

Personality Differences Predicted by Single vs Multi Child Family Status: The Impact of One Child Policy

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ABSTRACT

The problem of low fertility rate and sharply increased only child family in China is correlated with the implement of only child policy in 1978. There are many concerns about changes in the quality of the Chinese people. To explore the relationship between only child identities and personality, this paper collects 138 results of Chinese people's TIPI scores and compared the FFM by only child group and non-only child group. The conclusion is there is no personality differences between only child and non-only child characters and no differences of the family compulsory implemented and the families that voluntarily choose one-child births. The development of the overall social environment is the key factor affecting the quality of the population.

Keywords: *China, Only-child policy, TIPI, Population quality*

1. INTRODUCTION

China has achieved remarkable results in controlling population growth. China's family planning policy has reduced about 400 million births during the 50 years of its operation. As of 2010 and the sixth census, the average annual growth rate of China's population has dropped from 1.07% to 0.57% which marking that China has entered a period of low birthrate. Due to China's unprecedented one-child policy from 1978 to the end of the full two-child policy in 2016, the total number of single or "only" children in China ranks first in the world [1]. As the newly generated backbone of China's development, the only-child is a generation that has attracted attention from policy makers and society more generally. One suggestion is that the mental well-being has been supported due to the increased allocation of material resource.

Previous suggestions of a departure from advantaged up bringing is indicated by Fan [2] that "only children exhibited poor teamwork/collaboration and behavior control capabilities, were selfish, and easily frustrated... only children would tend to be selfish and weak... lacked a sense of security and showed a low level of trust toward others and had relatively poor social acceptability". And as Chinese society be confronted of pressures related to the problem of persistently low fertility. Wang [3] demonstrates population aging in China is a burden not only for Chinese society as the support ratio between the

working-age population and the elderly declines but also for many of working age who are only children.

Therefore, the only-child is also under greater social pressure and has a more vulnerable mental state than the 'non-only' child. However, other researchers have an opposite conclusion. Yang, Ollendick, Dong, Xia and Lin [2] conducted mental health research between only children and non-only children in China. They determined non-only children born under the special circumstance which implementing "one-child" policy and the family will suffer severe social punishment such as penalty and demotion were more likely to face social discrimination and considered "bad children". By contrast, only children were regarded as responding more positively to benefit society. Such a situation would lead to the poor psychological adjustment ability of non-only children and would make them highly anxious, depressed, and hostile. Moreover, other schoolers also obtained different theories. Wu, Li, Cai, Yu, Zhou and Cai [4] applied data from the attributes and mental health of the only child of freshmen in a Chinese university and found there is no statistical correlation between the attributes of only-child and the mental health of freshmen. There is no difference between the mental health of only-child freshmen and non-only-child freshmen.

Nevertheless, the current works of literature have a limitation that there has no analysis about whether the

family is imposed to or chosen to have one child is related to the child's mental health. What conditions a couple faces when they choose to have several children is related to the way they educate and treat their children later. Feng [3] claimed it is obvious that what China has practiced under the one-child policy is not all voluntary family planning. To enforce the policy, many couples in China carried out massive sterilization and abortion campaigns. And according to Fong [5], China's one-child policy has deprived mothers of the freedom to choose their family size and subjected them to intrusive state surveillance and enforcement tactics. Those special experiences and circumstances may cause parents to treat their children more extreme and stricter. The parents will give the only child all the expectations, causing the only child to bear greater pressure.

Hence, in this present research, it analyzes whether there is a significant personality difference between an only child and a non-only child and is there a personality difference between a child living in a family that is forced by the police and a family that has voluntarily chosen to raise one child?

2. METHOD

2.1. Participants

Participants were recruited from Shanxi province in China and find them by snowball sampling by Wechat. Participants were invited to answer the online questionnaire published on Questionnaire Star through WeChat. Participation in the study was anonymous and no monetary or other awards. Participants have informed the research aim before the study. Total number of participants was 138; 69 females (50%); 69 males (50%). The mean age was 31.3 years ($SD=10.7$). Age ranges from 15 to 56 years old. Specifically, 63% of the participants were non-only children ($N=87$) and 37% were only children ($N=51$); 52.9% of the only child participants were family chosen ($N=27$) and 47.1% were imposed by the policy ($N=21$).

2.2. Apparatus

Participants only need a service that could go to Questionnaire Star through the WeChat link and answer

tested questions under a networked environment.

The survey includes common questions of demographic characteristics like age and gender and asked participants whether they are only children or not. And does the family raise one child by policy imposed or voluntarily chosen if they are the only child?

The study uses the Ten-Item Personality Inventory (TIPI) which is both times- and cost-efficient to measure of the Five-Factor Model (FFM) of participants' personality. The FFM factors include Extraversion (E), Agreeableness (A), Conscientiousness (C), Emotional Stability (ES), and Openness to Experiences (O).

2.3. Procedure

This research reference Li (2013)'s Ten-Item Personality Inventory in China (TIPI-C) as the Chinese version of the TIPI scale [6]. Internal consistency reliabilities of TIPI-C's subscales, that was E, A, C, ES, and O, were 0.67, 0.60, 0.64, 0.62 and 0.64 respectively, while the test-retest reliabilities 2 month after were 0.68, 0.51, 0.41, 0.64 and 0.77. The factors of TIPI-C correlated with relevant dimensions of NEO-FFI, ie. 0.54(E), 0.44(A), 0.65(C), 0.58(ES), and 0.44(O) respectively, and the correlations between self-reports five factors and peer-reports of TIPI-C were 0.39(E), 0.40(A), 0.32(C), 0.33(ES) and 0.35(O). Hence TIPI-C has good psychometric properties, and can be played to this relevant research.

After collecting data and recode the reverse-scored items of ten questions, taking the average of the two items (the standard item and the recoded reverse-scored item) that make up every five factors' scale. Then group and compare with the norms according to the different identities of only children. Norms [7] is the figure 1. Since the samples are all Chinese, the results of the experimental data only refer to Asian standards.

Use JASP for statistical analysis. Basic information uses descriptive statistics. Use independent sample T-test to compare between groups. Assignment content: only child (Y), non-only child (N), one child family that is forced by the policy (imposed), and one child family that is chosen by themselves (chosen).

Table 1: TIPI norms [7]

Normative Data for the Ten-Item Personality Inventory (TIPI): Self-reported Data						
Ethnicity	E	A	C	ES	O	
All ethnicities						
Mean	4.44	5.26	5.47	4.85	5.43	
SD	1.45	1.11	1.32	1.42	1.06	
White						
Mean	4.56	5.26	5.47	4.85	5.43	
SD	1.48	1.12	1.13	1.45	1.06	
Hispanic						
Mean	4.43	5.21	5.45	4.9	5.53	
SD	1.41	1.09	1.11	1.42	1.04	
Asian						
Mean	4.12	5.14	5.11	4.64	5.07	
SD	1.31	1.06	1.16	1.32	1.08	
Black						
Mean	4.38	5.37	5.57	5.14	5.53	
SD	1.46	1.17	1.03	1.38	1.05	

Note. E=Extraversion;A=Agreeableness;C=Conscientiousness;ES=Emotional Atribility;O=Openness.

3. RESULT

The data analysis used descriptive statistics and independent T-test method. This work also uses box plots to show the tendency of the data. On all accounts, the data shows there is no significant relationship between different personalities on only child and ono-only child

people and there is not a significant difference of personality by separate groups of imposed and chosen. All the data are summarized in the table below.

Figure 1 and Table 2 below indicate there is a large age span between participants and the participants have an average male-to-female ratio (50%).

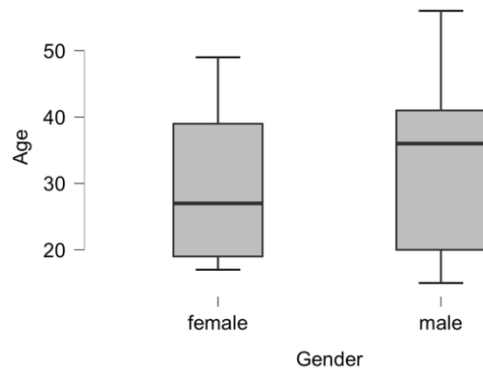


Figure 1: Distribution of ages between different gender.

Table 2: Descriptive of ages between different gender.

	Age		
	female	male	nominal
Valid	69	69	0
Missing	0	0	1
Mean	29.174	33.464	NaN
Std. Deviation	10.158	10.797	NaN
Range	32.000	41.000	-∞
Minimum	17.000	15.000	∞ ^a
Maximum	49.000	56.000	-∞ ^a

Figure 3 shows the TIPI scores for only children and non-only children. Comparing the calculation result with

the standard, the scores of the other four traits except for extraversion are all lower than the average standard.

Table 3: TIPI results between N and Y.

	Experimental data for TIPI									
	Extraversion		Agreeableness		Conscientiousness		Emotional Stability		Openness to Experiences	
	N	Y	N	Y	N	Y	N	Y	N	Y
Valid	87	51	87	51	87	51	87	51	87	51
Missing	0	0	0	0	0	0	0	0	0	0
Mean	4.224	4.333	4.793	4.824	4.833	4.5	4.351	4.137	4.632	4.676
Std. Deviation	1.088	1.147	1.055	0.811	1.061	1.082	1.215	1.082	1.036	0.942
Minimum	2	2	1	3	3	1.5	1	1.5	2.5	2.5
Maximum	7	7	7	7	7	6.5	7	6	7	7

Table 4 and Table 5 show the independent-samples t-test which was used to determine if there were a difference in the TIPI test between participants who were an only child and non-only child. There is no significant difference in Extraversion (E) for the group who are the ono-only child and group who are the only child; $t=-0.558$ (two-tailed). There is no significant difference in Agreeableness (A) for the group who are the ono-only child and group who are the only child; $t=-0.117$ (two-tailed). There is no significant difference in

Conscientiousness (C) for the group who are the ono-only child and group who is the only child; $t=1.769$ (two-tailed). There is no significant difference in Emotional Stability (ES) for the group who are the ono-only child and group who are the only child; $t=1.035$ (two-tailed). And there is no significant difference in Openness to Experiences (O) for the group who are the ono-only child and group who are the only child; $t=-0.251$ (two-tailed). These results suggest there are no correlations between people's only child character and their basic personality.

Table 4: Descriptive of different only child identify.

	Extraversion		Agreeableness		Conscientiousness		Emotional Stability		Openness to Experiences	
	N	Y	N	Y	N	Y	N	Y	N	Y
Valid	87	51	87	51	87	51	87	51	87	51
Missing	0	0	0	0	0	0	0	0	0	0
Mean	4.224	4.333	4.793	4.824	4.833	4.500	4.351	4.137	4.632	4.676
Std. Deviation	1.088	1.147	1.055	0.811	1.061	1.082	1.215	1.082	1.036	0.942
Minimum	2.000	2.000	1.000	3.000	3.000	1.500	1.000	1.500	2.500	2.500
Maximum	7.000	7.000	7.000	7.000	7.000	6.500	7.000	6.000	7.000	7.000

Table 5: Two question model about five traits on different only child identify.

	t	df	p	Cohen's d
Extraversion	-0.558	136	0.578	-0.098
Agreeableness	-0.177	136	0.859	-0.031
Conscientiousness	1.769	136	0.079	0.312
Emotional Stability	1.035	136	0.302	0.183
Openness to Experiences	-0.251	136	0.803	-0.044

Note. Student's t-test.

Table 6 and Table 7 show the independent-samples t-test which was used to detect if there were any differences in the TIPI test between only child participants who were imposed and chosen. There is no significant difference in Extraversion (E) for the group who are chosen and group who are imposed; $t=0.121$ (two-tailed). There is no significant difference in Agreeableness (A) for the group who are chosen and

group who are imposed; $t=-0.596$ (two-tailed). There is no significant difference in Conscientiousness (C) for the group who are chosen and group who are imposed; $t=-0.257$ (two-tailed). There is no significant difference in Emotional Stability (ES) for the group who are chosen and group who are imposed; $t=-0.829$ (two-tailed). And there is no significant difference in Openness to Experiences (O) for the group who are chosen and group

who are imposed; $t=-0.225$ (two-tailed). These results prove the big five factors have no correlation with

different reasons for being an only child.

Table 6: Descriptive of different only child groups.

	Extraversion		Agreeableness		Conscientiousness		Emotional Stability		Openness to Experiences	
	chosen	imposed	chosen	imposed	chosen	imposed	chosen	imposed	chosen	imposed
Valid	27	24	27	24	27	24	27	24	27	24
Missing	0	0	0	0	0	0	0	0	0	0
Mean	4.352	4.313	4.759	4.896	4.463	4.542	4.019	4.271	4.648	4.708
Std. Deviation	1.125	1.196	0.836	0.794	1.176	0.988	1.205	0.932	0.830	1.073
Minimum	2.500	2.000	3.000	3.500	1.500	2.500	1.500	2.500	3.500	2.500
Maximum	7.000	6.500	7.000	6.500	6.500	6.500	6.000	6.000	6.000	7.000

Table 7: Two question model about five traits on different group of only child participants.

Independent Samples T-Test

	t	df	p	Cohen's d
Extraversion	0.121	49	0.904	0.034
Agreeableness	-0.596	49	0.554	-0.167
Conscientiousness	-0.257	49	0.798	-0.072
Emotional Stability	-0.829	49	0.411	-0.232
Openness to Experiences	-0.225	49	0.823	-0.063

Note. Student's t-test.

4. CONCLUSION

As a unique generation under the family planning policy, the growth of the only child and the development of their adulthood have attracted much attention. The only child is not only regarded by the elders as the "little emperor" since they were born and are intensively nurtured by all family resources and get special care and spoil from family members. These different experiences may make them weak in empathy and lack of ability to cooperate and "inclined to avoid difficulties and problems" [2]. The only child bears all the expectations of the parents for the future development of the family and each of them needs to bear the old-age care and financial pressure of at least four elderly people. According to Bao [1], at present, many links in the public life course, such as childcare, education, and old-age care, cannot be adequately or individually addressed by the state alone. These social backgrounds may cause problems such as excessive mental stress and emotional instability for the only-child group. These problems and

circumstances prompted this research to explore whether there is any difference in personality between only children and non-only children. By comparing the TIPI scores of participants in different groups, there is no difference in the Big Five factors of personality between only children and non-only children. And considering whether the radicality and compulsory implementation of the one-child policy will affect the growth environment of the one-child family, we also compared the compulsory implementation and the families that voluntarily choose one-child births which the results show that the two are not related.

The shaping of a person's personality is inseparable from the influence of the surrounding environment and all-time learning in daily life. Except for some natural personality traits, a person's social communication ability and psychological endurance will change with different experiences or deliberate training. Downey, Condon and Yucel [2] used data from a large sample of American teenagers and found that the social interaction and integration abilities of only children were lower than

those of non-only children in kindergartens and primary schools. However, such differences gradually disappeared during adolescence. The generation under the one-child policy is affected by the population structure and family structure created by the policy. However, due to the national and comprehensive implementation of this policy, the five personality traits of this generation will be further affected by the extensive development and education of society. China's popularization of nine-year compulsory education, the government's promotion of people's old-age security, and the full liberalization of the three-child policy are all measures to ease the pressure and anxiety of the only-child group. Wu [4] claiming with the increase of age and people's socialization gradually deepens, and the economic, social, political, and cultural environments faced by the two types of children are the same. Therefore, under the same general background, the differences in the psychological conditions of the two types of children will gradually shrink, the similarities will gradually increase, and continue to change until the differences disappear.

The limitation of this study is all the TIPI answers were self-reported, which expose the usual weaknesses of such data (e.g., Lack of flexibility, Low efficiency, and recall biases). These data can only obtain written information but cannot understand vivid and specific social conditions and real behaviors. Furthermore, all samples are urban participants further research should study the problem of the only child in rural areas to make the conclusion more comprehensive. At the same time, researchers can conduct research on the different genders of only children because the one-child policy inevitably aggravates the problem of gender discrimination in Chinese families. Overall, in the era of global integration, scholars should pay more attention to the overall environment of personal growth and learning. A healthy and high-quality social background is more conducive to improving the quality of the population.

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