





# Parental perceptions of economic inequality and investment in education in China

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## ABSTRACT

Using data from the 2012–2018 waves of the China Family Panel Studies (CFPS), we investigate how parenting practices vary by parents' perception of inequality in contemporary China. We ask three questions: (1) Whether and how do parents' perceptions of inequality differ by their socioeconomic background? (2) Are parenting practices related to parents' perception of inequality? (3) Whether and how the relationship between parenting practices and perception of inequality varies across parents of different socioeconomic status (SES)? The results show that the higher the SES of parents, the more pessimistic is their perception of inequality. In addition, parents who are more aware of income inequality tend to spend more money on children's education, have higher expectations for their children's academic performance and educational achievement, and are more engaged in intensive parenting behaviors than parents who perceive income inequality to be less severe. Mothers' perceptions of inequality are more strongly associated with investment in children's education than those of fathers. In addition, the relationship between perceived inequality and parental investment in out-of-school education only varies by family SES among mothers.

## Introduction

The patterns of and reasons for the intergenerational transmission of socioeconomic (dis)advantage have long been of interest to social

scientists, especially in social stratification studies. Parenting practices are an important pathway through which socioeconomic (dis)advantage is sustained over generations. Traditionally, parenting practices are viewed as a function of a family's socioeconomic status (SES), that is, they are primarily determined by a family's economic, social, and cultural capital. However, recent developments in the literature have pointed out that parenting practices are not solely determined by factors internal to individual families, but are also influenced by the wider social context, such as social inequality. It has been observed that parents in societies that are more economically unequal tend to adopt a more intensive parenting style, marked by a deep involvement in children's lives and intensive investment in children's education, than those in more equal societies (Doepke and Zilibotti 2019; Schneider, Hastings, and LaBriola 2018). According to some scholars, this positive relationship between social inequality and intensive parenting has its roots in a social-psychological process (Doepke and Zilibotti 2019). Compared with more equal societies, returns to education are much higher in less equal societies, which confers higher stakes on educational success in early life, magnifying parents' anxiety over children's development and motivating them to invest intensively in children so as to secure their future success (Doepke and Zilibotti 2019).

Despite the burgeoning literature on the relationship between societal inequality, parenting, and child development, few studies have examined the relationship between social inequality and parenting practices in China. As a social context, China provides a critical opportunity to investigate this relationship given the country's cultural and social distinctiveness. Compared with Western societies, Chinese culture strongly emphasizes the importance of a good education and the significance of expending effort to achieve educational success (Stevenson and Stigler 1994). In recent decades, China has witnessed an acute and continuous increase in economic inequality (Xie and Zhou 2014), with a Gini index of income that has been increasing since the mid-1990s, and which has fluctuated between 0.46 and 0.48 in recent years (CEIC Data<sup>1</sup>). During the same period, a culture of intensive parenting started to prevail among Chinese parents (Yang 2018). Beyond the traditional emphasis on educational success and the importance of the family in children's development, parents in today's China have become anxious about the consequences of their children lagging behind in school and look to afford them a competitive advantage through purchasing private-sector educational services, often beginning as early as in preschool (Liu, Li, and Xie 2022).

This study examines whether the increasing intensity of parenting in China is related to the elevated level of inequality. Most existing studies examining the relationship between social inequality and parenting behaviors use the Gini index as a proxy for inequality. This approach implicitly

assumes that parents' perceptions of inequality correspond to the inequality level measured by the Gini index. It also assumes that parents of all socioeconomic backgrounds perceive the level of inequality homogeneously and respond to that inequality in the same way when rearing children. Both assumptions, albeit reasonable, are not necessarily true (Gimpelson and Treisman 2018). By investigating these assumptions and taking into account the discrepancy between the Gini index, which is an objective measurement of social inequality, and individuals' perceptions of the level of inequality, this study aims to further our understanding of the underlying social-psychological pathways through which inequality affects parenting behaviors.

Unlike in previous studies, we directly measure Chinese parents' perceived level of inequality and analyze how the perception of inequality is associated with intensive parenting. Capitalizing on data from the 2012–2018 waves of the China Family Panel Studies (CFPS), a national representative and longitudinal survey project, we look to answer three key questions: (1) Do parents' perceptions of inequality differ by their socioeconomic background, and to what extent? (2) Are parenting practices related to parents' perception of inequality? (3) Does the relationship between parenting practices and perception of inequality vary across parents of different SES, and to what extent?

Our research is among the first efforts to unravel the consequences of the rising level of inequality in China for parenting. By directly measuring parents' perceptions of inequality, our study also enhances the current understanding of the relationship between social inequality and parenting practices, especially the role of social-psychological factors in mediating this relationship. As such, it carries important implications for understanding intergenerational mobility, social stratification, social inequality, and other significant social issues, in China and beyond.

## Parenting practices and child development

Child development, especially academic development, is closely related to parents' childrearing practices. For example, sociologists have long observed that children's educational attainment is closely correlated to their parents' social status (Blau and Duncan 1967; Sewell and Hauser 1972, 1975). These socioeconomic differences in children's academic achievement are largely rooted in family processes—parents of different socioeconomic backgrounds bring up their children in different ways, which impacts their academic achievement (Bourdieu and Passeron 1990; Coleman et al. 1966; Lareau 2011).

Broadly speaking, families can influence children's development through two types of pathways. The first is monetary pathways. As has been pointed out by Becker and Tomes (1994), families can help children to

acquire essential skills and build up human capital that is important for future success through making financial investments in their education. For example, parents can acquire a better level of education for their children by moving to a district with better public schools or by sending them to costly private schools. Parents can also enrich their children's learning by purchasing private-sector educational services and products, such as extracurricular tutoring, art and sports classes, etc. (Park et al. 2016; Zhang and Xie 2016).

Besides the monetary pathways, parents can also shape their children's chances of success through non-monetary pathways. Lareau (2011) observed that parents of different socioeconomic backgrounds differ in how they approach childrearing. In contrast to working-class parents, who adopt a "free range" style of parenting by allowing the "natural growth" of their children, parents of middle- and upper-middle-class children frequently engage in "concerted cultivation," or intensive parenting practices. Such parents are deeply involved in designing their children's daily activities, by which they cultivate in their children the skills needed to succeed in school and society. Such intensive investment lays the foundation for their children's academic and later-life success relative to their peers.

### **Social inequality and parenting practices**

While popular perceptions and definitions of "good parenting" are contingent on history and culture (Hays 1996; Wrigley 1989), a consensus that ties "good parenting" to intensive parenting has been on the rise in recent decades. In the U.S. and many European countries, such as Britain, Italy, and Spain, parental investment in children, measured in terms of both money and time, has increased sharply since the 1980s (Doepke and Zilibotti 2019). Similar trends have also been observed in East Asian countries, including China, a country that differs profoundly from the U.S. and other Western industrialized ones both culturally and institutionally. Within this general increasing trend, however, levels of intensive parenting vary across countries and regions. For example, compared with Swedish parents, Swiss parents are more intensively engaged in their children's lives, but their involvement, in turn, is less than that of parents from the U.S. (Doepke and Zilibotti 2019, 85–124).

While parenting practices have traditionally been viewed as a function of family SES, to account for such temporal shifts and the regional variations in parenting styles, recent studies have also linked them with the wider social context. During the same period in which intensive parenting started to gain widespread popularity, rising social inequality also gradually became an urgent social issue. The coincidence of rising inequality and intensified parenting suggests that the former may have

contributed to the latter. This speculation is supported by the geographical correlation between inequality and the degree of intensive parenting (Doepke and Zilibotti 2019).

By which pathways might social inequality shape parenting practices? The social-psychological pathway is one important potential intermediary process. According to this perspective, social inequality influences parenting strategies by changing parents' perception of children's chances of success and of the importance of education for social attainment. Indeed, both intergenerational mobility and social status attainment in the contemporary world center on education, and educational attainment is a key determinant of one's social status and well-being as it is strongly correlated not only to one's career and income but also to a wide array of critical social outcomes, including health, demographic behaviors (e.g., marriage and childbearing), and political participation (Baker et al. 2011; Hannum and Buchmann 2005; Ross and Wu 1995). Just as class differences in wealth, income, and many other well-being indicators are more pronounced in unequal societies, differences in social outcomes by education are also more significant in unequal societies. In other words, the returns to education are higher in an unequal society than in an equal one. Therefore, in an unequal society educational success will be of higher stakes and greater importance will be attached to it because of the grave repercussions of educational underperformance in childhood and adolescence. Parents' attendant anxieties about their children's educational achievement can further motivate them to increase investment in children's education, in both monetary and non-monetary terms. Empirical evidence has supported this proposition. For example, studies using data from the U.S. have found that county-level income inequality can shape parental preferences toward financial investment in children (Schneider, Hastings, and LaBriola 2018).

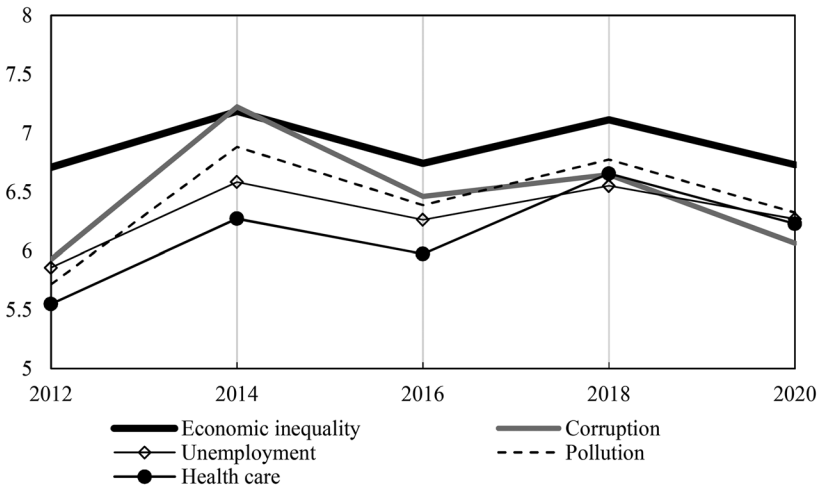
### **Perception of inequality and parenting in contemporary China**

One lacuna in the literature is an insufficient understanding of the relationship between social inequality and parenting practices beyond Western countries. As such, China presents a unique and important case to study. Traditionally, Chinese society puts a strong emphasis on children's educational achievement and on the role of parenting in promoting children's achievement. When it comes to the widening income gap, most Chinese view it as unfair or harmful but believe that talent, hard work, and education will help them or their children to achieve economic success and upward social mobility (Whyte and Im 2014; Wu 2009).

Following economic reform in the mid-1970s, inequality in China started to soar. The Gini index of income has increased rapidly since the

mid-1990s, climbing to a peak of 0.49 in 2008 and 2009, and fluctuating between 0.46 and 0.48 thereafter. This level of income inequality exceeds those of the most developed countries in the world (Xie and Zhou 2014). The Gini index of household wealth in China has also increased dramatically, from 0.4 in 1995 to 0.73 in 2012 (Xie and Jin 2015). Most Chinese are aware of the rising economic inequality. Recent evidence from a nationally representative survey, the China Family Panel Studies, reveals that economic inequality is persistently ranked at the top of a list of social issues that respondents view as the most severe (Figure 1).

Coincident with the rise of inequality in China, intensive parenting has begun to prevail among Chinese parents. The number of Chinese mothers who stay at home to take care of young children is on the rise (Mu and Tian 2022). Mothers are taking more responsibility for educating their children, customizing after-school study plans, and seeking educational resources to gain an edge for their children in the hyper-competitive education system (Yang 2018). Anxious about the repercussions of their children lagging behind in school, parents in today's China have increased their investment in children. The proportion of Chinese families purchasing extracurricular educational services for children and the corresponding annual expenditure on such services has been increasing since 2010 (Lin 2018). Chinese parents have also extended investment in children to their early life, as more and more families purchase



**Figure 1.** The five social problems rated as the most severe in China by CFPS respondents, 2012–2020. *Notes:* Based on responses to the CFPS question “How would you rate the severity of the following problems in our country [China]?” The response scale ranged from 0 (not severe) to 10 (extremely severe). Beyond the top five, other social problems included education problems, housing problems, and social security problems.

educational services and products for preschool children (Liu, Li, and Xie 2022). Though few studies have examined this question directly, it is likely that the surge in intensive parenting in China has its roots in the rise in social inequality.

Two questions need to be addressed when investigating the relationship between inequality and parenting practices in China. First, people's perception of inequality is likely to differ from the actual social inequality as measured by the Gini index and is likely to vary by social background. Though the Gini index accurately reflects a society's level of income inequality, it remains questionable whether it can be taken as a proxy for *perceptions* of social inequality, which, as aforementioned, are essential in understanding the relationship between inequality and parenting. Multiple studies using data from different countries have consistently found that people's perceptions of inequality almost always deviate from the true inequality level of society (Cruces, Perez-Truglia, and Tetaz 2013; Kuhn 2011, 2019; Norton and Ariely 2011; Xie et al. 2012), and when asked to rate the inequality level in their country, respondents performed only slightly better than chance (Gimpelson and Treisman 2018). Unfortunately, nearly all relevant studies on inequality and parenting have proxied inequality by using the Gini index (Doepke and Zilibotti 2019; Schneider, Hastings, and LaBriola 2018). To mitigate this problem, we measure Chinese parents' perception of inequality, how this perception is shaped by their own socioeconomic and demographic characteristics, and then how their perception may be related to their parenting practices.

Second, it is necessary to account for the heterogeneous responses of parents to the level of inequality. The first source of heterogeneity is gender. In China, women are viewed as shouldering the primary responsibility for taking care of children. Chinese mothers tend to plan their children's daily lives very carefully and invest significant time and effort in supervising and helping with schoolwork (Chua 2011). In some urban areas, the focus of motherhood has begun to shift from childcare to children's education. Some urban mothers behave like talent agents who promote the educational careers of their children (Yang 2018). Therefore, it is likely that mothers' investment in children is more sensitive to the level of inequality than that of fathers.

A second source of heterogeneity is family socioeconomic background. Parents of different socioeconomic backgrounds are likely to interpret social inequality in different ways and thus will make different parenting choices as a result. As has been documented, parents' concern about the potential effects of soaring inequality on their children's futures declines with SES (Cooper 2014). In addition, even if parents of lower-SES families are concerned about the effects of poor educational outcomes on their children's prospects due to increasing social inequality, they may not

be able to increase investment in children to the same level as that of higher-SES families because they are faced with greater social, financial, and cultural capital constraints. In short, socioeconomic differences in parents' views on inequality and in their ability to invest in their children can lead to heterogeneous patterns in the relationship between perceived inequality and parenting practices.

## Data and methods

### Data

Our analyses are based on data from the 2012–2018 waves of the China Family Panel Studies (CFPS), an ongoing, nationally representative, longitudinal survey of Chinese families and individuals launched in 2010 by the Institute of Social Science Survey at Peking University. The CFPS baseline survey successfully interviewed 14,960 families in 25 provinces of mainland China, along with 33,600 adults and 8,990 children within these families. These individuals are tracked through biennial follow-up surveys (Xie and Hu 2014). The CFPS has a child module for all respondents aged 0 to 15. In this module, among other questions, parents (or other primary caregivers) are asked to report family investment in the child's education. Starting in 2012, the CFPS has collected information on the perceptions of economic inequality in the adult survey (for all respondents at ages 15 and above). One important feature of the CFPS is that it collects information on the family as a whole and on the core family members, which allows us to link children with their parents, resulting in more definitive findings in regard to our research questions. In this study, we extract family educational investment information from the child questionnaires and parental information from the adult questionnaires. While a CFPS wave was also conducted in 2020, the outbreak of the COVID-19 pandemic in 2020 led to a shutdown of schools and out-of-school tutoring institutions, resulting in disruption to established patterns of family educational investment. Therefore, we only use four waves of CFPS data from 2012 to 2018 and construct parent and child sample groups with repeated individuals by pooling the four waves of CFPS data together.

### Measures

#### *Measuring inequality*

We use parental perception of economic inequality as the key explanatory variable in our study. In the CFPS, parents were asked to rate the severity of the inequality between the rich and the poor in China. The response scale ranged from 0 (not severe) to 10 (extremely severe).



### *Parenting practices*

We use five measures to capture monetary and non-monetary family investment in child education and development. There are two measures of monetary investment. The first is total family expenditure on education in the past year, which includes school fees, private tutoring fees, spending on textbooks and stationery, and other expenditures. The second is total family expenditure on after-school tutoring classes (e.g., Math Olympiad training, “cram schools,” art and music tutoring) only. Such information is drawn from parents'/caregivers' self-reported responses. Since expenditures are skewed, we take the natural logarithm function of them. If a family did have any expenditure on their child's education or the child did not participate in any extracurricular tutoring classes, we code 0 for their expenditure.

Non-monetary investment in children's education is embodied in parental attitudes and behaviors. Parental attitudes toward education and achievement influence children's attitudes toward education and shape their achievement aspirations. Parents' attitudes also affect their own parenting behaviors. To measure parental attitudes toward education, we use parents' expectations for their child's educational outcome and parents' expectations for their child's exam performance. In the survey, a parent/caregiver was asked “What is the highest level of education you wish your child could obtain?” We convert the level to years of schooling, ranging from 0 (no need for school) to 22 (doctoral degree). Parents' expectations for their child's exam performance are measured by asking the question “What is the average score out of a total of 100 that you expect your child to achieve this semester?” The responses ranged from 0 to 100. Regarding the behavioral aspect, we construct an “intensive parenting score” based on a series of questions about the parent/caregiver's interaction with their child, including (1) “How often do you forego watching TV shows that you like to avoid disturbing your child when he/she is studying?”; (2) “How often do you discuss what happens at school with your child?”; (3) “How often do you ask your child to finish their homework?”; (4) “How often do you check your child's homework?”; (5) “How often do you restrict or stop your child from watching TV?”; and (6) “How often do you restrict the types of TV programs that your child can watch?” For each question, the response categories are “very often,” “often,” “sometimes,” “rarely,” and “never.” We sum up the 6-item scale and convert it to a score ranging from 0 to 10 to measure the level of intensive parenting.

### *Family SES and other controls*

Parents' socioeconomic background is expected to affect both their perception of economic inequality and their behaviors and attitudes regarding

investment in children's education. The CFPS collects detailed information pertaining to parents' SES. We choose the father's/mother's education, employment status, *hukou* (or household registration) status, the type of residential area, and household income to measure parents' SES. Parental education is measured by a dichotomous variable, which is coded 1 for tertiary education or above, and 0 for senior high school or below. We distinguish two states of parental employment: employed (1) and unemployed or out of the labor force (0). We differentiate parental *hukou* status into three groups: rural *hukou*, urban *hukou*, and rural-to-urban *hukou* converters (those whose *hukou* registration status at age 12 was rural but which was urban at the time of the interview). We take the rural *hukou* holders as the reference group. The type of residential area is coded 1 for households in urban areas, and 0 for those in rural areas. Household income is the total amount of income derived from all household members and covers income from agricultural production, family business, employment or self-employment, property, and government or private transfers. The household incomes from multiple waves are adjusted for inflation using provincial consumer price indexes. We take the natural logarithm function to adjust for its skewed distribution.

We consider other individual characteristics and survey years as control variables. A recent study found that the level of intergenerational social mobility in China became lower for post-1976 cohorts than for earlier cohorts (Xie et al. 2022). We divide parental birth cohorts into a pre-1976 cohort (born before 1976) and a post-1976 cohort (born in 1976 or after), with the expectation that the younger cohort may perceive a higher level of inequality than the older cohort. Expenditure on children's education and parenting practices vary across children of different ages, sexes, and family structures. Therefore, we control for the child's age, gender, and sibship size (dichotomous: only child or non-only child) in the models. In the regression analysis, the survey year is entered as a set of dummy variables, taking 2012 as the reference group.

### **Analysis strategy**

In accordance with our research questions, our analyses follow three steps. In each step, we stratified our sample by father and mother to account for the aforementioned potential gender differences. First, we employ ordinary least squares (OLS) regression models in the parental sample to investigate the associations between an array of parental socioeconomic correlates and perceptions of economic inequality. The parental sample includes fathers and mothers of children aged 6–15 who were enrolled in school and interviewed in the child survey for the four waves between 2012 and 2018. The sampled parents also must have answered

the question about their perception of economic inequality in any wave of the survey. We pooled parental data from the four waves and obtained 14,908 repeated observations for the subsample of mothers, and 14,118 for the subsample of fathers. A statistical summary of variables in the parental sample is presented in [Appendix Table A1](#).

Second, we estimate the relationship between parents' perceptions of economic inequality and family investment in their child's education in the child sample. The child sample consists of children aged 6–15 who were enrolled in school and regarding whom a child questionnaire was conducted in at least one of the four waves between 2012 and 2018. We further restrict the child sample to those children whose father or mother responded on their behalf to the child questionnaire,<sup>2</sup> so that we can precisely link a parent's perception of economic inequality to his/her behaviors or attitudes regarding investment in his/her child's education. Since mothers were more likely than fathers to answer the child questionnaire, we obtained 6,307 repeated child–mother pairs and 3,104 repeated child–father pairs from the four waves. We use OLS regression models to estimate the effect of parental perception of economic inequality on each kind of family investment in the child's education, controlling for parental and child characteristics and the year in which the survey was conducted. A statistical summary of variables in the child sample is presented in [Appendix Table A2](#).

Third, we estimate OLS regression models with interactions of family SES indicators and perception of economic inequality to examine whether and how the relationship between parenting practices and perception of inequality varies across the SES spectrum. For simplicity, we choose parental education and rural/urban residence as family SES indicators for constructing the interaction terms.

Due to the panel data structure of our dataset, we cluster standard errors in pooled OLS models for each outcome measurement.

## Results

### *Socioeconomic differences in parental perception of inequality*

The first question is whether and how parents' perception of inequality differs by their socioeconomic background. In [Figure 2](#), we present the regression results on the relationship between parental socioeconomic characteristics and their perceived level of inequality, separately for mothers and fathers. We find that, for both mothers and fathers, the level of perceived inequality is significantly associated with their socioeconomic background, with those of higher educational attainment and household income, living in an urban area, and holding an urban *hukou* having

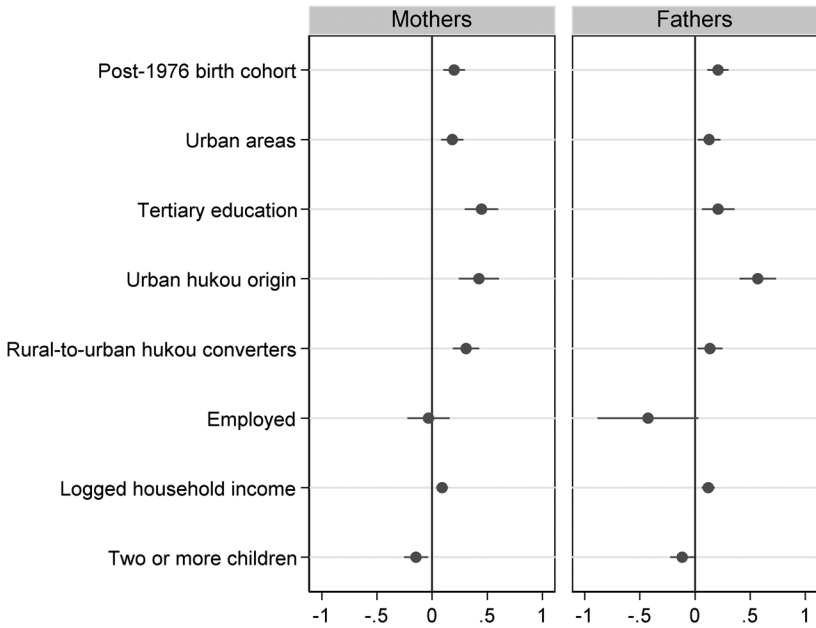
more pessimistic views about the inequality of contemporary society. Figure 2 also shows that younger parents who were born after 1976—those mostly in their 30s and 40s—tend to hold a higher degree of perceived inequality (Xie et al. 2022). Not surprisingly, as inequality increases, the younger generation, who are generally the most affected by economic headwinds, are more critical of this trend.

Although the strong association between an individual's socioeconomic background and their perception of inequality holds for both mothers and fathers, the magnitudes of some associations are not the same for mothers as for fathers. For example, compared with mothers, the relationship between employment status and perception of inequality is more salient for fathers. As is shown in Figure 2, compared to being unemployed, being employed reduces the perceived inequality score (range 0–10) among fathers by 0.426 point ( $p < 0.1$ ) but only by 0.033 point among mothers. Meanwhile, the positive effects of tertiary education and rural-to-urban *hukou* conversion experience on inequality perception are larger for mothers than fathers. For mothers, the perceived inequality score was 0.448 point higher for those with a tertiary education than for those without and 0.308 point higher for those with rural-to-urban *hukou* conversion experience compared to rural *hukou* holders. The corresponding figures for fathers are 0.209 and 0.136 point, respectively. In addition, the relationship between childbearing status and perception of inequality is also more salient among mothers. Having two or more children results in a 0.146-point ( $p < 0.01$ ) reduction in the perceived inequality score for mothers but a 0.116-point ( $p < 0.05$ ) reduction for fathers.

In brief, we observe a positive relationship between parents' socioeconomic background and their perception of economic inequality, and this is true for both mothers and fathers. The results suggest a socioeconomic gradient in parents' perception of inequality: the higher the SES, the higher the degree of perceived inequality. This finding is partially consistent with previous research and shows that higher-SES parents are more anxious about social inequality and its consequences for their children (Cooper 2014).

### **Parental perception of inequality and family investments in children's education**

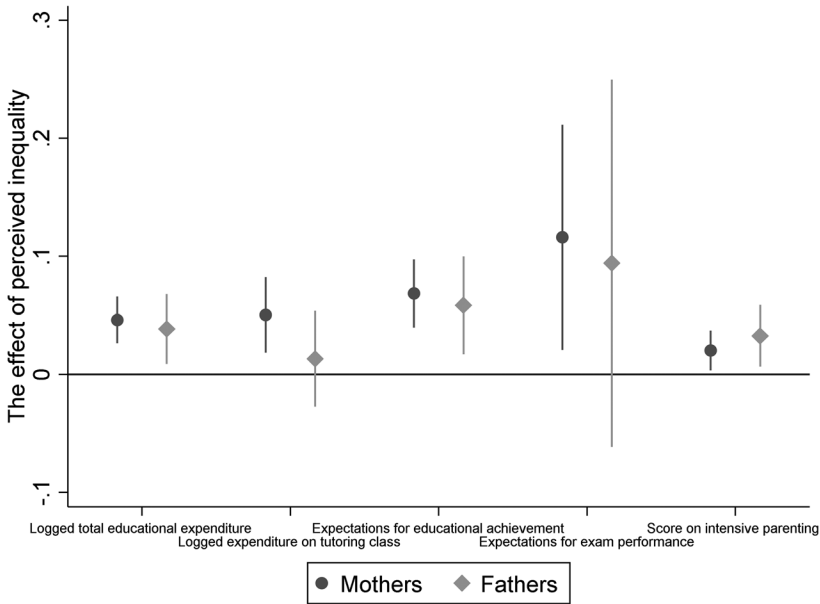
As discussed earlier, family investment in children is greatly shaped by parents' views about the inequality of contemporary society. To evaluate this proposition and assess whether and how parents' inequality perception accounts for their investment in children's education, we run a set of regression models with a wide array of family investments, both in monetary and non-monetary terms, serving as the outcome variables. As



**Figure 2.** Pooled OLS estimates of parental socioeconomic characteristics on fathers' and mothers' perceived levels of economic inequality. *Notes:* The point estimates and 95% confidence intervals were estimated from pooled OLS regression models for panel datasets of mothers and fathers separately. In the models, the dependent variable was the perceived level of economic inequality. Except for the independent variables in Figure 2, the models also controlled dummy variables indicating the year of the survey. Appendix Table A1 presents a statistical summary of all variables in the models.

shown in Figure 3, the positive coefficients of parents' inequality perception indicate that as parents become more aware of inequality they spend more money on children, as measured by total family expenditure on education in general and on extracurricular education specifically. As is shown in Figure 3, similar patterns are observed for the models on the relationships between parents' perception of inequality and family non-monetary investment, as measured in terms of parents' expectations for their child's educational outcome, parents' expectations for their child's exam performance, and the level of intensive parenting. The association between perceived inequality and higher expectations for exam performance is particularly salient.

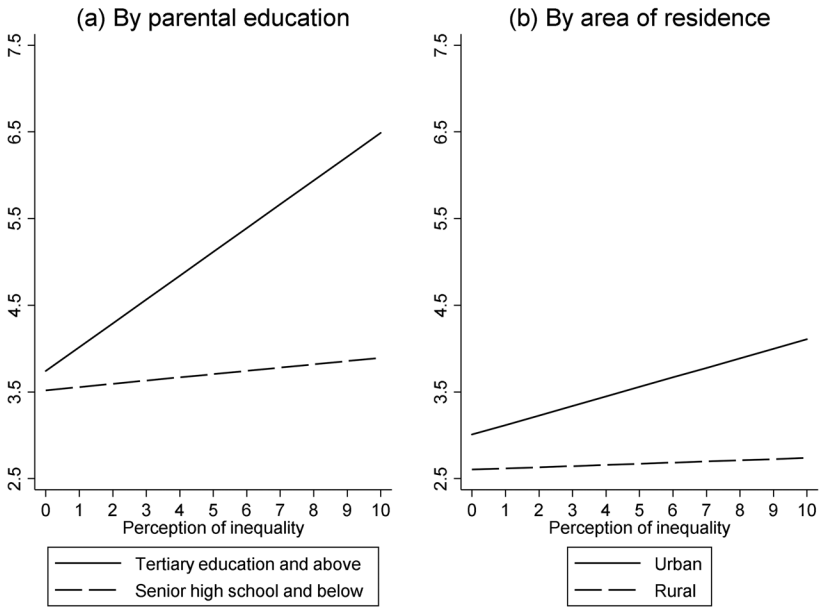
While both family monetary and non-monetary investment in children's education are positively associated with the parental perception of inequality, the significance of such a relationship is more consistent for mothers than for fathers. For example, in the cases of family expenditure on children's after-school education and parents' expectations for



**Figure 3.** Pooled OLS estimates of parental perception of inequality on family monetary and non-monetary investment in children's education. *Notes:* Dependent variables are shown on the x-axis. The effect size of the perceived level of inequality on each dependent variable is shown on the y-axis. The point estimates and 95% confidence intervals were estimated from pooled OLS regression models for panel datasets of mothers and fathers separately. The models also controlled parental and child characteristics and the year of the survey. A statistical summary of variables is presented in [Appendix Table A2](#). The estimates of independent variables other than parental perception of inequality are presented in [Appendix Table A3](#).

children's exam performance, the positive effects of perceived inequality are more salient for mothers than for fathers. This is in line with our expectations, as in Chinese families mothers take primary responsibility for children's education (Wu and Wang 2017; Zhang and Pan 2022), and thus a mother's perception of inequality will have a more significant influence on parenting practices.

In light of the potential for heterogeneity in the relationship between perceived inequality and family investment, we conduct further analyses to explore whether and how the relationship between family investment and perception of inequality varies across parents of different socioeconomic backgrounds. The interaction term between parental inequality perception and SES, measured by parental education and rural/urban residence, is thus included. We find that the coefficient for the interaction term is only statistically significant when it comes to family expenditure on out-of-school education and mothers' perceived inequality.<sup>3</sup> As indicated by [Figure 4](#), the positive relationship between perceived inequality



**Figure 4.** Heterogeneous relationship between inequality perception and family's expenditure on children's after-school education by mother's education and residential area. *Notes:* Based on the interactions between parental education and parental perception of inequality (a) and between type of residential area and parental perception of inequality (b). Child characteristics: male, aged 12, only child, average family income in 2018, live in an urban area (a), and mothers who had senior high school education and below (b).

and monetary investment in children is stronger among mothers who have received higher education or live in urban areas.

To conclude, the results from the above analyses support our proposition that the degree of inequality perception shapes parental investment in children both in monetary and non-monetary terms, and we find that this is especially true for mothers. In addition, our results indicate that mothers of higher SES are more likely to invest intensively in children's out-of-school education than those of lower SES, probably because they usually take the major responsibility for children's education and tend to be more sensitive to and anxious about rising inequality.

## Conclusion and discussion

This study investigates the relationship between parental perceptions of inequality and parenting practices in China. China serves as a valuable case study given the profound social changes that it has experienced in recent decades. Inequality in China has soared since the 1990s and has

reached a level even higher than that of major Western countries, including the U.S. (Xie and Zhou 2014). During the same period, Chinese parents have become more anxious about their children's education, with families' financial investment in children's out-of-school education increasing significantly since 2010 (Liu, Li, and Xie 2022; Zhang and Pan 2022). The correspondence between the increase in inequality and in the popularity of intensive parenting practices among Chinese parents suggests that these two trends may be related.

Capitalizing on data from multiple waves of the China Family Panel Studies (CFPS), we find that parents of higher SES have a more pessimistic view of the contemporary state of inequality in China than their lower-SES counterparts. This finding is consistent with prior qualitative studies which documented intensified worries about childrearing in contemporary China mainly among urban, middle-class parents (e.g., Yang 2018). As a consequence, parents who perceive a higher level of income inequality tend to spend more money on their children's education in total and on out-of-school education in particular have higher expectations for their children's academic performance and educational achievement, and are more engaged in intensive parenting behaviors than parents who perceive income inequality to be less severe. Given that Chinese mothers bear disproportionately more childcare responsibilities than fathers, mothers' perceptions of inequality are more strongly associated with investment in children's education than those of fathers. This accords with the prevailing image of contemporary Chinese parenting culture as one of "helicopter parents" and "tiger mothers" (Chua 2011). We also find that the relationship between parental investment and perceived inequality only differs by family SES with respect to family monetary investment, but not non-monetary investment. In other words, Chinese parents' non-monetary investments in children fluctuate in response to perceived inequality in similar ways regardless of their socioeconomic backgrounds. These different patterns reinforce findings from previous studies that Chinese parents, regardless of their SES, will try their best to help their children to succeed in school, partly as a legacy of Confucianism (Li and Xie 2020). However, compared with lower-SES families, families of higher SES are more capable of purchasing extracurricular educational services and products for their children. Therefore, a heterogeneous relationship is only observed between perceived inequality and family monetary investment, and not between perceived inequality and non-monetary investment.

Our study makes several contributions to the existing scholarship. First, by using a subjective measurement of inequality, we are able to more directly test for the social-psychological mechanisms by which inequality affects parenting practices. By showing a significant relationship between parents' level of perceived inequality and their investment in children, our



results confirm previous findings that greater inequality leads to more parental investment in children as a result of parents' heightened anxieties regarding their children's later-life prospects. Second, this study, being one of the first to focus on inequality and parenting practices in China, carries important implications for social stratification and mobility in China. It should be noted that in 2021 the Ministry of Education of China promulgated the "double reduction" (*shuang jian*) policy, stipulating that for-profit out-of-school curriculum-based education is no longer allowed. Nonetheless, our findings cast doubt on the likely effectiveness of the policy. Given the social psychological roots of intensive parenting, such behaviors will not change if the economic level of inequality remains unchanged. Following the "double reduction" policy's implementation, parents are likely to resort to other means than purchasing private-sector educational services to help their children attain a better quality education. In addition, this study also sheds light on understanding social stratification in contemporary China. As parenting practices significantly affect children's development, the relationship between inequality and intensive parenting can further impact children's educational achievement. The socioeconomic differences in parents' responses to perceived inequality also suggest a widening SES gap in parental investment in children in contemporary China, a speculation that awaits future verification.

This study has several limitations. First, though our results reveal a significant association between parents' perceived inequality and intensive parenting, we cannot identify whether it is causal. As perceptions of inequality were almost stable over the span of the four waves of the CFPS, identification of causality will require longitudinal data that covers a much longer period to capture changes in people's attitudes. Second, despite the advantages of using subjective measures of inequality, as we have discussed earlier, understanding the relationship between inequality and parenting behaviors will not be complete without taking an objective measure of inequality, such as the Gini index into consideration. In fact, inequality can shape parents' parenting choices through mechanisms beyond social and psychological ones. Specifically, in an unequal society, families with more financial resources are prone to spend much more on children simply because they have more available financial resources. Third, our study shows that perceptions and attitudes can shape parental behaviors. Although we focus on the perception of inequality, other perceptions may also influence parental choices. One example is the parental perception of social mobility. It is likely that parents with a more positive view of social mobility and a belief that their children have a good chance to achieve upward social mobility will increase their investment in children. These questions and propositions are beyond the scope of this study and call for future investigation.

## Notes

1. <https://www.ceicdata.com/zh-hans/china/resident-income-distribution/gini-coefficient>, retrieved on March 20, 2021.
2. In the CFPS, other caregivers of a child (e.g., grandparents) may respond to the child questionnaire.
3. The regression results are available upon request.

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## Appendix A

**Table A1.** Statistical summary of variables in pooled samples of mothers and fathers, CFPS 2012–2018.

	Mothers		Fathers	
	Mean	S.D.	Mean	S.D.
Perception of inequality	6.93	2.40	7.30	2.38
Pre-1976 birth cohort (Ref.)	0.35	0.48	0.45	0.50
Post-1976 birth cohort	0.65	0.48	0.55	0.50
Rural areas (Ref.)	0.54	0.50	0.54	0.50
Urban areas	0.46	0.50	0.46	0.50
Senior high school and below (Ref.)	0.89	0.31	0.88	0.32
Tertiary education and above	0.11	0.31	0.12	0.32
Rural <i>hukou</i> origin (Ref.)	0.69	0.46	0.62	0.49
Urban <i>hukou</i> origin	0.10	0.29	0.11	0.31
Rural-to-urban <i>hukou</i> converters	0.21	0.41	0.27	0.45
Unemployed or out of labor force (Ref.)	0.06	0.23	0.01	0.10
Employed	0.94	0.23	0.99	0.10
Logged household income	10.90	0.92	10.91	0.89
Having one child (Ref.)	0.28	0.45	0.29	0.45
Having two or more kids	0.72	0.45	0.71	0.45
Wave 2012 (Ref.)	0.24	0.43	0.24	0.42
Wave 2014	0.24	0.43	0.24	0.43
Wave 2016	0.26	0.44	0.27	0.44
Wave 2018	0.26	0.44	0.26	0.44
Number of repeated observations	14,908		14,118	
Number of individuals (clusters)	4,149		2,372	

Ref.: reference category.

**Table A2.** Statistical summary of variables in pooled samples for child–mother pairs and child–father pairs, CFPS 2012–2018.

	Child–mother		Child–father	
	Mean	S.D.	Mean	S.D.
Logged total educational expenditure	7.11	1.80	6.95	1.97
Logged expenditure on tutoring	2.05	3.37	1.72	3.20
Expectations for exam performance	91.62	8.44	89.95	9.74
Expectations for educational achievement	15.84	2.57	15.57	2.59
Intensive parenting score	6.29	1.60	5.94	1.67
Parent: Perception of inequality	7.00	2.36	7.22	2.41
Parent: Senior high school and below (Ref.)	0.92	0.28	0.90	0.30
Parent: Tertiary education	0.08	0.28	0.10	0.30
Logged household income	10.81	0.95	10.75	0.91
Child: Female (Ref.)	0.48	0.50	0.43	0.50
Child: Male	0.52	0.50	0.57	0.50
Child: Age	10.60	2.68	10.87	2.65
Child: Rural area (Ref.)	0.57	0.50	0.62	0.49
Child: Urban area	0.43	0.50	0.38	0.49
Child: Non-only child (Ref.)	0.77	0.42	0.76	0.43
Child: Only child	0.23	0.42	0.24	0.43
Wave 2012	0.14	0.34	0.15	0.36
Wave 2014	0.28	0.45	0.27	0.45
Wave 2016	0.23	0.42	0.22	0.41
Wave 2018	0.35	0.48	0.35	0.48
Number of repeated observations	6,307		3,104	
Number of children (clusters)	3,471		1,735	

Ref.: reference category.

**Table A3.** OLS estimates of parental perception of inequality on family monetary and non-monetary investment in children's education.

	Logged total educational expenditure				Logged expenditure on tutoring				Expectations for educational achievement				Expectations for exam performance				Intensive parenting score			
	1a		2a		2b		3a		3b		4a		4b		5a		5b			
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers		
Parent: Perception of inequality	0.046** (0.010)	0.039* (0.015)	0.050** (0.016)	0.013 (0.021)	0.069** (0.015)	0.059** (0.021)	0.116* (0.049)	0.094 (0.079)	0.020* (0.009)	0.033* (0.013)										
Parent: Tertiary education and above	0.609** (0.085)	0.501** (0.116)	2.029** (0.208)	1.741** (0.265)	0.603** (0.110)	0.584** (0.149)	0.075 (0.332)	0.242 (0.492)	0.387** (0.082)	0.477** (0.097)										
(Ref.: Senior high school and below)																				
Child: Male (Ref.: Female)	-0.112* (0.048)	-0.083 (0.070)	-0.373** (0.085)	-0.207+ (0.108)	0.061 (0.073)	0.137 (0.100)	-0.995** (0.232)	-0.809* (0.371)	-0.046 (0.043)	0.150* (0.064)										
Child: Age	0.103** (0.008)	0.104** (0.013)	0.065** (0.015)	0.007 (0.020)	-0.018 (0.012)	-0.032+ (0.017)	-0.622** (0.042)	-0.585** (0.066)	-0.129** (0.007)	-0.095** (0.011)										
Child: Only child (Ref.: Non-only child)	0.718** (0.057)	0.732** (0.082)	1.491** (0.124)	1.484** (0.162)	0.341** (0.084)	0.308** (0.114)	0.282 (0.261)	1.058** (0.389)	0.332** (0.050)	0.201** (0.072)										
Child: Urban areas (Ref.: Rural areas)	0.278** (0.051)	0.341** (0.074)	1.085** (0.096)	1.176** (0.131)	0.250** (0.078)	0.333** (0.107)	-0.528* (0.238)	0.902* (0.381)	0.241** (0.045)	0.134* (0.067)										
Logged household income	0.204** (0.045)	0.364** (0.043)	0.354** (0.082)	0.491** (0.069)	0.061 (0.042)	0.187* (0.074)	0.046 (0.137)	-0.216 (0.204)	0.021 (0.022)	0.084* (0.039)										
Wave 2014 (Ref.: Wave 2012)	0.195** (0.063)	0.188* (0.089)	0.195+ (0.114)	0.203 (0.144)	-0.906** (0.117)	-0.699** (0.160)	-0.413 (0.314)	0.525 (0.523)	0.023 (0.058)	0.009 (0.087)										
Wave 2016	-0.265** (0.063)	-0.384** (0.089)	-0.705** (0.114)	-0.517** (0.144)	-0.857** (0.117)	-0.825** (0.160)	-0.743* (0.314)	-0.932 (0.523)	-0.136* (0.058)	-0.168+ (0.087)										

(Continued)

Table A3. Continued.

	Logged total educational expenditure		Logged expenditure on tutoring		Expectations for educational achievement		Expectations for exam performance		Intensive parenting score	
	1a	1b	2a	2b	3a	3b	4a	4b	5a	5b
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Wave 2018	(0.073) 0.476**	(0.104) 0.470**	(0.123) 0.187	(0.141) 0.495**	(0.123) -0.914**	(0.172) -0.717**	(0.352) -0.732*	(0.591) -0.259	(0.063) -0.329**	(0.093) -0.424**
Constant	3.059** (0.500)	1.179* (0.502)	-3.551** (0.906)	-4.709** (0.777)	15.403** (0.494)	13.774** (0.844)	98.122** (1.639)	97.951** (2.457)	7.241** (0.264)	5.790** (0.448)
Observations	6,307	3,104	6,307	3,104	6,307	3,104	6,307	3,104	6,307	3,104
R-squared	0.141	0.164	0.188	0.233	0.037	0.046	0.045	0.037	0.084	0.063

Notes: Robust standard errors in parentheses.

\*  $p < 0.05$ .\*\*  $p < 0.01$ .+  $p < 0.1$ .



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