

## Relations of the Acculturation, Personality, Coping Styles and Resilience of Qiang Nationality Following 2008 Chinese Earthquake

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**Abstract. Objective:** the purpose of the present research is to explore the condition of Qiang peoples' acculturation and resilience. **Method:** Qiang acculturation questionnaire, Personality Inventory (NEO-PI-R), Connor-Davidson Resilience Scale (CD-RISC) and coping styles scale are used in 898 Qiang people in Sichuan province. **Results:** (1) After controlling for age and education level, the integration acculturation strategy significant contributed to Qiang's resilience; (2) Personality played a mediating role in the relationship between integration acculturation strategy and resilience; (3) Under the positive condition of coping style, the higher was positive coping, the stronger was the moderating effect on the mediated path through personality.

### Introduction

An earthquake of magnitude 8 struck Sichuan province in China on May 12, 2008. This was a catastrophic event, which caused 69,142 deaths with 17,551 people missing. The disaster was most severe in the areas where many of the Qiang nationality live, and leading to a range of negative psychological consequences among survivors, such as posttraumatic stress disorder (PTSD), anxiety and depression. A vast numbers of studies has concluded that resilience is a protective factor against the development of psychiatric disorders, such as PTSD and depression[1]. Resilience has been shown to contribute to disaster victims' recovery, and has been generally positively related to people's mental health and quality of life[2].

There are fifty-five ethnic minority groups in China, with many cultural backgrounds; they have come to live together in this diverse society, and gradually formed a plural multicultural society. In these culture-contact settings, acculturation plays an important role in how well people adapt both psychologically and socio-culturally [3]. By acculturation, we refer to the degree to which members of ethnic nationalities are socially integrated into the dominant culture where they resided. Some acculturation scholars have asserted that the principles of acculturation theory are deeply grounded in the broader psychological theory of stress and coping [4]. Castro and Murray (2010) [5] proposed a newer developmental model of stress, coping, and acculturation. It is grounded in the theory and research of resilience and it conceptualizes coping and cultural adjustment within a longitudinal, temporal, and developmental framework. In this study, we focused on whether or not acculturation predicts resilience, and which factors would have an influence on Qiang people's resilience after the 2008 Chinese earthquake.

### Method

#### Participants

Randomly selected 898 Qiang people (414 males, 484 females). The ages ranged from 18 to 68 years (young, 48.3%; adult, 51.7%); and education (primary school 13.3%; middle school 15.8%; high school 16.1%; university 54.8%).

## Tools

Using Qiang acculturation questionnaire, Personality Inventory (NEO-PI-R), Connor-Davidson Resilience Scale (CD-RISC) and coping styles scale from grade 1-5 "totally inconsistent with" to "fully comply with". It is of fine reliability and validity.

## Statistical Method

Data processing adopts SPSS 18.0, using correlation analysis, regression analysis.

## Results

### The Descriptive Statistic and Correlation Analysis

Table 1 presented the Means, Standard deviations, and the Pearson product-moment correlation coefficient matrix in all variables. There were significant correlations among acculturation, personality and resilience ( $r=-0.276$  to  $0.597$ ;  $P<0.01$ ,  $P<0.05$ ). But the integration strategy is highly positive related with personality and resilience among all acculturation strategies ( $r_p=0.401$ ,  $r_R=0.597$ ;  $P=0.01$ ). Those the higher integration strategy the better resilience level. Personality and resilience are positively correlated, and personality as a predictor on resilience probably ( $r=0.463$ ;  $P<0.01$ ). In addition, there is no correlation between coping styles and other psychological variables.

Table 1. The Descriptive statistic and correlation analysis.

	M	SD	1	2	3	4	5	6	7	8	9
1 Age <sup>a</sup>	0.51	0.50	—								
2 Education <sup>b</sup>	0.55	1.10	-0.421**	—							
3 Integration strategy	8.37	0.65	-0.085**	-0.436**	—						
4 Assimilation strategy	6.34	0.59	-0.096*	-0.325**	0.259**	—					
5 Marginalization strategy	5.13	0.77	-0.075	-0.532	-0.343*	-0.283*	—				
6 Separate strategy	5.47	0.63	-0.085*	-0.397*	-0.237*	-0.381*	0.127*	—			
7 Personality	3.15	0.22	-0.156**	0.088**	0.401**	0.293*	-0.457	-0.211*	—		
8 Resilience	3.30	0.52	-0.046	-0.048	0.597**	0.383**	-0.421	-0.276*	0.463**	—	
9 coping styles	2.19	0.54	-0.093**	0.135**	0.003	0.035	0.059	0.043	0.045	-0.021	—

Note: <sup>a</sup>Age is dummy variable, Youth=1, Adult=2, Mean present proportion of adult; <sup>b</sup>Education is dummy variable, including primary, middle school, high school and college degree, Mean present proportion of college degree; \*\* $P<0.01$ , \* $P<0.05$ , the same below.

### The Relationship of Acculturation and Resilience: Mediating Effect Testing

We adopted the causal steps approach[6] (See Figure1) to examine whether personality has a mediator effect on integration strategy and resilience according to the results of correlation analysis (See Table1). The results indicated that integration strategy positively predicted personality ( $a=0.14$ ,  $SE=0.013$ ,  $p<0.001$ ), and personality also positively predicted resilience ( $b=1.150$ ,  $SE=0.069$ ,  $p<0.001$ ) after controlling for age and education. Furthermore, integration still positively predicted resilience after controlling for age, education and personality ( $c'=0.94$ ,  $SE=0.070$ ,  $p<0.001$ ). To estimate the mediation pathway effect size, we calculated the proportion of the total effect of the independent variable (integration strategy) on the dependent variable (resilience) that was mediated by personality with the formula ( $ab/c$ ). Therefore, partial mediating effect is exist in this model ( $ab=0.16$ ,  $c=0.40$ ,  $SE=0.031$ ,  $p<0.001$ ), and the personality mediation proportion was 40.3%.

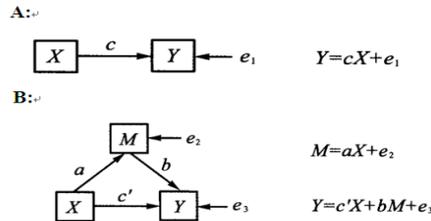


Figure 1. A: Illustration of a direct effect. X affects Y.  
B: Illustration of a mediation design. X affects Y indirectly through M.

### The Relationship of Acculturation and Resilience: Conditional Process Model Testing

The testing need to estimate the parameters of three regression equations in turn, according to the conditional process model testing method (See 2.3). The coping styles including positive coping and negative coping, thus, we estimated the mediating effects respectively. Under the positive coping styles condition (See Table2): Equation1 shows that integration strategy positively affected on resilience. Equation 2 shows that integration strategy also predicted on personality positively. And Equation 3 shows that personality positively predicted on resilience, and the interaction of personality and coping styles positively predicted on resilience. Another, under the negative coping styles condition (See Table 3): The results of Equation1 and 2 consistent of previous findings (in Table 2), however, Equation 3 indicated the interaction of personality and coping styles did not predicted on resilience, although personality positively predicted on resilience is clear.

Table 2. The conditional process model of acculturation affect on resilience (Positive coping styles).

Variables	Equation 1 (Resilience)			Equation 2 (Personality)			Equation 3 (Resilience)		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
Age	0.04	0.04	0.04	-0.02	0.02	-0.05	0.06	0.03	0.06*
Educated degree	0.04	0.02	0.08*	0.03	0.01	0.16***	0.01	0.02	0.02
Integration strategy	0.38	0.03	0.42***	0.13	0.01	0.34***	0.27	0.03	0.29***
Positive coping styles	0.28	0.05	0.19***	0.10	0.02	0.15***	0.20	0.04	0.13***
Personality							0.87	0.07	0.37***
Personality*Positive coping styles							0.55	0.19	0.08**
$R^2_{\text{positive}}$	0.20			0.15			0.32		
$F_{\text{positive}}$	107.10***			67.85***			8.28**		

Table 3. The conditional process model of acculturation affect on resilience (Negative coping styles).

Variables	Equation 1 (Resilience)			Equation 2 (Personality)			Equation 3 (Resilience)		
	B	SE	$\beta$	B	SE	$\beta$	B	SE	$\beta$
Age	0.04	0.04	0.04	-0.02	0.02	-0.05	0.06	0.03	0.06
Educated degree	0.06	0.02	0.12***	0.04	0.01	0.20***	0.02	0.02	0.05
Integration strategy	0.38	0.03	0.42***	0.13	0.01	0.33***	0.27	0.03	0.29***
Negative coping styles	-0.21	0.04	-0.19***	-0.11	0.02	-0.23***	-0.11	0.03	-0.09**
Personality							0.87	0.07	0.37***
Personality*Negative coping styles							-0.25	0.14	-0.05
$R^2_{\text{negative}}$	0.20			0.18			0.31		
$F_{\text{negative}}$	107.22***			85.60***			2.94		

To explore the interaction effects, we carried out the simple slope test under the positive coping styles. The results suggested that personality could significant positively predict resilience, following the higher level of positive coping styles ( $B_{\text{simple}}=1.57, t=0.67, P<0.01$ ); Conversely, personality could not predict on resilience under the lower level positive coping styles ( $B_{\text{simple}}=0.75, t=1.19, P>0.05$ ) (See Figure 2).

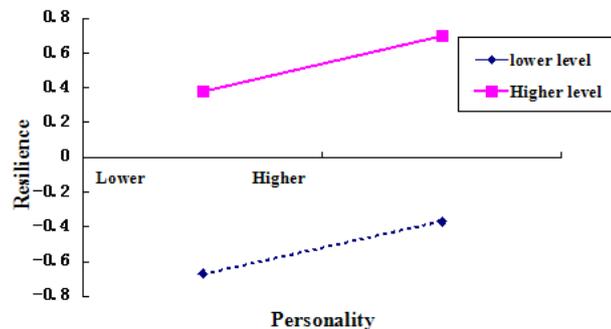


Figure 2. Coping styles moderating the mediating path through personality.

## Discussion

### The Mediating Effect of Personality

Personality is an individual's characteristic style of behaving, thinking and feeling which arises from within the individual and remains fairly consistent throughout life. In current research, we firstly examined that Qiang people's integration strategy could positively predict to resilience. Furthermore, we explored the mediating effect of personality on the path. The results indicated that Qiang's personality traits mediated the positive effect of integration strategy on resilience after controlling the demographic variables (age and educated level). Specifically, Qiang people's conscientiousness, openness, extraversion and agreeableness represented positive correlations with their resilience. On the contrary, the trait of neuroticism showed negative correlation with resilience. The results supported the view that personality can be subject to cultural influence[7] and predicted on resilience.

Acculturation is not necessarily a unidimensional process; people may acculturate towards the new culture while remaining similar or becoming dissimilar to the heritage cultural context. Qiang people lived in the embrace of alpine valleys, but they successfully integrated into the mainstream social culture with the development of economic society in China. On the one side, Qiang people desired to keep ethnic culture, and cherished the responsibility of ethnic cultural heritages; Another side, Qiang people's personality traits such as openness and agreeableness could promote their integration into dominant culture society. A recent research indicated that immigrant's personality traits were closely related to acculturation attitudes[8]. Resilience was associated with a personality trait pattern. Interactions among different combinations of personality traits have strong effects on the perception of both mental health and happiness[9]. In this sample, 898 Qiang people's acculturation attitudes jointly contributed 40.3% of the variance being accounted for in resilience through personality traits. Hence, above results suggested that healthy personality trait beefing up and promoting Qiang's resilience.

### The Moderating Effect of Coping Style

A growing number of research has found that positive coping strategies and PTG were related[10]. And a separate recent study considered that coping styles significantly moderated the relationship between cognitive appraisal and social comparison variables and PTSD, and usually increased the likelihood of developing severe symptoms [11]. Often people can rely on friends and family for support, they can rely on their own strengths or seek meaning in religious and spiritual beliefs[12]. After WenChuan earthquake, China government carried out a large number of positive coping styles, such as rebuilding houses, public facilities and roads to recover from the adversity as soon as

possible. Meanwhile, many of Nongovernmental organizations played a large role in reconstruction of minority community and society. In this process, minority culture and custom attracted unprecedented attention of the public, and the Qiang people got more social support (internal and external supports, including material, emotional, cultural and spiritual) to cope the distress and adversity. Previous PTG research found that the Qiang people had the highest PTG of all minority populations, and the important reason was attributed to the diverse cultural beliefs leading to different interpretations of the growth experience [13]. Qiang's positive religious belief would become one source of energetic coping style after traumatic events. Ying (2014) [14] found that trait resilience, measured by the CD-RISC, was negatively associated with PTSD and depressive symptoms among adolescent exposure to the Wenchuan earthquake. To sum up, the finding of this study suggested that positive coping partially moderated the impact of resilience

## Summary

Overall, Resilience is the ability to spring back from adversity and successfully adapt to it after traumatic events. The present study verified that integration strategy could positively predict on resilience in Qiang nationality. Results showed that after controlling the effect of age and educated level, in practical terms, 898 Qiang people's acculturation, personality, resilience and coping styles constituted a conditional process model: personality mediated between acculturation and resilience, and the coping styles moderated the mediation path through personality, such that only positive coping would predict the higher resilience. The meaningful of the model is verification of Qiang's acculturation how to predict on resilience after earthquake.

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