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Evaluations of the behavioral attributes of only children in Beijing, China: moderating effects of gender and the one-child policy



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Abstract

The purpose of this study was to explore whether evaluations of the behavioral attributes of only children in Beijing differed from evaluations of children with siblings, and how these evaluations were affected by gender and China's One-Child Policy (OCP). This study applies hierarchical linear regression analyses to data collected from children born before or after the initiation of the OCP. The participants ($N = 1000$) were randomly selected schoolchildren whose behavioral attributes were evaluated by the children themselves, their peers, parents, and teachers, using a 32 attributes checklist, consisting of attributes Chinese experts considered important for school-aged children. In addition, a difference score, representing the difference between self and peer evaluations, was considered in order to assess degrees of self-enhancement. The results indicated that male only children received less positive self, peer, parent, and teacher evaluations than female only children and that among children born before the OCP, only children evaluated themselves less positively than their peers with siblings. Parents evaluated their only children born after the OCP more positively than did parents of only children born before the OCP. In terms of self-enhancement, only children, particularly male only children, evaluated themselves more

positively than they were evaluated by their peers. These findings are discussed in terms of the major social and cultural changes happening in China since the OCP that affected how only children saw themselves and were seen by others.

Keywords: Sociology, Psychology

1. Introduction

Only children in China have been stereotyped as Little Emperors, with high levels of egocentrism assumed to arise from the experience of having four grandparents and two parents hovering over them (Wang and Fong, 2009). Popular thinking in China has regarded this configuration of grandparents and parents as preventing the child from having normal childhood experiences that promote development deemed desirable by Chinese standards. Identified as the 4:2:1 effect, this configuration was described in social science research, published early (i.e., Chen and Kols, 1982; Ching, 1982) and more recently (e.g., McLoughlin, 2005; Wang and Fong, 2009), as causing undesirable effects on the development of Chinese only children. Concern about Little Emperors was amplified by China's One-Child Policy (OCP) which was established in 1979 with the goal of strongly encouraging young couples to have just one child in order to promote China's economic development and rise to the status of world leader. This policy became one of the most draconian family planning programs ever enacted (Attané, 2002; Johnson, 2016), with significant incentives given to families that complied, and significant disincentives applied to families that did not (Falbo and Poston, 1994).

The OCP has been blamed for increasing the gender imbalance in China, with more male than female children born after the OCP (Zhu et al., 2009). Nonetheless, observations made by anthropologists of families after the OCP indicated that daughters benefitted from the OCP. For example, Fong (2002) conducted ethnographic work among one-child families and observed that parents invested in their daughters' education much more than had been typical before the OCP, when parents traditionally invested more in their sons than daughters. Simultaneously, according to Fong (2002), high percentages of urban mothers were engaged in full-time, paid employment, earning income that they could use to help their own parents. The high percentages of women earning their own income provided evidence to families that investing in their only-child daughters was reasonable because they would be able to rely on these daughters for support and care in their senior years.

Furthermore, it can be argued that the saturation levels of supporting propaganda (Chen and Kols, 1982) that accompanied the implementation of the OCP also influenced the development of only children. This propaganda justified the OCP as necessary in order to accelerate China's economic development and argued that these

single children would be of high quality because they would receive special benefits, such as better food and access to medical care (Chen and Kols, 1982; Fong, 2004; Short et al., 2013). Croll et al. (1985) observed the early days of OCP implementation in Beijing and described not only the omnipresence of media-driven propaganda, but also the personal contacts that provided face-to-face engagement with young couples, especially women. Croll et al. (1985) reported that specialized co-workers were assigned the task of promoting the policy to young women at their workplaces. These workers talked to young female employees daily about the importance of having just one child, a child of high quality, for the good of the country.

There is evidence that the propaganda surrounding the OCP affected the ways parents brought up their children (Fong, 2004; Wang and Fong, 2009; Wu, 1996). For example, Wu (1996) studied families in a variety of Chinese cities and found parents of only children made more attempts to control and correct their children than did parents of multiple children. Wu also found that one-child parents pressured their children to succeed in school more than did parents with multiple children. Furthermore, Wang et al. (1998) argued that the experiences of only children, especially those born after the OCP in Beijing, fundamentally altered the way they came to think of themselves. Wang et al. (1998) found that only children exhibited self-descriptions that were more like those found among Western youth, with more private and fewer collective self-descriptions and memories that were more self-focused. While these changes in the organization of the self among only children would not be obvious to the children themselves, it is likely that their peers may have found only children to be different. Indeed, one early study of Beijing children found that only children were evaluated more negatively than their peers with siblings (Jiao et al., 1986).

1.1. Hypotheses

The purpose of this study was to explore how evaluations of the behavioral attributes of only children, compared to evaluations of children with siblings, were affected by gender and the China's OCP. The first group of hypotheses is based on the 4:2:1 effect as well as the message of OCP propaganda, which argued the OCP would result in fewer children, but children of higher "quality" (a trade-off made explicit in the propaganda supporting the OCP: Chen and Kols, 1982; Wang and Fong, 2009). Given the high value placed on only children after the OCP, the first hypothesis is that the self-evaluations of only children would be more positive than the self-evaluations of their peers with siblings. However, and consistent with the perception of only children as Little Emperors, it is also predicted that only children would be evaluated less positively by others.

Furthermore, the second hypothesis is that these only-child effects would be moderated by gender. This hypothesis is based on findings that the OCP encouraged

parents to invest in their daughters, boosting their value (Fong, 2002). Because girls are more frequently found to exhibit behaviors that meet the expectations of primary school classrooms than boys (King and Gurian, 2006), it is hypothesized that primary school daughters will be perceived as possessing more positive behavioral attributes than sons. Furthermore, it is hypothesized that female only children would be more positively evaluated than male only children.

In addition, the third hypothesis is that only-child effects would be moderated by whether the child was born before or after the OCP. Since children born after the OCP would have been more influenced by the propaganda associated with the OCP, the third hypothesis states that only children born after the OCP would be more positively evaluated than only children born before the OCP.

The fourth hypothesis focuses on the degree of difference between how positively children evaluated themselves and were evaluated by peers. Self-evaluations that are more positive than peer-evaluations reflect self-enhancement, a characteristic common among Americans, but inconsistent with the traditions common in collectivist cultures, including those found in East Asia (Kitayama et al., 1997; Triandis, 1989). Based on the likelihood that only children became more egocentric as a result of the 4:2:1 effect, the fourth hypothesis states that only children would exhibit greater self-enhancement than their peers with siblings.

2. Method

2.1. Sampling procedure

Data were collected from schoolchildren who were born before or after the OCP, in order to evaluate only children in 1990. According to descriptions of the data collection methods provided by Falbo and Poston (1993), data were collected from 1000 schoolchildren from each of three provinces and the capital, Beijing Municipality. For the purpose of this study, the analyses were limited to data from Beijing Municipality, because the OCP was more intensely implemented in both the urban and rural districts of Beijing than in the other three provinces (Attané, 2002), and therefore, the OCP had more influence on the development of children in Beijing Municipality than elsewhere.

When Falbo and Poston (1993) sampled students in Beijing in 1990, they sought to select percentages of students in the sample that reflected the urban/rural distribution within Beijing Municipality, which was 70% urban and 30% rural at that time. Thus, they randomly selected urban and rural districts from lists of all possible districts in Beijing. Within each selected district, lists of all the elementary schools were obtained. Schools were randomly selected from these lists and invited to participate. If a principal did not give permission, a new school was selected at random from

the same district's list. If the school principal gave permission, one third-grade and one sixth-grade classroom were randomly selected within each school. These grade levels were selected because third graders would have been born after the OCP and the sixth graders would have been born before the OCP. Five girls and five boys within each classroom were selected at random to participate. By design, the full sample included 10 children in third grade and 10 children in sixth grade from each of 50 randomly selected elementary schools in Beijing.

The project that generated the data used in this study was collected with approval from the Institutional Review Board of the University of Texas. The data were collected by graduate students in Sociology from Beijing University.

2.2. Measures

2.2.1. Checklist creation

An instrument was created in Chinese to assess the degree to which children were regarded as exhibiting desirable behavioral attributes, as defined by Chinese standards. This approach allowed for a culturally relevant assessment. These attributes were presented to respondents as a checklist, presenting each in terms of polar opposites in Chinese. The checklist used here was created after reviewing the literature (notably Ching, 1982; Poston and Yu, 1986) and identifying 31 behavioral attributes that were considered desirable for school-age children in China. For example, respondents were asked to decide if the target child was *respectful of elders* or *disrespectful of elders*. This checklist was first used in Jilin Province with parents and teachers as respondents and the results were described in Falbo et al. (1989). With the assistance of Chinese colleagues, the language on the checklist was simplified so that children could read it easily and a pilot test was conducted in Beijing a few months before the larger data collection. After reviewing the pilot results, Chinese colleagues simplified the characters further and added an item, leading to the creation of "The 32 Attributes Checklist." The children in the sample used the checklist to describe themselves and one classmate. One parent and their lead teacher also used the checklist to describe the children in the sample.

2.2.2. The 32 attributes checklist

The 32 Attributes Checklist consisted of the following attributes, stated here in English, representing the positive pole: Exhibits good manners, Not prone to cry; Does not give up easily; Resilient; Willing to tell others about own ideas; Competitive; Cares about what others think of him/her; Makes decisions easily; Selfless; Expresses Compassion; Forms own opinions; Capable; Agreeable; Does own schoolwork; Willing to help others; Exhibits confidence; Willing to act as leader; Amenable; Humble; Careful with objects; Likes to share; Willing to express

themselves; Does not start conflict; Respects elders; Not fussy about clothes; Likes to engage in physical labor; Resolute; Never Lies; Willing to engage in group activities; Behaves well in class; Finishes homework on own; Actively answers questions in class.

2.2.3. Additional instruments

Parents' Questionnaire. Parents also completed a background questionnaire that collected information about a wide variety of family characteristics, including parental ages and educational attainment, and family income.

2.3. Procedures

2.3.1. Data collection

The ten randomly selected students (identified here as “target children”) within each classroom described themselves using the Checklist. Then these target children were paired randomly with one of the other target children from their classroom and this classmate described the target child, using another copy of the Checklist. The lead teachers of the selected classrooms completed copies of the Checklist, one for each of the 10 selected students in their classrooms. A Checklist was sent to the homes of the selected students with a note asking one parent to complete the Checklist describing the target child.

2.3.2. Creating scores

Scores evaluating each target child were created by summing the number of positive attributes that each judge (child, classmate, parent, and teacher) selected to describe the target child. This resulted in four scores, one from each judge, that reflected the positivity of the evaluations of that judge. Previously, four factor analyses had been conducted, one for the checklist data from each of the four judges, and the results from each analysis indicated that one factor predominated (Falbo et al., 1997). These findings provided support for the use of a single summary score representing the positivity of the evaluations of each of the four judges.

In addition, one difference score was created from the evaluations of the target children, reflecting the difference between self-evaluations and the evaluations made by peers. For these difference scores, a positive score indicated that the self-evaluations of the target children were higher than the evaluations of them made by their peers.

2.3.3. Analysis plan

In order to test the hypotheses of this study, a series of hierarchical linear regressions were conducted using SAS PROC GLIMMIX. In these analyses, the independent

variables were Only Child (Only/Not: 1,0), Gender (Male/Female: 0,1), Pre/Post OCP (Coded: Pre/Post: 1,0) and the interactions of Only-Child and Gender, and Only-Child and Pre/Post OCP. The dependent variables were the four scores representing the summation of the positive attributes used by peers, parents, teachers and the children themselves to describe the target child. In addition, a difference score, representing the difference between the self-evaluations and the peer-evaluations of the same target child was used as a dependent variable. In all of these analyses, the data were clustered by school. In order to control for the effects of various demographic variables, covariates were included in the analyses. These covariates were the target child's age, mother's age, father's age, the combined educational attainment of the parents, the family's income, and a dummy variable indicating whether the family lived in an urban or rural region of Beijing.

3. Results

3.1. Preliminary analyses

Table 1 presents information about the characteristics of the participating schoolchildren and their parents. Table 2 presents descriptive statistics for the four behavioral attributes scores and the difference score. The alpha coefficients for the four behavioral attributes scores were all acceptable: Self ($\alpha = .75$), Peer ($\alpha = .87$), Parent ($\alpha = .77$), Teacher ($\alpha = .84$). The four behavioral attributes scores were all positively and significantly correlated with each other, ranging from .20 to .62. In terms of the difference score in Table 2, the means of the self-scores generally exceeded the means

Table 1. Characteristics of the sample.

Variables	N	Means	Standard Deviation	Range	
				Min	Max
Child's Age	933	11.0	1.66	8	13
Mother's Education ^a	919	4.26	1.19	1	8
Father's Education ^a	912	4.65	1.21	1	8
Mother's Age ^b	902	38.99	3.60	30	50
Father's Age ^b	872	40.45	3.75	27	50
Family Income ^c	927	6.63	2.44	1	10

Note: Sample sizes vary due to missing data. The means are unadjusted.

^a Parents' educational attainment is coded: 1 = none; 2 = completed third grade; 3 = completed primary school; 4 = completed junior high; 5 = completed senior high; 6 = completed 2 years of college; 7 = completed 4 years of college; 8 = completed graduate school.

^b Mother's Age and Father's Age are reported here at time of data collection.

^c Total annual household income is coded: 1 = less than 1000 yuan; 2 = between 1000 and 1500 yuan; 3 = between 1500 and 2000 yuan; 4 = between 2000 and 2500 yuan; 5 = between 2500 and 3000 yuan; 6 = between 3000 and 3500 yuan; 7 = between 3500 and 4000 yuan; 8 = between 4000 and 4500 yuan; 9 = between 4500 and 5000 yuan; 10 = over 5000 yuan.

Table 2. Descriptive statistics of behavioral attributes and difference score.

Behavioral Attributes by Judge	N	Means	Standard Deviation	Range	
				Min	Max
Self	883	24.38	4.25	8	32
Peer	893	21.74	6.36	3	32
Parent	902	22.63	4.64	8	32
Teacher	900	21.14	5.90	3	32
(Self-Peer)	847	2.65	6.57	-14	26

Note: Sample sizes vary due to missing data. The means are unadjusted.

Behavioral attributes evaluations made by peers, parents, teachers and the students themselves represent the summation of all the positive attributes used to describe the target child. The difference score represents the difference between the self-evaluations of the target child and the evaluations made by peers of the target child.

of the peer scores, indicating self-enhancement, but as indicated by the wide range of difference scores, some children did exhibit the reverse pattern, indicating self-effacement.

3.2. Main analyses

3.2.1. Hypothesis testing

Table 3 presents the results of a series of hierarchical linear regression analyses aimed at testing the hypotheses. The first hypothesis stated that the self-evaluations of only children would be more positive than the self-evaluations of their peers with siblings. The results in Table 3 indicate that only children ($M_{only} = 24.1$, $SE = 0.25$) did not differ significantly from other children ($M_{not} = 24.5$, $SE = 0.28$) in their self-evaluations. The first hypothesis also stated that only children would receive less positive evaluations from their peers, parents, and teachers. The results in Table 3 indicate significant differences were found between only children and children with siblings within the evaluations of peers and parents, but not teachers. The means indicate that only children received lower peer evaluations ($M_{only} = 21.0$, $SE = .35$; $M_{not} = 22.4$, $SE = .41$) and lower parent evaluations, ($M_{only} = 22.2$, $SE = .22$; $M_{not} = 23.0$, $SE = .27$). Thus, the first hypothesis is only partially supported.

A significant gender main effect for all the behavioral attributes scores was expected and the results in Table 3 support this hypothesis, with girls receiving more favorable evaluations than boys. The results of the test of the interaction between gender and only-child status is also reported in Table 3 and indicate that statistically significant effects were found in the analyses of all four behavioral attributes scores. The least square means representing these interactions are presented in Table 4. Planned comparisons indicate that male only children were evaluated less positively than girls, regardless of their sibling status. Specifically, male only children scored lower

Table 3. Type 3 tests of fixed effects from a series of hierarchical linear regressions.

Effect	Behavioral Attributes by Judge	Standardized Coefficients	F Value	P level
Only-Child	Self	5.43	0.95	.329
	Peer	14.33	9.65	.002
	Parent	12.66	5.62	.018
	Teacher	−10.09	2.23	.136
	(Self-Peer)	−7.86	5.56	.019
Gender	Self	−22.52	8.65	.003
	Peer	−44.67	24.24	<.0001
	Parent	−20.16	5.09	.024
	Teacher	−30.54	5.02	.025
	(Self-Peer)	28.78	7.75	.006
Pre/Post OCP	Self	27.17	2.03	.155
	Peer	51.91	6.47	.011
	Parent	36.73	4.90	.027
	Teacher	23.33	2.85	.092
	(Self-Peer)	−29.72	2.91	.090
Only-Child X Gender	Self	17.78	7.07	.008
	Peer	32.44	10.79	.001
	Parent	16.66	5.11	.024
	Teacher	30.04	10.66	.001
	(Self-Peer)	−18.56	3.03	.082
Only-Child X Pre/Post	Self	−15.34	6.61	.010
	Peer	−13.17	2.23	.136
	Parent	−12.78	3.75	.053
	Teacher	4.15	0.26	.613
	(Self-Peer)	−0.90	0.01	.924

Note. Linear regression models controlled for children's age, mother's age, father's age, parent's educational attainment, family income, and region with data clustered by school.

The degrees of freedom for each effect varied due to variations in missing data. For self, the *df* was 1/796, for peer, the *df* was 1/805, for parent, the *df* was 1/815, for teacher, the *df* was 1/812, and for self-enhancement (Self-Peer), the *df* was 1/761.

than female only children on self, $t(1,797) = 18.45$, $p < .0001$, peer, $t(1,806) = 37.15$, $p < .0001$, parent, $t(1,816) = 11.76$, $p = .0006$, and teacher scores, $t(1,813) = 18.88$, $p < .0001$. Male only children also scored lower than girls with siblings in self, $t(1,797) = 10.34$, $p = .001$, peer, $t(1,806) = 30.14$, $p < .0001$, parent,

Table 4. Least square means (standard error) representing the interaction of only-child effects by gender.

	Only Children		Not Only Children	
	Male	Female	Male	Female
	<i>n</i> = 273	<i>n</i> = 282	<i>n</i> = 191	<i>n</i> = 187
Behavioral Attributes By Judge				
Self	23.4 (0.31)	24.9 (0.30)	24.6 (0.35)	24.8 (0.35)
Peer	19.5 (0.44)	22.7 (0.43)	23.0 (0.51)	22.1 (0.51)
Parent	21.6 (0.30)	22.9 (0.29)	23.1 (0.35)	23.2 (0.35)
Teacher	19.6 (0.43)	21.7 (0.43)	21.5 (0.49)	21.6 (0.50)
(Self-Peer)	4.0 (.46)	2.0 (0.45)	2.5 (0.53)	1.7 (0.54)

Note. Linear regression models controlled for children's age, mother's age, father's age, parent's educational attainment, family income, and region with data clustered by school. Planned comparisons indicated that male only children scored significantly differently from all the other three categories of children. For Self, Peer, Parent, and Teacher scores, male only children scored lower than all others, while for the difference score (Self-Peer), male only children scored higher than all others.

$t(1,816) = 13.16, p = .0003$, and teacher evaluations, $t(1,813) = 11.53, p = .0007$. The mean scores of female only children were not statistically significant from the means scores of children who grew up with siblings. In addition, planned comparisons indicated that male only children scored significantly lower on self, $t(1,797) = 8.13, p = .005$, peer, $t(1,806) = 16.97, p < .0001$, parent, $t(1,816) = 10.94, p = .001$, and teacher, $t(1,813) = 10.44, p = .001$ evaluations than did boys with siblings.

Although there were no hypotheses about main effects for being born before or after the OCP, this effect was included in the analyses so that the third hypotheses about the interaction of only-child status and the OCP could be tested. The results in [Table 3](#) indicate that significant pre/post OCP main effects for peer and parent and evaluations were found, indicating that children born after the OCP had more positive scores than those born before the OCP. Specifically, children born after the OCP had more positive peer ($X_{after} = 23.5, SE = .67; X_{before} = 20.0, SE = .72$) and parent ($X_{after} = 23.5, SE = .47; X_{before} = 21.6, SE = .51$) evaluations. For teacher evaluations, the pre/post effect was of borderline significance; still teachers evaluated children born after the OCP more positively than children born before ($X_{after} = 22.5, SE = .62; X_{before} = 19.7, SE = .69$).

The results presented in [Table 3](#) also indicate that the interaction effects between only-child status and the OCP yielded significant *F* statistics for the self and parent evaluations. The least square means representing this interaction are presented in [Table 5](#). Because the *F* statistics for peer and teacher evaluations did not reach even borderline significance, they are not included here. Planned comparisons between the means indicated that among children born before the OCP, only children

Table 5. Least square means (standard error) representing the interaction of only-child effects by OCP.

	Only Children		Not Only Children	
	Pre-OCP <i>n</i> = 194	Post-OCP <i>n</i> = 361	Pre-OCP <i>n</i> = 241	Post-OCP <i>n</i> = 137
Positive Attributes By Judge				
Self	23.6 (0.54)	24.6 (0.49)	24.8 (0.52)	24.2 (0.53)
Parent	20.8 (0.57)	23.5 (0.41)	22.4 (0.54)	23.6 (0.55)

Note. Linear regression models controlled for children's age, mother's age, father's age, parent's educational attainment, family income, and region with data clustered by school. Planned comparisons indicated that among children born before the OCP, only children had lower self-evaluations than did children with siblings. For parent evaluations, planned comparisons indicated that only children born after the OCP had more positive scores than only children born before the OCP. Similarly, only children born after the OCP had significantly more positive parent scores than their peers with siblings regardless of whether they were born before or after the OCP.

had significantly less positive self-evaluations than did their classmates with siblings, $t(1,797) = 8.88, p = .003$. None of the other comparisons yielded significant results. For evaluations made by parents, planned comparisons indicated that only children before the OCP had less positive evaluations than only children born after, $t(1,816) = 7.13, p = .008$, and less positive evaluations than their peers with siblings born before, $t(1,816) = 12.66, p = .0004$, or after the OCP, $t(1,816) = 7.74, p = .006$. Furthermore, the results of the paired comparisons indicated that only children born after the OCP had parent evaluations that were not significantly different from those of children with siblings, regardless of when they were born. These results suggest some support for the fourth hypothesis in terms of parent evaluations.

The results presented in Table 3 are also useful for testing the self-enhancement hypothesis, which stated that only children would exhibit higher levels of self-enhancement than their peers who grew up with siblings. These results provide support for this hypothesis, with only children exhibiting higher self-enhancement ($M = 2.97, SE = .35$) than children who grew up with siblings ($M = 1.86, SE = .40$). The results in Table 3 also indicate a significant gender effect, with boys ($M = 3.07, SE = .35$) scoring higher than girls ($M = 1.76, SE = .34$), as well as an OCP effect of borderline significance, indicating that children born before the OCP scored higher ($M = 3.46, SE = .62$) than children born after the OCP ($M = 1.36, SE = .68$). Finally, Table 3 indicated that the interaction of the only-child and gender effects yielded an F statistic of borderline significance and the means associated with this interaction are reported in Table 4. Planned comparisons conducted on these difference scores indicated that male only children exhibited significantly greater self-enhancement than the other children. Specifically, male only children exhibited more self-enhancement than female only children $t(1,762) = 11.04, p = .0009$, girls with siblings, $t(1,762) = 11.12, p = .0009$, and boys with siblings, $t(1,762) = 5.05,$

$p = .03$. The interaction between only-child status and pre/post OCP on difference scores did not produce a significant effect.

Table 3 did not include the results of testing a three-way interaction effect (only-child X gender X pre-post OCP) because there was no hypothesis relevant to this interaction. Nonetheless, this effect was examined in order to answer questions stemming logically from the analyses; the three-way interaction did not yield significant effects within any of the behavioral attributes scores or the difference score.

4. Discussion

This study succeeded in evaluating the behavioral attributes of Chinese only children and determining if only-child differences were moderated by gender or the onset of the one-child policy. The results of this study provide a rare glimpse into the emergence of differences in the evaluations of only children, differences that the results of this study found were moderated by gender and the one-child policy.

Substantial advances have been made in understanding the meaning of positive self-views and self-enhancement since the data were collected in 1990 and initial reports were published (Falbo and Poston, 1993). According to one stream of this literature (e.g., Taylor and Brown, 1994; Taylor et al., 2003), more positive self-views and self-enhancement reflect desirable psychological functioning that promotes mental health and positive interpersonal relations. However, there is an alternative viewpoint arguing that higher levels of positive self-evaluations and self-enhancement have maladaptive consequences, particularly in terms of interpersonal relations (Paulhus, 1998).

These competing perspectives are helpful in interpreting the findings of the present study. For example, contrary to expectation, the analyses indicated that only children did not express more positive self-views than did their peers with siblings. However, only children did exhibit greater self-enhancement than did their peers with siblings. This combination of findings suggests that only children overall did not have the benefits of more positive self-views, while simultaneously experiencing the vulnerabilities associated with more self-enhancement. Taken together, these findings suggest that only children were more likely to experience maladjustment than were their peers with siblings.

A similar interpretation can be made of the findings about gender and the interaction between gender and only-child status. That is, while girls received more positive evaluations than boys from peers, parents, teachers, and the children themselves, boys demonstrated higher self-enhancement. The significance of this gender difference is further clarified by the results of the interaction of gender with only-child status. That is, male only children were found to have much higher levels of self-

enhancement than their female counterparts, and higher than their peers with siblings. This greater self-enhancement is consistent with the findings that male only children received less positive evaluations from their peers, parents, teachers and even themselves than did female only children or children with siblings. Altogether, these results suggest that male only children in Beijing exhibited a less positive pattern of mental and social health than did female only children and children who grew up with siblings. According to these findings, the belief that Chinese only children are Little Emperors may be accurately applied to male but not female only children.

Recent research about narcissism suggests that the greater self-enhancement among male only children may have placed them at risk of developing narcissism. Higher degrees of self-enhancement have been associated with narcissism (Paulhus and Williams, 2002; Pincus and Lukowitsky, 2010). Indeed, the present study's findings are consistent with the results of Internet surveys of Chinese adults that found only children and men scored higher in narcissism than people with siblings and women (Cai et al., 2012). Cai et al. did not consider the interaction between gender and only-child status in their analyses, but they did test other predictors and found that higher narcissism scores were also found among those scoring higher on individualism, as well as those living in cities and those with greater wealth. Overall, Cai et al. interpreted their results as indicating that the vast sociodemographic changes occurring in China since 1979 have fundamentally affected how individuals evaluate themselves and others, contributing to the growth of narcissism. Note that recent research about the origins of narcissism in children (Brummelman et al., 2015) has concluded that narcissism develops as a result of parents overvaluing their children. Brummelman et al. found that parents who communicated to their children that they were more special and entitled than other children were likely to have children who developed greater narcissism. Given what we know about the one-child policy, it seems likely that the propaganda underlying the one-child policy provided the basis for Beijing parents to overvalue their male only children and this overvaluing nurtured the development of narcissism in their sons. It is possible that parents of only-children were more likely to overvalue their sons than daughters because of the traditional Chinese preference for sons over daughters (Fong, 2002; Zhu et al., 2009).

The results of this study indicate that in general, children born after the OCP received higher parent evaluations than children born before the OCP. The interpretation of this finding is assisted by considering the significant interaction effects that were found between the one-child policy and only-child status. Planned comparisons indicated that only children born after the one-child policy had significantly higher parent evaluations than only children born before the one-child policy. Furthermore, only children born after the one-child policy had parent evaluation scores that did not differ significantly from the scores of children who grew up with siblings. These findings suggest that only children born before the one-child policy were perceived

negatively, but only children born after the policy were perceived to be like everybody else. In fact, in Beijing, a few years after the one-child policy, the majority of children in classrooms were only children. The one-child family had become a social norm.

One question remains regarding whether these findings apply broadly to all Chinese only children. The one-child policy was unevenly applied throughout China (Attané, 2002; Johnson, 2016), and therefore, it is likely that the results found here can only be generalized to only children growing up in Beijing, where the policy was intensely implemented (Zhu et al., 2009).

Declarations

Author contribution statement

Toni Falbo: Conceived and designed the experiments; Analyzed and interpreted the data; Wrote the paper.

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Competing interest statement

The authors declare no conflict of interest.

Additional information

The data are available upon request from the author.

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