



<b>Title</b>	<b>Effects of Age, Gender, and Participation in Volunteer Activities on the Altruistic Behavior of Chinese Adolescents</b>
<b>Author(s)</b>	<b>Chou, KL</b>
<b>Citation</b>	<b>Journal Of Genetic Psychology, 1998, v. 159 n. 2, p. 195-201</b>
<b>Issued Date</b>	<b>1998</b>
<b>URL</b>	<b><a href="http://hdl.handle.net/10722/53470">http://hdl.handle.net/10722/53470</a></b>
<b>Rights</b>	<b>Creative Commons: Attribution 3.0 Hong Kong License</b>

## Effects of Age, Gender, and Participation in Volunteer Activities on the Altruistic Behavior of Chinese Adolescents

KEE-LEE CHOU

*Research Department*

*The Hong Kong Council of Social Service*

---

**ABSTRACT.** Possible associations of gender, age, and participation in volunteer activities with altruistic behavior of Chinese adolescents were investigated. A representative sample of 1,105 Hong Kong Chinese adolescents (457 boys, 648 girls) were recruited from 20 schools. Results of multiple regression analyses indicated that there was a positive age effect on altruistic behavior. In addition, a positive association between self-reported altruistic behavior and frequency of participation in volunteer activities was found. No gender differences were found.

---

IN THE LAST 25 YEARS, the study of moral development has flourished, but there have been relatively few studies concerning adolescents' moral development (Hoffman, 1980). Even more surprising is the lack of research on adolescents' prosocial development (Eisenberg, 1990; Hill, 1987) and altruistic behavior (Gilligan & Attanucci, 1988). Altruistic behavior is defined as voluntary, intentional behavior that benefits another and that is not motivated by the expectation of external rewards or avoidance of externally produced punishments. Altruistic behavior is considered a morally advanced form of prosocial behavior. It has been studied through several perspectives such as evolutionary, psychoanalytic, social learning, cognitive developmental, and social and personal norms (for a review, see Bierhoff, 1987).

My first objective in this study was to investigate whether adolescents' altruistic behavior increases with age. The rapid and large changes in altruistic

---

*This work was conducted as a joint project of the Coordinating Committee on Uniformed Group Services of the Hong Kong Council of Social Service and the Research Department of the Hong Kong Council of Social Service. The author thanks the members of the uniformed groups for their assistance in the data collection and those who kindly volunteered to participate in the study.*

*Address correspondence to Kee-Lee Chou, Department of Educational Studies, Hong Kong Baptist University, Kowloon Tong, Hong Kong.*

behavior during childhood have been documented in a large body of literature (Radke-Yarrow, Zahn-Waxler, & Chapman, 1983; Underwood & Moore, 1982). Given the magnitude of those changes in childhood, one might ask whether prosocial development continues in adolescence. During adolescence, there is significant advancement in perspective-taking skills (Selman, 1980), empathic and sympathetic reasoning (Francis & Pearson, 1987), social problem-solving skills (Marsh, 1982), and level of moral reasoning (Colby, Kohlberg, Gibbs, & Lieberman, 1983). All these changes are linked to the development of prosocial behavior. Therefore, one would expect a trend toward more altruistic behavior in adolescence.

Previous studies concerning age-related effects on adolescents' altruistic behavior have yielded inconsistent results. Berndt (1985) and Collins and Getz (1976) have shown that acts concerning helping a peer with a task increase with age. In contrast, other studies did not reveal age-related effects on altruistic behavior, such as helping to pick up pencils, working with needy children as a volunteer, helping in an emergency, and mailing unstamped letters dropped in their schools (Green & Schneider, 1974; Lowe & Ritchey, 1973; Midlarsky & Hannah, 1985). In a review, Eisenberg (1990) concluded that the data are not sufficient for firm conclusions to be drawn regarding changes in altruistic behavior from childhood to adolescence.

My second objective in the present study was to identify gender differences in adolescents' altruistic behavior. Krebs (1970) conducted a review of the issue, and, based on that study, most research since then has revealed that there are no gender differences in altruism. Furthermore, Radke-Yarrow et al. (1983) found that there were no gender differences in sharing behavior in most of the laboratory studies that involved children as participants. However, Eagly and Crowley (1986), in their meta-analytic review of gender differences in altruistic behavior, concluded that adolescent boys helped more than adolescent girls. Ma (1985), however, found that the girls in both of his samples of English and Chinese children were more altruistically oriented than the boys were.

In this study, I also investigated whether participation in extracurricular volunteer activities is associated with altruistic behavior (in general) during adolescence. Previous studies have indicated that altruistic behavior is enhanced by supportive parenting or by a cohesive and harmonious family environment, which implicitly provides positive modeling (Eisenberg & Mussen, 1989; Ma & Leung, 1995). Other aspects of adolescents' socialization may also shape their altruistic behaviors. For example, peers' or teachers' encouragement to join in extracurricular helping activities may be associated with enhanced altruistic behavior; such participation has been shown to be positively correlated with helping behavior (Cox, 1974; Eisenberg, Cialdini, McCreath, & Shell, 1987; Staub, 1979). Although we encourage adolescents to participate in volunteer activities, it is not known if this participation enhances the altruistic behavior of these adolescents in other settings or in other aspects of their lives.

## Method

### *Participants*

The sample consisted of 1,105 Chinese students (457 boys, 648 girls) recruited from 20 high schools in Hong Kong. The schools were selected to yield a sample of students from different socioeconomic brackets, a variety of family structures, and different socioeconomic backgrounds. In each school, we used systematic random sampling to choose 3 students by number (i.e., 4, 16, 36) from each classroom. In Hong Kong, the student numbers are usually assigned according to alphabetic order based on the names of students. Therefore, the selection did not lead to any systematic bias in sampling. Data for the present analyses were collected via self-report surveys filled out by the respondents. The study was conducted during normal classroom time in 1996.

The students' average age was 14.4 years ( $SD = 1.65$ ); the range was from 12 to 18 years. Approximately 8% of the respondents were living in single-parent households. The mean number of siblings that respondents had was 3.17 ( $SD = 1.42$ ). The most frequently reported household income category (US\$1 = HK\$7.8) was HK\$10,000–\$19,999 (44%), followed by HK\$5,000–\$9,999 (19%), and HK\$20,000–\$39,999 (14%). Approximately 9% of the respondents had participated in volunteer activities frequently or very frequently.

### *Measures*

The Chinese version of the Rushton, Chrisjohn, and Fekken Self-Report Altruism Scale (C-SRA), which was validated by Chou (1996), was used to measure altruistic behavior. Chou (1996) established the validity of the C-SRA scale by finding a high correlation between the C-SRA scale and a Chinese version of the Child Altruism Inventory (Ma & Leung, 1991) and between the C-SRA scale and peer-rating of helping behavior. The scale also has a reasonably high reliability and internal consistency ( $\alpha = .9$ ). The C-SRA scale is a brief, self-administered measure of altruism, containing 19 statements that describe altruistic acts. The respondents were requested to rate the frequency with which they engaged in each behavior on a 7-point Likert-type scale ranging from *never* (1) to *all of the time* (7).

The respondents were also asked to indicate their sex, age, education level, marital status of their parents, number of siblings, household income, and frequency of participation in extracurricular volunteer activities.

### *Data Analysis*

Because the girls and boys differed on some measures (e.g., in age and number of siblings), simple comparisons between these two groups could have been

confounded with the other factors. To lessen this problem, I used multiple regression as the primary data analysis technique. Multiple regression analyses take account of correlations among predictors and therefore provide better estimates of the effect of any single predictor (Pedhazur, 1982).

The C-SRA scale score (self-reported altruistic behavior) was used as a criterion in a separate analysis. In the analysis, the variables for age, sex, education level, marital status of parents, number of siblings, household income, and participation in volunteer extracurricular activities were used as predictor variables.

## Results

There were significant correlations between the C-SRA scale scores and some predictor variables, including age, sex, education level, household income, and frequency of participation in volunteer activities (see Table 1). There were also significant correlations among predictor variables, but most of those correlations were quite low—9 of 12 significant correlations were equal to or less than .1. There were significant but moderate correlations for household income and single-parent household ( $r = .12, p < .01$ ) and for frequency of participation in volunteer activities and education level ( $r = .12, p < .01$ ). A high correlation was also found

**TABLE 1**  
Intercorrelations Between the C-SRA Scale Scores and the Independent Variables

Variable	1	2	3	4	5	6	7	8
Criterion								
1. Altruistic behavior	—							
Predictor								
2. Age	.12**	—						
3. Sex	.07*	.10**	—					
4. Education level	.11**	.79**	.09**	—				
5. Single-parent household	-.00	-.03	.04	-.02	—			
6. Number of siblings	-.00	.09**	.12**	.07*	.01	—		
7. Household income	.08*	.06	.00	.10**	.12**	-.04	—	
8. Participation in volunteer activities	.27**	.10**	.07*	.12**	.04	.01	.09**	—

*Note.*  $N = 1,051$ . Sex was coded 0 for boys and 1 for girls, so a positive correlation indicates that the girls had a higher mean score on a measure than did boys. Marital status refers to parents' marital status; a single-parent household was coded 0, and a non-single-parent household was coded 1. Education level was coded 1 = junior high school, 2 = senior high school, 3 = pre-university classes. Household income (in Hong Kong dollars) was coded 1 = less than \$5,000, 2 = \$5,000 to \$9,999, 3 = \$10,000 to \$19,999, 4 = \$20,000 to \$39,999, and 5 = more than \$40,000. Frequency of participation in volunteer activities was coded 1 = never, 2 = seldom, 3 = sometimes, 4 = frequently, 5 = very frequently. \* $p < .05$ . \*\* $p < .01$ .

between education level and age ( $r = .79, p < .01$ ). After finding significant correlations between predictive variables, I used multiple regression, thereby providing better estimates of the effect of any single predictor (Pedhazur, 1982).

There was a significant effect of age on altruistic behavior (the beta weights for altruistic behavior for age differences were significant; see Table 2). The positive beta weights for the effect of age on altruistic behavior indicate that older adolescents had a higher rating on this measure of prosocial behavior. The data in Table 2 also indicate that the frequency of participation in volunteer activities had a significant effect on the adolescents' C-SRA scale scores. The positive beta weights for this independent variable show that adolescents who participated in volunteer activities more frequently also had higher ratings on the C-SRA scale. No gender differences were found in the adolescents' C-SRA scale scores.

### Discussion

The results of this study suggest that there is a positive age effect on adolescents' altruistic behavior. That finding is consistent with previous findings by Berndt (1985) and Collins and Getz (1976). The findings also indicate that adolescents who join in volunteer activities more frequently report a higher frequency of altruistic behavior. These findings are consistent with earlier findings by Cox (1974), Eisenberg, Cialdini, McCreath, and Shell (1974), and Staub (1979). Moreover, no gender differences in altruistic behavior were found among the adolescents in the present study, a finding that is consistent with those of a study conducted with Chinese children by Ma and Leung (1992). The cross-sectional

**TABLE 2**  
Means and Standard Deviations for C-SRA Scale Scores and Beta Weights  
for the Independent Variables

Item/variable	Altruistic behavior
C-SRA Scale score	
<i>M</i>	4.08
<i>SD</i>	.89
Beta	
Age	.11*
Sex	.04
Education level	-.002
Single-parent household	-.008
Number of siblings	-.01
Household income	.05
Participation in volunteer activities	.25**

\* $p < .05$ . \*\* $p < .01$ .

design of the present study limits the generalizability of the results, and longitudinal data are needed to further examine the causal relations between participation in volunteer activities and altruistic behavior in general.

There were significant associations between some pairs of predictor variables. For instance, older respondents were expected to have higher education levels. Moreover, it was not surprising to find that single-parent households had lower household incomes than two-parent households had. The most interesting finding was that education level was associated with participation in volunteer activities.

This study has shed some light on adolescent altruistic behavior in Hong Kong. However, there are some limitations to this research. First, the data were obtained by self-report; future studies should use observation and peer ratings to assess altruistic behavior so that the internal validity of the study will be higher. Second, additional psychological variables, such as self-esteem and cognitive capability, should be included as predictors to widen the scope of the research.

#### REFERENCES

- Berndt, T. J. (1985). Prosocial behavior between friends in middle childhood and early adolescence. *Journal of Early Adolescence*, 5, 307-317.
- Bierhoff, H. W. (1987). Donor and recipient: Social development, social interaction, and evolutionary process. *European Journal of Social Psychology*, 17, 113-130.
- Chou, K. L. (1996). The Rushton, Chrisjohn, and Fekken Self-Report Altruism Scale: A Chinese translation. *Personality and Individual Differences*, 21, 297-298.
- Colby, A., Kohlberg, L., Gibbs, J., & Lieberman, M. (1983). A longitudinal study of moral judgement. *Monographs of the Society for Research in Child Development*, 48(Serial No. 200), 1-124.
- Collins, W. A., & Getz, S. K. (1976). Children's social responses following modeled reactions to provocation: Prosocial effects of a television drama. *Journal of Personality*, 44, 488-500.
- Cox, N. (1974). Prior help, ego development, and helping behavior. *Child Development*, 75, 594-603.
- Eagly, A. H., & Crowley, M. (1986). Gender and helping behavior: A meta-analytic review of the social psychological literature. *Psychological Bulletin*, 100, 283-308.
- Eisenberg, N. (1990). Prosocial development in early and mid-adolescence. In R. Montemayor, G. R. Adams, & T. P. Gullota (Eds.), *From childhood to adolescence: A transitional period?* (pp. 240-268). New York: Sage.
- Eisenberg, N., Cialdini, R. B., McCreath, H., & Shell, R. (1987). Consistency-based compliance: When and why do children become vulnerable? *Journal of Personality and Social Psychology*, 52, 1174-1181.
- Eisenberg, N., & Mussen, P. H. (1989). *The roots of prosocial behavior in children*. Cambridge, UK: Cambridge University Press.
- Francis, L. J., & Pearson, P. R. (1987). Empathic development during adolescence: Religiosity, the missing link? *Personality and Individual Differences*, 8, 145-148.
- Gilligan, C., & Attanucci, J. (1988). Two moral orientations: Gender differences and similarities. *Merrill-Palmer Quarterly*, 34, 223-237.
- Green, F. P., & Schneider, F. W. (1974). Age differences in the behavior of boys on three measures of altruism. *Child Development*, 45, 248-251.
- Hill, J. P. (1987). Research on adolescents and their families: Past and prospects. *New*

- Directions in Child Development*, 37, 13–31.
- Hoffman, M. L. (1980). Moral development in adolescence. In J. Adelson (Ed.), *Handbook of adolescent psychology* (pp. 295–343). New York: Wiley.
- Lowe, R., & Ritchey, G. (1973). Relation of altruism to age, social class, and ethnic identity. *Psychological Reports*, 33, 567–572.
- Krebs, D. L. (1970). Altruism—An examination of the concept and a review of the literature. *Psychological Bulletin*, 73, 258–302.
- Ma, H. K. (1985). A cross-cultural study of sex differences in human relationships. *Psychological Reports*, 56, 799–802.
- Ma, H. K., & Leung, M. C. (1991). Altruism orientation in children: Construction and validation of the Child Altruism Inventory. *International Journal of Psychology*, 26, 745–759.
- Ma, H. K., & Leung, M. C. (1992). Effects of age, sex, and social relationships on the altruistic behavior of Chinese children. *The Journal of Genetic Psychology*, 153, 293–303.
- Ma, H. K., & Leung, M. C. (1995). The relation of altruistic orientation to family social environment in Chinese children. *Psychologia: An International Journal of Psychology in the Orient*, 38, 109–115.
- Marsh, D. T. (1982). The development of interpersonal problem solving among elementary school children. *The Journal of Genetic Psychology*, 140, 107–118.
- Midlarsky, E., & Hannah, M. E. (1985). Competence, reticence, and helping by children and adolescents. *Developmental Psychology*, 21, 534–541.
- Pedhazur, E. J. (1982). *Multiple regression in behavioral research: Explanation and prediction* (2nd ed.). New York: Holt, Rinehart & Winston.
- Radke-Yarrow, M., Zahn-Waxler, C., & Chapman, M. (1983). Prosocial dispositions and behavior. In P. Mussen (Ed., E. M. Hetherington, Series Ed.), *Manual of child psychology: Vol. 4. Socialization, personality, and social development* (pp. 469–545). New York: Wiley.
- Selman, R. L. (1980). *The growth of interpersonal understanding: Developmental and clinical analyses*. San Diego: Academic Press.
- Staub, E. (1979). *Positive social behavior and morality: Vol. 2. Socialization and development*. San Diego: Academic Press.
- Underwood, B., & Moore, B. S. (1982). The generality of altruism in children. In N. Eisenberg (Ed.), *The development of prosocial behavior* (pp. 25–52). San Diego: Academic Press.

Received June 25, 1997