A Case-Control Study on the Behavior Status of
Rural Left-Behind Children in China[*]

Yang Zhi-xin, Zheng Yu-qi

Anhui University, Hefei City, China

The present study is aiming to exploring the behavior status of rural left-behind children in China. In a case-control study, we used Rutter Children's Behavior Questionnaire for teacher to measure behavior status of children in left-behind group and control group. Furthermore, we also compared behavior status of children in different age groups (grades two, four and five). The results showed that rural left-behind children in China have more behavior problems than the control group, and children in the elder group have more behavior problems than children in the younger group.

Keywords: rural school, left-behind children, behavior problem

Introduction

Since the Chinese economic reform and opening-up, a large amount of surplus labor forces in rural area of China have moved to big cities for better job opportunities and become migrant workers. Failing to take their children with them, these workers left their children in the rural area and let them live with their grandparents or relatives. Thus, those kids who can not go to the big cities with their parents but have to stay in the rural area are referred to "left-behind children". It is considered to be a unique situation in the specific developing stage of China in the development of human society (Cui, 2009). Actually, with the advent of globalization, labor migration has become a worldwide phenomenon. Along this development is the plight of more children being left behind by either one or both parents, leaving them to the care of grandparents or relatives (Pottinger, 2005; Jones, Sharpe, & Sogren, 2004). For example, the number of left-behind children in Philippines is estimated to be nine million or 27% of the total youth (Asis, 2006). There are different versions of the number and ratio of the left-behind children that cause it is quite a difficult job to do an accurate census for the left-behind children in China (Luo, Wang, & Gao, 2009; Pan & Ye, 2009). Given the fact that long-lasting separation from parents can induce adverse impact on children, "left-behind children" have drawn widespread attentions. Academic circles, society and the government in China have placed many concerns on left-behind children's academic performance, the formation and development of personality and social behavior (Duan & Zhou, 2005; Liu, Gao, T. Wang, & Y. Wang, 2007; Zhao, Lin, & Cao, 2008).

The public perceptions about left-behind children are that migration of either one or both parents has negative impact on children's development. Compared to non-left-behind children, left-behind children showed poor academic performance, higher anxiety and loneliness and more social behavior problems (Liu, Fan, &

Shen, 2007; Fan & Sang, 2005). Compared to these public perceptions, several research studies reveal a different perspective. In Lan et al.'s (2009) study, the result did not show a big difference in terms of behaviors between left-behind and non-left-behind children.

With the primary concern on social behavior, the present study is going to investigate the behavior problems of left-behind children. Children's behavior problem refers that in terms of severity and duration, and a child's abnormal behavior exceeds the normal range given his/her age. According to previous research, the detected ratio of the children's behavior problem is from 5.6% to 37% in foreign countries, and the ratio in China is from 6% to 16% (Wang, 2006). When it comes to left-behind children, it has been pointed out that behavior problems of left-behind children are significant, due to their left-behind growing environment (Fan, 2005). Thus, in the present study, we hypothesize that the rural left-behind children's behavior problem is more serious than non-left-behind children in China.

Method

Subject

In early June of 2009, 65 left-behind children were selected from grades two (21), four (20) and five (24) as the research group. Correspondingly, following the principles of the same grade, class and gender, 65 non-left-behind children were selected from grades two, four and five as the control group. The study was conducted in an elementary school in Feixi County, Hefei, Anhui Province of China.

Design

This is A 2 (groups: left-behind children group and control group) × 3 (grades two, four and five) factorial design between subjects.

Assessment Tools

Behavior status of children was measured by Rutter Children's Behavior Questionnaire for Teacher. This measuring scale has high reliability, with the sensitivity of 90.2%, the specificity of 100% and the general effective rate of 91.4% (Xuan et al., 2008). In this questionnaire, grade nine is considered to be a grade of normal group, thus, a child whose general grade is equal to or greater than nine is considered to have behavior problems.

Assessment Process

Subjects' grades of Rutter Children's Behavior Questionnaire for Teacher were measured by teachers in charge of the classes from which the subject were selected. The process was under the instruction of psychology students in Anhui University, China.

Statistical Method

Data was analyzed by the software SPSS (Statistical Package for the Social Science) 13.0 for Windows. A 2 (groups: left-behind children group and control group) × 3 (grades two, four and five) ANOVA (analysis of variance) was conducted to analyze children's grade of behavior questionnaire, and x^2 tests were conducted to examine the ratio of children' behavior problem.

Results

The outcome of ANOVA shown that there were two main effects of group and grade (6.00 ± 6.34 vs. 2.85 ± 4.06, $F_{(1, 124)} = 11.65$, $P = 0.001$; 2.10 ± 2.78, 5.73 ± 7.23 and 5.38 ± 5.19, $F_{(2, 124)} = 6.44$, $P = 0.002$), and no interaction between group and grade ($F_{(2, 124)} = 0.54$, $P = 0.59$). Analysis through SNK (student-Neuman-Keuls)

method shown that there were statistical significant differences between grade two and grade four ($P = 0.007$) and between grade two and grade five ($P = 0.012$), but no statistical significant difference between grade four and grade five. Researches did not make simple effect tests, because there was no significant interaction effect. Grades of the behavior tests and the description of statistics were listed in Table 1.

Table 1

Original Grades of the Behavior Measuring Scale for the Left-Behind Children and the Control Group ($x \pm s$)

	Left-behind	Control	Total
Grade two	3.48 ± 3.11	0.71 ± 1.45	2.10 ± 2.78
Grade four	6.80 ± 8.12	4.65 ± 6.24	5.73 ± 7.23
Grade five	7.54 ± 6.35	3.21 ± 2.21	5.38 ± 5.19
Total	6.00 ± 6.34	2.85 ± 4.06	4.42 ± 5.54

The x^2 test shown that the ratio of behavior problems in left-behind children was higher than that in control group (24.6% vs. 9.2%, $x^2_{(1)} = 5.47$, $P = 0.019$), and there were differences among three grades (2.4%, 30.0% vs. 18.7%, $x^2_{(2)} = 11.30$, $P = 0.004$). The x^2 test also shown that there was no significant difference between grade four and grade five ($x^2_{(1)} = 1.52$, $P = 0.218$). The detection ratios of behavior problems in different groups are listed in Tables 2 and 3.

Table 2

The Detection Ratios of Behavior Problems in Left-Behind Children and the Control Groups (%)

	BP (+)	BP (-)
Left-behind	16 (24.6)	49 (75.4)
Control	6 (9.2)	59 (90.8)

Note. (BP: behaviour problem).

Table 3

The Detection Ratios of Behavior Problem of Children in Three Grades (%)

	BP (+)	BP (-)
Grade 2	1 (2.4)	41 (97.6)
Grade 4	12 (30.0)	28 (70.0)
Grade 5	9 (18.7)	39 (81.3)

Notes. (BP: behaviour problem); Tips:1.among three grades, $x^2_{(2)} = 11.30$, $P < 0.01$; 2. between grade four and grade five, $x^2_{(1)} = 1.52$, $P = 0.218$.

Conclusions and Discussion

In this case study, we used a highly reliable behavior test to investigate the behavior problems of left-behind children. The results of the present study prove our hypothesis: the left-behind children's behavior problem is more serious than non-left-behind children. Furthermore, behavior problem of children from grade four and grade five is more serious than children from grade two.

As it is shown by the data, the ratio of behavior problem in non-left-behind children's is 9.2%, which falls into the normal range of children's behavior problem ratio in China (6% to16%, as reported before). However, the ratio of behavior problem in left-behind children's is 24.6%, which not only exceeds the upper bound of the normal range, but also is significantly higher than that of the control group.

The ratio of behavior problem in children from grade four and grade five is significantly higher than that in children from grade two, and there is no significant difference between grade four and grade five.

These results are inconsistent with the recent research (Lan et al., 2009). In that study, the behavior problems ratio of left-behind children is lower than that of non-left-behind children, and the results of Rutter Children's Behavior Questionnaire for Teacher showed that there are no differences between left-behind children group and control group or between different age groups. That study, however, involved much higher grades children (i.e., 7th, 8th and 9th graders) than the present study. Additionally, there are important differences in study method between that study and the present study. In testing the differences of behavior problems between non-left-behind and left-behind children, Lan et al. (2009) did not match participants in age, sex and sample size.

General speaking, the comparatively significant behavior problems of the rural left-behind children are due to their left-behind condition to some degree. The behavior problems of higher grade pupils are more serious than that of lower grade pupils no matter in left-behind children or non-left-behind children might be due to the study content. Experienced teachers in charge of elementary school classes reported that the cause of this phenomenon might be the comparatively easy study tasks in grade one and grade two. In the second terms of grade three, the study tasks become more difficult, which leads to polarization of the pupil's marks. Accordingly, we infer that the polarization of pupils' grades may be relevant to the high ratio of behavior problems for the higher grade pupils.

It is clear that our findings represent only an initial step in approximating behavior status of rural left-behind children in elementary school in China. Some limitations should be noted. For example, the sample size is small, and therefore, the results must be interpreted with caution.

Despite of some limitations mentioned above, relevant information about rural left-behind children in China has been shown. The results shed light about the different developmental outcomes between left-behind and non-left-behind children. The information is relevant not only for future research, but also for intervention decisions. The results reaffirm the need to match participants in age, sex and sample size in testing the differences of behavior problems between non-left-behind and left-behind children. Moreover, these results provide a preliminary guide for policy decisions about children's developmental education to consider in the intervention with left-behind children.

References

Asis, M. M. B. (2006). Living with migration: Experiences of left-behind children in the Philippines. *Asian Population Studies, 2*(1), 45-67.

Cui, L. J. (2009). A study on psychological development and affecting factors of left-behind children. *Shanghai Research on Education, 4,* 36-38.

Duan, C., & Zhou, F. (2005). A study on children left-behind. *Population Research, 29*(1), 29-36.

Fan, F., & Sang, B. (2005). Absence of parental upbringing and left-behind children's personality, academic achievements as well as behavioral problems. *Psychological Science, 28*(4), 855-858

Jones, A., Sharpe, J., & Sogren, M. (2004). Children's experiences of separation from parents as a consequence of migration. *Caribbean Journal of Social Work, 3*(3), 89-109.

Lan, Y. L., Li, Y., Tang, X. J., Tan, Y. N., Zhang, Y. Y., & Tan, J. Y. (2009). A study on personality, emotion and behavior status of rural left-behind children. *Chinese Journal of Behavioral Medicine and Brain Science, 18*(4), 343-345.

Liu, X., Fan, X., & Shen, J. (2007). Relationship between social support and problem behaviors of the left-home-kids in junior middle school. *Psychological Development and Education, 23*(3), 98-102.

Liu, Z., Gao, W., Wang, T., & Wang, Y. (2007). A study on anxiety characteristics and its influencing factors in children left in rural areas. *Chinese Journal of Clinical Psychology, 15*(2), 177-179, 182.

Luo, J., Wang, W., & Gao, W. B. (2009). A review of the studies on left-behind children in China. *Advances in Psychological Science, 17*(5), 990-995.

Pan, L., & Ye, J. Z. (2009). A review of the studies on rural left-behind children in Children. *China Agricultural University Journal of Social Sciences Edition, 29*(2), 5-17

Pottinger, A. M. (2005). Children's experience of loss by parental migration in inner city Jamaica. *American Journal of Orthopsychiatry, 75*(4), 485-496.

Wang, X. Z. (2006). Research advances of childhood behavior disorders. *Chinese Journal of Behavioral Medical Science, 15*(7), 667-668.

Xuan, X., Liang, Z. Z., Kang, C. Y., Jiang, H. Z., Li, M., & Xu, X. F. (2008). Comparison of rutter child behavior questionnaire used in primary school students by parents and teachers Rutter. *Chinese Journal of School Health, 29*(11), 1002-1003.

Zhao, J., Lin, Y., & Cao, G. (2008). Mental health of rural left-behind children and their family cohesion and adaptability. *Journal of Shandong University (Health Sciences), 46*(10), 1-4.