

Meta-Analysis of Personality of Child Abuse in China

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ABSTRACT

Objectives: We explored the personality trait of child abuse in China with a meta-analysis, so as to provide the theory basis for intervention of child abuse.

Methods: Publications between 1989 and 2013 were extracted from China National Knowledge Infrastructure (CNKI), Chinese Science and Technology Journal Database (VIP) and Wanfang Databases. Observational studies consisting of personality trait (assessment using Eysenck personality questionnaire) of child abuse were included in full text. The Meta-analysis was weighted mean difference methods.

Results: Six papers were included for meta-analysis, with a total study sample size of 452. The control group sample size was 1695. The mean difference of combined effect value for EPQ-E, EPQ-P, EPQ-N, EPQ-L respectively was 0.13 (95% CI: -0.39~0.65), 1.83 (95% CI: 0.88~2.78), 1.98 (95% CI: 0.68~3.29), -1.20 (95% CI: -2.11~0.30).

Conclusion: In China, the personality trait of child abuse is different with a child without abuse. Psychotic tendencies and neurotic are higher than no abuse child's, and the score of lying trait is lower than no abuse child's.

Keywords: Child abuse, Personality, Trait, Eysenck personality questionnaire, Meta-analysis

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INTRODUCTION

Child abuse, both in the developing and the developed country, exists in different degrees (1). Children suffered abuse, which will have a terrible negative effect on their physical and mental health. There is a close relationship between the personality formation and the congenital physiological factors and living environment (2). Foreign scholars generally believed that childhood abuse is an important factor to affect the formation of personality, with the childhood abuse as causes and the personality formation as consequences” (3), through a cross-sectional survey and retrospective study (4). In view of cultural factors what also have an important effect personality, such as the Chinese traditional culture "spare the rod, spoil the child", we need to pay attention about whether child abuse influences Individual personality in China. The study aims to provide evidence for this issue through a meta-analysis of the relevant research literature about child abuse and personality.

MATERIALS AND METHODS

Search Strategy and Selection Criteria

We retrieved 115 articles about child abuse from 1989 to 2013 including all the titles and abstracts through China National Knowledge Infrastructure (CNKI), Wanfang Databases and Chinese science and technology journal database (VIP) using the key words (‘child’) AND (‘Masochism’ or ‘abuse’ or ‘corporal punishment’) AND (‘individuality’ or ‘character’ or ‘personality’) (Figure 1). Then we filtered these articles artificially to determine whether the articles associated with child abuse and personality and download the full texts. Finally we look for the related literatures that may conform to the selected standard from the qualified

references.

Study selection

There are three inclusion criteria. Firstly, the measurement and evaluation tools which was used to assess whether children abuse (CECA.Q (5), CTQ (6), SQCA (7)) should conform to operational definition (8) about child abuse of WHO in 1999. Secondly, Eysenck personality questionnaire (9), revised by Professor Gong Yaoxian Xiangya Medical College (former Hunan Medical University) is used to assess personality. Finally, the article should provide full data, including the study group and control group sample size, mean and standard deviation. There also are two exclusion criteria, including incomplete, unclear or wrong information and the repeated research data which have been published.

Data extraction and quality assessment

Yang et al. (10) incorporated the procedure independently. Prescreening by reading the title and abstract, then screening by reading the full text, and then final selection decision was made according to the inclusion criteria. For objectionable articles, we decide whether include them by discussion together.

Statistical analysis

Meta analysis was performed with R3.0.2 Meta software package of Metaprop command, advanced test for heterogeneity. If $P > 0.05$, the included articles are homogeneous, and we

should use fixed effect model. However, if they are heterogeneous, we adopt the random effects model.

RESULTS

Data retrieval

A total of 115 relevant articles published during the period of 1989-2013 are retrieved. Six articles meet the inclusion criteria. General descriptions can be seen in Table 1 (11-16).

Merging effect value

Heterogeneity analysis of the research literature showed $I^2=0\% \sim 75.9\%$, so we used a random effects model. According to the value type of outcome, continuous variables add and subtract mean difference was used to merge statistics. Six articles which met the inclusion criteria reported MDs in the personality assessment is as follows. EPQ-E's MD is 0.13, 95% CI is (-0.39~0.65). EPQ-P's MD is 1.83, 95% CI is (0.88~2.78). EPQ-N's MD is 1.98, 95% CI is (0.68~3.29). EPQ-L's MD is -1.20, 95% CI is (-2.11~-0.30). As shown in Figure 2 to Figure 5.

Bias analysis

Funnel plot is mainly to identify and analysis whether public bias and other bias exist or not. The study presents the funnel plot for included articles of EPQ-E in Figure 6.

DISCUSSION

Child abuse is a very complex, multifaceted phenomenon, which include various forms. Moreover, because of the different social and cultural values, different ethnic criteria for defining child abuse is very different (6). The findings related to battered childwere inconsistent or even contrary (17, 18). It has shown that childhood abuse may be an important factor leading to personality disorders (2). In Chinese cultural background, childhood parenting patterns mixed results on the impact of personality, related findings even were contradictory (19, 20). Child personality may be also an important influence factors for child abuse one of the (21).

In this study, 6 articles were included, which involve 452 samples of battered child vs 1695 samples in the control group. The heterogeneity analysis results of included articles showed that $I^2=0\%$, $P=0.74$, which showed that the study is homogeneous. When combined the effect size, we used the continuous variables weighted mean difference (weighted mean difference, WMD). The results of this meta-analysis showed that EPQ-E's MD is 0.13 (95% CI-0.39~0.65), which reflecting mean differences about the extraversion dimension had no statistical significance between the experimental group and the control group; EPQ-P's MD is 1.83 (95% CI-0.88~2.78), reflecting mean about personality psychotic core dimensions was statistically significant difference between the experimental group and the control group, and its 95% CI is > 0 , showing the higher score of battered child group than another group; EPQ-N's MD is 1.98 (95% CI-0.68~3.29), reflecting mean difference in neuroticism dimension of personality was statistically significant between the

experimental group and the control group, and its 95% CI is > 0 , showing the experimental group neuroticism scores is higher than the control group; EPQ-L's MD is -1.20 (95% CI $-2.11 \sim -0.30$), reflecting mean differences is statistically significant in disguise dimensions of personality between the abuse group and the control group, and its 95% CI was < 0 , illustrating the experimental group score is lower than those in the control group. Meta-analysis showed that the score of psychosis and neuroticism of personality dimensions in child abuse was higher than that in control group, and the difference was statistically significant, while the score of disguise dimension was lower than that in control group, which further reveal the battered children's ability for "straining and acting according to circumstances" is poor in the face of difficulties or unexpected events. The meta-analysis showed that the personality of the battered child has some characteristics, such as higher psychotic tendencies and neuroticism, and the ability to deal with things and to hide according to circumstances is lower.

Funnel plot is mainly to identify and analysis the bias of included articles. Basing on the funnel plot, we found that the articles being included in the meta-analysis have high homogeneity.

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Table: In the research literature summary description

Author	Published Year	Studies (n1)	Controls (n2)	Age	Personality assessment tools	Child abuse assessment tools
Yang SC et al. (10)	2011	34	699	17-26	EPQ	CECA.Q
Chen JQ et al. (11)	2008	41	93	16-35	EPQ	CECA.Q
Li Y et al. (12)	2010	82	82	16-19	EPQ	CTQ
Li XB et al. (13)	2010	78	78	16-19	EPQ	CTQ
Feng EC et al. (14)	2004	131	551	13-15	EPQ	CSSQ
Yang SC et al. (15)	2004	86	192	12-15	EPQ	SQCA

Note: CECA.Q- Child abuse history questionnaire; CTQ- The childhood trauma questionnaire; CSSQ- The children stricken situation questionnaire; SQCA- Child abuse screening test.

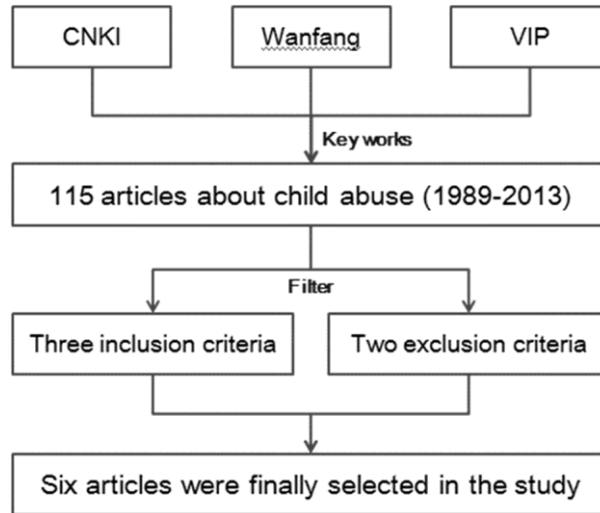


Fig.1: The flowchart of article selection.

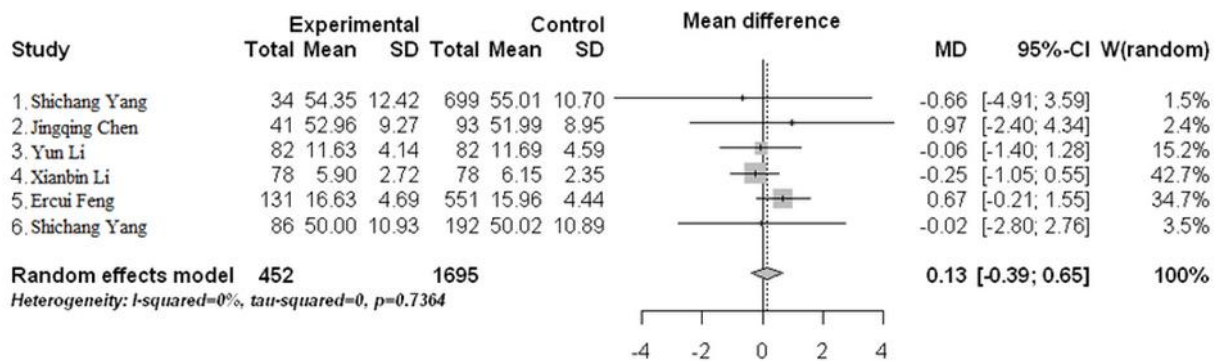


Fig.2: Forest plot of EPQ-E's WMD association studies of child abuse and the control group.

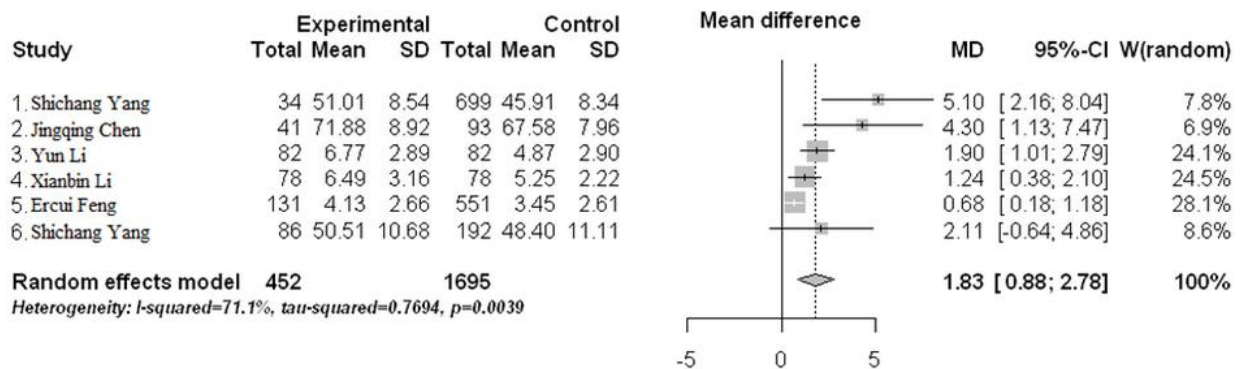


Fig.3: Forest plot of EPQ-P's WMD association studies of child abuse and the control group.

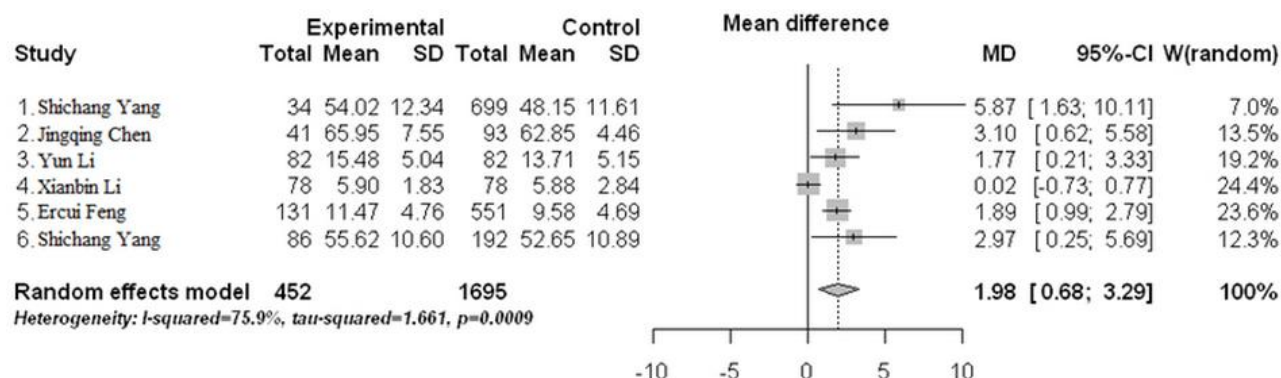


Fig.4: Forest plot of EPQ-N's WMD association studies of child abuse and the control group.

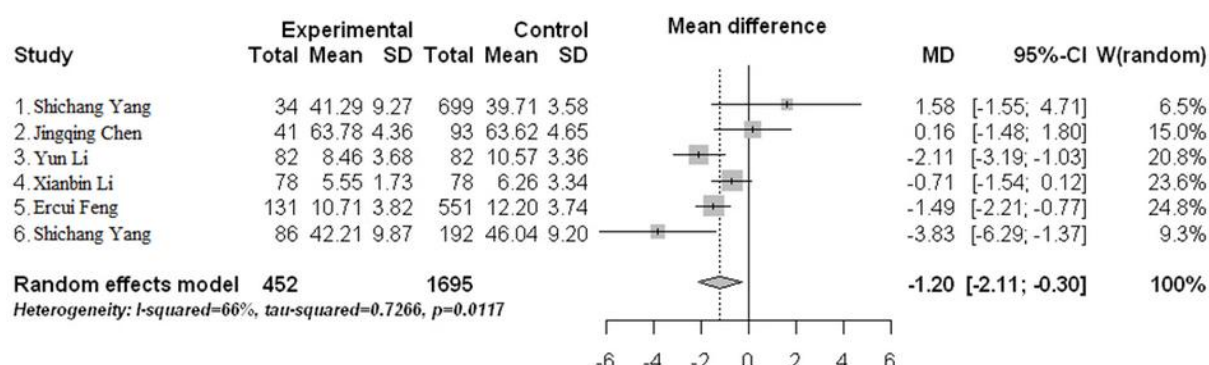


Fig.5: Forest plot of EPQ-L's WMD association studies of child abuse and the control group.

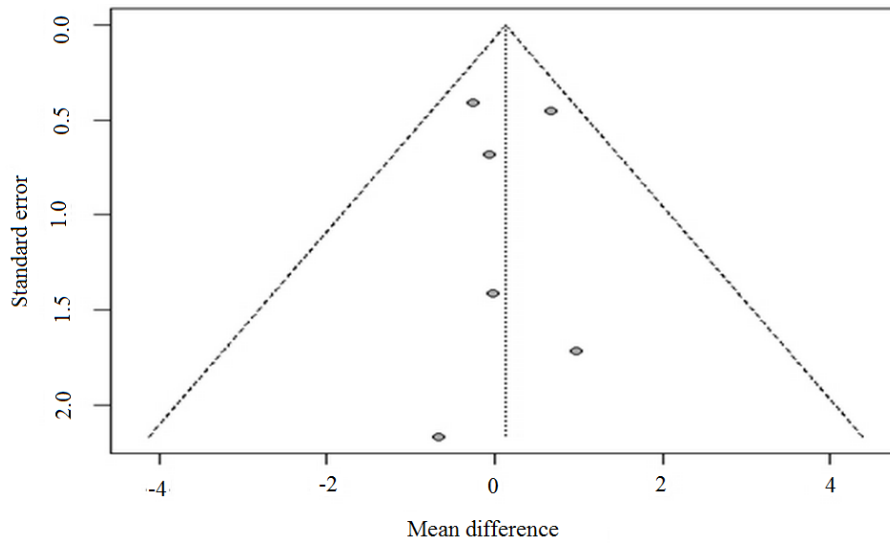


Fig.6: Funnel plot of articles of child abuse and personality traits with Meta analysis.

Brief synopsis: We need to pay attention about whether child abuse influences Individual personality in China. The study aims to provide evidence for this issue through a meta-analysis of the relevant research literature about child abuse and personality.