

# What Folklore Tells Us about Risk and Risk Taking: Cross-Cultural Comparisons of American, German, and Chinese Proverbs

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**Two studies attempted to discriminate between a situational-economic and a cultural explanation for the recently reported finding that Chinese from the People's Republic of China (PRC) are more risk-seeking than Americans. Both studies compared American and Chinese proverbs related to risk and risk-taking. The first study added Germany as a control group for its socioeconomic similarity to the United States but its closer resemblance to the PRC in its social safety-net and cultural collectivism. Members of each culture rated American, Chinese, and German risk-related proverbs, respectively, on implied advice (to take or avoid risk) and applicability to financial or social risks. Results were consistent with the cultural explanation of national differences in risk taking: (a) Chinese and German proverbs were judged to provide more risk-seeking advice than American proverbs; (b) American proverbs were judged less applicable to risks in the social domain than Chinese and German proverbs; (c) regardless**

This research was supported by grant SBR-9422819 from the National Science Foundation. We thank Chip Heath, Helmut Jungermann, Paul Slovic, and one anonymous reviewer for useful comments.

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**of national origin of proverbs, Chinese perceived proverbs to advocate greater risk-seeking than American raters, but only for financial and not for social risks.** © 1998 Academic Press

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This article examines possible reasons for observed national differences in risk taking. In a range of decision domains and using different methods to assess respondents' degree of risk taking, the first two authors of this paper have repeatedly found respondents from the People's Republic of China to be significantly less risk-averse than their counterparts in the United States (Hsee & Weber, 1997, 1998; Weber & Hsee, 1998).

National differences in behavior stem from two sources: differences in long-standing cultural values and interpretations or differences in current situational circumstances. Differences in individualism—collectivism and uncertainty avoidance, for example, identified by Triandis (1989) as important dimensions of cultural variation, reflect national differences in typical responses to certain types of situations that are mediated by longstanding differences in cultural values. While it is true that the goals and behaviors advocated by a culture evolved—at some point in the culture's past—as adaptive reactions to persisting situational circumstances, cultural values also take on a life of their own and become an independent influence on the behavior of members of that culture (Schwartz, 1992). However, situational differences in countries' *current* political and economic environment also contribute to observed national differences in behavior. If, for example, risk or uncertainty is associated with smaller rewards in one country than in another, then rational self-interest would predict national variation in risk-taking. Thus national differences on some behavior are not easily and conclusively attributable to one or the other of these two sources. McDaniels and Gregory (1991) have voiced concern that many researchers fail to distinguish between these two classes of explanations. That is, observed national differences are often treated as cultural in origin, without any attempt to distinguish between cultural vs. situational determinants.

More than in other research domains, conclusive insights in cross-cultural research require a combination of methods and approaches. It is important to know—but not easy to establish—whether observed national differences in behavior are truly cultural, i.e., are the result of longstanding differences in cultural norms and values which are not easily modified, or whether they are more malleable and transient because they result from current situational circumstances. The ability to predict national differences in degree of risk-taking, for example, is of considerable practical importance in the arena of cross-cultural negotiations, since differences in risk attitudes offer the door to the creation of integrative bargaining solutions, i.e., solutions that leave both sides better off than if they had the same risk attitude (Bontempo, Bottom, & Weber, 1997).

In this paper, we would like to raise researchers' awareness of an underappreciated method in our social science toolbox, namely the comparative analysis

of cultural products. Norms and values operating in a given culture influence the behavior of members of that culture. In addition to that, the events and circumstances that—over many generations—create those values as a cultural adaptation leave their trace and are reflected by a variety of cultural products. Such collective products that store and transmit cultural wisdom include a culture's proverbs that provide advice about recommended courses of action, its literature, its philosophy and art, as well as lighter fare such as its nursery rhymes that instruct the young. If national differences in some behavior are the consequence of longstanding differences in cultural values rather than in current economic or political circumstances, they should also be reflected in cultural products such as the culture's proverbs. If they are exclusively the product of the current environment, they will not be reflected in cultural documents, especially if the instrumental characteristics of the current environment are of recent origin.

An early example of the utility of analyzing cultural products to provide converging evidence for cultural difference hypotheses was provided by McClelland (1961). He found independent support for cultural differences in need for achievement in his content analysis of elementary school primers from different countries. Szalay and Deese (1978) describe a creative methodology, the Associative Group Analysis (AGA) Method, developed by their research group at the Institute for Social and Cultural Studies that assesses differences in cultural perceptions and conceptualizations of particular categories through an evaluation of the spontaneous word associations that are generated by large numbers of people from different cultures in response to category cues. A comparison of similarities and differences in the collective associative structures generated by American, PRC, Hong Kongese, and Taiwanese cultural groups for key terms within the domains of family relations and the economy, for example, has allowed those researchers to distinguish between longstanding cultural versus more recent ideological influences on peoples' conceptualizations of these issues (Szalay *et al.*, 1986, 1994). Closer to the area of judgment and decision making, Peters and Slovic (1996) used the AGA method to divide respondents into groups (subcultures) that differed in worldview. These differences were excellent predictors of perceived risk from nuclear power and support for that technology. Finally, Gaenslen (1986) established cultural differences in the conceptualization of decision problems and their resolution by the fiction produced by authors in different cultures.

Following these examples, we conducted two studies that compare another class of cultural products, namely national proverbs related to risk and risk taking. The goal of our comparative study was to gain a better understanding of the sources of observed national differences in risk taking.

## STUDY 1

Study 1 compared the proverbs of the United States (US), Germany, and the People's Republic of China (PRC). The US and the PRC were selected in this and previous studies by Weber and Hsee for both theoretical and practical

reasons. At a practical level, there is a high level of interest in differences in risk perception and risk taking between members of those two countries, since they are and will be major players in the global economy. Political interactions and negotiations and economic joint-ventures between them are growing at an ever faster pace (Warner, 1995). The theoretical reasons are as follows. Hsee and Weber (1998), who first reported that Chinese students were significantly less risk-averse in their choices between risky financial prospects than their American counterparts, provided two post-hoc explanations for their result. The first, situational, explanation hinges on differences in the current rate of economic development in the two countries; the other, cultural one—dubbed cushion hypothesis—hinges on differences in the degree of collectivism in the two cultures. Of the 40 countries studied in Hofstede's (1980) evaluation of country collectivism, the US obtained the lowest score and China was among the highest scoring cultures,<sup>1</sup> making these two countries ideal candidates to evaluate the cushion hypothesis.

Germany was included in Study 1 as a control group. The country is similar to the US in its political and economic institutions and standard of living, but lies somewhere between the US and the PRC—and is perhaps closer to the PRC—in its governmental social safety-net and in many of its cultural values, including its level of social collectivism (as reflected by an intermediate score on Hofstede's collectivism scale). Social collectivism is a concept that is distinct from and arguably independent of the political system operating in a country. China has been a collectivist culture long before the beginning of the People's Republic. Germany is a fairly collectivist culture and the US is an extremely individualistic one, even though both of them are social democracies and have market economies. As an indication of Germany's collectivist values, Ludwig Ehrhard (Germany's postwar finance minister under Adenauer) coined the phrase "*social market capitalism*" to describe Germany's emerging economy.

Study 1 was designed to test between Hsee and Weber's (1998) competing, but not necessarily mutually exclusive, explanations of Chinese–American differences in risk-taking. According to the situational-economic hypothesis, countries with rapidly developing economies (e.g., the PRC) often provide more business opportunities and less regulation than those with more established economies (e.g., the US). People in those countries are more likely to benefit from risk-taking and thus take more risks. Since this explanation is based on current economic differences of recent origin, we would not expect corresponding differences in advocated risk attitude being communicated by Chinese vs. American proverbs.

Hsee and Weber's other explanation, the cushion hypothesis, hinges on American–Chinese differences in the relative balance struck between individualism and collectivism in their social interactions and on resulting differences in the quality and size of their social networks. Individualism emphasizes personal freedom and responsibility; collectivism endorses social relatedness

<sup>1</sup> The PRC was not included in Hofstede's (1980) survey of IBM-employees in forty countries. Two countries with Chinese culture, Hong Kong and Taiwan, however, both scored extremely low.

and interdependence. Compared with those in individualistic cultures, members of a collectivist society will more likely receive help when needed, i.e., will be “cushioned” when they “fall.” Collectivism acts as implicit mutual insurance against catastrophic losses. This should have the result that members of strong social collectives will, quite accurately, perceive the risk of risky options to be smaller. This prediction of the cushion hypothesis was confirmed by Weber and Hsee (1998), who found that respondents from the PRC judged the riskiness of a set of risky financial investments to be significantly lower than their US counterparts.

Risky decisions arise in different content domains. Many of them involve *material or financial risks*. Should you buy stocks in a particular company or leave your money in a money market account? Others involve *social risks*. Should you tell your brother that his planned visit would interfere with your own travel plans or should you just quietly rearrange your own plans? The cushion hypothesis predicts that collectivist insurance against the downside in material risks—which makes it easier for collectivist cultures to take on material risks—is obtained at the cost of having to worry more about social risks. Social risks may seem and may be larger since the maintenance of one’s social network is of greater importance in those cultures. To the extent that cultures differ in their concern about a topic, those differences should be reflected in a differential frequency of proverbs on that topic, i.e., more proverbs applicable to social risk in collectivist societies. This prediction rests on the two-part assumption that cultural concern about a content domain will guide the creation and frequency of rules (including proverbs) on how to behave in that domain, and that the existence and frequency of explicit rules about behavior within that domain will focus the culture’s attention, with the result that decision makers across successive generations will pay ever closer attention to those decisions that are of concern to their culture.

In summary, the cushion hypothesis makes the following predictions for our analysis of national proverbs related to risk and risk-taking:

*Prediction 1:* Risk-related proverbs generated by cultures with greater social collectivism (China and Germany) should advocate greater risk seeking than American proverbs, at least for material risks.

*Prediction 2:* Since individualistic cultures are less concerned with threats to the quality of interpersonal relationships and the functioning of their social networks, there should be fewer American proverbs that are applicable to social risks than proverbs in the other two cultures. On the other hand, there should be more or an equal number of American proverbs that are applicable to financial risks, since financial risks presumably are of fairly high importance and thus concern in all three cultures.

To test these hypotheses, we assessed the relevance of proverbs to different types of risk and the direction of their advice regarding risk-taking.

### *Participants and Procedure*

*Identification of risk-related proverbs.* Two native speakers in each country (university or highschool teachers) independently read through anthologies of

American, German, and Chinese proverbs, respectively, and identified those that had "anything to do with risks, dangers, ventures, or any events with uncertain or unknown outcomes, whether good or bad." In every culture, thousands of proverbs were considered. While the final selection of risk-related proverbs may not be exhaustive, it certainly can be considered representative. Disagreements in raters' selections were resolved by discussion. The same individuals then independently rated each selected proverb on several dimensions described in the next section. For this and all other questionnaires given to non-American raters, we employed the method of back-translation (Brislin, 1970). Raters were blind to the purpose and predictions of the study.

The following numbers of proverbs were classified as risk-related: 187 of the approximately 10,000 American proverbs in Mieder and Kingsbury (1992) and Whiting (1977), 292 of the approximately 12,000 German proverbs in Simrock (1988), and 549 of the approximately 15,000 Chinese proverbs in Shanghai Cishu Chubanshe (1990). Some examples from each culture will give the reader a flavor of their style and content. American proverbs included: "He who plays with a cat must expect to get scratched." "A bold attempt is half success." "All is not lost which is deferred." "A bird in hand is worth two in the bush." "Aim at the stars but keep your feet on the ground." "The baby who always gets carried, will never learn to walk." "He that fights and runs away may live to fight another day." German proverbs included: "Danger cannot be eliminated without taking a chance." "When the donkey gets overconfident, he goes out on the ice and breaks a leg." "Doubly sewn holds better." "Do not fear the sting of thorns, if you want to pick roses." "Lightning does not always hit when there is thunder." Finally, a couple of Chinese proverb examples: "One misstep could cause a thousand year disaster." "If someone has never left his home, he cannot be a great person."

*National differences in social collectivism.* To validate our assumptions about differences in the level of social collectivism in the three cultures, we administered a questionnaire entitled "Family Ties" to convenience samples of college students at large urban universities in the US ( $n = 154$ ), PRC ( $n = 113$ ), and Germany ( $n = 149$ ). Respondents provided answers about the size and quality of their (family) support network: (a) Did they live in the same city or close vicinity to family members (parents; siblings; grandparents; uncles, aunts, cousins) [LIVEPAR, -SIB, -GRA, -UNC; 1 = yes, 0 = NO]? (b) How close were they to those family members [CLOSEPAR, -SIB, -GRA, -UNC; from 0 (very distant) to 4 (very close)]? (c) How many hours per week were they in contact (by phone or in person) with those family members [HOURPAR, -SIB, -GRA, -UNC]? (d) How important would it be to stay close to some member of their family if they had to decide between two jobs, one close by, the other far away [MOVEFAM, from 0 (not at all) to 3 (extremely)]? (e) To what extent did they consult and consider the opinions of others (parents, other family members, close friends, neighbors/colleagues) when making important life decisions [DECIPAR, -FAM, -FRI, -COL, from 0 (not at all) to 3 (strongly)]?

## Results

*National differences in social collectivism.* Most variables assessed in the "Family Ties" questionnaire showed significant differences as a function of nationality. The country means for each variable, shown in Table 1 together with the results of the pairwise comparisons by Tukey test, are consistent with our assumptions about cultural differences in social collectivism based on Hofstede's (1980) index of country collectivism and the work of Triandis (1989). For all variables, greater scores indicate greater level of social relatedness and interdependence. Generally, respondents from the PRC score significantly higher than those from the US. For most of the variables, German scores are not significantly different from PRC scores but are significantly lower than US scores. It is only in the number of hours spent interacting with different family members that German and US scores are not significantly different. These results suggest that, when it comes to degree of social connectedness, Germany is closer to the PRC than it is to the US. This result has implications for our predictions of the results of the proverb analysis. In particular, it suggests that, if the cushion hypothesis is correct in suggesting a relationship between degree of social collectivism and risk-taking, German proverbs about risk-taking should resemble Chinese proverbs more than American proverbs.

*Risk-taking advice.* In response to the question: "Does this proverb promote risk-aversion (e.g., cautiousness) or risk-seeking (e.g., venturing)?," raters used a 5-point scale which ranged from  $-2$  (risk-averse) to  $+2$  (risk-seeking). Consistent with Prediction 1 of the cushion hypothesis, American proverbs advocated less risk-seeking than either Chinese or German proverbs, which did not differ

**TABLE 1**  
**Mean Responses to "Family Ties" Questions as a Function of Culture**

Variable	United States	Germany	PRChina
LIVEPAR	.29 <sup>a</sup>	.81 <sup>b</sup>	.73 <sup>b</sup>
LIVESIB	.30 <sup>a</sup>	.73 <sup>b</sup>	.55 <sup>b</sup>
LIVEGRA	.11 <sup>a</sup>	.46 <sup>b</sup>	.57 <sup>c</sup>
LIVEUNC	.25 <sup>a</sup>	.53 <sup>b</sup>	.66 <sup>c</sup>
CLOSEPAR	2.85 <sup>a</sup>	3.34 <sup>b</sup>	3.63 <sup>b</sup>
CLOSESIB	2.98 <sup>a</sup>	3.07 <sup>a</sup>	3.27 <sup>a</sup>
CLOSEGRA	2.10 <sup>a</sup>	2.41 <sup>a</sup>	2.60 <sup>a</sup>
CLOSEUNC	1.65 <sup>a</sup>	2.20 <sup>a</sup>	2.20 <sup>a</sup>
HOURPAR	4.36 <sup>a</sup>	9.23 <sup>a</sup>	26.20 <sup>b</sup>
HOURSIB	3.14 <sup>a</sup>	7.15 <sup>a</sup>	20.80 <sup>b</sup>
HOUREGRA	1.60 <sup>a</sup>	1.08 <sup>a</sup>	7.70 <sup>b</sup>
HOUREUNC	0.68 <sup>a</sup>	1.01 <sup>a</sup>	4.46 <sup>b</sup>
MOVEFAM	1.52 <sup>a</sup>	1.94 <sup>b</sup>	1.69 <sup>a</sup>
DECIPAR	2.01 <sup>a</sup>	2.58 <sup>b</sup>	2.31 <sup>b</sup>
DECIFAM	1.48 <sup>a</sup>	1.89 <sup>b</sup>	1.64 <sup>b</sup>
DECIFRI	2.46 <sup>a</sup>	2.24 <sup>b</sup>	0.87 <sup>b</sup>
DECICOL	0.65 <sup>a</sup>	1.06 <sup>a</sup>	1.03 <sup>a</sup>

*Note.* Means with different superscripts are significantly different by Tukey test ( $\alpha = .05$ ).

on this dimension (overall  $F(2, 1259) = 2.89, p < .05$ ). Mean ratings are shown in Table 2.

*Applicability to different types of risk.* Raters indicated whether a given proverb could be applied to decisions involving financial risk and/or to decisions involving social risk, i.e., risk to interpersonal relationships. There was a significant interaction between risk domain and cultural origin of proverbs ( $\chi^2(2) = 17.53, p < .001$ ). The results, also shown in Table 2, were consistent with Prediction 2. While there was no significant difference between the three groups of proverbs in judged applicability to financial risks ( $\chi^2(2) = 2.14, p > .10$ ), the proportion judged applicable to social risks was significantly smaller for the American proverbs than for those of the other two cultures ( $\chi^2(2) = 17.52, p < .001$ ).

*Other judgments.* To ensure that proverbs from different cultures did not vary because they differed in age or obscurity, raters answered the following question: "Is this proverb commonly used these days by the average person in China/US/Germany (respectively)?" Possible responses ranged from 1 (hardly used) to 5 (frequently used). Judged commonness of usage did not differ between cultures ( $F(2, 1254) = 0.17, p > .10$ , with an overall mean of 3.05).

We also tested for the alternative hypothesis that differences in the risk-taking advice given by the three culture's proverbs might have been the result of differential cultural attention to the upside vs. the downside of risks. Risk-taking is instrumental in the sense that it provides a chance for a gain at the cost of a potential loss (Sokolowska, 1993). People's degree of risk-taking reflects their compromise between those two components, or as Lopes (1987) puts it, their equilibrium between greed and fear. A culture's relative attention to positive vs. negative consequences of risky situations thus might affect the optimal level of risk-taking that it advocates. We asked raters to indicate for each proverb whether it mentioned positive consequences and/or whether it mentioned negative consequences. These two categories are, of course, not mutually exclusive, though most proverbs mentioned either one or the other (or neither). There were no significant differences in the proportion of proverbs mentioning positive consequences (39%, on average) or negative consequences (50%, on average) in the three cultures.

**TABLE 2**  
**Mean Evaluations of Proverb from Different Cultures**

Rating	Cultural origin of proverb		
	United States	Germany	China
Risk-taking advice <sup>a</sup>	-0.26	-0.08	-0.11
Proportion of proverbs judged applicable to			
Financial risks	.83	.85	.90
Social risks	.35	.67	.56

<sup>a</sup> Negative values denote advice to avoid risk, positive values to seek risk.



## Discussion

The results of our comparative analysis of a large body of American, Chinese, and German proverbs related to risk and risk-taking in Study 1 were consistent with both predictions of the cushion hypothesis of risk-taking, which explains differences in risk preference as the result of longstanding cultural differences in social collectivism. Consistent with Prediction 1, Chinese and German proverbs advocated greater risk-taking than American proverbs. The two cultures, China and Germany, that have scored higher on country measures of collectivism (Hofstede, 1980) and showed greater levels of social connectedness in our own survey, were also found to have generated proverbs that advocate greater risk-taking, presumably because their longstanding collectivism cushions members against risk's potential downside. Consistent with Prediction 2, a smaller proportion of American proverbs were judged to be applicable to social risk situations than the proverbs of the other two cultures, presumably because interpersonal relationships play a smaller role and are thus of smaller concern in this individualist culture. There was no corresponding difference in the proportion of proverbs from the three cultures judged to be applicable to financial risk situations. The proportion was large in all three cultures, reflecting the fact that financial or material risks are of great concern everywhere.

Study 1 asked raters only about the applicability of proverbs to either a situation of social risk or financial risk (i.e., could the proverb be applied?) and about the direction of each proverb's risk-taking advice (i.e., did it advocate risk-seeking or risk-avoidance?), but not about the direction of the risk-taking advice when applying the proverb either to a financial or to a social risk. Around 90% of the proverbs of each culture were judged applicable to financial risk, but only between 35% and 67% of proverbs were judged to be applicable to social risk and constituted a subset of those judged applicable to financial risks. It did not seem sensible to ask raters for the direction of the risk-taking advice of the proverbs to a social risk decision, given that many of the proverbs were judged not to be applicable to social risk. The cushion hypothesis, however, predicts the following interaction in risk-taking advice between culture and risk domain, which was tested in Study 2: Collectivist cultures should advocate (a) greater caution for social risks and (b) less caution for financial risks than individualist cultures.

The other important contribution of Study 2 is that it allows us to distinguish between differences in the *content* of proverbs of different cultures and *eye-of-the-beholder* effects. In other words, were the Chinese proverbs in Study 1 judged to convey more risk-seeking advice than American proverbs because they contain a stronger message to that effect or because their content was rated by more risk-seeking Chinese who projected their risk-attitude onto the proverbs? These two effects are, of course, not mutually exclusive. In Study 2, we distinguish between content-per-se and eye-of-the beholder effects by having both American and Chinese raters evaluate proverbs from both cultures.

## STUDY 2

In Study 2, we sought to extend the findings of Study 1 by addressing some of its limitations: First, in Study 1, proverbs were evaluated by only a few raters, giving too much weight to possible idiosyncratic perceptions of individual raters. Second, national origin of proverbs and nationality of raters were confounded, making it impossible to tell whether observed cultural differences in ratings were inherent in the proverbs or the result of differences in interpretation by current members of the cultures (i.e., an eye-of-the-beholder effect). Third, instructions about judging the applicability of proverbs to risky financial or social decisions were very abstract and might have been interpreted differently by raters from different cultures. Finally, evaluations of a proverb's advice regarding risk-taking were context-independent, rather than with respect to a particular type of risk (e.g., financial or social). Study 2 used a larger set of raters and crossed national origin of proverbs with nationality of raters. Raters were given a concrete example of a risky financial situation and a risky social situation and were asked to judge the applicability of each proverb to either the financial or social context and to evaluate the risk-taking advice of each proverb separately for the financial and the social risky decision problem.

In summary, we made the following predictions for Study 2:

*Prediction 3:* Chinese proverbs will be judged to advocate less risk-seeking for social risk than American proverbs, but greater risk-seeking for financial risk.

*Prediction 4:* Chinese raters will perceive the difference in risk-taking advice of Chinese proverbs for socially vs. financially risky situations more strongly than American raters. They may also project such a difference onto American proverbs.

### *Participants and Procedure*

A large sample of Chinese and American nationals rated both Chinese and American risk-related proverbs. Eighty-two American students from the University of Chicago and 87 Chinese students from Chengjian University in Shanghai were solicited on their home campuses to fill out a series of questionnaires related to risk and risky decision making. Participants worked individually and at their own pace for approximately 1 h and received \$11 in the US and 15 yuans in China.

Using anthologies of Chinese proverbs (Xiao-jun & Xue-zhi, 1988) and American proverbs (Zhaotan, 1977) that have been translated into the other language, two American and two Chinese bilinguals independently selected proverbs related to risk and risk-taking. Seventeen Chinese (e.g., "One should repair the house before it rains," "Failure is the mother of success") and 17 American proverbs (e.g., "Better give the wool than the sheep," and "The highest branch is not the safest roost") were selected by at least three of the four raters. The final list of 34 proverbs was given, with American and Chinese proverbs random interspersed, to American and Chinese students who were not aware of the

cultural origin of the proverbs. They were told that they would be asked a series of questions about each proverb, and that they should consider not just the proverb's face meaning when evaluating it, but also any implied connotations.

To make the question of whether a proverb was applicable to either financial or social risks less abstract and thus less subject to possible cultural differences in interpretation, the questionnaire described two concrete decision problems.

**Financial problem:** "Suppose that you are faced with two investment options, A and B. If you choose OPTION A, you may either make a lot of money or lose a lot of money. If you choose OPTION B, you will neither make a lot of money nor lose a lot of money."

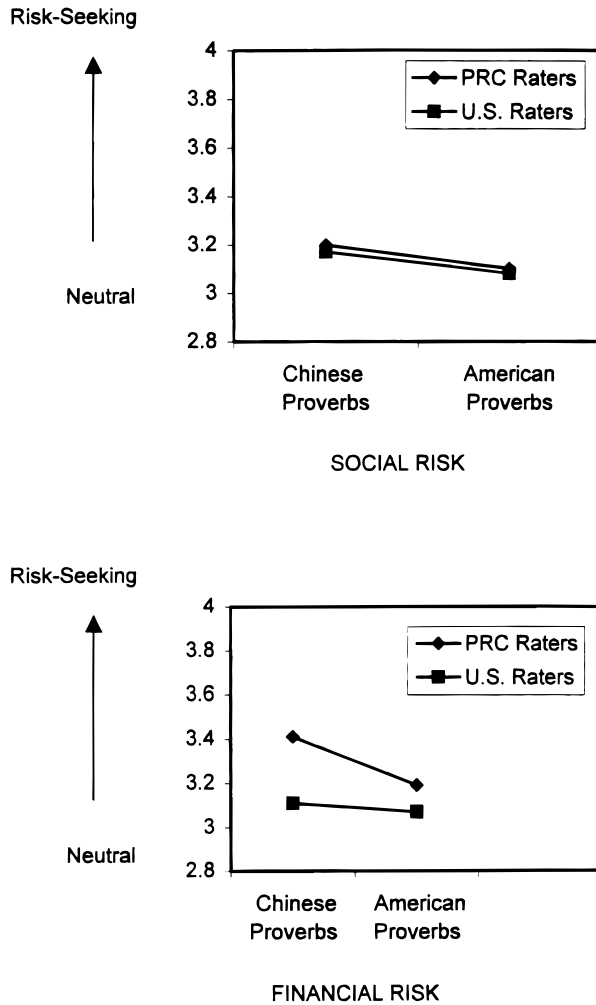
**Social problem:** "Suppose that you have a good relationship with your roommate. He/She is about to make a major personal decision. You have a strong opinion about what he/she should do. You are faced with two options. OPTION A: You actively push him/her in the direction that you think is good. OPTION B: You indirectly make a suggestion and let him/her make the decision. Depending on whether he/she appreciates what you have done or resents it, Option A may either greatly strengthen your relationship with your roommate or seriously damage it. Option B, on the other hand, will have little effect on your relationship with your roommate."

Separately for both problems, respondents answered the following multiple-choice question: "Which option does this proverb suggest—directly or indirectly—that you choose?" Possible responses ranged from (a) "definitely suggests I choose A" to (e) "definitely suggests I choose B." If raters felt that the proverb clearly did not apply to the risky financial or social decision scenario, they could indicate that and move on to the next question.

## Results

*Applicability of proverbs.* Replicating the results of Study 1, American proverbs were judged to be more applicable to the financial than to the social decision by both groups of judges, whereas Chinese proverbs were judged to be equally applicable to the financial and social risky decision ( $\chi^2(8) = 37.40$ ,  $p < .0001$ ). In particular, American (Chinese) judges found 95% (96%) of the *American* proverbs to be applicable to the financial decision, but only 63% (69%) to be applicable to the social decision. On the other hand they found 78% (83%) of the *Chinese* proverbs to be applicable to the financial decision, and 73% (78%) to be applicable to the social decision. This replicates the results of Study 1, again confirming Prediction 2, and shows that the difference in applicability of the American proverbs to financial vs. social risks observed in Study 1 did not just exist in the eyes of the (American) raters.<sup>2</sup>

<sup>2</sup> There were some eye-of-the-beholder effects, as well. The only category for which nationality of rater did *not* have an effect were judgments of applicability of American proverbs to the financial decision (95% and 96%, for American and Chinese raters, respectively;  $\chi^2(13) = 12.35$ ,  $p > .10$ ). For all other three categories (applicability of American proverbs to social risk; applicability of Chinese proverbs to financial and social risk), Chinese were significantly more likely than Americans to find proverbs applicable ( $\chi^2(21) = 34.41, 37.45, 33.21$ , respectively; all  $p < .05$ ). Chinese



**FIG. 1.** Mean ratings of risk-taking advice of proverbs for a social risk decision (top panel) and a financial risk decision (bottom panel) as a function of cultural origin of proverbs and nationality of raters. Risk neutrality has a value of 3, larger values denote risk-seeking advice, smaller values advice to avoid risks.

*Risk-taking advice.* Mean ratings of risk-taking advice as a function of cultural origin of the proverb, national origin of the rater, and domain of application (financial vs. social risk) are shown in Fig. 1. Confirming Prediction 1 and replicating the results of Study 1, there was a main effect of cultural origin of proverb on risk-taking advice, with Chinese proverbs providing more risk-seeking advice than American proverbs ( $F(1,167) = 25.95, p < .0001$ ).

(as a cultural difference) may find proverbs more applicable to life decisions in general, a main effect that might have been attenuated by a ceiling effect in the American-proverb/financial-decision applicability condition. If American parents are known for trying to influence their children's decisions by appeals to reason or rational self-interest in the form of rewards or punishment, Chinese parents often try to obtain the desired behavior more indirectly, by the telling of an allegorical story or the use of a proverb (Zhang, 1992).

Consistent with Predictions 3 and 4, we also found a significant interaction between domain of application and nationality of raters ( $F(1,167) = 9.78$ ,  $p < .005$ ), and a three-way interaction between the previous two factors and the cultural origin of the proverbs ( $F(1,167) = 6.34$ ,  $p < .05$ ). In particular, there was no difference between Chinese and American raters in the perceived risk-taking advice for the *social* decision for proverbs of either Chinese or American origin, but a significant difference in the perceived risk-taking advice for the *financial* decision: Consistent with the cushion hypothesis, Chinese raters perceived both sets of proverbs, but especially those of Chinese origin, to advocate greater financial risk-seeking than American raters did.

While the difference in perceived risk-taking advice for Chinese vs. American proverbs was largest for the PRC raters in the context of the financial decision, the main effect of cultural origin of proverb on risk-taking advice was not the result of this difference alone. Both American and PRC raters judged Chinese proverbs to advocate significantly more risk-taking advice than American proverbs in the context of the social decision ( $F(1,73) = 7.67$ ,  $p < .01$ ; and  $F(1,84) = 4.55$ ,  $p < .05$ ; respectively), and in the context of the financial decision ( $F(1,74) = 4.12$ ,  $p < .05$ ; and  $F(1,85) = 20.16$ ,  $p < .0001$ , respectively).

### Discussion

The results of Study 2 replicate and qualify the results of Study 1 as follows. Study 1 showed that Chinese raters see more risk-seeking advice in Chinese proverbs than American raters see in American proverbs. Study 2 unconfounded the effects of national origin of proverb and nationality of rater and found evidence for both. Chinese proverbs were judged to advocate greater risk-seeking than American proverbs by both American and Chinese raters, showing that the effect was inherent in the proverbs and not simply the result of differences in the interpretations of concepts or instructions by raters from different cultures. However, there also were eye-of-the-beholder effects. Nationality of the rater interacted with the domain of the risky decision when raters interpreted the advice of proverbs. Chinese raters indicated that Chinese (and, to a lesser extent, American) proverbs provided significantly more risk-seeking advice in the context of financial risk rather than social risk, whereas American raters did not see any difference in advice as a function of domain when judging the same proverbs.

## GENERAL DISCUSSION AND CONCLUSIONS

The two studies in this paper utilized an unconventional method, namely a comparative content analysis of national proverbs, to gain insight into the sources of cross-cultural differences in risk taking. There were three main findings. All three lend support to the cushion hypothesis proposed by Hsee and Weber (1998), according to which members of socially collectivist cultures can afford to take greater financial risks since their social networks insure them against catastrophic outcomes, but for the same reason need to use greater

caution when it comes to social risks. Evidence in support of the cultural cushion-hypothesis does, of course, not rule out the possibility that current situational differences between the PRC and the US might contribute to observed national differences in risk-taking. Our results suggest, however, that longstanding cultural differences in social cohesion and cooperation make a significant contribution to the explanation of those differences in risky choice behavior.

What were the main results of our comparative analysis of national proverbs? First, regardless of the nationality of the raters, Chinese proverbs seem to provide greater risk-taking advice than American proverbs. Prior research (Hsee & Weber, 1997, 1998; Weber & Hsee, 1998) showed that Chinese participants are less risk-averse in financial and other material decisions than their American counterparts, but did not conclusively answer whether these differences in behavior reflect long-standing differences in cultural values or differences in the current socio-economic or political situation between these countries. The finding that Chinese proverbs (which have been accumulated over many centuries) endorse risk-taking more than American proverbs suggests that observed difference in risk-taking stems, at least in part, from long-standing differences in cultural values. The fact that German proverbs are similar in advocated risk-taking to proverbs from China (a culture with which Germany shares some values, including a similar degree of social collectivism) and not to proverbs from the U.S. (a culture with which Germany shares similar socio-economic conditions, its political system, and other cultural values as a result of a common heritage) suggests that national proverbs related to risk and risk-taking do, indeed, reflect cultural differences related to social collectivism.

Second, regardless of the cultural origin of the proverbs, Chinese raters perceived the same proverbs to provide greater risk-taking advice than did American raters, but only for the domain of financial risks and not for the domain of social risks. Study 2 showed that this difference in the consequences of risk-taking between domains does not only affect a culture's proverbs *per se* (after all, many proverbs can be applied to both financial and social risks), but also appears to affect the interpretation of such proverbs in different decision contexts. Thus Chinese raters perceived the same proverbs as providing significantly more risk-seeking advice in the context of financial risk than social risk, whereas American raters did not show such sensitivity to the decision domain. Longstanding and (as shown by Study 1) persisting cultural differences in social connectedness predict the direction of the observed differential attitude of Chinese raters to social and financial risk.

The third noteworthy result is that American proverbs are systematically judged to be more applicable to financial-risk decisions than to social-risk decisions, whereas Chinese proverbs are much closer to being considered equally applicable to the two domains. This finding is consistent with the notion that China is (and has long been) a collectivist society and America an individualistic one. The proverbs produced by these two cultures over time reflect the fact that social concerns rate equal to financial or materialistic concerns in collectivist cultures, but are of smaller importance in individualist

cultures. This third result provides support for a crucial assumption on which the method used in this research is based, namely the assumption that long-standing cultural values, concerns, and norms will be reflected in a culture's collective records and products. Similar to Szalay and Deese's (1978) success in using free word associations to uncover cross-cultural differences in the subjective meaning of concepts, our cross-cultural analysis of proverbs revealed consistent cultural differences in the subjective meaning of and attitude toward risk-taking.

Cross-cultural research can be conducted at two different levels. On the first level, the goal is to secure differences in overt behaviors between members of different cultures. On the second level, the goal is to identify underlying cultural values that drive overt behavioral differences. Our research shows that the comparative analysis of cultural products such as proverbs can provide insight at this second level of analysis. Examining how proverbs of different cultural origins differ in their advice and meaning provides insight into underlying value differences between those cultures which, in turn, help to explain overt behavioral differences. McDaniels and Gregory (1991) rightly voice concern that many researchers fail to distinguish between these two levels. That is, national differences are often treated as cultural in origin without any attempt to distinguish between cultural vs. situational determinants. As we mentioned in the introduction, such a distinction is not always easy to make. Johnson (1991) suggests the strategy of only accepting a cross-national difference in a given behavior as cultural in origin if it is paralleled by differences in other, related behaviors that can be expected to have different situational determinants. Following this strategy, we developed predictions about the consequences of Hsee and Weber's (1998) cushion hypothesis for behaviors other than risk taking, in particular for perceptions of the riskiness of risky options. Our own (Weber & Hsee, 1998) and other research (Bontempo, Bottom, & Weber, 1997; Palmer, 1996) has documented cross-cultural differences in risk perception that are consistent with the cultural cushion hypothesis.

The importance and influence of social bonds on economic decisions and behavior has recently captured the attention of economists. Books and articles (e.g., Pennar, 1997) are examining the notion of "social capital," i.e., the economic value of social connectedness. Zavodny (1997) reports, for example, that new immigrants to the US do not choose their location based on differential welfare benefits in different states, but instead based on their ability to tie into a social network of family or people who share their language and culture. While this does not seem to be a surprising result for non-economists for a variety of reasons, it is certainly consistent with the notion explored in this paper that social networks can serve as potent material-risk insurance.

This paper applies a different strategy for distinguishing between cultural and situational determinants of national differences in behavior. We demonstrate that longstanding differences in cultural interpretation and values that give rise to cross-national behavioral differences also influence the creation of cultural products. Therefore, hypotheses about cultural differences thought to

underlie national differences in behavior can be tested by a comparative analysis of cultural products, such as proverbs, novels, collective word associations, or nursery rhymes. Conceptually and methodologically sound cross-cultural research is a difficult enterprise. More than in other research domains, conclusive insights will require a combination of methods and approaches. With this paper, we would like to raise researchers' awareness of an underappreciated method in our toolbox, namely the comparative analysis of cultural products.

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Received: February 10, 1998