Personality development: 18-year follow-up study of the single, non-single children in Nanjing, China

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Abstract In order to examine how the number of siblings may affect the behavior patterns of children at different stage of development, a series of longitudinal studies have been carried out for the same cohort of children at different stages of development at preschool, early school, late school, and adolescent age by the Nanjing Child Mental Health Center in Nanjing in collaboration with Department of Psychiatry of University of Hawaii School of Medicine. The report reviews briefly the major findings obtained in past studies, as well as the last survey carried out 18 years later. It reveals that the difference of personality between single children and non-single children disappeared after they reached young adulthood. However, difference of personality between genders is still observed.

Key words: child, personality, single, number of siblings, follow-up study, Nanjing, China

INTRODUCTION With improvement in the quality of life and health care, China’s population increased dramatically between 1950s and 1980s, reaching nearly one billion by the end of 1980. According to projections, if the birth rate remains 2.3 children per family, the national population will reach 2.1 billion by 2080. However, if the national average could be reduced to 1.5 children per family beginning in 1985, the population growth could be stabilized, at 1.15 billion by the year 2000. Within this context, the Chinese government attempted to regulate population growth in 1980 by advancing the official “one-child-per-couple” family policy (Tseng et al., 1988). Rooted in the nature of agricultural societies, Chinese people have traditionally valued large families and many children. Children were considered family treasures, and sons were favoured to carry on the family clan. To overcome such traditional concepts, the government implemented vigorous measures to limit couples to only one child. In addition to its family planning policy, young people are encouraged to marry late, public education is given regarding methods of contraception, and free supplies of birth control devices and drugs are dispensed. As a result, in 1985, when the survey was carried out in the Nanjing area, about 80-90% of young couple in the city area and 50-60% in the rural areas had only one child (Tseng et al., 1988). The influence of family constellation, birth order, and sibling relations on child development has attracted considerable interest among scholars in the past. The basic postulate has been that lack of siblings may produce certain types of experiences which, in turn, mold character formation along specific lines and results in certain vulnerabilities. For Chinese, it is concerned that the
single-children will be over protected and indulged by their parents and might be less adjusted for socialization.

**LONGITUDINAL STUDIES CARRIED OUT IN THE PAST** In order to examine how the number of siblings may affect the behavior patterns of children at different stage of development, a series of longitudinal studies have been carried out by the Nanjing Child Mental Health Center in Nanjing in collaboration with Department of Psychiatry of University of Hawaii School of Medicine for the same cohort of children at different stages of development; preschool, early school, late school, and adolescent age (Tao *et al.*, 1986; Tseng *et al.*, 1988; Tao *et al.*, 1995; Tseng *et al.*, 2000; Wang *et al.*, 2002).

**Initial Study in 1984-85**

A total of 687 children of preschool age, ranging from three to five years, were chosen as subjects for the initial investigation. Among them, about half were living in the city of Nanjing and half in rural areas near Nanjing, so that any differences between them due to their residence can be investigated. The revised Chinese version of the Achenbach’s Child Behavior Checklist was used as the primary instrument to assess children’s behavior pattern (Tseng *et al.*, 1988).

Boys who were single children, were not shown to have any significant differences from boys with siblings in an overall profile of behavior problems. However, girls who were only children, in contrast to girls with siblings, tended to have slightly higher scores on the factors of depression, mood, and temper.

Further secondary analysis were conducted to examine how the behavior problems of boys and girls who were single children versus those who had siblings might be affected by other variables such as household structure, parents’ preference for number or gender of children, or major setting of care during childhood. Results of the two-way MANOVAs indicated several findings. For instance, boys who were only children and were cared by grandparents scored higher on the anxious aggression factor than those cared for by parents. Girls who were only children and who were cared for at home had lower temper scores than those who were cared for at a nursery. It demonstrated that early childhood environment and care patterns, coupled with the factor of number of siblings, contributes to the temperament of child at preschool stage.

**Fourth-Year Follow-up Study in 1988-89**

When the subject were about 7-9 years old, at their early school age, the fourth-year follow up survey was carried out. Due to massive city construction that took place a couple years after the initial survey, many residents were permitted to move so that only 450 children were able to be traced from the original cohort for the follow up survey.

The results indicated that boys with siblings, in contrast to boys of single children, have higher scores on the factor of misconduct or aggression, namely externalizing behavior problems. As for girls, single children tend to have higher scores on delinquent factors, and non-single children on somato-neurotic factors. It is the reverse of the pattern shown by boys.

**Six-Year Follow-up Study in 1990-91**

The sixth-year follow-up survey was carried out when the children were at the late school age of 9-11 years old. A total of 416 children were surveyed (Tao *et al.*, 1995).

The study revealed that the developmental impact on boys and girls of being a “single child” or a “child with siblings” was different. When the behavior problems were divided into internalizing behavior problems and externalizing behavior problems for comparison, it was revealed that boys retained the same behavior patterns from preschool age to early school age and late school age. Namely, boys who were single children had more internalizing behavior problems (such as somato-
neurotic or somatic complaints factors), and boys with siblings had more externalizing behavior problems (such as aggressive, misconduct, or hyperactive factors.) In contrast to this, the patterns of behavior problems for girls switched back and forth through the three stages studied. Namely, girls who were single children had more internalizing behavior problems at preschool stage; when they were older, at early school stage, they changed to more externalizing behavior problems; and, later at late school stage, they reversed to more internalizing behavior problems.

**Ten-Year Follow-up Study in 1994-95**

The tenth-year follow-up survey was carried out when the children reached their age of 13-15 years old at their stage of adolescent (Tseng et al., 2000). A total of 310 subjects were studied. When the total behavior problems scores were compared with that obtained in the previous studies conducted for the stage of preschool, early school, and preadolescence respectively, it was revealed that the total scores declined significantly in association with time, showing maturation effect. Furthermore, for boys, in comparing single with non-single, there were no significant differences in term of the total behavioral scores throughout the four stages of development from preschool to adolescence. However, girls who were single children, in contrast to girls with siblings, had significantly higher scores of total behavior problems throughout each stage of development.

**PRESENT STUDY** Among the same cohort from the initial study, a total of 102 subjects were surveyed in this 18-year follow-up study. Their ages ranged from 21 to 25 years with a mean age of 22.4 years. About half (n=49) were men and half (n=51) were women. In term of their residence, 43.1% of them were living in city and 56.9% in rural areas. Among them, 70.3% were single child, and 29.7% had siblings (non-single). These demographics reflect the cohort from the initial survey.

**METHOD** Given all of the participants are now adults, the Eysenk Personality Questionnaire (EPQ) of adult version (rather than the Achenbach’s Child Behavior Checklist) was used to assess their personality. The EPQ contains with 88 items.

**RESULTS** In the initial subsequent studies up to including the tenth-year follow up study, gender differences were detected among single child or non-single child. In this 18-year follow-up study, there were no differences of gender by sibling status. No difference was found for residence by sibling status as well.

In the initial survey, the parental preference of the gender of the child, the number of children, and the pattern of child rearing, namely, whether the young child was raised at home (by their parents or grandparents) or at a nursing home or day-care center, have been studied. However, there was no statistically significant relationship between the original parental expectation of the gender and number of child as well as those variables in early childhood experiences with any individual items of question of EPQ surveyed. It shows that these variable factors have no obvious effect when the subject reached young adulthood.

For the responses made for each single items of question of EPQ, the univariate analysis was performed regarding the difference of residence, number of siblings, and gender. The results are as following:

**City versus rural**

Participants from city have significantly higher response than those from rural areas for the following three items:

- **Item 32**: Do you always apology to others when you are not polite to them?
- **Item 36**: As a child did you do as you were told immediately and without grumbling?
- **Item 79**: Have you ever been late for an appointment or work?
In contrast, subject from rural areas have significantly more response than those from city for the following items:

**Item 24**: Have you ever taken anything (even a pin or button) that belonged to someone else?

**Item 27**: Are you often troubled about feelings of guilt?

Although participants living in city tended to be slightly more polite and obedient, there is no obvious trend between participants living in city and those living in rural areas.

**Single versus Non-Single Child**

Single-child participants had significantly higher response than participants with a sibling(s) on only one item:

**Item 16**: Have you ever blamed someone for doing something you knew was really your fault?

Non-single-child participants had significantly higher responses for the following items, compared to single-child participants:

**Item 68**: Do you think people spend too much time safeguarding their future with saving and insurances?

**Item 73**: Do you worry too long after an embarrassing experience?

**Item 79**: Have you ever been late for an appointment or work?

In general, there is no remarkable pattern of differences existing among single children versus non-single children when they reached young adult age.

**Male versus Female**

Male participants were significantly more likely to report the following items, when compared to their female counterparts:

**Item 5**: Are you a talkative person?

**Item 34**: Do you enjoy practical jokes that can sometimes really hurt people?

**Item 50**: Do people who drive carefully annoy you?

**Item 64**: Have you ever taken advantage of someone?

In contrast to the above, female participants were more likely to report the following items:

**Item 11**: Would it upset you a lot to see a child or an animal suffer?

**Item 23**: Do you often feel “fed up”?

**Item 27**: Are you often troubled about feelings of guilt?

**Item 31**: Would you call yourself a nervous person?

**Item 39**: Do you worry about awful things that might happen?

**Item 88**: Would you feel very sorry for an animal caught in a trap?

Based on the above information, it seems that there are differences in personality traits between males and females. Male participants were more daring, and aggressive. These items contribute to the Extraversion and Psychoticism subscales. In contrast, female participants are more sensitive, empathic, and they feel less secure (and tend to be more nervous or feel guilt), corresponding to the Neuroticism subscale.

**DISCUSSION**

It is clear from the present study as well as the previous studies that, the investigation of personality development needs to be examined by a longitudinal follow-up so that the trends of development can be traced dynamically in terms of time factor at different stages of growth.

Although it has been postulated by scholars that early childhood experience or environmental factors will shape the development of personality, many variables that previously affected
children’s behavior at early stage, such as parents’ preference of gender or number of children, or the setting at where the child was raised (either at home or nursery, by parents or grandparents), failed to show any continuous effects on them when the subjects become young adults. While differences in behavior patterns between single children and non-single children were apparent when they were young, particularly for girls, this difference gradually diminished over time. There was a significant reduction following adolescence, as indicated by the ten year follow-up study, and became minimal by the time participants reached young adulthood, as illustrated by the present study. Their socialization experience over time likely contributed to the dilution of these differences.

The only variable with impact on the personality trait throughout young adulthood is gender. Considerable differences exist between males and females, which seem to be observed almost universally by the measurement of EPQ. Namely, women obtained higher means than men on Neuroticism in all countries studied; while men obtain higher means than women on Psychoticism and Extraversion in almost all of the societies investigated (Lynn & Martin, 1997).

This study was limited by the size of the sample surveyed. It was difficult to locate participants after many years. However, the present study is valuable for examining trends of development of personality. It helps us to understand how the variables such as the early childhood experience, the number of siblings, or gender, contribute to the formation of personality when they reached young adulthood.

REFERENCES


