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100871; † , E-mail: xiaofei@pku.edu.cn

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XIE Jiaqiu, XIE Xiaofei[†], GAN Yiqun

Department of Psychology, Peking University, Beijing 10087#- † Corresponding author, E-mail: xiaofei@pku.edu.cn

This study measured the risk perception, risk behavior propensity, and anxiety state of 494 residents in Hanwang, Panzhihua, and Beijing, which were impacted to different extent by the 5.12 Wenchuan Earthquake. The results confirmed the hypothesis of a Psychological Typhoon Eye Effect in terms of risk perception of tremors and risk behavior propensity, but revealed a reversed effect with regard to state anxiety. In addition, residents from Panzhihua, which is located in the edge zone of earthquake tremors, showed the most conflicting psychological reactions. The final part discusses the situational factors for Psychological Typhoon Eye Effect and Edge Zone Effect.

major disaster; psychological typhoon eye effect; edge zone effect

2008 5 12 , 8.0 , ; 3) :
, 2008 8 21 12 ,
69226 , 17923 , 374643 [1],
8451 [2],
[3]: 1) [4]; 4) :
; 2) :
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(90924018)

: 2010Ž08Ž15; : 2010Ž11Ž10; : 2011Ž07Ž08
: <http://www.cnki.net/kcms/detail/11.2442.N.20110708.1757.001.htm>

2) Maderthaner [5]

3) Kasperson [13]

[10]

Maderthaner [5]

Melber [6]

Lima [7]

5

[8]

[9-10]

[14]

[11]

[15]

(psychological typhoon eye)

Houts [16]

, Riad [17]

Hugo

Andrew

Perry [18]

3

3

1) Festinger [12]

:

1 (

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[19] Slovic [20]

, Fischhoff

2 (

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1

2 (

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; , 1500 ,

[21]

2008 8 20 9 10

90%

(1 A) ,

90%

(1 B) ,

41.2%

(1 C)

3

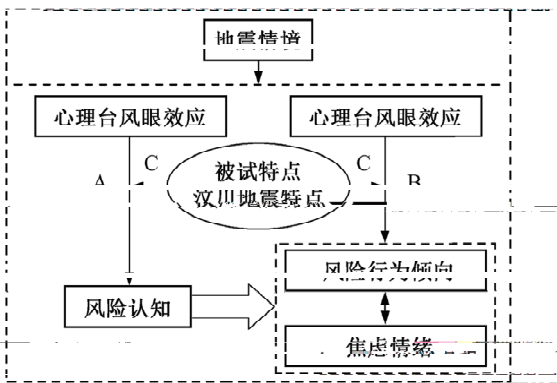
4 , 3

78

7

=0.72

500



2

[10]

10

=0.80,

,

4

29.05%

20.31%

Fig. 1 Research of psychological typhoon eye effect in Wenchuan earthquake

Table 1 Description of Samples in Three Areas

/		()			/ ()	
174/190	165	70(42.4%)	55(33.3%)	30(18.2%)	105/59	29.17(6.93)
160/160	154	43(27.9%)	86(55.8%)	20(13.0%)	93/61	35.22(7.21)
160/160	155	76(49.0%)	46(29.7%)	29(18.7%)	84/69	32.78(8.52)

[22] 2 , , (2, 471) = 3.47, <0.05
 Turkey HSD
 (=9.97, SD=2.68)
 , 7 , =0.73 (=9.18, SD=3.10), <0.05,
 : Perry [18] , (=9.41, SD=2.30)
 , 2(a)
 , 7 , 2)
 : [10] , (2, 469)= 24.81, <0.001 Turkey HSD
 , 5 , (=4.10, SD=1.79)
 , 7 , (=3.82, SD=1.91)
 =0.91 , 7 , (=2.74, SD=1.79),
 : [10] 0.001,
 , 2(b)
 , 7 , 4 , 3)
 , 3 , (2, 469) = 4.71, <0.01 Turkey HSD
 , 3 , 7 (=3.55,
 , 4 3 , SD=1.71)
 3 , =0.72 (=4.12, SD=1.72), <0.01,
 : Spielberg [23] (=3.69, SD=1.69)
 [24], 20 , 4 , 2(c)
 10 , =0.86 (2, 447)=10.87, <0.001 Turkey HSD
 , (=46.75, SD=9.17)
 , 10 (=45.38, SD=9.18)
 , 10 (=41.96, SD=8.96),
 0.001 0.01,
 2(d)
 SPSS 11.5 ,
 , 4.1 , 3
 ,
 , 1 ,
 1) ,

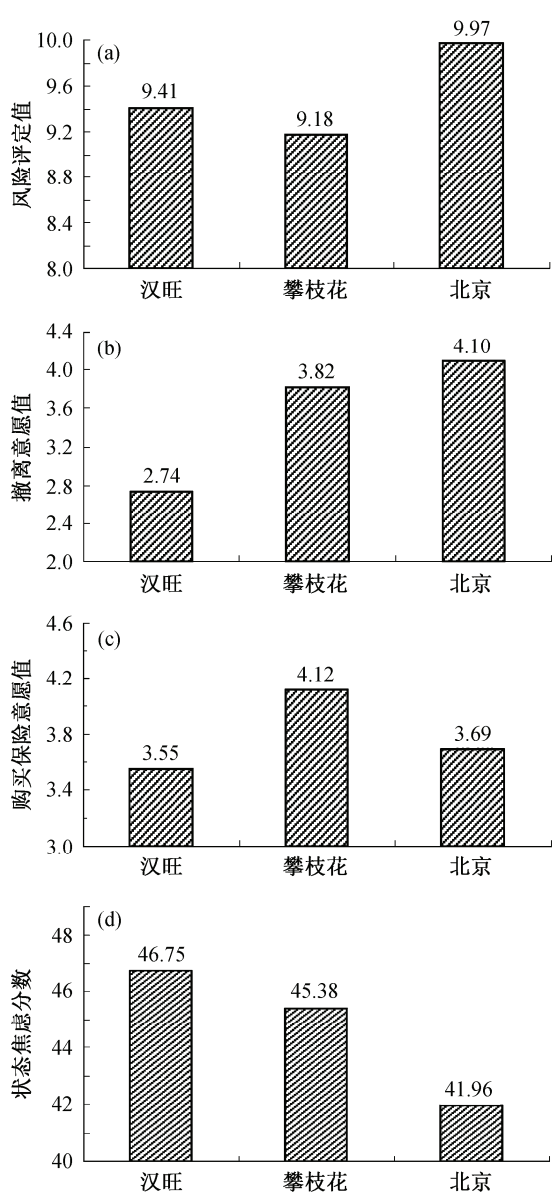


Fig. 2 Comparison of risk perception to tremor (a), evacuate behavior propensity (b), insurance buying propensity (c), and anxiety state (d) in different areas

$F(2, 278)=10.15, <0.01, \eta^2=0.04;$
 $F(2, 278)=23.71, <0.001, \eta^2=0.08$
 $F(2, 289)=19.23, <0.001, \eta^2=0.06;$
 $F(2, 289)=19.02, <0.001, \eta^2=0.06$
 $F(2, 267)=38.14, <0.001, \eta^2=0.13,$
 $F(2, 272)=0.32, >0.05, \eta^2=0.001,$
 $F(2, 272)=15.32, <0.001, \eta^2=0.05;$
 $F(2, 272)=4.37, <0.05, \eta^2=0.02$

$F(2, 278)=9.59, <0.01, \eta^2=0.03$
 $F(2, 278)=16.69, <0.001,$
 $F(7, 403)=3.92, <0.001,$

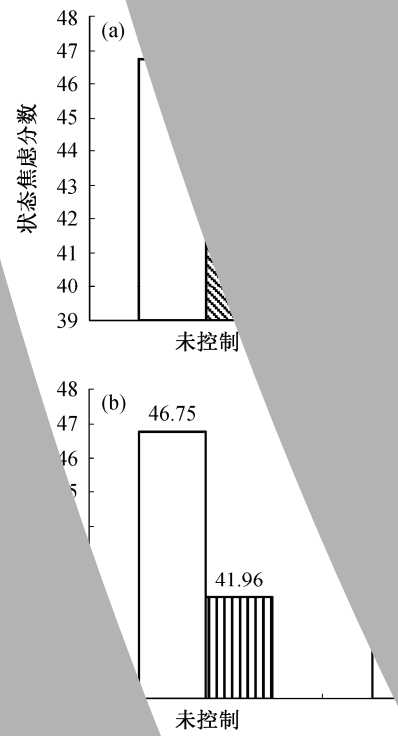
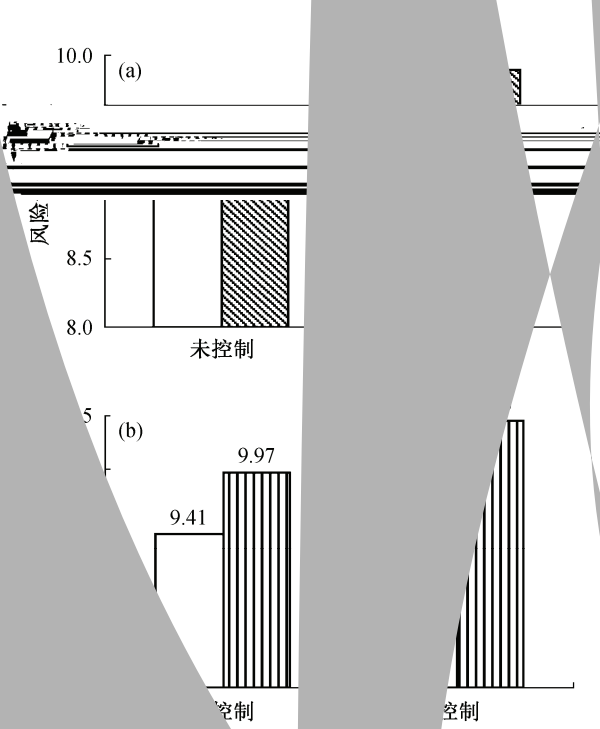


Figure 2. Comparison of risk behavior in Hanwang Beijing (a) vs Beijing (b)

Figure 3. Comparison of anxiety state in Hanwang Beijing vs Beijing (a) vs Beijing (b)

Table 2 Regression analysis of influential factors on risk behavior intensity ()

Variable	Regression Coefficient	Standard Error	t-value	p-value
1	0.16	0.02	8.00	<0.001
0	0.08	0.05	1.60	0.11
1	2.34	0.10	23.40	<0.001
0	-0.22*	0.07	-3.14	0.002
0	0.05	0.42**	0.12	0.90
12*	0.07	0.04	1.75	0.08
12*	0.10	0.14	0.71	0.48
2*	0.12	0.16	0.75	0.45
0	0.20	0.10	2.00	0.05
2***	3.13**	0.10	31.30	<0.001
5***	0.13**	0.03	4.00	<0.001
3	-0.08	0.05	-1.60	0.11
0.33	0.03	0.06	0.50	0.62
0.38	0.03	0.16	0.19	0.85
0.21	0.28**	0.05	5.60	<0.001
-0.10	0.10	0.10	1.00	0.32
0.08	0.05	0.05	1.60	0.11
-0.01	0.14	0.14	1.00	0.32
0.05	0.03	0.03	1.60	0.11
3.53**	0.10	0.10	35.30	<0.001
0.06**	0.06	0.06	1.00	0.32

* <0.05, ** <0.01, *** <0.001

$\chi^2=6.4\%$, [6-7],

, , [9-10]

, (8, 127)=3.13,

<0.01, $\chi^2=16.5\%$,

; (8, 122)=4.00, , 40%

<0.001, $\chi^2=20.8\%$, (7,

125)=2.47, 0.05, $\chi^2=12.2\%$ [25]

, (7, 403)=3.54,

<0.01, $\chi^2=5.8\%$,

(8, 126)=2.58, <0.05, $\chi^2=14.1\%$,

; (8, 122)=2.95, <0.01, $\chi^2=16.2\%$,

; (7, 126)=1.11, 0.05, $\chi^2=5.8\%$,

2)

Pronin [26]

“

”

[12]

[5] [13]

[13.20]

3)

1) ; 41.2%

- [1] . 69226 17923 [EB/OL]. (2008-08-21) [2010-08-01] <http://www.chinanews.com/gn/news/2008/08-21/1356471.shtml>
- [2] . 8451 [EB/OL]. (2008-09-05)[2010-08-01] <http://www.521gov.cn/GB/123057/7807561.html>
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