

The Relationship Between Belief in Stable Luck and a Propensity for Superstition: The Influence of Culturally Conferred Agency Beliefs

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Abstract

Superstition is known to be positively associated with the belief in luck. However, prior research that has demonstrated the link between luck belief and superstition has not distinguished between two different types of luck beliefs—stable luck and fleeting luck—and their concomitant relationships with agency beliefs and superstition, as those vary by culture. The current research focused on the belief in stable luck and investigated the relationship between this belief and the propensity for superstition among Asians and Americans (Study 1) or Asian Americans and non-Asian Americans (Study 2). We found that belief in stable luck is positively associated with the propensity for superstition among Asians (Study 1) and Asian Americans (Study 2) but not among individuals without Asian cultural background. Furthermore, belief in collective agency mediated the effect of stable luck on superstition, but again, only for Asians (Study 3). The implications of these findings for the study of culture are discussed.

Keywords

belief in stable luck, superstition, culture, agency belief

Superstition is an irrational belief or practice resulting from a supernatural or false conception of causation. Although superstitious behavior is generally socially unacceptable in modern industrialized countries (Tsang, 2004), it remains prevalent in all human societies (Vyse, 1997). More Americans believe in superstition than evolution (“Superstitions: Why You Believe,” 2012), and even highly successful individuals harbor superstitions. For example, Al Shugart, former CEO of Seagate, carries an Indian talisman every time he leaves home; Matthew Szulik, CEO and president of Red Hat, carries a medal of Pope John Paul II with him everywhere he goes (Pfeiffer, 2000); Kiichiro Toyoda, the founder of Japan’s largest automaker, decided to modify his company’s name to Toyota based on the advice of a numerologist (Ashley, 1984); Wall Street icon J. P. Morgan once employed an astrologer and relied on her so much that he said, “It is easy to become a millionaire, but to become a billionaire, you need an astrologer” (Clendaniel, 2000).

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Several psychological and situational factors affect the propensity to engage in superstition, including perceived environmental uncertainty (Hamerman & Johar, 2013), perceived lack of control (Whitson & Galinsky, 2008), stress (Keinan, 2002), anthropomorphic beliefs (i.e., the tendency to apply human-like traits to nonhuman objects or concepts; Sierra, Hyman, Lee, & Suh, 2015), and belief in luck (Burger & Lynn, 2005; Griffiths & Bingham, 2005). Belief in luck in general has been found to positively correlate with superstitious behaviors in sports (Burger & Lynn, 2005) and gambling (Griffiths & Bingham, 2005); the more the players express a belief that luck generally affects life outcomes, the more likely they are to adopt superstitious strategies to win.

Luck beliefs may be categorized in two types: fleeting luck and stable luck. Individuals who believe in fleeting luck see it as an external and uncontrollable force (Heider, 1958; Weiner, 1974). To gain control, they sometimes harbor superstitions as a coping strategy to garner good luck or to ward off bad luck (e.g., Ohtsuka & Duong, 1999). In this way, there is a positive relationship between fleeting luck and superstition (e.g., Burger & Lynn, 2005; Ohtsuka & Duong, 1999).

The focus of this article, however, is on the second type of luck belief, the belief in stable luck. In contrast to fleeting luck, luck can be seen as a constant trait (Weiner, 1998). Stable luck belief considers luck as relatively constant and “internal to the individual” (Weiner, 1998) rather being than a product of situational happenstance. Instead of being temporary and unreliable, stable luck is thought to produce favorable outcomes more dependably than fleeting luck does. Because people are motivated to maintain a positive self-image (Kaplan, 1975; Tesser, 1988), those who believe in stable luck generally also believe that they are one of the lucky ones (Maltby, Day, Gill, Colley, & Wood, 2008; Weiner, 1998). As a reflection of this tendency to believe in one’s own luck, prior research on stable luck has focused on good luck. Belief in stable bad luck is theoretically possible, but some evidence suggests that it may operate through different psychological mechanisms (Teigen, Evensen, Samoilow, & Vatne, 1999). To summarize, stable luck is concisely defined as luck that “favors some people but not others and is especially likely to favor oneself” (Darke & Freedman, 1997a, p. 490).

Because stable luck is thought to produce good outcomes, stable luck belief affords a sense of agency, the idea that one can take control of situations (Menon, Morris, Chiu, & Hong, 1999). Agency beliefs are negatively associated with superstitious behaviors (Kay, Whitson, Gaucher, & Galinsky, 2009; see also Whitson & Galinsky, 2008). That is, prior research demonstrates that people engage in superstitious behaviors to compensate for a lack of agency. The premise of the current investigation is that when people believe in stable luck, they are less likely to try to influence personal outcomes through superstitious behavior, because their sense of agency is bolstered by the stable luck belief.

Yet, agency belief takes different forms across cultures (Menon et al., 1999). North American culture endorses individual agency more than collective agency, meaning Americans conceive of individuals as unconstrained free agents. Asian cultures endorse collective agency more than individual agency; that is, Asians consider individuals to be more constrained than social collectives. To date, it is unclear whether the negative relationship between agency belief and superstition documented in Western cultures (e.g., Whitson & Galinsky, 2008) holds in Asian cultures. It is possible that collective agency beliefs are not related to superstition in the same way that individual agency beliefs are. This article focuses on whether belief in stable luck is associated with superstition and whether this relationship differs by culture based on culturally conferred agency beliefs (Menon et al., 1999).

In the following sections, we review the literatures on the relationship between luck and agency beliefs, investigating whether luck is thought to bolster agency by culturally conferred agency beliefs. We then explore the relationship between agency beliefs and superstitions. The current article, thus, aims to explicate superstition as a function of culturally variable perceptions

of agency. It will also enrich our understanding of the antecedents of superstitions in different cultures.

Luck and Agency Beliefs

Agency belief refers to a belief about whether a person can take control of the situation (Menon et al., 1999). Belief in stable luck is positively related to agency belief (e.g., Young, Chen, & Morris, 2009). Individuals who perceive luck as a “somewhat stable force that tends to influence events in their own favor” (Darke & Freedman, 1997a, p. 486) treat luck as a deployable personal resource. They see luck as extra personal asset that they can use anytime they want. This perception makes them more confident (Darke & Freedman, 1997b; Day & Maltby, 2003, 2005) and more agentic (Young et al., 2009) than those who do not believe in stable luck. Indeed, the enhanced feeling of individual agency has been found to elevate achievement motivation (Young et al., 2009) and increase creativity in the workplace (Chen, Roth, & Todhunter, 2015).

Agency beliefs vary by culture. According to the implicit theory of agency (Menon et al., 1999), there are two types of agency beliefs: belief in individual agency and belief in collective agency. *Individual agency* refers to the notion that each individual is independent, can exercise free will, and should be held responsible for his or her own behavior. In contrast, *collective agency* emphasizes that each individual is embedded within groups or societies and individuals need to work within those groups to achieve their desired outcomes. In general, Americans are more likely to endorse a belief in individual agency, whereas Asians are more likely to endorse a belief in collective agency (Menon et al., 1999). Most studies on the relationship between stable luck and agency belief were conducted in Western cultures. Plausibly because of this, belief in stable luck is found to be positively related to individual agency among Westerners.

Because the belief in stable luck is positively related to agency belief and because collective agency is the dominant agency belief in Asian cultures (Menon et al., 1999), it is likely that in Asian cultures, belief in stable luck is associated with higher levels of collective agency. In other words, Asians who believe they are lucky might think that there is always a collective that they can work with to achieve their goals. The collective can be their families, their friends, strangers who are willing to help, or even their ancestors or other supernatural forces. Although their personal agency is limited, with the help from others, they are able to achieve successful outcomes. Taken together, belief in stable luck is positively related to individual agency in Western cultures but we predict that it would be positively related to collective agency in Asian cultures.

Agency Beliefs and Superstitious Behaviors

In the same vein, the relationship between agency belief and superstitious behaviors may vary across cultures. In Western cultures, individual agency negatively relates to propensity for superstitions (Hamerman & Johar, 2013; Tobacyk & Shrader, 1991). For instance, when people lack a sense of agency, they are more likely to believe in personal horoscopes compared with people who possess a sense of agency (Wang, Whitson, & Menon, 2012). Lacking agency also leads people to see a connection between the superstitious practice of knocking on wood and achieving an important personal outcome such as getting one’s idea approved (Whitson & Galinsky, 2008). In other words, when Westerners possess a low level of agency, they may perceive superstitious behavior as an effective strategy to achieve desired outcomes (Hamerman & Johar, 2013). It follows that if individual agency were bolstered, people’s propensity for superstitions would decrease. As discussed before, in Western cultures, belief in stable luck can enhance individual agency (Young et al., 2009) which then may render superstitions unnecessary.

The relationship between belief in stable luck, agency belief, and superstitious behaviors likely differs in Asian cultures. As discussed before, Asians who believe they are lucky may tend

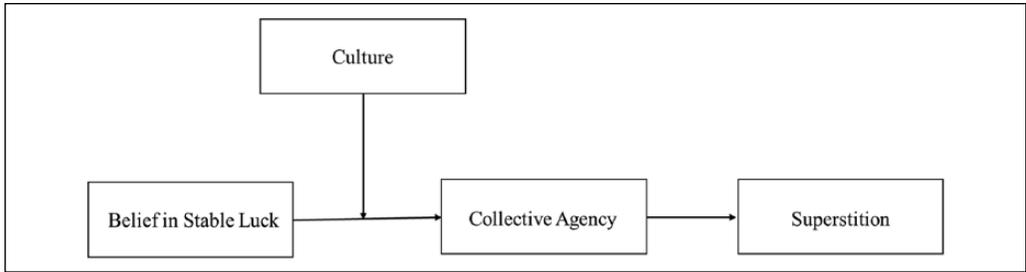


Figure 1. Conceptual model.

to have a sense of collective agency—a belief that social collectives can help them to obtain their desired outcomes (Spector, Sanchez, Siu, Salgado, & Ma, 2004). In these contexts, such collectives may include not only human actors but also nonhuman actors, such as deities or animals (Morris, Menon, & Ames, 2001). People often participate in superstitions to solicit the favor of such nonhuman actors (Thompson, 1978). Therefore, we predict that collective agency would be positively associated with superstition in Asian cultures (see Figure 1 for the conceptual model).

Hypotheses and Overview of Studies

To summarize our argument thus far, we argue that belief in stable luck is more positively associated with the propensity for superstition among Asians than among non-Asians. Furthermore, we hypothesize that collective agency belief explains the cultural difference in the relation between stable luck and superstition: We expect collective agency to mediate the relationship between stable luck and superstition for Asians but not for non-Asians.

We conducted three studies to test these predictions. In Study 1, we compared the relationship between the belief in stable luck and the propensity for superstition among Chinese and American participants. In Study 2, we primed independent and interdependent self-construal and examined the relationship between the belief in stable luck and superstition in both conditions. In Study 3, we tested the hypothesis that the belief in collective agency mediates the cultural differences in this relationship.

Study 1

Method

Participants. One hundred eighty-one participants completed the study. Ninety-three were Chinese college students from mainland China (67.7% female; M age = 20.29, SD = 1.15) and 88 were American college students from the United States (47.7% female; M age = 22.75, SD = 5.91). The American sample was 90.9% Caucasian, 6.8% African American, 1.1% Hispanic, and 1.1% American Indian. The survey was described as a study on decision making. All participants were social science majors and took part in the present study to fulfill a course requirement. The exact sample size varied slightly across analyses as a result of missing data for some respondents.

Measures. Participants were instructed to complete a battery of self-reported items. The American participants responded to the original measures in English, and the Chinese participants responded to the Chinese version. Translation/back-translation procedures were used to establish the measures' translation equivalence (Brislin, 1970).

Table 1. Measured Items and Factor Loadings for the Propensity for Superstition.

Factor	Loading	Item wording
Positive outcome superstition	.82	A politician carries a lucky gem in his pocket when he goes to important meetings.
	.69	After signing several bad deals, a movie producer changes the style of his signature.
	.83	A family holds a ritual in their new home to bring good fortune.
	.85	A student always uses a special lucky pen when taking exams in school.
Negative outcome superstition	.80	A gambler changes the way he says his name to leave his bad luck behind.
	.79	A student avoids another student who is known to have continual bad luck.

The propensity for superstition. Based on a pilot study on superstition, six items were used to measure the propensity for superstition. These items were based on practical issues, familiar to both Chinese and American university students (see Table 1 for the wording used in the items), such as “A student always uses a special lucky pen when taking exams in school.” Participants were asked to indicate how likely they would be to choose the specific practice to handle uncertainty if they were the actors, where 1 = *not at all likely* and 6 = *very likely*. Cronbach’s α for all items was .77 ($\alpha_{\text{American}} = .77$; $\alpha_{\text{Chinese}} = .77$).¹

The belief in stable luck. We used Darke and Freedman’s (1997a) Belief in Good Luck Scale ($\alpha_{\text{American}} = .86$; $\alpha_{\text{Chinese}} = .77$) to measure the belief in stable luck. This scale has been used to measure the belief in stable luck in more than a dozen studies (André, 2009). An example item was that “I consider myself to be a lucky person,” where 1 = *definitely disagree* and 6 = *definitely agree*.

Control variables. Age and gender were included as control variables. Furthermore, research has shown that religiosity, which refers to the frequency of religious practices and the strength of underlying religious beliefs, is associated with the occurrence of superstition (Beck & Miller, 2001; MacDonald, 1995). Similarly, the belief in fleeting luck has been found to be associated with the adoption of superstitious strategies (Bovee, 1998; Ohtsuka & Duong, 1999). Therefore, religiosity and the belief in fleeting luck were included in the analyses as control variables. To measure religiosity, we asked participants to indicate the extent to which they identified themselves as practicing a particular religion where 1 = *never* and 6 = *regularly*. We used Oner-Ozkan’s (2003) four-item measure of belief in fleeting luck ($\alpha_{\text{American}} = .81$; $\alpha_{\text{Chinese}} = .68$), which was also used by Young et al. (2009; for example, “Rather than following a stable pattern, luck follows a path of ups and downs”).

Results

The means, standard deviations, and correlations of all variables are shown in Table 2. To examine the moderating effect of culture, we regressed propensity for superstition on the belief in stable luck, culture, and the interaction term of these predictors. We also entered age, gender, religiosity, and the belief in fleeting luck as control variables (see Table 3). The main effect of the belief in stable luck was significant, and the main effect of culture was marginally significant. Importantly, the interaction between culture and the belief in stable luck was significant, $\Delta R^2 = .02$, $F(1, 167) = 4.71$, $p = .03$. We also found that propensity for superstition was positively

Table 2. The Means, Standard Deviations, and Correlations of the Study Variables in Study 1 ($N = 181$).

Variables	American						Chinese			
	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	<i>M</i>	<i>SD</i>
1. Age	22.8	5.91		-.21*	.14	-.24*	.07	.01	20.3	1.15
2. Gender ^a	1.48	0.50	-.01		.01	.07	-.07	.06	1.67	0.47
3. Religiosity	3.63	1.97	-.03	.19		-.06	.02	.14	2.59	1.34
4. Belief in fleeting luck	3.88	0.96	-.35**	.05	-.12		.30**	.35**	4.08	0.78
5. Belief in stable luck	3.45	0.77	-.23*	-.14	-.04	.45**		.47***	3.67	0.72
6. Propensity for superstition	3.24	1.09	-.35**	.18	.05	.37**	.21*		3.73	1.00

Note. $N = 181$. American correlation coefficients are reported below the diagonal. Chinese correlation coefficients are reported above the diagonal.

^aMale = 1; female = 2.

* $p < .05$. ** $p < .01$.

Table 3. Results of Hierarchical Regression Analyses of Study 1.

Variables	Model 1		Model 2		Model 3	
	β	<i>p</i>	β	<i>p</i>	β	<i>p</i>
Control variables						
Age ^a	-.18	.01	-.15	.04	-.16	.03
Gender	.10	.14	.11	.11	.10	.14
Religiosity	.07	.34	.10	.15	.10	.16
Belief in fleeting luck	.33	.00	.24	.00	.25	.00
Independent variables						
Belief in stable luck			.26	.00	.39	.00
Culture			-.11	.14	.60	.08
Interaction						
Belief in Stable Luck \times Culture					-.71	.03
F statistic	9.42	0.00	9.62	0.00	9.10	0.00
<i>df</i> 1	4		6		7	
<i>df</i> 2	170		168		167	
R^2	.18		.26		.28	
ΔR^2			.08	.00	.02	.03

^aMale = 1; female = 2.

related to belief in fleeting luck, but negatively related to age. No relationships were found between superstition propensity and either gender or religiosity.

To take a closer look at the interaction between belief in stable luck and culture on superstition propensity, we ran a simple slopes analyses (Aiken & West, 1991). In support of our hypothesis, results indicated that the belief in stable luck predicted the propensity for superstition among Asians ($\beta = .40$, $t = 4.16$, $p < .001$) but not among Americans ($\beta = .09$, $t = 0.83$, $p = .41$). Therefore, the belief in stable luck was related to the propensity for superstition among Chinese participants but not among American participants.

Discussion

The results of Study 1 support our hypothesis. The belief in stable luck was positively associated with the propensity for superstition among Asians but not among Americans. However, one

limitation of this study stemmed from the use of people from a country as a proxy for a cultural group (Morris & Young, 2002). Chinese participants may differ from Americans in many aspects, which could influence the propensity for superstition in the two cultures. Study 2 aims to replicate the results of Study 1 while manipulating cultural mind-set among individuals who identify as both Asian and American. Using a self-construal priming procedure rather than comparing participants from different countries could provide sharper evidence that culture affects the relationship between stable luck beliefs and superstition.

Study 2

Cross-cultural research suggests that independent and interdependent self-construals underlie many cultural differences (e.g., Gardner, Gabriel, & Lee, 1999; Kühnen, Hannover, & Schubert, 2001). People from Western cultures tend to hold an independent self-construal, as they by and large define themselves in terms of their personal traits, abilities values, and preferences; people from Asian cultures tend to hold an interdependent self-construal, meaning they largely define themselves by their relationships with others (Markus & Kitayama, 1991). We hypothesize that the relationship between belief in stable luck and superstition would be stronger when bicultural Asian Americans are primed with an interdependent self-construal compared with an independent self-construal. Asian Americans were selected because their bicultural background translates to an ability to switch between the self-construal frameworks rooted in their dual cultural backgrounds (Hong, Morris, Chiu, & Benet-Martínez, 2000). In addition, to strengthen the external validity of our claims, we used a behavioral measure of the propensity for superstition in this study, instead of asking for self-reports regarding hypothetical scenarios.

Method

Participants. One hundred sixty-six Asian Americans (122 women, 44 men) from a West Coast university in the United States participated in this study. The participants identify themselves as having an Asian background. The average age of the sample was 21.8 ($SD = 3.37$) years. Seventy percent of the participants in the sample were natural science majors, 29% were social science majors, and three participants did not report their majors. Twelve participants were excluded because they did not complete the priming task.

Procedure. The survey was advertised as a study on decision making, and participants were paid US\$3 for their time. Participants began with the self-construal primes (Brewer & Gardner, 1996; Gardner et al., 1999): While reading a paragraph about a trip to the city, participants in the interdependent self-construal condition were instructed to find all first person plural pronouns (e.g., “we,” “us”). By contrast, participants in the independent self-construal were instructed to find all first person singular pronouns (e.g., “I,” “me”).

Next, all participants completed a battery of self-reported items. Participants were asked to provide their opinions about stable luck ($\alpha = .84$; Darke & Freedman, 1997a) and fleeting luck ($\alpha = .64$; Oner-Ozkan, 2003) using a 6-point scale ranging from 1 (*strongly disagree*) to 6 (*strongly agree*).

Participants also completed a task that served as the behavioral measure of the propensity for superstition (adapted from Hamerman & Morewedge, 2015). Participants were told they would play a card game. They then read as follows:

Before you play the card game, you have the opportunity to briefly (no more than 10 seconds) view a “good luck charm” on the screen. Do you want to briefly view this good luck charm, or skip directly to the card game?

Table 4. The Means, Standard Deviations, and Correlations of the Study Variables in Study 2 ($N = 166$).

Variables	Independent									Interdependent	
	M	SD	1	2	3	4	5	6	7	M	SD
1. Age	21.24	2.81		-.45**	-.32**	.04	-.03	.16	.12	21.95	3.63
2. Gender ^a	1.74	0.44	-.03		.04	.02	-.01	-.11	-.03	1.45	0.05
3. Major ^b	1.27	0.45	-.21	-.01		-.02	-.10	-.15	-.28*	1.41	0.50
4. Religiosity	3.40	2.04	.27*	.16	.08		.07	-.08	-.11	3.03	2.01
5. Belief in fleeting luck	3.72	0.70	-.12	.23*	-.07	-.09		.38**	.49**	3.83	0.82
6. Belief in stable luck	3.39	0.69	-.08	-.10	-.07	-.13	.30*		.52**	3.57	0.80
7. Superstitious behavior	4.03	2.42	-.01	.07	-.17	-.13	.28*	.15		4.86	2.44

Note. $N = 166$. Independent correlation coefficients are reported below the diagonal. Interdependent correlation coefficients are reported above the diagonal.

^aMale = 1; female = 2.

^bNatural science = 1; social science = 2.

* $p < .05$. ** $p < .01$.

Participants indicated the extent to which they wanted to view this good luck charm on an 8-point scale (1 = *skip to the card game* and 8 = *good luck charm*). If participants clicked a number between 5 and 8, they saw a picture of a four-leaf clover. On the next page, all participants were told that the card game was not available due to a technical issue.

Participants then completed a demographics questionnaire and control variables. Because research has shown that people in the arts, humanities, and education fields are more likely to have superstitious beliefs than people in other academic fields (Vyse, 1997), we included academic major as a control variable in this study, together with age, gender, religiosity, and belief in fleeting luck. Participants were thanked and debriefed in the end.

Results and Discussion

The means, standard deviations, and correlations of all variables are shown in Table 4. To examine the moderating effect of primed self-construal, we regressed the superstitious behavior on the primed self-construal, the belief in stable luck, and the interaction between primed self-construal and the luck belief. We also entered age, gender, major, religiosity, and the belief in fleeting luck as control variables (see Table 5). The main effect of the belief in stable luck was significant, and the main effect of primed self-construal was marginally significant. Importantly, the interaction between primed self-construal and the belief in stable luck was significant, $\Delta R^2 = .02$, $F(1, 141) = 3.96$, $p = .049$. We also found that the superstitious behavior was positively related to belief in fleeting luck and major. People majoring in social science were more superstitious than people majoring in natural science. No relationship was found between superstitious behavior and age, gender, or religiosity.

To investigate the interaction effect on superstitious behavior, we ran a simple slopes analyses (Aiken & West, 1991). Results indicated that for participants who were primed with interdependent self-construal, the belief in stable luck predicted the superstitious behavior ($\beta = .34$, $t = 3.44$, $p = .001$); whereas among those primed with independent self-construal, the belief in stable luck did not predict the superstitious behavior ($\beta = .06$, $t = 0.49$, $p = .62$). In other words, priming independent self-construal led to a reduced association between the belief in stable luck and superstitious behavior. Therefore, the results supported our hypothesis and were consistent with the findings in Study 1.

Table 5. Results of Hierarchical Regression Analyses of Study 2.

Variables	Model1		Model2		Model3	
	β	<i>p</i>	β	<i>p</i>	β	<i>p</i>
Control variables						
Age	.10	.23	.06	.46	.05	.51
Gender ^a	-.00	.96	.02	.84	.01	.85
Major ^b	-.19	.01	-.17	.02	-.17	.03
Religiosity	-.14	.07	-.10	.18	-.10	.16
Belief in fleeting luck	.39	.00	.31	.00	.30	.00
Independent variables						
Belief in stable luck			.21	.01	.33	.00
Primed self-construal			-.09	.21	.57	.10
Interaction						
Belief in Stable Luck \times Primed Self-Construal					-.67	.049
<i>F</i> statistic	8.95	0.00	8.07	0.00	7.71	0.00
<i>df</i> 1	5		7		8	
<i>df</i> 2	144		142		141	
<i>R</i> ²	.24		.29		.30	
ΔR^2			.05	.01	.02	.049

^aMale = 1; female = 2.

^bNatural Science = 1; social science = 2.

Study 3

We hypothesized that the belief in collective agency underlies the cultural differences in the relationship between stable luck belief and superstition. In Study 3, we explore collective agency as a mediator of the pattern found in Studies 1 and 2. In addition, we used another way to operationalize culture. Culture in Study 1 was operationalized by sampling people from two countries: China and the United States. In Study 2, we operationalized culture by priming bicultural participants' interdependent or independent self-construal. In Study 3, we investigated the cultural difference between Asian Americans and non-Asian Americans.

Method

Participants and procedure. The sample consisted of 258 students from a West Coast university in the United States and was composed of 63.6% Asians (53% Chinese/Chinese American, 16.9% Korean/Korean American, 7.2% Vietnamese/Vietnamese American, 6% Japanese/Japanese American, 16.9% Others; 67.6% female; *M* age = 20.55, *SD* = 2.49) and 34.2% non-Asians (25.2% Caucasian, 4.3% Hispanic, 3.5% African American, and 1.2% American Indian; 60.9% female; *M* age = 20.79, *SD* = 3.87). Fifty percent of the participants in the sample were social science majors, 48% were natural science majors, and five participants did not report their majors. The exact sample size varied slightly across analyses as a result of missing data for some respondents. The survey was advertised again as a study on decision making. Participants were paid US\$3 for participating.

Measures. Participants were instructed to complete a battery of self-reported items. Because all participants were comfortable with spoken and written English, they responded to the original measures in English.

Table 6. The Means, Standard Deviations, and Correlations of the Study Variables in Study 3 ($N = 258$).

Variables	Non-Asian American										Asian American	
	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	<i>M</i>	<i>SD</i>
1. Age	20.8	3.87		-.21	.05	.03	-.04	-.02	.08	-.04	20.6	2.49
2. Gender ^a	1.39	0.49	-.08		-.13	-.11	.02	-.11	-.17	.12	1.32	0.47
3. Major ^b	1.53	0.50	.00	-.07		-.01	-.15	.16	.12	-.03	1.40	0.49
4. Religiosity	3.23	1.91	-.10	.05	-.02		.07	.12	.29*	-.06	3.53	2.09
5. Collective agency	3.89	0.84	.06	.08	-.08	-.20**		.43**	.34**	.29*	4.00	0.79
6. Belief in fleeting luck	3.60	0.88	-.15*	-.05	.00	-.02	.15		.60**	.49**	3.99	0.86
7. Belief in stable luck	3.35	0.74	-.11	-.07	.04	.02	-.04	.49**		.47**	3.53	0.80
8. Propensity for superstition	3.07	1.13	-.15	-.06	.09	-.02	.24**	.31**	.14		3.48	1.07

Note. $N = 258$. Non-Asian correlation coefficients are reported below the diagonal. Asian correlation coefficients are reported above the diagonal.

^aMale = 1; female = 2.

^bNatural science = 1; social science = 2.

* $p < .05$. ** $p < .01$.

The propensity for superstition. As in Study 1, participants were asked to indicate how likely they would be to choose a specific practice to handle uncertainty if they were the actors in short scenarios (six items; $\alpha_{\text{non-Asian}} = .83$; $\alpha_{\text{Asian}} = .82$).

Belief in stable luck. As in Studies 1 and 2, Darke and Freedman's (1997a) Belief in Good Luck Scale ($\alpha_{\text{non-Asian}} = .82$; $\alpha_{\text{Asian}} = .85$) was used to measure the luck belief.

Culture. Participants were asked to indicate their ethnicity. The Asian American sample included people who identified themselves as Asian or Asian American. The non-Asian American sample included people who identified themselves as Caucasian, Hispanic, African American, or American Indian. Thus, culture was treated as a dichotomous variable.

Agency belief. Menon et al.'s (1999) three-item scale was used to measure the belief in collective agency ($\alpha_{\text{non-Asian}} = .82$; $\alpha_{\text{Asian}} = .74$) and included such items as "In my society, *organizations/groups* take control of the situations around them and exercise free will." Participants were asked about the extent to which they agreed with each statement on a 6-point scale, ranging from 1 = *definitely disagree* to 6 = *definitely agree*.

Control variables. As in Studies 1 and 2, age, gender, major, religiosity and belief in fleeting luck ($\alpha_{\text{non-Asian}} = .73$; $\alpha_{\text{Asian}} = .81$) were included as control variables.

Results and Discussion

The means, standard deviations, and correlations for all variables are shown in Table 6. As in Studies 1 and 2, to examine the moderating effect of culture, we regressed propensity for superstition onto stable luck, culture, and the interaction term. We also included age, gender, major, religiosity, and belief in fleeting luck as control variables (see Table 7). The main effects of culture and the belief in stable luck were significant as well. More importantly, the interaction

Table 7. Results of Hierarchical Regression Analyses of Study 3.

Variables	Model1		Model2		Model3	
	β	<i>p</i>	β	<i>p</i>	β	<i>p</i>
Control variables						
Age	-.01	.92	-.02	.76	-.03	.64
Gender ^a	-.00	.99	.01	.93	.01	.90
Major ^b	.01	.81	.02	.73	.02	.79
Religiosity	-.06	.29	-.08	.22	-.10	.11
Belief in fleeting luck	.39	.00	.33	.00	.32	.00
Independent variables						
Belief in stable luck			.07	.31	.29	.01
Culture			-.09	.15	.57	.04
Interaction						
Belief in Stable Luck × Culture					-.68	.02
<i>F</i> statistic	8.47	0.00	6.52	0.00	6.55	0.00
<i>df</i> 1	5		7		8	
<i>df</i> 2	225		223		222	
<i>R</i> ²	.16		.17		.19	
ΔR^2			.01	.22	.02	.02

^aMale = 1; female = 2.

^bNatural science = 1; social science = 2.

between culture and the belief in stable luck was significant, $\Delta R^2 = .02$, $F(1, 222) = 5.84$, $p = .02$. We also found that propensity for superstition was positively related to belief in fleeting luck. No relationship was found between superstition propensity and age, gender, major, or religiosity.

Simple slopes analyses (Aiken & West, 1991) indicated that the belief in stable luck significantly predicted the propensity for superstition among Asian Americans ($\beta = .40$, $t = 2.93$, $p = .005$) but not among non-Asian Americans ($\beta = -.04$, $t = -0.43$, $p = .67$). Therefore, culture moderated the relationship between the belief in stable luck and the propensity for superstition.

Using the PROCESS macro for SPSS (Hayes, 2013), we carried out moderated mediation analysis with 5,000 bootstrapping samples. The results showed that the effect of the belief in stable luck on the belief in collective agency depended on culture (interaction coefficient = -0.40 , $SE = 0.15$, $p = .007$, 95% confidence interval [CI] = $[-0.69, -0.11]$), and the belief in collective agency significantly predicted the propensity for superstition (coefficient = 0.27 , $SE = 0.09$, $p = .003$, 95% CI = $[0.09, 0.45]$). The conditional indirect effect (mediated by collective agency) was statistically significant among Asian Americans (indirect effect = 0.28 , $SE = 0.13$, 95% CI = $[0.02, 0.54]$) but not among non-Asian Americans (indirect effect = -0.12 , $SE = 0.09$, 95% CI = $[-0.30, 0.06]$; see Figure 2).

In summary, Study 3 found that the belief in stable luck was associated with the propensity for superstition among Asian Americans but not among non-Asian Americans and was consistent with the results of Studies 1 and 2. Furthermore, Study 3 found that belief in collective agency mediated cultural differences in the relationship between luck beliefs and the propensity for superstition.

General Discussion

The current research is the first to demonstrate that the association between the belief in stable luck and the propensity for superstition differs between cultures. Among Asians (Study 1) and

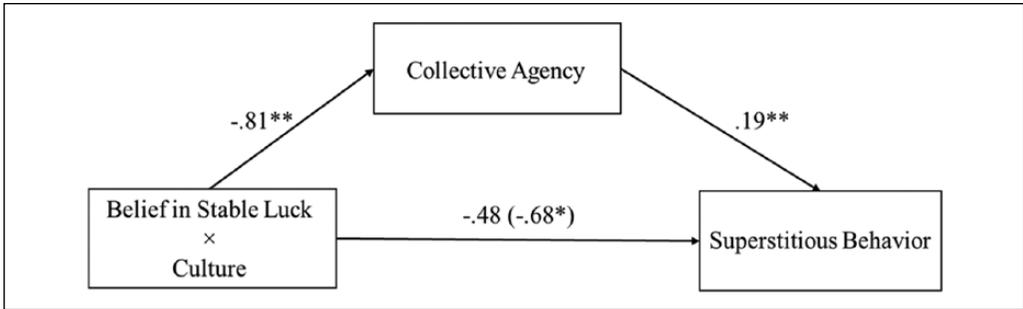


Figure 2. The moderated mediation analysis of Study 3.

* $p < .05$. ** $p < .01$.

Asian Americans (Study 3), seeing oneself as lucky was positively associated with the propensity to adopt superstitious practices. Among non-Asian Americans, there was no relationship between belief in stable luck and the propensity for superstition. Moreover, we manipulated cultural mind-set in Study 2. When the bicultural participants of this Study were primed with independent versus interdependent self-construal, they presumably switched their cultural mind-set and replicated the patterns yielded by monocultural people. Taken together, the studies indicate that culture moderates the relationship between the luck belief and the propensity for superstition through the belief in collective agency. The findings enrich our understanding of superstition by demonstrating that it can be influenced by culturally variable perceptions of agency. In addition, because agency belief is closely related to control beliefs, our findings shed light on the extant literature of how control beliefs coexist. That is, having agency in the American culture usually means that you do not need superstition, but in Asian cultures, a person's feeling of (collective) agency is associated with greater propensity for superstition.

Theoretical Implications

The current research is the first to suggest that the relationship between luck belief and superstitions varies differently across cultures. The results show that the more an Asian person believes that he or she is a lucky person, the more superstitious he or she tends to be, but there is no relationship between the stable luck belief and the propensity for superstition for non-Asian Americans.

These findings appear on the face of things to contradict a study demonstrating the effect of luck beliefs on superstition in major league baseball players in the United States and Japan. The study asked the players to report, "How much of the time does luck affect what happens in a baseball game?" (Burger & Lynn, 2005). Results showed that the more players believed luck affected the game outcomes, the more they engaged in superstitious behavior, and this relationship held for both American players and Japanese players. However, the study stimuli do not specify what type of luck—fleeting or stable—is perceived to affect the outcome of the baseball games. It is possible that Americans interpreted the single item to mean fleeting luck—which lowered agency and heightened superstitious—while this was not the case for the Japanese players. Because the current study distinguished between fleeting and stable luck beliefs, it reveals cultural differences in luck beliefs and superstition, whereas the initial finding (Burger & Lynn, 2005) reported similarity between cultures.

The current findings not only provide insight into cultural differences in luck and agency beliefs but also contribute to the existing literature on a related, broader concept: control beliefs. Whereas control beliefs are the expectations about whether a person can attain desired outcomes

without specifying the means (Skinner, Chapman, & Baltes, 1988), agency beliefs represent the expectations about whether one has the means. The current findings, therefore, provide insight into how control beliefs operate in different cultures. They parallel prior findings that Americans focus more on individual action to change the world (Rothbaum, Weisz, & Snyder, 1982), while Asians focus more on changing the world through social means. In other words, while an American may think “he or she can just change the world, the Asian believes he or she must convince the group to change the world” (Spector et al., 2004, p. 43).

Practical Implications

As international companies continue to expand, understanding managerial practices in different cultures is of great importance (Tsang, 2004), and thus knowing the practices that relate to agency and control has practical implications. We have demonstrated that although both Americans and Asians may share a belief in luck, they differ in the extent to which these beliefs are associated with superstitions. For instance, Asians who see themselves as lucky are more likely to adopt superstitious strategies, such as relying on lucky objects or consulting *Feng Shui* specialists, than are their Western counterparts. In contrast, an American businessperson who regards himself or herself as a lucky person may not be superstitious at all and may be surprised that an Asian partner would spend thousands of dollars every year to consult *Feng Shui* experts for investment strategies.

Our findings also have implications for brand managers, advertisers, and retailers. Asians are becoming a big part of global market (Cisek, 2016). When Asians are target customers, it may be useful to consider collective agency in marketing. That is, rather than convincing customers that the new product or service will bring an individual good luck, it may be more effective to focus on the idea that a product or service (e.g., a jewelry, a travel to a temple, or an insurance) could help people get more support from their friends, ancestors, or even elicit a blessing from supernatural forces. For example, *Feng Shui* is a very important attribute of real estate products in some Asian countries. If the *Feng Shui* of a property is good, the people who own it will be lucky and blessed by their ancestors or supernatural forces. A real estate company in Beijing China highlighted the good *Feng Shui* of a property in its commercials. The properties they advertised are located on the same longitudinal line as the central axis of the Forbidden City, which highlights the common belief that being located on the axis line brings blessings of supernatural forces and can make you as successful as an emperor, even you are thousands of miles away from the Forbidden City. The houses sold very quickly (Hu, n.d.), demonstrating the power of marketing that appeals to cultural beliefs.

Limitations and Future Directions

Despite the aforementioned contributions, this study is only the first step to explore the cultural difference in belief in stable luck. First, our studies were mostly correlational in design. With the exception of the moderation shown by the prime in Study 2, all other patterns reported here cannot be construed as implying causal relations. For instance, our data show that in Asian cultures, belief in stable luck relates to higher level of collective agency, which in turn, relates to higher level of superstition. To further test whether collective agency is a causal mediator of the effect of belief in stable luck on superstition in Asian cultures, future research can utilize an experimental design. For instance, Asian people can be primed with collective agency (vs. individual agency), and then complete a measure of superstitions. This experiment will allow us to test the causality between collective agency and superstitious behaviors.

Second, the scale that we used to measure the belief in stable luck was Darke and Freedman's (1997a) Belief in Good Luck Scale, which does not include items relating to the belief in bad

luck. Prior research has demonstrated the differences in the way good and back luck mindsets operate. For example, people are more likely to describe themselves as lucky by recalling a single near-miss event. By contrast, people are more likely to describe themselves as unlucky after recalling many negative events they have been through (Teigen et al., 1999). Our study shows that lucky people might use superstitious behavior to capitalize on good luck. However, it is unclear whether people who see themselves as unlucky would use superstitious behavior to ward off bad luck. Future research should take a closer look at the potentially different mechanisms underlying positive and negative superstitious behaviors.

In conclusion, the current research focuses on the cultural differences in the relationship between the belief in stable luck and the propensity for superstition: In Asian cultures, people who see themselves as lucky have an enhanced feeling of collective agency, which is also related to greater propensity for superstition; the luck belief in Western cultures is not related to the engagement in superstitious behaviors. By linking luck beliefs to agency beliefs, researchers will have a better understanding of the cultural differences involving luck beliefs and superstitions.

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Note

1. A principal components analysis with oblique rotation showed that there were two factors with eigenvalues greater than 1. Four items had high factor loadings on the first factor and low factor loadings on the second factor; all four of these items described superstitious practices as bringing good luck. Two items had high factor loadings on the second factor and low factor loadings on the first factor; both of these items described superstitions to avoid bad luck (see Table 1 for factor loadings). No cross-loading item was found. The correlation between the two factors was .33. Because we focused on the overall propensity for superstition rather than differentiating superstitions about good luck and superstitions about bad luck, we included all six items.

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