

Validation of the Domain-Specific Risk-Taking Scale in Chinese college students

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In this risk return framework, Weber et al. (2002) developed the Domain-Specific Risk-Taking (DOSPERT) Scale in order to assess both conventional risk attitudes (apparent risk taking; i.e., risk taking preference in the formula above) and perceived-risk attitudes in six domains, namely, social, recreational, gambling, investment, health/safety, and ethical decisions. The conventional risk attitudes is defined as people's stated level of risk taking, and perceived-risk attitude is defined as the willingness to engage in a risky behavior as a function

2.2 Results and discussion

Table 2: Factor loadings of the 35 items of the Risk-perception Scale. Loadings greater than or equal to 0.30 are shown in bold.

Item	Factor				
	1	2	3	4	5
Recreational					
38	0.69	0.14	-0.09	0.25	-0.20
21	0.69	-0.12	0.31	0.24	-0.06
6	0.56	0.10	0.09	0.00	0.38
31	0.55	0.13	0.28	0.28	0.02
17	0.50	0.04	0.23	-0.08	0.18
5	0.50	0.16	0.18	0.05	0.25
2	0.49	0.29	0.08	-0.05	0.19
29	0.33	-0.01	0.00	0.21	0.17
Investment					
3	0.03	0.63	0.13	0.04	-0.02
24	-0.23	0.48	0.06	-0.16	0.24
7	0.14	0.42	0.28	-0.21	0.03
19	0.36	0.16	0.43	-0.11	0.12
Social					
35	0.15	0.79	-0.08	0.05	-0.03
16	-0.10	0.74	0.09	0.01	0.05
40	0.29	0.48	-0.13	0.09	-0.15
34	-0.09	0.46	0.21	-0.02	0.21
1	0.10	0.46	-0.04	-0.27	0.25
8	0.14	0.43	-0.09	0.02	0.10
26	0.07	0.38	0.01	0.29	0.01
18	0.17	0.34	0.11	-0.06	0.14
Gambling					
30	0.02	0.09	0.82	0.09	0.03
33	0.06	0.20	0.76	0.19	-0.03
22	0.29	-0.05	0.71	0.09	-0.06
11	0.09	-0.05	0.67	0.20	0.11
Ethical					
28	-0.11	-0.01	0.30	0.71	0.16
32	0.03	0.01	0.12	0.61	0.24
25	0.27	-0.06	0.04	0.60	-0.17
37	0.16	0.25	-0.06	0.54	-0.07
9	-0.1				

Table 3: Cronbach’s alphas and mean item-subscale-total correlation (and ranges of correlations) for Risk-taking and Risk-perception subscales

Domain	Alpha		Item-total correlation	
	Risk-taking	Risk-perception	Risk-taking	Risk-perception
Social-investment	0.77	0.75	0.53 (0.30–0.65)	0.52 (0.40–0.70)
Recreational	0.72	0.77	0.59 (0.51–0.66)	0.62 (0.46–0.68)
Ethical	0.76	0.72	0.67 (0.60–0.73)	0.64 (0.55–0.73)
Gambling	0.78	0.80	0.77 (0.70–0.83)	0.79 (0.75–0.83)
Health/safety	0.66	0.63	0.65 (0.59–0.72)	0.64 (0.60–0.67)

Table 4: Pearson correlations among subscales and with total score for Risk-taking scale

	Social-investment	Recreational	Ethical	Gambling	Health/safety
Recreational	0.24				
Ethical	0.11	0.28			
Gambling	0.17	0.28	0.27		
Health/safety	0.32	0.36	0.32	0.23	
Total	0.36				

Table 5: Pearson correlations among subscales and with total score for Risk-perception scale

	Social-investment	Recreational	Ethical	Gambling	Health/safety
Recreational	0.32				
Ethical	0.03	0.39			
Gambling	0.20	0.35	0.31		
Health/safety	0.39	0.49	0.33	0.23	
Total	0.66	0.78	0.58	0.59	0.71

$p < .05$, $p < .01$.

Table 6: Coefficients and R^2 of regression of Risk-taking scale mean on Risk-perception scale mean by domain

Domain	Intercept	Perceived risk	R^2
Social-investment	4.62	-0.46**	0.16
Recreational	5.07	-0.72**	0.41
Ethical	4.38	-0.61**	0.30
Gambling	4.34	-0.59**	0.29
Health/safety	5.05	-0.62**	0.28

Notes. ** $p < .01$, * $p < .05$.

Chinese university students. Still, there is room for improvement. First of all, based on the EFA, a few items had multi-loadings or did not load on the expected factors.

3.2.3 Gender differences

As shown in Table 9, male and female respondents differed significantly in ethical and health/safety domains. Men were more likely to engage in risky behaviors than were women in ethical and health/safety domains as well as total scores.

4 General discussion

Our results replicate many important findings reported by Weber et al. (2002) in Chinese culture. Both apparent risk taking and perceived risk differed across domains. As shown in Table 4 and Table 5, risk behaviors and risk perceptions in one content domain had small relationships with risk behaviors and risk perceptions in another domain, documenting the appropriateness of using domain-specific scales. Those differences in apparent risk taking seems to be associated, to a great extent, with differences of the perceived risk (Table 6), rather than perceived risk attitude (the coefficient in the risk-return regression), which did not vary greatly across domains.

The paper contributed a Chinese version of the original scale. The DOSPERT-C exhibits acceptable psychometric properties and it proves to be a useful instrument for

Table 7: Pearson correlations between Risk-taking subscales and Sensation Seeking/Intolerance of Ambiguity

Validation scale	Social-investment	Recreational	Ethical	Gambling	Health/safety
Sensation seeking	0.28*	0.62**	0.34**	0.41**	0.50**
Intolerance of ambiguity	-0.27*	-0.25*	-0.29*	-0.29*	-0.06

Notes. ** p < .01, * p < .05.

Table 8: Fit Indices for the factor structure found in Study 1.

χ^2	df	χ^2/df	NNFI	CFI	IFI	RMSEA
215.86	80	2.70	0.88	0.91	0.91	0.06

Table 9: Means (and standard deviations) of risk-taking ratings by gender.

Subscale	Males		Females		t value	df	p
	Mean (SD)	Mean (SD)	Mean (SD)	Mean (SD)			
Social-investment	3.54 (0.52)	3.56 (0.50)	1.724	381	0.086		
Recreational	2.88 (0.72)	2.60 (0.76)	0.535	381	0.593		
Ethical	2.24 (0.73)	2.11 (0.78)	4.746	381	0.000		
Gambling	2.34 (1.00)	2.28 (0.97)	-0.412	381	0.681		
Health/safety	3.44 (0.75)	3.08 (0.74)	3.608	381	0.000		
Total	3.01 (0.44)	2.88 (0.44)	3.02	381	0.003		

sonally bear more of the consequences of their risky decisions in individualist cultures like America (Weber & Hsee, 1998). Therefore, collectivism acts as a cushion against possible losses for the members of a collective culture. If people in China are more likely to receive substantive financial help from others when they are in need, lost in social connections may mean lost in monetary help when needed. In this case, investment risk and social risk should be more closely related with each other for Chinese people. It will be interesting to design further studies to identify which one of these explanations is the main reason for the differences found in factor structure or to find other reasons that lead to the differences.

Recent research on risk-taking has identified interesting cross-cultural differences between China and the U.S. For instance, Gong, Krantz, and Weber (2012) showed that, compared with American people, Chinese people were generally more concerned with the uncertainty and immediacy of future gains. Future research connecting this result with the current finding would be of great value. For example, an interesting research questions may be: do social connections reduce Chinese people's insecurity of future gains?

Male respondents to the DOSPERT were more risk-taking in all domains except the social domain than fe-

male participants. In contrast, gender differences were found only in ethical and health/safety domains when using the DOSPERT-C. Given the item adjustment in the DOSPERT-C, we could not offer very solid explanation in terms of why such differences exist. However, China's rising gender equality over the past a few years (Howell & Mulligan, 2005) may be an underlying reason for the fewer gender differences found in China. More work should be done to examine the gender differences in different domains of risk-taking using Chinese participants.

Finally, the test-retest reliability is an important index of a measure's stability over time. That we did not collect data to assess such is a limitation for our studies and we encourage additional work to test the test-retest reliability for this scale in the future.

References

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