

Do Gamblers Think Differently?: Differences in Lay Beliefs Concerning Luck in Gamblers and Non-gamblers*

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When individuals are not good at grasping coincidence events in the gambling mechanism, they take particular note of lay beliefs in luck. Among the lay beliefs in luck, that concerning “strength of luck” is often specific for gambling behavior. We conducted a survey that compared gamblers and non-gamblers, and examined whether this way of thinking is related to gambling addiction. An Internet survey was completed by 550 people. A cluster analysis based on gambling frequency extracted three clusters (non-, moderate-, and heavy-gambler groups). The South Oaks Gambling Screen (SOGS) score was highest in the heavy-gambler group. Differences were seen in three items: a belief in differences in luck among individuals; a belief in the “flow of *Tsuki* (in luck)”; and conscious behaviors regarding luck. For all three, the scores of the moderate- and heavy-gambler groups tended to be higher than those of the non-gambler group. Regarding “strength of luck” and “strength of luck in gambling”, the heavy-gambler group perceived that they had the strongest luck, followed, in order, by the moderate- and non-gambler groups. These three factors could lead to sustained gambling behavior. Those who felt that their “strength of luck in gambling” was strong tended to be pathological gamblers. This result supports a previous study.

Keywords: Gambling, Lay beliefs, Luck

Introduction

There are several proposals regarding the mechanisms that govern gambling behavior. The assumption, for example, that temporally independent events are connected is known as the Gambler’s fallacy. Temporally independent events are events that are not affected by the results of previous events, so any apparent relationships between them arise by coincidence. Gamblers are well known to have such irrational beliefs (e.g., Moore & Ohstuka, 1999; Toneatto, Blitz-Miller, Calderwood, Dragonetti, & Tsanos, 1997).

In general, people do not find coincidental events very easy to identify. Therefore, people tend to focus on luck and attribute coincidences to artificial causes, such as “strength” or “consumption of luck”. Although we cannot assert that thoughts about luck are unscientific, they can be regarded as lay beliefs (Furnham, 1988) as they are commonly held by people generally.

Murakami (2014) classified lay people’s beliefs about luck, and his results indicated that people have similar beliefs about luck all over the world, rather than having country or region specific styles of belief. In addition, lay peoples’ beliefs regarding luck include belief in the “strength of luck”, which is the specific

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self-cognition associated with gambling behavior. A number of the previously reported results have been found to overlap.

Rogers & Webley (2001) evaluated cognitions on the “strength of luck” in relation to playing the lottery, the frequency of daily lottery ticket purchases, and the probability of winning the jackpot in a virtual scenario. Cognition on the “strength of luck” affects both lottery ticket purchases and the assessment of probabilities in virtual scenarios, even after controlling for variables such as income and education. These variables are important because high income and educational status is correlated with less frequent lottery ticket purchasing. Those who consider “their luck to be strong” purchase lottery tickets frequently and estimate themselves as having a high probability of winning.

Wohl, Stewart, and Young (2011) reported that there is a relationship between the specialized “strength of luck” (PLUS) cognition related to gambling and the amount of money used for gambling purchases. In Wohl, Young, and Hart (2007), gambling-specific cognitions on “strength of luck” were found to be related to pathological gambling behavior.

Is this way of thinking only found in gamblers? Also, is this idea of gamblers special to them? To address these questions, we conducted a survey to compare gamblers and non-gamblers, and examined whether such ways of thinking are related to gambling addiction.

Methods

This survey was performed online. We estimated that 10% to 15% of respondents would enjoy gambling and gathered responses from 550 people (303 men, 247 women). The items covered by the survey were as follows:

Frequency of Gambling

We asked the participants how frequently they gambled on “pachinko”, slot machines, horse races, bicycle races, boat races, “toto” (soccer lottery), lotteries, bowling, golf games, mah-jong and in casinos. The possible responses were “once a week or more”, “about once a month”, “about several times a year”, “about once a year”, “less than once a year”, “never done”. We also asked how much, on average, they wagered each month.

Items to Measure Pathological Gambling

We measured the degree of the respondents’ pathological gambling by using a modified Japanese version of the South Oaks Gambling Screen (SOGS) (Kido & Shimazaki, 2007) scale.

Items Evaluating Lay Beliefs About Luck

First of all, we measured 28 items such as, “I think that there are individual differences in the strength of luck”, and “I think luck is like a resource (decreasing in amount when used)”. We chose these items based on Murakami (2014), and used a seven-point scale to assess them (definitely yes to definitely no).

Next, to enable us to categorize the respondents based on their total perceived “strength of luck” and “strength of luck in gambling”, the participants answered two items. One item measured the respondents’ perceptions of the strength of their luck on a five-point scale (very weak to very strong), and the other assessed their belief in individual differences in relation to this variable (“I think that there are individual differences in strength of luck”) using a seven-point scale.

Personal Data

Sex, age (per 10-years), place of residence.

Result

Tendencies of Gambling Preferences

After excluding inappropriate answers, we analyzed data from 506 respondents. We conducted a cluster analysis of the answers about gambling frequency and extracted three clusters. Almost all of the respondents in the first cluster (363 people) were low-frequency gamblers. Hence, this was the non-gambling group. In the second cluster (84 people), the frequency of playing the lottery was the highest, and the participants were highly likely to watch sports because they frequently watched horse racing and “toto”. This was the light-gambling group. The respondents in the third cluster (59 people) frequently played pachinko and slot machines, and generally frequently participated in other gambling activities. This was regarded as the heavy-gambling group.

There were differences between the sexes in these clusters, with men being in the light and heavy groups more often than women ($\chi^2(1) = 48.80, p < 0.001$, see Table 1). Grouping by age showed that there were many heavy gamblers in their 30s and 40s ($\chi^2(1) = 43.13, p < 0.001$, see Table 1).

Table 1

Numbers of Gambling Frequency by Sex and Age

		number of gambling frequency		
		no	light	heavy
Sex	men	165 59.1%	66 23.7%	48 17.2%
	women	198 87.2%	18 7.9%	11 4.8%
Age	20s	53 85.5%	5 8.1%	4 6.5%
	30s	76 77.6%	6 6.1%	16 16.3%
	40s	95 64.2%	24 16.2%	29 19.6%
	50s	80 76.2%	22 21.0%	3 2.9%
	60s	59 63.4%	27 29.0%	7 7.5%

Our analysis of variance between the mean SOGS scores of these three groups showed that the SOGS scores were higher in the heavy-gambling group (14.85) than in the light-gambling group (4.43) and the non-gambling group (3.04) ($F(503) = 69.28, p < 0.001$). We found that 12.5% of the respondents were classified as pathological gamblers when the cutoff of the SOGS score was set to 15 points.

Comparison of Lay Beliefs in Luck Between Gamblers and Non-gamblers

We selected the participants who responded positively to the item, “I think that there are individual differences in strength of luck”, as the basis for our analysis of the perceived total “strength of luck” and “strength of luck when gambling”. Next, these participants were categorized based on their responses to the item describing their own perceived “strength of luck”. Those who indicated that it was “strong” or “rather strong” were categorized as the strong group; those who indicated “neither” were included in the intermediate

group. Participants who indicated that they had “rather weak” or “weak” luck were categorized as the weak group. This method was the same as that used by Murakami (2014).

This gave us the final “strength of luck” categories. The strong group comprised 72 participants, the intermediate group included 186 participants, and the weak group contained 215 participants. In the case of the “strength of luck while gambling” categories the strong, intermediate and weak groups comprised 37, 259, and 267 participants, respectively.

The item with the highest mean value was the item, “I think there are individual differences in the strength of luck” (4.53), followed by, “I think that luck will come to you if you work hard for a long time” (4.39), and, “It is the result of repeated efforts before realized why someone was lucky” (4.31). On the contrary, the lowest scoring item was, “When others fail, I feel like I have got their luck” (3.01) (the mean values are indicated in parentheses).

We conducted a variance analysis of these items, using the three groups with different gambling preferences as the independent variables. The groups differed in terms of the following three features see Table 2).

Table 2

Means of Lay Beliefs of Luck

		category of gambling frequency			Means	F-value
		no	light	heavy		
Affirmation or denial of luck	Luck or fate is merely a matter of mind.	4.11	4.32	3.88	4.12	1.77
The Strength of Luck	I think that strength of luck is decided by nature.	3.89	3.96	4.08	3.93	0.51
	I think that there is individual difference in strength of its luck.	4.44	4.71	4.80	4.53	2.66
"Luck Resource Belief"	I think luck is like resources (decreasing in amount when used).	3.55	3.76	3.41	3.57	1.19
	I feel 'luck was lost', after succeeding only with luck.	3.69	3.83	3.63	3.70	0.50
	If luck is not good until now, I think that good luck comes after this.	3.67	3.99	3.66	3.73	1.83
	I feel that a good event (result) does not repeat itself.	3.86	3.89	3.61	3.83	0.95
	Before important events, I feel like setting without using luck.	3.86	4.12	3.76	3.89	1.44
	In my whole life, I mind as decided the total quantity of my luck.	3.77	4.07	3.71	3.81	1.74
Additional Items of "Luck Resource Belief"	I think that the total amount of luck in life is the same.	3.70	3.79	3.61	3.71	0.25
	The total amount of luck is decided for each individual, and it seems like a thing not reserved after using it.	3.50	3.57	3.41	3.50	0.28
Luck and Effort	When I make a mistake, I feel that often "Tsuki (luck)" escape.	3.78	3.82	4.08	3.82	1.28
	The good luck is the result of repeated efforts without noticing.	4.33	4.45	4.07	4.32	1.54
	If you work hard in the daily life, I think luck will come.	4.38	4.50	4.31	4.39	0.40
	I think that you can control luck to some extent by some action of yourself.	3.62	3.85	3.76	3.67	1.15
Relationship between different people's luck	I feel like I can give my luck to others.	3.35	3.46	3.44	3.38	0.30
	I feel like luck is moving around from person to person.	3.63	3.75	3.64	3.65	0.26
	When others fail, I feel like I have got their luck.	2.94	3.01	3.46	3.01	3.72 *
	I feel that I took luck from others or was robbed by others.	3.06	3.06	3.64	3.12	4.72 **
	I think that there is only a certain amount of luck around myself, there are scramble of luck between others.	2.98	3.31	3.44	3.09	4.47 *
	Sometimes I feel that I can get luck from others or get separated.	3.21	3.19	3.31	3.22	0.14
"Flow of Tsuki (in luck)"	I act with consciousness of luck.	3.44	3.93	3.85	3.57	5.79 ***
	I believe that there is something like "flow of Tsuki (in luck)".	4.26	4.75	4.49	4.37	5.48 ***
	I think that 'Tsuki (in luck)' will switch from one person and place to another.	4.07	4.73	4.29	4.21	9.74 ***
	I am aware of a 'flow of luck' and feeling 'Tsuki (in luck)' with regard to gambling.	3.51	4.42	4.41	3.76	25.4 ***
	I think that "Tsuki (luck)" in gambling is different from "Tsuki (in luck)" in everyday life.	4.03	4.04	4.03	4.03	0.00
	'Tsuki (in luck)' comes in alternating ways, like good times and bad times.	3.92	4.36	4.39	4.05	6.49 **
	'Tsuki (in luck)' is what makes things better and worse with nature.	4.10	4.45	4.49	4.20	4.87 **

*p<.05, **p<.01, ***p<.001

1. Relationship between different people's luck (“When others fail, I feel like I have got their luck”; “I feel that I took luck from others or was robbed of luck by others”; “ I think that there is only a certain amount of luck around myself, there are scramble of luck between others”).

2. Affirmation of change with respect to the “flow of *Tsuki* (in luck)” as a state (“I believe that there is something like a ‘flow of *Tsuki* (in luck)’”; “I think that ‘*Tsuki* (in luck)’ will switch from one person and place to another”; “‘*Tsuki* (in luck)’ comes in alternating ways, like good times and bad times”; “‘*Tsuki* (in luck)’ is what makes things better and worse with nature”).

3. Behavior based on conscious feelings about luck (“I am aware of a ‘flow of luck’ and feeling ‘*Tsuki* (in luck)’ with regard to gambling”; “I act with consciousness of luck”).

The scores of the light group and the heavy group tended to be higher than those of the non-gambler group for all of the three features described above.

There were no further differences in the respondents’ tendencies when it came to regarding luck as a resource (“Luck Resource Belief”) or beliefs about individual differences in the strength of luck, affirmation of luck or fate, and the relevance of luck to effort.

Next, we carried out a chi-squared analysis of the results of the items assessing the “strength of luck” and “strength of luck in gambling”, using the three groups categorized by gambling preference as independent variables. There were significant differences between the heavy, light, and non-gamblers, with the heavy gamblers regarding their luck as stronger than the light gamblers, who in turn considered themselves as having greater “strength of luck” than the non-gamblers (“strength of luck”: $\chi^2 = 12.71$, $df = 4$, $p < 0.05$; “strength of luck in gambling”: $\chi^2 = 48.74$, $df = 4$, $p < 0.001$).

However, as a result of analysis of variance using total “strength of luck” and “strength of luck in gambling” as independent variables, a significant difference that the person who recognizes that “luck in gambling” is strong has a higher SOGS score was indicated ($F(4,60) = 12.07$, $p < 0.001$).

Discussion

As a result of this survey, we found that there are differences between gambler and non-gamblers in the three aspects of scramble of luck between others, affirmation of “flow of *Tsuki* (in luck)” and behavior with consciousness of luck about lay beliefs in luck. These aspects are easy to conscious in sustaining gambling. Also, although there was no difference in perception of individual differences of “strength of luck”, there were who recognized that “strength of luck in gambling” was strong was shown to be related to pathological gambling.

In relation to actual gambling, Rogers & Webley (2001) and Wohl et al. (2011) recognize that the recognition of “strength of luck” increases gambling, and Murakami (2013) indicated that those who have “Luck Resource Belief” after hitting declines expectation of gamble, but it has been shown that gambling or not will change depending on the cognition of the importance of that gambling.

Regarding the process of the formation of these beliefs, when gambling, even if the result of each trial is random, luck is subjectively believed to continue for a specific period of time. Gambling is clearly not necessary for someone to win a game in which they are trying to predict the outcome of a sports match (not everyone will win), even though such an activity bears similarities to gambling on the results of a soccer game or public competition. It is easy for players to attribute their results in these games to something that goes beyond chance and, thus, become more conscious of luck in daily life. This means that more opportunities arise for cognitions on the value of gambling. Further work is necessary to determine how these ways of thinking lead to actual gambling behavior.

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