

Decomposition of Perception of Luck:

Gamblers in Macao Casino Hotels

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ABSTRACT

The objective of this study is to establish a conceptual model of perception of luck and empirically examine the relationships between intensity of luck and four predictors including rarity, importance, exclusivity, and proximity in the context of a casino gaming. Data collection will be conducted by surveying casino gamblers in Macao. Participants will be asked to indicate their responses to the constructs with reference to their most recent casino gaming experience. Multiple regression analysis will be employed to test the hypotheses. The findings will enrich theoretical understanding of luck and provide implications to casino marketers on how to shape their patrons' gambling behavior through manipulating the determinants of perceived degree of luck.

Key Words: Luck; rarity; importance; exclusivity; proximity; casino

INTRODUCTION

Luck is salient in gamblers' mind (Keren & Wagenaar, 1985; Toneatto, 1999; Wagenaar & Keren, 1988). Although luck has widely been recognized as an uncontrollable factor (Barrett, 2006; Friedland, 1992; Rescher, 1995; Rotter, 1966; Weiner, 1985), many gamblers still irrationally strive to control it in order to derive their desired outcomes (Keren & Wagenaar, 1985; Latour, Sarrazit, Hendler, & Latour, 2009; Toneatto, 1999; Wagenaar & Keren, 1988). The underlying rationale for this irrational phenomenon can be addressed to gamblers' failure to notify that luck is actually driven by chance. Gamblers tend to consider chance and luck as separate factors. In a prior study on gamblers' understanding of luck, skill, and chance, Keren and Wagenaar (1985) found that a majority of participants managed to differentiate chance, luck and skill, and only a few of them would consider chance and luck being indifferent. According to Friedland (1998), chance-oriented people make a decision based on odds, whereas luck-oriented counterparts ignore odds in decision making. Given that odds are uncontrollable, they contradict with the human needs for personal control of outcome (Averill, 1973; Burger, 1987; Burger & Vartabedian, 1980; Gebhardt & Brosschot, 2002; Lefcourt, 1973). As predicted by reactance theory (Brehm, 1966), it is not surprising for gamblers to recoup their sense of control by believing that luck can influence the outcome. Indeed, Keren and Wagenaar (1985) examined that gamblers perceived luck as the most important factor accounting for gambling outcomes.

Gambling is defined as "the act of risking a sum of money on the outcome of a game or event that is determined by chance" (Loo, Raylu, & Oei, 2008). Gambling-related businesses and activities are found in various forms including casino gaming, lottery, sports betting, and racing betting. Casino gaming is one of the most lucrative forms of gambling-related business. In Macao and Las Vegas, the two largest casino gaming markets of the world, revenues generated from the casino sector outperformed those from other forms of gambling-related businesses (Macao Gaming Inspection and Coordination Bureau, 2011; Nevada Gaming Control Board, 2011). As competition in non-monopolized casino gaming market is keen, practitioners have to differentiate

themselves from other competitors in such various areas as customer service, environmental design, atmosphere and others to attract more patrons to their business (Johnson, Mayer, & Champaner, 2004; Liu & Wan, 2011; Mayer & Johnson, 2003; Mayer, Johnson, Hu, & Chen, 1998; Richard, 1997). More importantly, casino marketers have to prolong the patrons' staying time, stimulate more gambling activities and induce higher betting amount. Previous studies showed that feeling of good luck exerted positive impact on proclivity to take risk (i.e. wagering larger amount) (Jiang, Cho, & Adaval, 2009; Sierra & Hyman, 2009; Wohl & Enzle, 2003). In this sense, successful manipulation of factors that influence perception of luck can be a viable approach for casino practitioners to shape their patrons' gambling behavior, which in turn poses a positive impact on their revenues. Thus, determinants of luck absolutely deserve more attention from researchers.

Luck plays a critical role in determining the outcome across aspects of people's daily lives (Smith, Wiseman, Harris, & Joiner, 1996). Despite the notion of luck has attracted extensive attentions from researchers across disciplines like philosophy (Barrett, 2006; Latus, 2003; Pritchard & Smith, 2004; Rescher, 1995), psychology (Andre, 2006, 2009; Bersabe & Arias, 2000; Darke & Freedman, 1997a, 1997b; Day & Maltby, 2003, 2005; Friedland, 1992, 1998; Friedland, Keinan, & Regev, 1992; Keren & Wagenaar, 1985; Maltby, Day, Gill, Colley, & Wood, 2008; Pritchard & Smith, 2004; Smith, et al., 1996; Teigen, 1995, 1996, 1997, 1998a, 1998b, 2005; Teigen, Evensen, Samoilow, & Vatne, 1999; Wagenaar & Keren, 1988; Wiseman, 2003; Wohl & Enzle, 2002, 2003; Wohl, Young, & Hart, 2007), and marketing (Jiang, et al., 2009; Prendergast & Thompson, 2008), it is interesting that no conceptual model has drawn in the factors that affect perception of luck in the existing literature. To establish a concrete foundation for further studies on the notion of luck, it is imminent for researchers to integrate the essence of prior studies and develop a conceptual model.

Previous empirical researches on luck can be categorized into two major streams. The first stream revolves around general belief in luck and its relationships with personality, psychological well-being, and paranormal belief (Andre, 2006, 2009; Darke & Freedman, 1997a; Day & Maltby, 2003, 2005; Maltby, et al., 2008; Smith, et al., 1996; Wiseman, Harris, & Middleton, 1994; Wohl & Enzle, 2002; Wohl, et al., 2007). The studies in the second stream focus on the affective, cognitive, and behavioral consequences of perception of luck (Bersabe & Arias, 2000; Darke & Freedman, 1997b; Friedland, 1992, 1998; Friedland, et al., 1992; Jiang, et al., 2009; Keren & Wagenaar, 1985; Prendergast & Thompson, 2008; Teigen, 1995, 1996, 1997, 1998a, 1998b, 2005; Teigen, et al., 1999; Wagenaar & Keren, 1988; Wohl & Enzle, 2003). Although the underlying factors of perception of luck have been identified by philosophers (Barrett, 2006; Latus, 2003; Pritchard & Smith, 2004; Rescher, 1995), no relevantly empirical study has been found in the literature. It is imminent to fill in the research gap.

The objectives of this study are twofold. First, this study proposes a conceptual model of perception of luck through literature review and its discussions. Second, this study examines the relationships between intensity of luck and its predictors by surveying casino gamblers in Macao.

LITERATURE REVIEW

Uncontrollable Nature of Luck

In English speaking regions, the word “luck” firstly appeared in the fifteenth century (New Oxford American dictionary, 2010; Rescher, 1995). Dictionaries commonly define luck as chance happening of positive and negative events (Cambridge dictionary of American English, 2008; Collins English dictionary, 2009; New Oxford American dictionary, 2010; Random House Webster’s unabridged dictionary, 2001; The American Heritage dictionary of the English language, 2006). In other words, luck is underscored by chance and, thus should not be controllable. This idea echoes with attribution theorists’ argument that luck is a random, unstable, and uncontrollable variable (Feather, 1969; Feather & Simon, 1971; Levenson, 1973; Rotter, 1966; Weiner, et al., 1971). According to the classical attribution theory, namely “locus of control” (Levenson, 1973; Rotter, 1966), some people tend to attribute an event to their capacity and behavior (i.e., internal locus of control); whilst others prefer attributing the event to external forces such as luck, fate or powerful others (i.e., external locus of control). Internal locus of control is, or is believed to be, controllable and external locus of control is, or is believed to be, uncontrollable. In this sense, luck is inherently uncontrollable in attribution process.

Outcome Valence (Positive versus Negative) as a Predictor of Luck Valence (Good versus Bad)

People evaluate outcome by comparing it with subjective standard level (Helson, 1948; Thibaut & Kelley, 1959). In a similar vein, Kahneman and Miller’s (1986) norm theory posits that an outcome would trigger normative alternatives, which in turn serves as a reference point for people to make a comparison. A reference point refers to the stimulus that “other stimuli are seen in relation to” (Rosch, 1975, p. 532). Formation of reference points rests on expectations, personal desirability, available information, and past experiences (Klein & Oglethorpe, 1987; Woodruff, Clemons, Schumann, Gardial, & Burns, 1991). Thus, reference points among individuals can be highly divergent, which in turn results in contrasting evaluations of the same outcome (Peeters, 1991). For instance, winning a hundred dollars can be very exciting for a gambler whose reference point is not to lose; whilst the same outcome can be disappointing for another gambler whose reference point is to win a larger amount.

Boles and Messick (1995) integrated norm theory and regret theory to discuss the notion of a reference point. As mentioned earlier, norm theory assumes that an outcome would trigger normative alternative, which in turn serves as a reference point for people to make a comparison. Regret theory was developed from the traditional economic theory on a utility by arguing that a

utility of an outcome also includes the difference between the factual outcome and the outcome that would have been derived if the alternative option had been chosen (Bell, 1982; Loomes & Sugden, 1982; Sage & White, 1983; Zeelenberg & Van Dijk, 2005). Given these two theories, Boles and Messick (1995) posited that evaluation of outcomes is based on two reference points: the status quo and an evoked alternative outcome. The first reference point is the evaluation of the current outcome or the status quo, which determines valence of the outcome (i.e., positive or negative). The second reference point is the evaluation of the outcome with respect to the outcome that could be resulted if the other option had been chosen or an evoked alternative outcome. A winning outcome (the first reference point) should elicit positive emotion. However, if the outcome is further compared with a better outcome provided by alternative option (the second reference point), the winner will feel regretful over his/her decision. Likewise, the loser may feel disappointed at the first reference point, but feel elated at the second reference point if the factual losing outcome is better than the alternative losing outcome.

Boles and Messick (1995) tested this proposition with an experimental design by exposing participants to four gambling situations as shown in Table 1.

Table 1 – Evaluation of a gambling situation with the reference points

	1st reference point (The status quo)	Evaluation	2nd reference point (An evoked alternative outcome)	Evaluation
Situation A	Winning \$100	+	Winning \$500	-
Situation B	Losing \$0	-	Losing \$100	+
Situation C	Winning \$500	+	Winning \$100	+
Situation D	Losing \$100	-	Losing \$0	-

Source. Adapted from Boles and Messick (1995). The + sign refers to a positive evaluation. The – sign refers to a negative evaluation.

Based on the proposition of the two reference points, participants in Situation A would have a positive evaluation relative to the status quo and a negative evaluation when they compared it with the alternative outcome (winning \$500). Participants in Situation B would have a negative evaluation relative to status quo and a positive evaluation relative to its alternative outcome (losing nothing is better than losing \$100). In contrast, participants in Situation C would not encounter the evaluation conflicts that arose to Situation A. Participants in Situation C would have a positive evaluation relative to status quo (winning \$500) and an additionally positive evaluation relative to Situation A (winning \$500 is superior to winning \$100). Likewise, participants in Situation D would have negative evaluation relative to status quo (losing \$100) and an additional negative evaluation relative to Situation B (losing \$100 is inferior to losing nothing). Results showed that the feeling of being regretful was strongest in Situation D, followed by Situation A, Situation B, and Situation C (Boles & Messick, 1995). An evaluation conflict occurs when evaluation of an outcome at the first reference point is different from that at the second reference point. Narrowing down the analysis to the two outcomes where evaluation conflicts were incurred

(Situations A and B), Boles and Messick (1995) found that winners even felt more regretful over their decisions than the losers.

As illustrated in the above experiment, evaluation of outcome may require two steps (i.e., two reference points). In this regard, perception of luck elicited from evaluation on an outcome may also involve comparisons with two reference points. In Teigen's (1998a) study, participants survived in hazardous event indicated co-existence of both bad and good luck. This finding is not surprising because people suffering from hazardous situations (the first reference point) would feel unlucky while the fact that they escaped from death (the second reference point) would trigger feeling of good luck. Likewise, in a gambling context, a casino gambler who lost a bet (the first reference point) would feel unlucky but may feel a little lucky if the amount is much smaller than that in the previous gambling experience (the second reference point). However, the final or overall evaluation of the gambling experience would be unknown without a comparison of evaluation between the first reference point and the second reference point. That is, if a gambler feels lucky in a lost bet case, it would be because lucky feeling in the second evaluation outweighs unlucky feeling in the first evaluation. However, such a situation should be relatively rare as it has been consistently assumed that good luck followed wins; whilst bad luck followed losses (Friedland, 1998; Pritchard & Smith, 2004; Teigen, 2005; Wagenaar & Keren, 1988). Therefore, outcome valence should generally be positively associated with luck valence.

Determinants of the Intensity of Luck

Literature review indicates that perception of luck commonly consists of two components: valence and intensity of luck. Figure 1 exhibits a conceptual model of perception of luck. As discussed earlier, outcome valence should be positively associated with luck valence. With respect to intensity of luck, this study proposes four determinants including rarity, importance, exclusivity, and proximity. The discussions in this section will focus on those determinants.

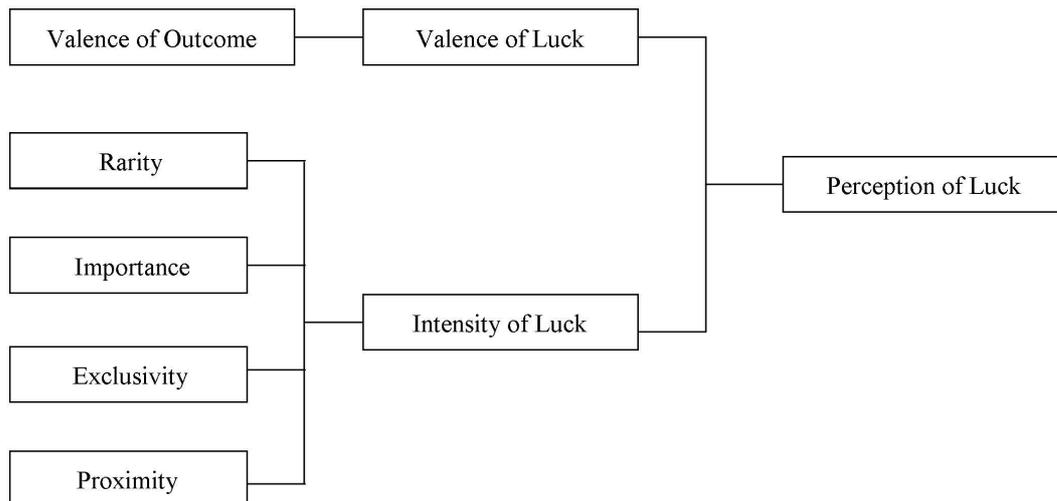


Figure 1 – Conceptual Model of Perception of Luck

Rarity

Pritchard and Smith (2004) argued, from a philosophical point of view, that an event is lucky when the actual world does not occur in most of the nearby possible worlds. To illustrate, a lottery winner would feel lucky because the numbers that he/she chose (the actual world) were drawn out but not other numbers (nearby possible worlds). Conversely, people who see the sunrise in every morning would not feel lucky for seeing the sunrise since it is a common natural phenomenon and also occurs in many other places. In this sense, as noted by Karabenick and Addy (1979), the notion of luck can be captured by rarity of an event. A lottery winner feels lucky because there is a low chance to win, whereas seeing the sunrise is not a matter of luck since it is a common phenomenon to them. Given the assumption that rarity determines luck, the degree of luck would be driven by the rarity level of an event. As suggested by Rescher (1995), luck is inversely related to the likelihood of an event. Moreover, Pritchard and Smith (2004) argued that “extremely unusual events can be regarded as luckier than just plain unusual events” (p.17). For example, someone dropped a wallet in a street and happened to find it without losing anything inside a year later should feel luckier than in the case that he/she happened to find it the next day (Pritchard & Smith, 2004). In other words, the rarer the chance that an event occurs is, the more intense the feeling of luck would be.

Probability is a means to explain chance (Batanero, Henry, & Parzys, 2005). Hence, a rare event is one that has a low probability to happen. Probability can be categorized into two types: objective and subjective. Objective probability is the value based on the laws of probability calculus, whereas subjective probability is an estimation of probability by a subject or inferred from his/her behavior (Kahneman & Tversky, 1972). Subjective probabilities rest on people’s

feelings and vividness of imagination (Miller & Taylor, 2002). Thus, the relationship between objective and subjective probabilities is nonlinear (Hong, 1983; Machina, 1982; Quiggin, 1982). Subjective probability plays a more important role in daily lives than objective probability since people tend not to follow probability theory to judge uncertain events, but rather rely on availability heuristic (Defabro, 2004; Schwarz, et al., 1991; Tversky & Kahneman, 1974). Availability heuristic refers to estimation of the likelihood of an event “by the ease with which instances or associations come to mind” (Tversky & Kahneman, 1973, p. 208). This heuristic is salient when the event (1) occurred more frequently in the past; (2) happened more recently, (3) is more salient emotionally, and so forth (Tversky & Kahneman, 1974). For instance, a casino gambler will evaluate that losing a thousand dollars is not a rare event if (1) it frequently happened in the past; (2) the most recent gambling experience was also a losing case; and (3) the gamble had lost a much larger amount in the past. In this sense, within the framework of availability heuristic, previous experiences work as reference points for people to evaluate the outcomes (Boulding, Kalra, Staelin, & Zeithaml, 1993; Cadotte, Woodruff, & Jenkins, 1987; Woodruff, Cadotte, & Jenkins, 1983). Even a prior experience does not exist; people would still form a reference point by anticipating the outcome (McGill & Iacobucci, 1992; Oliver & Bearden, 1985; Shirai & Meyer, 1997; Swan, 1977). Accordingly, the level of rarity is determined by the contrasting process between a factual outcome and a reference point whereby the farther the outcome from the reference point is, the rarer the outcome would be.

Representativeness heuristic has been suggested as a cognitive function that influences subjective probability (Kahneman & Tversky, 1972). A typical representativeness heuristic is people’s belief in the law of small numbers (Tversky & Kahneman, 1971). With this belief, for instance, when people are asked to produce a series of coin tosses, they are more likely to produce sequences with alternative patterns (e.g. HHT, THH) than homogenous patterns (e.g. HHH, TTT) (Tune, 1964). This experiment implicates that people tend to believe homogenous patterns are less likely than alternative ones (Kahneman & Tversky, 1972). In this sense, a rare occasion might be predicted by homogenous patterns of outcomes.

In general, this study proposes that perceived rarity of the casino gaming outcome positively predicts perception of luck (Proposition 1).

Importance

Rescher (1995) argued that importance of an event determines whether it is a matter of luck. Consistent with this argument, Pritchard and Smith (2004) stated that a lucky outcome is one that is significant to the agent (or the casino gambler) concerned. Importance refers to the benefits and negativities received (Rescher, 1995). In gambling situations, the magnitude of monetary gain and loss is the determinant of importance which in turn affects perception of luck (Teigen, 1983). The subjective judgment on importance of monetary outcome varies with the financial

background of gamblers (Keren & Wagenaar, 1988; Walker, 1992). For examples, winning a hundred thousand dollars would be highly significant from recreational gamblers' perspective, but may render little meaning to professional gamblers.

As importance is posited as a determinant of luck, the intensity of luck should be driven by the importance level of the outcome. This argument echoes with Teigen's (1998a) findings. He found that feeling of good luck is stronger than bad luck in dangerous and careless incidents since a much worse outcome was avoided. More importantly, his study revealed that the intensity of good luck is stronger in dangerous than in careless incidents since the former could lead to more serious adversities (Teigen, 1998a). In this sense, the more significant the outcome to an individual's personal well-being is, the higher the intensity of luck would be triggered. Thus, it is not surprising that a gambler winning a million dollars is luckier than winning a thousand dollars (Latus, 2003). Although this example appears inarguable, the simple comparison of the amounts fails to capture the subjective aspect of importance (Bloch & Richins, 1983). For instance, from a billionaire's point of view, the subjective difference between a million dollars and a thousand dollars may be so insignificant that a million dollars may not exert much stronger impact on intensity of luck than a thousand dollars.

On the other hand, researchers argued that importance varies with motives (Howard & Sheth, 1969). Accordingly, importance in gambling context should be relevant to gamblers' motives such as winning, amusement, excitement, socialization, and alleviation of negative emotions. Among various types of motives, winning has consistently been revealed as the most important one (Lee, Chae, Lee, & Kim, 2007; Lee, Lee, Bernhard, & Yoon, 2006; Neighbors, Lostutter, Cronce, & Larimer, 2002; Platz & Millar, 2001; Walker, 1992). Thus, gambling outcome should be the most crucial determinant of perceived importance which in turn influences perception of luck. However, other researchers posited that winning might not be the most important motive for gambling. Loroz (2004) and Lam (2007) found that a hedonic reason like pleasure is perceived as the most prominent motive. In another study, Aasved (2003) argued that socialization is more important than monetary gain. As a result, compared to those who gamble for a monetary reason, gamblers who consider loss of money as the price of entertainment may not be sensitive to luck (Brenner & Brenner, 1990; Cotte, 1997).

According to the theoretical model on product importance proposed by Bloch and Richins (1983), there are two types of importance: instrumental and enduring. Instrumental importance refers to the perception of importance based on people's desire to attain the extrinsic objectives that may obtain from the outcome. In contrast, enduring importance rests on the extent that the outcome is relative to the intrinsic goals. The model sheds some light on the importance of winning in gambling context. Within the framework of instrumental importance, some gamblers stress winning to resolve their financial difficulties (Brenner & Brenner, 1990); whilst other

gamblers harness the monetary gain to satisfy their materialistic needs (Lee, et al., 2007). In terms of enduring importance, some gamblers need winning to feel joyful, to protect their self-esteem (Cotte, 1997), or to prove that they are in a run of good luck. Although these two concepts appear to be independent, their co-occurrence is also plausible (Bloch & Richins, 1983). For instance, a gambler winning a huge amount does not only fulfill his materialistic needs (extrinsic goal), but also allows him to show off in front of other people (internal goal). In general, perceived importance of outcome rests on the extent that the desired goals (extrinsic, intrinsic or both) have been achieved.

Given the above discussions, this study proposes that perceived importance of the casino gaming outcome positively predicts perception of luck (Proposition 2).

Exclusivity

In the literature of philosophy, perception of luck has been advocated as a consequence of social comparison. Barrett (2006) and Latus (2003) argued that good luck of an individual is the bad luck of the others. Consistent with this, there were researches purporting that an individual is lucky when chance favors him/her but not the others (Darke & Freedman, 1997a; Smith, Wiseman, Machin, Harris, & Joiner, 1997). Moreover, Teigen (1997) concluded his study with the notion that “the term luck typically prompted the idea of self-other comparisons” (p. 322). All these arguments imply that perception of luck is predicted by exclusivity of an outcome.

In this study, exclusivity is described as the situation that an outcome is dedicated to a relatively small number of individuals or a specific individual. It is proposed that perceived exclusivity varies with perception of luck in a positive manner. While the proposition is plausible, exclusivity may not be applicable across situations. A major reason is that lucky experiences do not always require unlucky counterparts. For instance, a gambler winning a thousand dollars would feel lucky even though he is not aware of others' outcomes. Therefore, different from the constructs of rarity and importance discussed earlier, exclusivity requires a precondition (i.e. availability of other people's outcomes in similar scenario for social comparison). However, in many cases, individuals do not have access to other people's outcome (Van den Bos, Lind, Vermunt, & Wilke, 1997) and, thus the social comparison process is always impeded.

Festinger (1954) was the first researcher who conceptualized social comparison. Over the years, his framework has remained the most influential work in the corresponding domain. The social comparison theory posits that people have a strong drive toward social comparison (Kruglanski & Mayselless, 1990). This postulation is especially legitimate within the domain of social justice where social comparison serves as a means for people to evaluate the fairness of the

outcomes which in turn affects their satisfaction (Messick & Sentis, 1983). In his theory of social comparison, Festinger (1954) posited that people are inclined to appraise themselves with objective information, for instance, their previous experiences with the event. If the information is not available, they will seek other people (social information) as reference for comparison. In this regard, social comparison exerts an auxiliary function in the evaluation process. Given rarity and importance are the core predictors of perception of luck (Pritchard & Smith, 2004; Rescher, 1995), exclusivity may serve as an interacting factor in predicting perception of luck.

The theory of social comparison also postulates that people prefer comparing with others who have a similar ability or opinion in order to make a more stable and accurate evaluation (Festinger, 1954; Radloff, 1966; Wilson, 1973). Goethals and Darley (1977) further extended the postulation and proposed that people tend to compare with others who have similar attributes such as age and experience (Taylor & Lobel, 1989). These arguments suggest that people would form their own pool of comparison targets based on their discretion. Although the original idea of social comparison theory only accounts for people's ability (i.e., skill), the theory also provides implications for study on luck. For instance, to evaluate a personal luck status, a gambler would compare his/her outcome with several others who fall into his/her own discretion rather than everybody in the casino. Given the availability heuristic (Tversky & Kahneman, 1973), counterparts playing at the same table or companions may be more salient in the gambler's mind.

In general, this study proposes that perceived exclusivity of the casino gaming outcome positively predicts perception of luck (Proposition 3).

Proximity

Counterfactual thinking is a pervasive social-cognitive function in human beings (Sanna & Turley, 1996). The notion refers to the evaluation of a factual outcome with an imagined outcome (Epstude & Roese, 2008; Roese, 2000; Roese & Olson, 2006). Teigen (1995) argued that counterfactual probability exerts a stronger impact on perception of luck than factual probability does. Although prior studies showed that counterfactual thinking is a spontaneous cognitive process (Markman, Gavanski, Sherman, & McMullen, 1993; Sanna & Turley, 1996), there appears to be a lack of study showing that counterfactual thinking is evoked in every evaluation of outcome. Indeed, McConnell et al. (2000), by means of experimental design, found that 72% of participants evaluated the outcome by comparing it with counterfactual alternatives. That means 28% of participants have not evoked any counterfactual thinking in the evaluation process.

While counterfactual thinking triggers perception of luck, the degree of luck should be determined by how easy an alternative outcome can be imagined at the post-event stage (Boles

& Messick, 1995). In other words, its degree depends on the adjacency between factual and counterfactual outcomes (Teigen & Jensen, 2011), which this study describes as proximity. So proximity should positively predict perceived luck. For instance, Wohl and Enzle (2003) revealed that near loss (i.e., almost experienced a big loss) in a gambling instance (i.e. a high level of proximity) strengthened lucky feeling because such a situation facilitates people to generate counterfactual thinking. As evocation of counterfactual thinking does not occur in every evaluation of outcome, proximity, like the construct of exclusivity, also needs a precondition (i.e. counterfactual thinking is triggered). Hence, proximity may serve as an interacting factor in predicting perception of luck.

Teigen (1996) proposed five conditions where proximity can affect the intensity of luck. The conditions are not uncommon in a casino gambling context. The first condition is physical distance. For example, a player of Wheel of Fortune feels luckier when the wheel lands on a sector next to the Bankrupt sector than when the wheel lands on a sector far from Bankrupt. The second condition is a temporal order. For instance, a gambler who manages to recoup the amount lost at the beginning and eventually wins a thousand dollars should feel luckier than the same gambler wins the same amount without any losing experiences before. It is because the outcomes at a later stage are more likely to evoke counterfactual outcomes than those at early stage (Miller & Gunasegaram, 1990). The third condition is choice. A gambler who opts to bet one more game before leaving the casino and wins money should feel luckier than in the situation when the same gambler does not have any intention to leave. The fourth condition is reality. An underage gambler who wins the jackpot but is forbidden to claim the amount by law should feel unluckier than the same gambler loses all the money to the slot machine. The last factor is undeservedness. For instance, a gambler, who has no intention to gamble, is invited by a friend to play a slot machine. Eventually, the gambler wins the jackpot and his friend loses money. That gambler should feel luckier than in the situation that the gamble is initiated by him/herself. Aside from these five conditions, proximity can also be influenced by temporal and numerical distance (Roese, 1997). Regarding temporal distance, for instance, a slot machine player who notifies that someone wins a jackpot at the same machine that he played a few minutes ago feels unluckier than when someone has a jackpot comes a week later. For numerical distance, the 1001st patron should feel unluckier than the 1099th patron when an entrance prize is dedicated to the 1000th patron.

In general, this study proposes that perceived proximity of the casino gaming outcome positively predicts perception of luck (Proposition 4).

METHODOLOGY

Participants and Procedures

This study will conduct a survey with people who had casino gaming experience in Macao in

the past twelve months. The reason for employing twelve months is that the period is within the recall ability of casino patrons (Richard, 1997). Interviewers will intercept potential participants at the New Port Area of Macao as two-thirds of casinos are located within and nearby the area. Systematic sampling procedures will be pursued so that every n^{th} number (randomly drawn) of people passing by the interviewers will be invited to participate in the study (Ghauri & Gronhaug, 2002). Given that the population size in this study cannot be specified, Veal (2006) suggested a minimum sample size of 384 for a 5% margin of error. This study will recruit 400 samples.

Measures and Analysis

This study will employ multiple regression analysis to analyze the data. The sample size in this study should be large enough for using regression analysis (e.g., a minimum sample of 15 to 20 per independent variable) (Hair, Black, Babin, & Anderson, 2010). At the beginning of the questionnaire, participants are asked to indicate whether they win or lose. All constructs, except perception of luck, will be measured with seven-point semantic differential scale. For the construct of rarity, 11 items will be adapted from Wallsten, Fillenbaum and Cox's (1986) and Mosteller and Youtz's (1990) studies. Two expressions "possible" and "sometimes" are excluded since they are too neutral to precisely indicate subjective probability meanings (Wallsten, et al., 1986). To measure the constructs of importance, this study will borrow Zaichkowsky's (1985) scale of involvement (namely Personal Involvement Inventory with 20 items) considering that Howard and Sheth (1969) used the terms importance and involvement interchangeably. Regarding exclusivity, the measurement items (3 items) will be adapted from Barone and Roy's (2010a, 2010b) studies. For proximity, following Teigen's (1998a) method, participants will be asked to indicate their responses ranged from 1 (No, absolutely not) to 7 (Yes, definitely) to the modified question of "do you think a different outcome could easily have happened". Perception of luck will be measured with seven-point Likert-type scale adapted from Andre's (2009) subscales of good luck (3 items) and bad fortune (6 items). As discussed earlier, outcome valence determines luck valence. Hence, if participants' gambling outcome is loss, all items in the perception of luck scale will be reversed. Reliability and construct validity will be assessed with appropriate statistical techniques. The assessments are crucial for this study since most scales are borrowed from other contexts (Hair, et al., 2010). Demographic information such as age, gender, education, country of origin, and personal monthly income will be collected in the final section of the questionnaire.

EXPECTED OUTCOMES

This study makes attempt to establish a conceptual model of perception of luck and empirically test the relationships between intensity of luck and four predictors including rarity, importance, exclusivity and proximity in the context of casino gaming. It is expected that the findings will enrich theoretical understanding of luck. Furthermore, given that feeling of luck has a significant impact on gamblers' risk taking behavior, the findings will provide implications to casino marketers on how to boost and shrink their patrons' lucky and unlucky feeling respectively.

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