Motivation Type	Mean (SD)	N
Uncertain Reward	Intrinsic Motivation	5.89 (.833)	73
	Extrinsic Motivation	4.96 (1.223)	71
	Total	5.43 (1.140)	144
Certain Reward	Intrinsic Motivation	5.27 (1.347)	72
	Extrinsic Motivation	5.87 (.709)	73
	Total	5.57 (1.112)	145
Total	Intrinsic Motivation	5.58 (1.157)	145
	Extrinsic Motivation	5.42 (1.092)	144
	Total	5.50 (1.126)	289

Table 2. Three-way ANOVA – Tests of Between-Subjects Effects on the Participation Intention

Dependent variable: Participation Intention

Source	Type III Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
Corrected Model	96.781 ^a	9	10.753	11.171	.000
Intercept	157.059	1	157.059	163.152	.000
Brand Perception	5.700	1	5.700	5.921	.016
Brand Preference	25.188	1	25.188	26.165	.000
Reward Uncertainty	1.614	1	1.614	1.677	.196
Motivation Type	.670	1	.670	.696	.405
Risk-taking Attitude	5.083	1	5.083	5.281	.022
Reward Uncertainty * Motivation Type	27.760	1	27.760	28.837	.000
Reward Uncertainty * Risk-taking Attitude	9.762	1	9.762	10.141	.002
Motivation Type * Risk-taking Attitude	.723	1	.723	.751	.387
Reward Uncertainty * Motivation Type * Risk-taking Attitude	10.926	1	10.926	11.350	.001
Error	268.580	279	0.963		
Total	9109.444	289			
Corrected Total	365.361	288	289		

a. R Squared = .265 (Adjusted R Squared = .241)

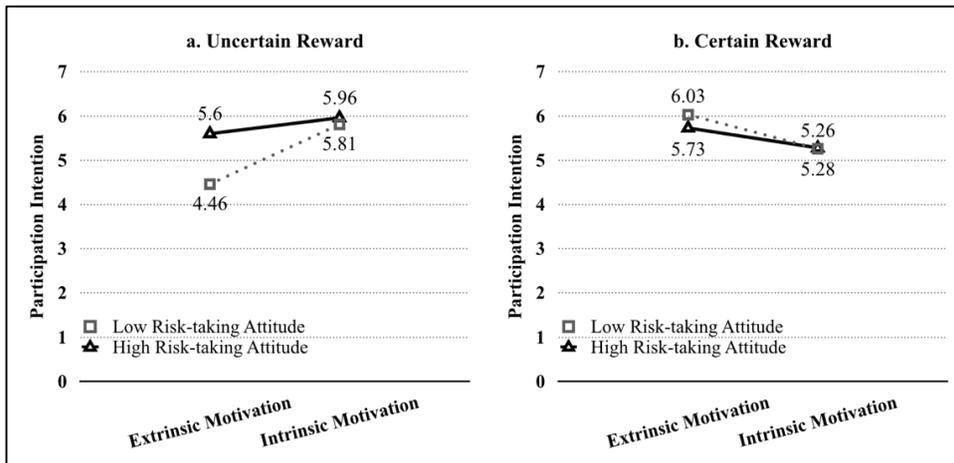
Three-way interaction effect

A three-way ANOVA with the participation intention as the dependent measure and reward uncertainty (uncertain = 1, certain = 0), motivation type (intrinsic = 1, extrinsic = 0), risk-taking attitude (high = 1, low = 0), as well as the interaction terms among them as the independent measures elicited a significant three-way interaction effect ($F(1, 279) = 11.350, p = .001$; see Table 2). Godiva Chocolate brand perception and preference were included as covariates in order to rule out any possible explanations regarding them. The results were summarized in Table 2.

Planned contrasts were further applied to test hypothesis 2. Firstly, under the uncertain reward condition, although the participation intention difference between intrinsically and extrinsically motivated individuals was significant within the low level of risk-taking attitude group, it was not significant within the high level of risk-taking attitude group. Specifically, among low level of risk-taking attitude individuals, those with intrinsic motivation displayed greater participation intention than those with extrinsic motivation ($M_{\text{intrinsic}} = 5.81$ vs. $M_{\text{extrinsic}} = 4.46, F(1, 279) = 28.244, p = .000$), supporting H2b. On the other hand, among high level of risk-taking attitude individuals, those with intrinsic motivation displayed similar participation intention as those with extrinsic motivation ($M_{\text{intrinsic}} = 5.96$ vs. $M_{\text{extrinsic}} = 5.60, F(1, 279) = .981, p > .1$), supporting H2a. They are statistically indifferent, meaning that with a high level of risk-taking attitude, consumers with extrinsic motivation are as much likely as consumers with intrinsic motivation to participate in the promotional event (see Fig. 3). Similarly, under the certain reward condition,

although the participation intention difference between intrinsically and extrinsically motivated individuals was not significant within the high level of risk-taking attitude group, it was significant within the low level of risk-taking attitude group. In specific, among high level of risk-taking attitude individuals, those with intrinsic motivation displayed similar participation intention as those with extrinsic motivation ($M_{\text{intrinsic}} = 5.28$ vs. $M_{\text{extrinsic}} = 5.73$, $F(1, 279) = 1.042$, $p > .1$), supporting H2c. They are statistically indifferent, meaning that a high level of risk-taking attitude reduces extrinsically motivated consumer's preference for a certain reward, and thus makes them be as much likely as intrinsically motivated consumers to participate in the promotional event. On the other hand, among low level of risk-taking attitude individuals, those with extrinsic motivation displayed greater participation intention than those with intrinsic motivation ($M_{\text{intrinsic}} = 5.26$ vs. $M_{\text{extrinsic}} = 6.03$, $F(1, 279) = 13.143$, $p = .000$), supporting H2d (see Fig. 3).

Figure 3. The Three-way Interaction Effect among Reward Uncertainty, Motivation Type and Risk-taking Attitude on Participation Intention



3.2.3. Discussion

The main study found a two-way interaction effect between reward uncertainty and motivation type on consumer's promotion participation intention. In specific, when consumers are offered an uncertain reward for participation, those with an intrinsic motivation are much more likely to join the promotion than those with an extrinsic motivation; whereas when they are offered a certain reward for participation, extrinsically motivated ones tend to be more willing to participate in the promotion than intrinsically motivated ones. Moreover, this interaction effect is also found to be moderated by consumer's individual risk-taking attitude. Specifically, when a promotional event offers an uncertain reward, while extrinsically motivated consumers are less likely to participate compared to intrinsically motivated

consumers within the low level of risk-taking attitude group, they become evenly likely to participate within the high level of risk-taking attitude group. In other words, consumers' intentions to participate in promotions are at similar level when they have a high level of risk-taking attitude. On the contrary, when a promotional event offers a certain reward, whereas extrinsically motivated consumers are more likely to participate in promotion compare to intrinsically motivated consumers within the low level of risk-taking attitude group, they become evenly likely to participate within the high level of risk-taking attitude group. Taken together, since extrinsically motivated consumers are more sensitive and have higher expectations toward the promotional reward, they are affected more by individual risk-taking attitude compared to intrinsically motivated consumers, and thus evaluate the promotion offer differently according to the extent to which the reward matches their risk-taking attitude. These results are consistent with the hypotheses 1 (a & b) and 2 (a, b, c, & d).

Moreover, although the main effects of reward uncertainty and motivation type variables were not significant in the main study, the main effect of risk-taking attitude was found to be significant ($F(1, 279) = 5.281, p < .05$) (see Table 2). Specifically speaking, consumers with high level of risk-taking attitude are more likely to participate in promotions in general than those with low level of risk-taking attitude ($M_{\text{high}} = 5.66$ vs. $M_{\text{low}} = 5.39$). It is easy to understand since participating in a new promotional event can be seen as a risky choice to some extent. Therefore,

consumers with high level of risk-taking attitude would have a higher likelihood of involving in this kind of risky behavior (Blais & Betz, 2002).

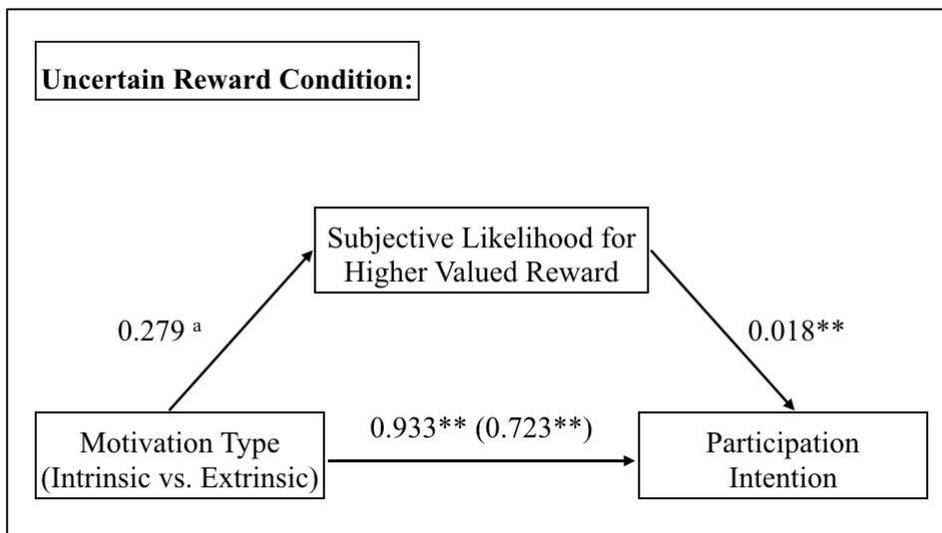
In addition, the two-way interaction effect between reward uncertainty and risk-taking attitude on participation intention was also found significant ($F(1, 279) = 10.141, p < .01$) (see Table 2). Further planned contrasts revealed that under the uncertain reward message frame, participants with high level of risk-taking attitude displayed greater participation intention than those with low level of risk-taking attitude ($M_{\text{high}} = 5.77$ vs. $M_{\text{low}} = 5.12, F(1, 283) = 15.112, p = .000$). On the other hand, under the certain reward message frame, participants with high level of risk-taking attitude displayed similar participation intention as those with low level of risk-taking attitude ($M_{\text{high}} = 5.57$ vs. $M_{\text{low}} = 5.60, F(1, 283) = .025, p > .1$). As mentioned, perceived risk increases with higher level of uncertainty and/or the chance of greater associated negative consequences (Campbell & Goodstein, 2001; Dowling, 1986; Oglethorpe & Monroe, 1987). Therefore, consumer's risk-taking attitude may largely affect the evaluation of a risky situation (e.g., receiving an uncertain reward), yet may not affect the evaluation of a safe situation (e.g., receiving a certain reward).

Lastly, in light of prior research, the likelihood (1 to 100) of receiving the higher valued reward (5 pieces of Godiva Chocolate) in the uncertain reward condition was also assessed in the main test to further investigate the underlying mechanism of the two-way interaction effect in hypotheses 1. Firstly, a linear regression with of the subjective likelihood for higher valued reward as the dependent variable indicated a

significant difference between intrinsic and extrinsic motivation groups. Specifically, intrinsically motivated participants reported higher subjective likelihood for higher valued reward than extrinsically motivated participants ($M_{\text{intrinsic}} = 70.88$ vs. $M_{\text{extrinsic}} = 59.56$, $\beta = .279^a$, $p = .001$). Then, I regressed the participation intention on motivation type in the uncertain reward condition. The main effect of motivation type on participation intention was statistically significant ($\beta = .933$, $p = .000$). Lastly, I regressed participation intention on motivation type as an independent variable and the subjective likelihood for higher valued reward as a mediator. In this model, the effect of the motivation type was still significant, while the size of the effect became smaller ($\beta = .723$, $p = .000$). The effect of the mediator was also significant ($\beta = .018$, $p = .000$), concluding that subjective likelihood for higher valued reward was partially mediating the main effect (see Fig. 4). SPSS PROCESS MODEL 4 (Hayes, 2013; Preacher, Rucker, & Hayes, 2007) further revealed similar effects. In specific, a 95% confidence interval for the direct effect was significant and excluded zero ($\beta = .723$, 95% bias corrected CI [.382 to 1.065], $p < .01$), the CI for the indirect effect was also significant and excluded zero ($\beta = .209$, 95% bias corrected CI [.069 to .466], $p < .01$), which proved that the subjective likelihood for higher valued reward was a mediator to the effect of motivation type on participation intention (see Fig. 4). This result is also in consistency with prior research. Reczek, Haws and Summers (2014) found that loyal customers reported higher subjective likelihood for randomly determined outcomes, and called that lucky loyalty effect. This result could also help explain the underlying mechanism of intrinsically motivated

consumers' preferences for promotion offering uncertain rewards. That is, consumers with intrinsic motivations are open to surprise, and believe in rather high subjective likelihood for randomly determined outcomes, though they are likely to have relative low reward expectations, and thus lead to a preference for receiving an uncertain reward. This result may be useful for future research.

Figure 4. Mediation Analysis Results under Uncertain Reward Condition



4. General Discussion

Marketers struggle to design effective and profitable promotional campaigns. The current research examines the role of uncertainty in promotions involving rewards, because several previous findings point to either possible positive or negative effects of adding uncertainty to this type of promotion. For example, in the domain of gains, previous literature reveals a preference for certain over uncertain rewards in evaluation of outcomes (Arrow, 1965; Bernoulli, 1738; Kahneman & Tversky, 1979). Meanwhile, some recent laboratory experiments and marketers have also found consumers' favorable responses to uncertain rewards in situations with certain restrictions (Goldsmith & Amir, 2010; Kivetz, 2003; Laran & Tsiros, 2013; Mazar *et al.*, 2012; Mobley, Bearden, & Teel, 1988; Shen *et al.*, 2015). In an attempt to understand these inconsistencies, the current research provides insight into conditions that make uncertainty beneficial or detrimental to such promotional efforts. The current study finds that consumers' motivation type and individual risk-taking attitude could affect their evaluation of uncertain rewards.

I demonstrated these effects by a 2 (reward uncertainty: certain vs. uncertain) × 2 (motivation type: intrinsic motivation vs. extrinsic motivation) × 2 (risk-taking attitude: high vs. low) between-subjects experiment involving coffee shop's promotional event scenarios. The main study found that when participants were offered an uncertain reward for participation, those with intrinsic motivation were much more likely to join the promotion than those with extrinsic motivation;

whereas when they were offered a certain reward for participation, extrinsically motivated ones tended to be more willing to participate than intrinsically motivated ones. I further found in the main study that the mentioned preference differences between the two motivation type groups occurred only for those holding a low level of risk-taking attitude, rather than those having a high level of risk-taking attitude. High expectation of rewards makes extrinsically motivated consumers more sensitive to the reward uncertainty and be easily affected by individual risk-taking attitude. Therefore, a high level of risk-taking attitude would largely enhance extrinsically motivated consumer's evaluation of receiving an uncertain reward and lower their evaluation of receiving a certain reward, which leads them to display similar participation intention as those with intrinsic motivation (H2a & H2c). In sum, the effectiveness of promotions involving uncertain rewards depends on consumers' motivation type. Importantly, consumers' individual risk-taking attitude contributes to the heterogeneity in response to uncertain rewards even within the same motivation type group.

4.1. Theoretical Contributions

The theoretical contributions of the current study go beyond those of previous research in three important ways. First, people tend to be risk averse (Gneezy *et al.*, 2006; Kahneman & Tversky, 1979), and decision research has largely viewed uncertainty as a negative influence in decision making (e.g., Gneezy *et al.*, 2006; Rabin, 2000; Von Neumann & Morgenstern, 1944). However, there is ample

evidence of such promotions being used in the marketplace, and recent works on uncertainty demonstrate that consumers can develop quite optimistic interpretations of promotions whose benefits are uncertain (Laran & Tsiros, 2013, Shen *et al.*, 2015). For example, Laran and Tsiros (2013) have explored the idea that consumers' positive affective state may strengthen their receptiveness to pleasant surprise. Other research has shown the effects of effort requirements and intrinsic motivation on higher-risk choices (Kivetz, 2003), and it is evident that intrinsic motivation decreases the positive effect of large and sure rewards. The present study extends these previous findings by observing the interaction effect between motivation type and reward uncertainty on participation intention, and treating individual traits (e.g., risk-taking attitude) as a boundary of the relationship between the interaction factor of motivation type * reward uncertainty and consumers' promotion participation intention. To the best of my knowledge, no research has yet explored the topic of how consumers of different motivation types evaluate promotions with certain or uncertain rewards.

Second, Self-Determination Theory (SDT) has been widely used to learn users' perceptions of educational services by researchers (e.g., Standage *et al.* 2005), yet SDT's application to consumers' perceptions of marketing promotions is still a poorly understood subject that warrants more attention. The current research applies SDT to marketing in general and contributes to the literature by integrating SDT with personal traits (e.g., risk-taking attitude).

Third, the current research applies the domain-specific risk-taking scale (the DOSPERT Scale) developed by Blais and Weber (2006) as the measure of risk-taking attitude in the main study, and reveals that consumers with high level of risk-taking attitude are more likely to participate in promotions in general than those with low level of risk-taking attitude. In addition, consumers with extrinsic motivation are more easily affected by individual risk-taking attitude when evaluating promotions.

4.2. Practical Implications

Life is full of uncertainties. In daily lives, consumers are frequently exposed to promotions involving uncertainty, such as receiving a variable reward for participating in a promotional event. The current research argues that uncertain rewards can be beneficial for marketers, and analyzes the conditions under which involving uncertain rewards would likely to be most beneficial.

The findings in this study offer compelling insights and practical implications for marketers. One of the main findings is that by establishing a match between the types of reward and the types of motivation, marketers can both simultaneously reduce promotion costs and maintain potential customers' participation interests. That is, positive responses to promotions are strengthened when marketers provide rewards that satisfactorily match the potential customer's motivation type. For example, when marketers want to motivate loyal customers with intrinsic motivation, they should offer uncertain reward that acts as an incentive strengthening participation

intention. In contrast, when marketers want to reach more customers or collect personal information of potential new customers with extrinsic motivation, they should offer certain reward that acts as an incentive enhancing participation.

This match between the types of reward and the types of motivation can also be applied to the design of loyalty programs. That is, since loyal customers (intrinsically motivated) and potential new customers (extrinsically motivated) prefer different types of rewards, they should be rewarded differently within a loyalty program. For example, marketers can highlight attractive certain rewards when recruiting new members and highlight uncertain rewards when motivating existing loyal customers. This is also in consistency with prior research that an uncertain reward can be more motivating than a certain reward of a higher expected value, when consumers focus on the pursuing process rather than the outcome (Shen *et al.*, 2015). Therefore, existing customers who are already in the “process” of the loyalty program will be more motivating with uncertain rewards, while potential new customers who are attracted to the loyalty program by its “outcome” will be more satisfied with certain rewards.

Another practical implication of the current study’s research findings is that marketers should consider conducting preliminary research to figure out the extent to which particular market segments strongly prefer risky choices. After analyzing the risk-taking attitude, marketers should try to tailor suitable promotion campaigns to such segments. For example, if the market segment strongly prefers risky choices in general, then promotions whose benefits are uncertain should be provided to boost

participation. Considering the difficulty and high cost of measuring customers' individual differences prior to executing a promotion campaign, priming customers subliminally with risk-related stimuli (e.g., colors or words) may be a more practical and economic method for marketers. For example, marketers who want to offer customers an uncertain reward as the promotional campaign incentive could use the color orange or risk related quotes (e.g., "with great risk comes great reward", "the adventure begins") in the shop or on the campaign poster to strengthen customers' preference of risky behavior, ultimately enhancing their participation intention of the promotion.

4.3. Limitations and Directions for Future Research

This study's limitations leave several areas open for future research. Firstly, there can be another boundary condition to be examined. In specific, prior research demonstrates that individuals with a higher belief in personal good luck will experience a positive illusion about the likelihood of winning, and this leads to feelings of confidence, control, and optimism (Darke & Freedman, 1997). This innate optimism can lead people to interpret uncertainty positively (Bar-Hillel & Budescu, 1995; Krizan & Windschitl, 2007). Therefore, it is possible that individual's belief in personal good luck may affect the experimental results. In light of the possibility, future research is suggested to control the effect of belief in personal good luck on uncertain rewards.

A second limitation of the current study is the absence of underlying mechanism analysis of the two-way and three-way interaction effects. According to prior research, the difference in reward expectation between two motivation type groups, as well as intrinsically motivated consumers' pursuit of excitement and fun may be the underlying mechanism of the two-way interaction effect between motivation type and reward uncertainty on participation intention (Kivetz, 2003; Laran & Tsiros, 2013; Shen *et al.*, 2015). Moreover, the main study found that under the uncertain reward condition, the subjective likelihood for higher valued reward was partially mediating the main effect of motivation type on participation intention. Therefore, future research can dig further to demonstrate the underlying mechanism of the suggested model in the current study.

A third limitation of the study is that the research was based on a single coffee shop promotional event scenario, thus significantly minimizing the extent to which the findings can be generalized to other product categories. For this reason, research on other diverse scenarios and product categories would strengthen the findings' generalizability. Fourth, although I would like to test my hypotheses in promotional campaigns with real consequences as prior research did (e.g., Laran & Tsiros, 2013; Shen *et al.*, 2015), the lack of control of other confounding variables in real situations prevented me from collecting field data. Instead, I used scenarios and pictures to make the participants choose through imagination. Moreover, this study focuses only on attitudinal tendency and ignores psychological states and behavioral willingness

to participate in promotions. Therefore, the findings of the current research may not fully reflect the real situations.

In addition, the data of pretest and main test were collected through Amazon's Mechanical Turk (MTurk) with a small amount of monetary rewards. There are still concerns about the reliability and quality of the data collected from MTurk. For example, Buhrmester, Kwang and Gosling (2011) demonstrate that the participation and the quality of data on MTurk are also affected by the compensation rate and task length. Moreover, the monetary rewards may also lead to a priming effect of extrinsic motivation, and thus affects the experimental results. Therefore, future research is suggested to recruit participants offline and control the priming effect of monetary rewards.

Finally, future research can be designed to observe participation intention of online promotions. Online sales promotions are widely used nowadays for the low cost and high accessibility (Blundo *et al.*, 2005; Sonal & Preeta, 2005). Both the wide use of online promotion and different shopping environment online contribute to the need for future research involving online promotions. For example, without really seeing or imagining the brand shop in real life and communicating with sales people, online consumers' intrinsic motivation may be weakened and thus affects the results. Furthermore, without seeing and comparing the rewards, as well as comparing the outcome with other participants in the uncertain reward condition, online consumers can be more willing to try risky behaviors and thus boosts the participation intention in general.

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Appendix 1: Motivation Type Manipulation

Scenario A (for intrinsic motivation condition)

Q3 What is your favorite coffee brand?

Q4 Would you be willing to help answer in Q3 improve the menu?

- Yes (1)
- No (2)
- Not sure (3)

Imagine that one day you pass by a/an answer in Q3, and you find that the shop is running a promotional event for this Summer. Through the event, you could know more about the brand and even decide what the company's new seasonal beverages will be. (Participating in the event will take you approximately 5 minutes.).

Scenario B (for extrinsic motivation condition)

Imagine that one day you pass by a newly opened coffee shop, and you find that the shop is running a promotional event to collect customer information. **You will receive one free gift as the reward for participation** (Participating in the event will take you approximately 5 minutes.).

Appendix 2: Reward Uncertainty Stimuli

Stimuli A (for certain reward condition)

To thank your participation, the shop will offer you **three pieces of Godiva Chocolate** as the gift.



Stimuli B (for uncertain reward condition)

To thank your participation, the shop will offer you **either one or five pieces of Godiva Chocolate** as the gift. **You will flip a coin to determine whether the reward will be one or five chocolate pieces.**



Appendix 3: Questionnaire (intrinsic motivation, uncertain reward)

Instruction: I am a master candidate at Seoul National University. This is a questionnaire for my graduation thesis. All the answers will only be applied in academic research. Please read every word and answer each question carefully. Your participation will be highly appreciated.

Q1 Do you like coffee?

Strongly disagree strongly agree

Q2 On average, how often do you visit a coffee shop?

- Never (1)
- Less than once per week (2)
- Once per week (3)
- 2-3 times per week (4)
- 4-5 times per week (5)
- Once per day (6)
- Multiple times per day (7)

Q3 What is your favorite coffee brand?

Q4 Would you be willing to help answer in Q3 improve the menu?

- Yes (1)
- No (2)
- Not sure (3)

Imagine that one day you pass by a/an answer in Q3, and you find that the shop is running a promotional event for this Summer. Through the event, you could know more about the brand and even decide what the company's new seasonal beverages will be. (Participating in the event will take you approximately 5 minutes.).

Q5 Please rate on following items.

I think that the event itself will be quite interesting.

Strongly disagree strongly agree

Participating in the event is something I have to do for the benefits.

Strongly disagree strongly agree

I think participating in the event will be quite pleasant.

Strongly disagree strongly agree

I am supposed to participate in the event for some benefits.

Strongly disagree strongly agree

I think participating in the event will be quite fun.

Strongly disagree strongly agree

I have no choice but to participate in the event for some benefits.

Strongly disagree strongly agree

I will enjoy participating in the event.

Strongly disagree strongly agree

I feel that I have to participate in the event for the benefits.

Strongly disagree strongly agree

Q6 Please rate the degree of effort you have to make to participate in the promotional event.

Very low Very high

Q7 To thank your participation, the shop will offer you **either one or five pieces of Godiva Chocolate** as the gift. **You will flip a coin to determine whether the reward will be one or five chocolate pieces.**



Q8 Please rate on following items.

I think the promotional offer is attractive.

Strongly disagree strongly agree

I would like to participate in the promotional event.

Strongly disagree strongly agree

I would like to recommend the promotional event to others.

Strongly disagree strongly agree

Q9 Please indicate what you believe your percentage likelihood of receiving **the five pieces of Godiva Chocolate** would be if you participate in the promotional event.

Percentage Likelihood (0% -- 100%)

Q10 Questions below are about your personal characteristics or dispositions. For each of the following statements, please indicate the **likelihood** that you would engage in the described activity or behavior if you were to find yourself in that situation.

Betting a day's income at the horse races.

Extremely unlikely Extremely likely

Betting a day's income at a high-stake poker game.

Extremely unlikely Extremely likely

Investing 5% of your annual income in a very speculative stock.

Extremely unlikely Extremely likely

Betting a day's income on the outcome of a sporting event.

Extremely unlikely Extremely likely

Investing 10% of your annual income in a new business venture.

Extremely unlikely Extremely likely

Q11 Do you know the brand Godiva?

- Yes (1)
- No (2)
- Not sure (3)

Q12 Do you like Godiva Chocolate?

Strongly disagree strongly agree

Lastly, for research purpose, some of your personal information is needed. Your responses will remain anonymous. No one will be able to identify you or your answers, and no one will know whether or not you participated in the study.

Q13 Please indicate your gender.

- Male (1)
- Female (2)

Q14 Please select the category that includes your age.

- Under 18 (1)
- 18 - 24 (2)
- 25 - 34 (3)
- 35 - 44 (4)
- 45 or older (5)

Q15 What is your current employment status?

- Employed full time (1)
- Employed part time (2)
- Unemployed looking for work (3)

- Unemployed not looking for work (4)
- Retired (5)
- Student (6)
- Disabled (7)

Q16 What is the highest level of education you have completed?

- Less than high school (1)
- High school graduate (2)
- Some college (3)
- 4-year degree (4)
- Master's degree (5)
- Doctorate (6)

The end! Thank you again for your participation!

초 록

동기 유형과 보상불확실성이 마케팅 프로모션 참여의도에 미치는 영향

마케터들은 효과적이고 수익성 있는 프로모션 캠페인을 디자인하려고 노력한다. 본 논문은 보상을 제공하는 프로모션에서 불확실성의 역할이 무엇인지를 살펴 보았다. 이에 관한 기존 연구는 긍정적인 내용 외에도 불확실성의 부정적인 면을 언급한 것도 일부 있었다. 본 연구는 보상불확실성, 동기유형, 개인의 리스크 감수 성향, 또한 이들의 교차항(interaction)이 소비자의 프로모션 참여의도에 미치는 영향을 실증적으로 분석 및 검증한 데 의의가 있다. 본 연구의 실험은 2 (보상불확실성: 확실 vs. 불확실) X 2 (동기유형: 내재적 vs. 외재적) X 2 (리스크 감수 성향: 강 vs. 약)의 집단간 설계(between-subjects design)가 적용되었다. 소비자의 리스크 감수 성향이 개인 성격 특성으로 측정되었고, 참여의도가 종속변수로서 사용되었다. 실험을 통해 불확실한 보상이 제공되는 경우 내재적 동기를 가지는 소비자는 외재적 동기를 가지는 소비자보다 더 높은 참여의도를 보인 것이 검증되었다. 반면에 확실한 보상이 제공되는 경우 외재적 동기를

가지는 소비자는 내재적 동기를 가지는 소비자보다 더 높은 참여의도를 보인다는 것도 검증되었다. 뿐만 아니라 이 이원상호작용이 소비자의 리스크 감수 성향 (강 vs. 약) 에 따라 조절된 것도 확인하였다. 구체적으로 보상불확실성에 따른 동기유형의 효과가 리스크 감수 성향이 낮은 소비자 그룹 안에만 존재한다는 것을 밝혔다. 반면에 리스크 감수 성향이 높은 소비자는 자신이 가지는 동기유형에 따른 참여의도에 차이가 없었다. 본 연구를 통해 보상을 제공하는 프로모션에 대하여 소비자 반응의 이질성을 더 깊게 이해할 수 있다. 이 이해를 바탕으로 마케터가 보상 관련 프로모션 전략을 쓸 경우 더 좋은 효과를 얻을 수 있을 뿐 아니라 더 합리적인 프로모션 예산 할당방법도 개발할 수 있다.

주요어 : 보상불확실성, 동기 유형, 리스크 감수 성향, 프로모션

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