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ABSOLUTE AND RELATIVE JUDGMENTS IN RELATION TO STRENGTH OF BELIEF IN GOOD LUCK

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The Belief in Good Luck scale is used to measure strength of belief in good luck, which is perceived as a personal ability. However, in this scale those who recognize individual differences but have only a weak belief in their own good luck (weak group) are not taken into account. In this study, I defined the weak group in terms of social comparison. Respondents answered questionnaires regarding possibility in 2 types of scenario: a) when the objective probability was the same, but the probability assigned to others differed, and b) for the occurrence of an uncertain event. The results indicated that, compared with those in the strong group, the weak group tended to elevate the likelihood of success based on the assigned probability of others. I also found differences in assessments for the occurrence of an uncertain event. The results point to the difficulty in measuring the idea of strength of belief in good luck as only a single factor linked to strength or weakness.

Keywords: belief in luck, good luck, strength of belief in good luck, individual differences, lay theory, social comparison.

In this study I discuss, in psychological terms, the concept of *strength of belief in good luck* in everyday life. In general, strength of belief in luck is a concept shown in individual differences in personal ability, rather than as a result of chance.

In the field of psychology, the concept of *luck* was first discussed by Heider (1958) in relation to causal attribution theory. Heider proposed the concept of *naïve psychology*, according to which individuals search for causative factors for events in terms of ability, effort, and luck.

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Although luck is related to the concept of chance, as opposed to ability or effort, and the concepts of luck and chance are often used interchangeably, luck is not always described in the same way as chance in general (e.g., Keren & Wagenaar, 1985; 1987). In terms of general usage of the term luck, Murakami (2004) interpreted in diagrammatic form the lay theory of luck that we use in our daily lives (see Figure 1). In particular, many people perceive and use the idea of luck as a personal ability. Of the respondents in Murakami's (2002) survey, 79.6% answered affirmatively to the statement, "There are individual differences in the strength of luck."

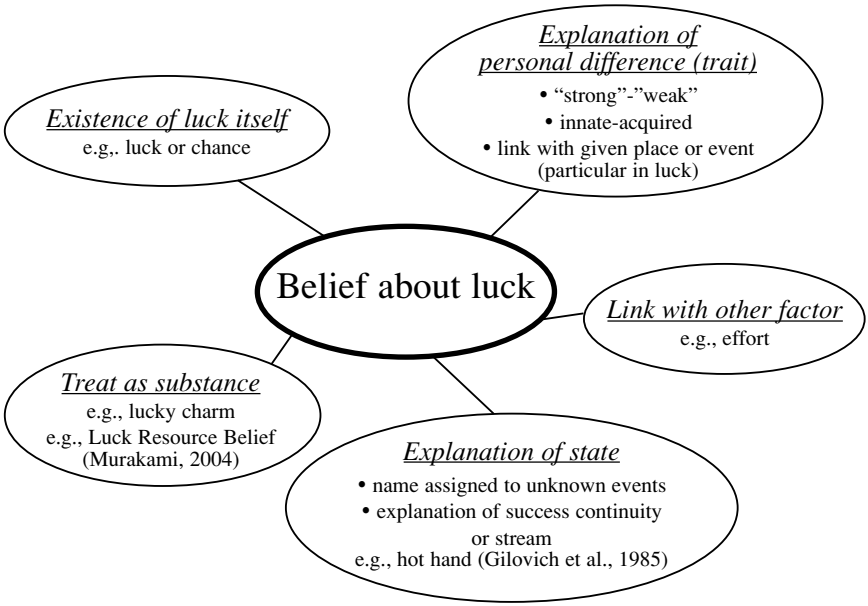

Figure 1. *Lay belief about luck.*

This aspect of the idea of strength of belief in good luck has been discussed not only by Japanese researchers but also by Smith, Wiseman, and Harris (1997) and Darke and Freedman (1997a, 1997b). I explored this personal ability of strength of belief about good luck to clarify the nature of the concept of strength of belief in good luck and how it should be measured.

The Aspect of the Belief in Good Luck Scale

Darke and Freedman created an attitude measure, called the Belief in Good Luck Scale (BIGL), to measure the strength of a person's belief in their good luck. The BIGL Scale includes two concepts: (a) The belief in luck is viewed as

necessary rather than causal, whether or not it is treated as a personal ability, and (b) with regard to luck, the level at which people rate themselves, either strong or weak, is treated as a personal ability. The BIGL Scale has been used in several studies (Chiu & Storm, 2010; Day & Maltby, 2003, 2005; Oner-Ozkan, 2003; Watt & Nagtegaal, 2000; Wohl & Enzle, 2003; Young, Chen, & Morris, 2009). However, there are several issues regarding the use of the scale, the main one being the concept that chance and strength of belief in luck are treated as the same factor. As a result, those who have strong belief in luck perceive that there are individual differences in strength of luck, while those who have weak belief in luck perceive that these individual differences do not exist.

To explore this issue, Murakami (2002) measured two aspects of the strength of belief in luck: a) attitudes about individual differences (e.g., "I think that there are individual differences in the strength of belief in luck"), and b) the extent of an individual's strength of belief in luck. The correlation results revealed that the two concepts are independent (r = -.07).

The Concept of Strength of Belief in Luck and its Validity

To explore the concept of strength of belief in luck, its validity, and appropriate ways of measuring it, I discussed three issues related to the weak perception of strength of luck. The first issue is the methodological aspect. Darke and Freedman (1997b) indicated that the weak group was very small, comprising only 4.65% of the total number of respondents. In their previous survey about the BIGL Scale, Darke and Freedman's (1997a) participants responded to the statement, "I consider myself to be a lucky person." These researchers insisted on making the BIGL Scale a one-factor structure, because this item was not loaded and this particular BIGL item resulted in a low correlation (r = .05). Furthermore, a high percentage of the weak group agreed with the item. However, given that the weak group was considered a small part of the sample in the overall survey, a ceiling effect may have occurred. Perhaps this result was due to a lack of consideration for possible sample biases.

The second issue is that of cultural differences in the belief in the strength of luck. It is possible that the weak group was small because of differences between Eastern and Western cultures. If Westerners have an assertive tendency toward self-enhancement, as noted by Heine (2003), it is possible that this tendency in the strong group (i.e., those who perceived themselves as lucky) accounted for the high percentage rather than actual cognitive factors. This does not mean that the samples were biased; it may simply be that more people perceived themselves to be lucky rather than unlucky. However, with regard to sample bias in the strong group, when Wiseman (2003) investigated strength of belief in luck in the United Kingdom, the weak group accounted for 14.0% to 25.8% of the total sample. Murakami's (2002) weak group comprised 22.2% of the sample (26 of 117); as

such, sample bias was dissimilar to that in Darke and Freedman's (1997b) study. Thus, the sample bias cannot be attributed to cultural differences.

Finally, the third issue is related to the significance of measuring the strength of belief of luck concept, rather than the sample bias. A weak group cannot be measured using the BIGL. Darke and Freedman (1997b) found that among the weak group, self-esteem was related to locus of control, and they stated that it was a substitute for the measurement of strength of belief in luck. However, this is a poor argument for the significance of a measurement, because subjective judgment scores may be confused with confidence. For example, it has been suggested that the idea of strength of belief in luck is associated with a high degree of confidence with regard to winning the lottery (Smith et al., 1997). To have the illusion of control (Langer, 1975), extremely low levels of confidence are required for a clear distinction to be made from random high confidence levels.

Purpose in This Study

My purpose in this study was to assess the value of measuring strength of belief in luck, including that within the weak group, on a basis other than the factors listed above. First, the idea of strength of belief in luck may be recognized as the ability to govern contingency in particular circumstances, due to a conceptual distinction between strength of belief in luck and confidence. In regard to these particular circumstances, Murakami (2002) suggested that the idea of strength of belief in luck is not related to life satisfaction or learned helplessness. Darke and Freedman (1997b) also proposed that strength of belief in luck has little relevance to life satisfaction. These results indicate that strength of belief in luck has a strong influence on particular situations other than daily experience.

In Murakami's (2002) study, respondents answered questions regarding the frequency of their successes and failures in uncertain past events. These experiences were categorized into two types of events: those with a low probability of occurrence, such as winning the lottery, and important events (e.g., university entrance examinations) that were irrelevant to the probability of occurrence.

Furthermore, differences in experiencing success in important, yet uncertain, events were more strongly predicted by strength of belief in luck than were low probability, yet successful, events. There are two types of events in which probability of occurrence is low. The rate of occurrence of an uncertain event and the probability of success are low for an individual, although the occurrence of the event is guaranteed (e.g., someone will win the lottery). For these cases of rare occurrence, the frequency of a particular event is judged. However, regardless of whether or not an event happens for specific individuals, the event itself will take place eventually.

In the latter case, the likelihood of self-respect is an a priori probability (i.e., synonymous with relative proportion) and it implies that for many people it is impossible to obtain the same result at the same time. In such instances, judgment may be compared with the results of others. The other type of event involves other kinds of experiences concerning important situations, such as writing university entrance examinations, in which not many people will achieve positive results. Therefore, it is possible that, in the case of specialized past experiences, judgment is independent of the results of others.

In terms of these standards of judgment, I suggest two issues: first, in terms of the idea of strength of belief in luck as a predictive marker of subjective probability, it is possible that those who have judged themselves not only as successful but also as able, perceive such events with a sense of control. If people perceive strength of belief in luck as a personal ability that is reflected in success in important situations, independent of probability, then the idea of strength of belief in luck also affects their estimation of event outcomes.

Another possibility that I propose is that the idea of strength of belief in luck may affect relative judgment. In Murakami's (2002) study, the weak group judged their own past experiences and certain experiences of other groups more harshly than did other groups (i.e., the weak groups were negative regarding both their own experiences and the success of others). It was also of note that the answers provided also indicated their relative sense of strength of belief in luck. In contrast, the strong group was less conscious of others, and strength of belief in luck was judged as an absolute.

When the occurrence of an event is guaranteed, as in someone winning the lottery, the probability of the event occurring is synonymous with the relative proportion. If predictions of events are affected by relatedness to other events, the weak group's perceptions of situations will tend to be influenced by other individuals' states. The estimation of the outcome of events changes in the weak group depending on the state of others, but this factor is not significant in the strong group.

Regarding the ease of comparing differences between the weak and strong groups, similar results have been reported in the evaluation of tasks. When other people solved tasks relatively easily, respondents with low subjective well-being did not fare well. However, respondents with high subjective well-being maintained relatively high levels of confidence (Lyubomirsky & Ross, 1997).

For events with guaranteed occurrence, Windschitl and Wells (1998) found that relative judgments appear to change the estimation of likely results. Therefore, I created situational scenarios similar to those considered relevant to the idea of strength of belief in luck and assessed the judgments of participants. In line with this, I proposed the following hypotheses:

Hypothesis 1a: Members of the group who perceive their luck as being weak will change their own subjective judgments to align with the subjective judgments of others.

Hypothesis 1b: Members of the group who perceive their luck as strong will make absolute judgments that remain constant across similar situations.

Hypothesis 2: Strength of belief in luck will influence the perceived likelihood of personal success, as well as the likelihood that the occurrence of an event will change.

Method

Participants

The participants were 217 students at a junior college and a university. For analysis, data from 198 respondents (129 men and 69 women; average age, 18.9 years old; *SD* = 1.32) were used.

Procedure

I distributed and collected a questionnaire during classes. Participants were students who attended a psychology lecture and agreed to take part in the study. The survey was conducted anonymously and response time was about 10 minutes. After the questionnaires had been collected, I explained the purpose of the investigation.

Measures

Items to measure strength of belief in luck. To create the strength of belief in luck category (Murakami, 2002), participants answered two questions, measuring their perception of how lucky they were with regard to degree of strength on a 5-point scale (1 = *very strong* to 5 = *very weak*), as well as individual differences (i.e., "I think that there are individual differences regarding strength of belief in luck") which respondents answered using a 7-point scale (1 = *will definitely win* to 7 = *will definitely not win*).

Judgment about uncertain events task. Based on Windschitl and Wells' (1998) study, I created two tasks, the first of which was related to a positive event (the possibility of winning the lottery) and the other was related to a negative event (the assignment of job duties by an unreasonable manager). For both tasks, only one person had the possibility of a random lottery win or job assignment. In the lottery task, the total number of tickets purchased by each individual was presented, and in the job assignment task, the total number of days of work and the assignment on each individual working day were presented. These are shown in Table 1.

Table 1. *Numbers of Participants Assigned to Each Condition*

Number of lottery entries	Participants (*n*)	Others	Probability
Small	6	8,2,2,1	0.32
Same	6	6,4,2,1	0.32
Large	6	4,4,4,1	0.32

The participants were randomly filtered into the following three groups: (a) the probability that the participant would win the lottery and the total number of tickets purchased was the same (approximately 30%) in each condition, but the assigned days and number of tickets purchased for others differed among conditions; (b) some others had more tickets (days) than the participant (*small* condition), when assigned the same number of tickets (days; *same* condition); and (c) all others had fewer tickets (days) than the participant (*large* condition).

Participants answered regarding the possibility of winning (0%–100%, rated on a sliding scale of 10% chance, 20% chance, and so on, up to a 100% chance) in each case. Their degree of confidence was rated on a 7-point scale (1 = *will definitely win* to 7 = *definitely not win*), and the importance of success was also rated on a 7-point scale (1 = *totally unimportant* to 7= *very important* on a 7-point scale).

I also explored the statistical probability (i.e., the frequency that was indicated, such as the number and times that the occurrence of an event was not guaranteed) of two tasks: one involving a positive event (i.e., job recruitment) and one a negative event (i.e., the spread of an infectious disease in the workplace).

The past frequency of occurrence was also provided as further information, either 3 in 10 times, or 3 in 10 persons in each case. The participants answered regarding the possibility of event occurrence (0%–100%, rated on a sliding scale of 10% chance, 20% chance, and so on, up to a 100% chance) in each case, the possibility of occurrence for the respondent was rated on a 7-point scale (1 = *definitely* to 7 = *definitely not*), and the importance of success was also rated on a 7-point scale (1 = *totally unimportant* to 7 = *very important*).

Data Analysis

The data collected from two students were excluded due to flaws. Subsequently, data from only those participants who responded positively to an item, such as "I think that there are individual differences regarding strength of belief in luck," were included for further analysis. This method was the same as that used by Murakami (2002).

Next, on the basis of responses to the luck item, the individual participants' perception of the degree of strength of their own good luck was categorized as follows: "strong" and "rather strong" were included in the strong group ($n = 64$),

"neither" was included in the intermediate group ($n = 46$), and "rather weak" and "weak" were included in the weak group ($n = 54$).

Results

I conducted an analysis of variance (ANOVA) using independent variables of the "others" condition and the strength of belief in luck category and dependent variables of degree of confidence and the possibility of winning. The results showed that in the lottery task there was a significant difference in the perceived possibility of winning between the strength of belief in luck category versus the possibility of winning assigned to others category, $F(2, 194) = 12.01$, $p < .001$. Multiple comparisons revealed that the strong group estimated the possibility of winning the lottery to be greater than did the other groups.

In the case of the possibility of winning assigned to others condition, participants in the large condition had the highest value, followed by the small condition, with the same condition having the lowest value. The strong group showed almost the same values with regard to the possibility of winning the lottery among the assigned conditions, but there were differences in the other groups among assigned conditions (see Figure 2). Significant differences in confidence were observed only in the strength of belief in luck category, not in the job-assignment task (see Table 2).

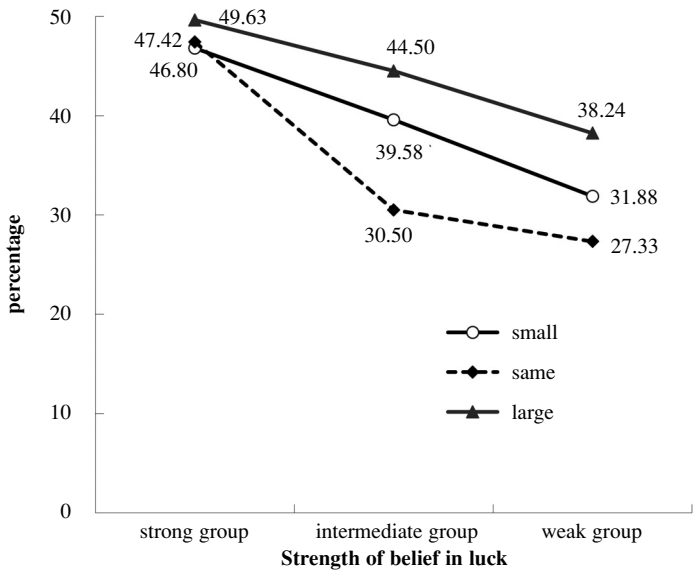

Figure 2. *Mean scores (percentage) for lottery task.*

Table 2. *Mean Scores for Job Assignment Task*

Number of lottery entries	Strong group	Intermediate group	Weak group
Small	50.60%	58.20%	53.70%
Same	42.40%	49.20%	49.40%
Large	54.60%	48.30%	57.70%

Next, I analyzed two issues that separated the likelihood of the occurrence of an event for participants individually and the occurrence of the event itself. The value for these was higher than for information presented as a whole (Table 3). Differences in the form of frequent occurrence were not observed.

Table 3. *Mean Scores for Job Recruitment and Infectious Disease Tasks*

	Strong group	Intermediate group	Weak group	*F*
Job recruitment task				
Event occurrence	53.20%	46.10%	41.50%	4.99
Occurrence for respondents	55.50%	46.20%	40.00%	7.59
Infectious disease task				
Event occurrence	45.90%	47.20%	48.90%	0.26
Occurrence for respondents	40.50%	42.60%	48.60%	1.22

To examine these issues, I conducted an ANOVA using the strength of belief in luck category as an independent variable, and the possibility of the occurrence for participants and the occurrence of the event itself were used as dependent variables. The results showed significant differences between the strength of belief in luck category (regarding the possibility of the occurrence for participants) and the occurrence of the event itself in the recruitment task and occurrence for the participants: $F(2, 184) = 4.99$, $p < .01$; event: $F(2, 184) = 7.59$, $p < .01$. The possibility judgments of the participant's success correlated with the occurrence of the events ($r = .42$, $p < .001$).

Discussion

My primary goals in this study were to investigate strength of belief in luck as a characteristic influencing the estimation of uncertain events, and to identify differences between strong and weak groups in terms of the recognition of and the criteria used to judge uncertain events. Thus, I used tasks to measure subjective probabilities.

Overall, the idea of strength of belief in luck affected judgment in the assigned positive event tasks of others. Judgment was based on the number of lottery tickets that major competitors had, rather than on the number of major

competitors. However, the major competitors were only three people under the small condition and all judgments were not for major competitors. This judgment process was used regardless of whether or not an event was more likely than others judged, and powerful competitors were found to influence comparative judgments. I found a similar slight trend for negative events.

In addition, when considering judgment of an event for which occurrence is not guaranteed, those who perceived that their luck was strong estimated the possibility of positive events as high, not only regarding occurrence for themselves but also for the occurrence itself. This result indicates that the occurrence of an individual's success and the occurrence of an event need to be distinguished. However, with negative events, such results were not shown.

My results suggest that absolute and relative judgments are associated with the lay belief of luck. Teigen (1995) indicated that recalled counterfactual events (thinking) enhanced the perception of luck. When considering the criteria for strength of belief in luck, some people judged it from absolute criteria, whereas others used relative criteria. These results also indicate that the level of success experienced is the factor that motivated both the strong and weak groups, even if these groups did not always have many successful experiences. Current measures of the concept of ability, specifically subjective ability (especially in reference to one's personal assessments), are vague. Therefore, it is essential to establish measured categories, despite the overlap with other concepts. Based on my results, I propose that strength of belief in good luck should be measured as an ability that individuals possess separately from their perceived degrees of strength and weakness.

Finally, there are limitations to this study. Although I predicted that an individual's perception of strength of luck would influence his/her judgment, the findings for the positive results situation did not differ from those for the negative results situation. Future researchers should investigate other negative and positive tasks to validate the reliability of my findings. In addition, the probability of success presented in these tasks was about 30%. Further investigation will be needed to verify the hypotheses in conditions of low and high probability.

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