Societal projection: Beliefs concerning the relationship between development and inequality in China ☆

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ARTICLE INFO

ABSTRACT

We examine how the relationship between development and inequality at the societal level is perceived and evaluated by ordinary Chinese people. We hypothesize that because the Chinese have recently experienced rapid increases in both economic growth and social inequality, they tend to view economic development as a driving force of social inequality. To address this question, we conducted a social survey in 2006 in six Chinese provinces ($n = 4898$). The survey data reveal that a large proportion of Chinese people have internalized a causal model in which they project high levels of inequality onto countries they view as more developed and low levels of inequality onto countries they see as less developed. However, results also show that a smaller proportion of Chinese believe in a negative relationship between development and inequality. Hence, the study reveals heterogeneity among ordinary Chinese in their perceptions of the causal relationship between development and inequality. Surprisingly, socioeconomic and demographic characteristics provide no explanatory power in explaining this heterogeneity.

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1. Introduction

By all indicators, the Chinese economy has been growing rapidly over the last 30 years. Between 1978 and 2006, for example, China's GDP increased at an average rate of 9.8% per year after adjusting for inflation (State Statistical Bureau, 2006, Table 3.3). This is a very high level of economic growth for a sustained period of time. Factoring in the huge population size of China (currently at 1.3 billion), the scale and the pace of economic expansion still underway in China is staggering. In fact, China's economic growth has been so large and rapid that it has played a major role in the shrinking of world income inequality (Firebaugh, 2003).

Accompanying the rapid economic growth in China since 1978 has been a sharp rise in economic inequality (Han, 2004; Hauser and Xie, 2005; Khan and Riskin, 1998). It has been estimated that China's Gini index, a standard measure of income inequality, jumped steadily from .310 in 1985 to .415 in 2001 (Wu and Perloff, 2005). Much of the existing literature in sociology on contemporary China has focused on social inequality in the past 15 years (for a review, see Bian, 2002), attempting to address the distributional question of "who wins and who loses" during the transition (Wu and Xie, 2003,

p. 427).[1] More recently, researchers have begun trying to understand Chinese subjective attitudes toward inequality, yielding the general finding that overall, ordinary Chinese are surprisingly tolerant of high levels of inequality (Whyte, 2010; Wu, 2009).

In this paper, we examine how the relationship between development and inequality at the societal level is perceived and evaluated by ordinary Chinese people. In particular, we are interested in whether their attitudes towards social inequality are shaped by their views of the relationship between development and inequality. We hypothesize that views of inequality in China are affected by whether people believe that development and inequality are positively or negatively related. Given China's recent history of experiencing rapid increases in both economic development and social inequality, we expect that large numbers of Chinese view economic development as driving social inequality. At the same time, some other Chinese may believe economic development and social inequality to be negatively related because of the earlier doctrine and policy of the Chinese state in negatively linking the two phenomena together. To test these hypotheses, we conducted a survey in 2006 in six Chinese provinces (n = 4898). This paper reports the results from the survey.

2. Theoretical issues

2.1. Development and inequality

We begin our theoretical discussion with a set of interrelated ideas or worldviews that have permeated—even dominated—the social sciences for centuries under the labels of developmentalism, social evolution, and modernization theory (Burrow, 1981; Harris, 1968; Mandelbaum, 1971; Nisbet, 1975; Sanderson, 1990; Smith, 1973; Stocking, 1968, 1987; Thornton, 2001, 2005). Central to these ideas is the developmental paradigm that suggests that all societies go through the same uniform and necessary stages of development, social evolution, or modernization, but at different rates. These ideas suggest that societies at many developmental stages could be observed in a single cross-section of time. Scholars using this framework believed that the most developed countries were in northwest Europe and the northwest European diasporas; they believed that other societies were located at various levels of development below the most advanced northwest European countries. These scholars used cross-sectional variation among countries to infer a developmental trajectory by assuming that in the past the most advanced countries had been like the currently less developed countries and that in the future the less advanced countries would become like the currently more developed countries (Berkhofer, 1978; Carneiro, 1973; Gordon, 1994; Harris, 1968; Manuel, 1962; Sanderson, 1990; Sheehan, 1980; Thornton, 2001, 2005).

The developmental model and the use of cross-sectional data to describe the trajectory of development led to beliefs about how societal inequality changed as development increased. It was commonly believed that societal inequality was very low at the beginning of societal development, increased as development increased, and then declined again as societies moved from medium to high levels of development (Hobbes [1642] 1991, [1651] 1996; Locke [1690] 1988; Montaigne [1580] 1946; Robertson [1777] 1780; Rousseau [1755] 1984; Tylor, 1781).[2] This viewpoint suggested that at the earliest stages of development—which was believed to be observable among some of the indigenous peoples of Africa, America, Asia, and Australia of the 17th, 18th, and 19th centuries—there was very little inequality and that it was only after people obtained a certain level of development that social hierarchy appeared, with unequal distribution of resources and power. It was believed that at higher stages of development, like those in northwest Europe and its overseas populations, inequality declined again. This view of decreasing inequality at higher levels of development was exemplified by Marx and Engels' ([1848] 2002) grand theory of history that associated decreasing income inequality with higher levels of development, at the pinnacle of which full equality was to be achieved under communism. Such modernization models posited not only a relationship between societal development and equality/inequality but also causal connections between these two factors.

The ideas associated with developmentalism, societal evolution, and modernization have been sharply and effectively criticized during the twentieth century (Bock, 1956; Hodgen, 1964; Mandelbaum, 1971; Cesaire, 1972; Jennings, 1975; Nisbet, 1975; Tilly, 1984; Wallerstein, 1991; Szreter, 1993; Böröcz, 2000; Chakrabarty, 2000). These models were strongly criticized as being teleological, and the assumption of uniform and directional change was challenged as being unsupportable. Although these models are still sometimes used in academic treatises, their use in academia is now much less common than during the 18th and 19th centuries (Thornton, 2005). Even the language of developmentalism and modernization and the practice of labeling countries according to their levels of development have been criticized severely in recent decades (Thornton, 2005).

Recent research has also called into question the claim that inequality increases in early periods of modernization and then declines as societies reach high levels of development. There is a substantial empirical literature on this topic today, some of which is supportive of this standard inverted-U relationship (Kuznets, 1955; Barro, 2000; Chiswick, 1971; Lenski, 1984; Szirmai, 1988). However, other research suggests that economic growth at high levels of income is often associated with increasing rather than decreasing levels of income inequality within countries (Fishlow, 1972; Executive Yuan, 1990; Deininger and Squire, 1998; Barro, 2000; Firebaugh, 2003). Adding nuance and complexity, this recent empirical research thus challenges any simple uniform relationship between societal inequality and income growth.

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[1] In response to Nee's (1989) market transition theory, there is already a very large literature on this topic, albeit with no consensus answer to the question (e.g., Bian and Logan, 1996; Walder, 1996; Xie and Hannum, 1996; Zhou, 2000). Much of this literature was reviewed by Bian (2002).

[2] For commentary on these issues, see Axtell (1981), Berkhofer (1978), Myres (1916), Pagden (1982), and Sheehan (1980).

China presents an interesting case consistent with the general prediction that economic growth in the early years of industrialization is accompanied by increases of inequality. Under a strong government program for economic development initiated in 1978, China has experienced very rapid economic growth in recent decades, and during the same period, social inequality in China has increased significantly (Han, 2004; Hauser and Xie, 2005; Khan and Riskin, 1998; Wu and Perloff, 2005). Much of the social inequality in China today consists of large disparities across group boundaries (Wang, 2008), such as the urban/rural divide (Wu and Treiman, 2004), region (Xie and Hannum, 1996), and work unit (Xie and Wu, 2008). Indeed, social inequality has become one of the most frequently discussed topics by the Chinese public in recent years (Whyte, 2010; Wong and Lee, 2000; Wu, 2009). Chinese media, particularly print and internet media, also frequently discuss social inequality, although the public is much more concerned about perceived unfairness and its institutional mechanisms, such as corruption, than about high levels of inequality per se (Sun, 2008; Whyte, 2010; Wong and Lee, 2000; Wu, 2009; Xie, 2010; Zeng and Yue, 2006; Zhao, 1994).

2.2. Inequality and social justice in the Chinese Context

Social equality, like development, is a commonly cited indicator of societal well-being. Indeed, according to some elite writers, equality is so central to human integrity and values that inequality is equated with injustice, even immorality (Rakowski, 1991; Szirmai, 1988; Jasso, 2007; Evans and Kelley, 2007). In discussing world culture – beliefs and values that have been widely disseminated around the world – John Meyer and his colleagues include equality among a larger package of ideas concerning development, individualism, freedom, justice, and human rights that is rapidly spreading internationally (Krücken and Drori, 2009; Meyer et al., 1997; Thomas et al., 1987).

Although equality is generally seen as desirable, many people also view certain levels and dimensions of inequality as being justified (Jasso, 2000; Evans and Kelley, 2007; Kluegel and Matějů, 1995). This is particularly true when people see inequality as resulting from such factors as education, experience, talent, or effort (Jasso, 2000; Han and Whyte, 2008; Whyte, 2010; Jasso and Rossi, 1977; Swift et al., 1995; Alwin et al., 1995). Acceptance of inequality is likely to be higher if people believe that it helps to make the overall pie bigger through development or it is a normal and expected result of this (Jasso, 1999, 2000).

The People's Republic of China, founded following a Communist Revolution, still treats Marxism as its official ideology. Although Marx and his followers never advocated the establishment of a totally equal society in which everyone received exactly the same proportion of societal goods (Whyte, 2010), they did support a strong reduction in inequality. Consequently, "when the Chinese Communist Party (CCP) gained national power in 1949, its leaders saw the transformation of the existing stratification hierarchy as one of their primary goals" (Whyte, 2010, p. 141). During the first few years of the CCP's rule, the emphasis on egalitarianism was fairly moderate, but beginning in the middle 1950s and extending through the late 1970s, efforts in this direction increased, exceeding egalitarian drives in other socialistic societies (Whyte, 2010). These efforts included active leveling of society through reducing the resources and positions of previously privileged classes (Parish, 1984). During this period before the economic reform, the country experienced economic and demographic catastrophes, and the overall rate of economic growth through the late 1970s was significantly lower than the original goal. Although inequality in earnings and marketable commodities was low during the period, the government introduced its own forms of inequality, and the country continued to be stratified in many ways (Whyte, 2010). Particularly, the role of danwei – the work unit and its association with the state – was prominent (Bian, 1994; Walder, 1986; Xie and Wu, 2008).

Beginning in 1978, China experienced what Whyte (2010) describes as a second revolution, a sequel to the one that brought communism to power in 1949. In this second revolution, many of the elements of socialism previously established were dismantled and replaced with a market economy and capitalism. Most relevant to our purposes was the abandonment of the old emphasis on egalitarianism and its replacement with a philosophy and policy that accepted, even endorsed, inequalities in the reward system and in the distribution of goods (Friedman, 2002; Tang and Parish, 2000; Whyte, 2010; Xie, 2010).

This may be best exemplified in the statement of Deng Xiaoping, the leader of the second revolution, that "it is good for some people to get rich first" (as quoted in Whyte (2010, p. 31)). These few words contain multiple messages. First, and most importantly, they indicate that inequality is not only acceptable but good. Second, they suggest that getting rich is also good and that all people will eventually get rich, although not equally quickly. Third, they imply that some people getting rich quickly will facilitate the economic advancement of others. In this way Deng endorsed unequal rewards as an important factor in achieving the development goals of the country. As a result of this second revolution, both overall income and income inequality in China have dramatically increased.

Like most people elsewhere, most Chinese value equality and think that the current level of inequality in China is excessive (Whyte, 2010, p. 44). At the same time, Chinese are tolerant of what they perceive as excessive inequality, and most are opposed to redistribution of income from rich to poor (Whyte, 2010, p. 51). How do we reconcile the seeming contradiction that Chinese value equality but tolerate inequality? The answer lies in a belief, held by most Chinese, that inequality is a necessary stimulus for economic development, as unequal rewards motivate individuals to work hard. While a substantial minority sees current inequalities as unfair, most Chinese think that today's inequality is justified, fair, and better than the circumstances existing before the 1978 reforms. To a survey question asking whether people agreed or disagreed that "Only when income differences are large enough will individuals have the incentive to work hard," about half of the respondents agreed, less than 20% disagreed, and 30% stayed neutral (Whyte, 2010, p. 53). In summary, Whyte's (2010) extensive study of subjective inequality in China reveals that while ordinary Chinese value equality, they prefer equality of opportunity to equality of economic outcomes and thus have high tolerance for actual inequality.

However, given the complex and changing history of official rhetoric and actual experience in China concerning the relationship between societal development and inequality, there is likely to be considerable variation in the ways ordinary people perceive this relationship, a fact also documented by Whyte (2010). We hypothesize that the combination since 1978 of strong official rhetoric propounding a positive relationship between development and inequality and rapid increases in both income and inequality has led most Chinese to believe in a positive association between development and inequality. That is, both official rhetoric and experience across three recent decades support this positive relationship, which has probably permeated the beliefs of the majority of ordinary people in China today. At the same time, we expect that the strong communist rhetoric endorsing economic equality and its correlation with economic development and well-being prior to 1978 has had a lasting impact upon many people. Consequently, we expect that a substantial minority of ordinary Chinese still perceive a negative correlation between economic development and societal inequality. Finally, we acknowledge that many other Chinese will either be confused about the relationship between societal development and inequality or will perceive the relationship to be either very small or nonexistent.

2.3. The "societal projection" hypothesis

As we argued before, development has become a core concept in world culture today. A country's level of development is perhaps one of its most salient features, known to ordinary people in other countries. A large literature now documents that the estimates of development held by ordinary people closely follow the composite measures constructed by the United Nations (UNDP, 2009) (Binstock and Thornton, 2007; Melegh et al., 2012; Thornton et al., 2008, 2012a). Using survey data in a comparative study, Thornton and his colleagues (2012a) have found that ordinary people in 13 diverse countries (spread across Africa, Asia, Europe, Latin America, and North America) can rate countries on development, and their ratings match closely the Human Development Index (HDI) assembled and reported by the United Nations (UNDP, 2009). Chinese are no different. As we will show later in the paper, Chinese have views about development and rate countries on a development scale in ways that are similar to the UN.

However, inequality is a more difficult concept for ordinary people to grasp and is a less salient feature of a society. As we will show later, ordinary Chinese have no real knowledge about the level of inequality in other countries. This raises the question of what happens when we ask respondents in a survey to rate inequality levels of various countries. In general, how do individuals form opinions about inequality in other societies with which they have no direct contact?

Psychological research on survey responses provides us with valuable clues. When respondents are presented with cognitively challenging tasks, they are forced to undergo a comprehension process and give reports they deem logical (Krosnick, 1991; Schwarz, 1999; Sudman et al., 1996; Tourangeau et al., 2000). In a sense, they construct answers on the spot in response to survey questions, answers that they had often not thought about previously and did not actually possess before being asked. In constructing answers, the respondents make use of the context in which survey questions are asked. Schwarz (1999) writes, "[Respondents] construct these judgments [on survey questions] on the spot, when needed, by drawing on the information that is most accessible at that point in time" (p. 103).

Thus, we expect that respondents construct their answers about other countries' levels of inequality when they do not, in fact, know what they are. How do they derive their answers? We postulate that ordinary Chinese people derive their understanding of inequality as a secondary feature from their understanding of the relationship between development and inequality. This is made possible by a cognitive process: simplification. Indeed, Allport ([1954] 1979) developed a psychological theory of "direct projection" about prejudice based on this very idea. According to Allport, humans tend to focus on salient features, "visible" differences across social groups, and to make associations between the known features and the unknown features. He called this the "condensation of attitudes around visible cues" (p. 133). In order for people to do this, they need a mechanism that associates the unknown with the known. This mechanism can be an abstract principle held by the individual or an empirical generalization that connects the unknown attribute to the known one or both. In Allport's language this is a projection, or generalization, from the known to the unknown, a process that humans tend to base on their previous understanding of the world. Although Allport's theory is concerned with prejudice based on social categories such as race and gender, his work on the cognitive process is useful for our study on subjective beliefs about inequality in China. In attempting to understand opinion formation among ordinary Chinese about unknown characteristics of other countries, we borrow Allport's theory of projection.

Projection is an apt explanation of how we expect ordinary Chinese persons to estimate the level of inequality and other features of foreign societies. As we show below, ordinary Chinese have little or no direct knowledge about the level of income inequality within other countries. Yet, they are quite willing to rate other countries in this respect. We suggest that one way that people in China and elsewhere do this is by relying on their understanding of a particular society's level of economic development and by drawing inferences about income inequality from this knowledge. In this way, people make projections concerning another country's level of inequality from their understanding of that country's development and the relationship they believe to exist between development and income inequality.

Of course, the outcome of this projection will depend upon the beliefs that people have concerning the relationship between societal development and inequality. If they believe that this relationship is positive, their ratings of countries on inequality will tend to parallel their ratings of the same countries on development, but if they believe that the development–inequality relationship is negative, they will tend to rate countries they believe to be highly developed as being low on inequality. The positive or negative correlation between a person's development and inequality ratings,

therefore, reflects whether they believe that the relationship between income inequality and development is positive or negative. We call this process "societal projection."

Because Chinese society has recently experienced rapid increases in both economic well-being and social inequality, we expect that a very large fraction of Chinese extract from this experience an understanding that development necessarily goes hand in hand with increases in inequality (Whyte, 2010), projecting their own understanding onto the rest of the world and rating inequality levels high for countries they consider to be highly developed and low for countries they consider less developed. However, diverse opinions about inequality exist within China. Previous decades of government and party emphasis on development and inequality being inversely related may have led many people today to believe in a negative relationship between development and inequality (Whyte, 2010, p. 53). However, we believe that the fraction perceiving a negative relationship will be smaller than that believing in a positive relationship.

Our hypothesis that Chinese people project views of inequality from their views of development is buttressed by the fact that there is evidence that many ordinary people in diverse countries believe that such factors as low fertility, high age at marriage, gender equality, and self-choice of a spouse are related to development levels and are seen as both causes and effects of development (Binstock and Thornton, 2007; Mitchell, 2009; Thornton et al., 2008, 2012b). Our hypothesis of Chinese people relating development and inequality fits with these other observations.

It would be naïve to assume that the relationship between development and inequality are homogeneous in the Chinese population. As argued earlier, the communist teachings about the importance of equality may have affected more strongly the older cohorts of Chinese who grew up and were socialized before the 1978 revolution than the younger cohorts. As a result, we expect that younger cohorts who have lived most of their lives during the period of both rhetoric and reality indicating a positive correlation between income levels and inequality will be more likely than older people to believe that a positive correlation exists. Also, one important element of China's rapid economic growth in recent decades has been its uneven geographical distribution (Xie and Hannum, 1996). This expansion of the economy has been much more rapid in China's urban areas and eastern provinces than in rural areas and western provinces. We expect that this uneven distribution of actual economic growth has affected people's views of the relationship between development and inequality, with residents of cities and eastern provinces being more likely than others to believe in a positive relationship between development and inequality and less likely to believe in a negative relationship.

Position in the social hierarchy may also be related to views of the relationship between development and inequality. Most importantly, we predict that educated people will have a greater understanding of both rhetoric and empirical realities concerning the trends in income growth and inequality during recent decades. Our expectation is that this greater understanding will lead them more frequently to believe that income inequality and development are positively related. However, we also recognize that the most educated people may have been the most susceptible to the ideology of the party concerning a negative relationship between development and inequality that existed prior to the revolution beginning in the late 1970s. This tendency may counteract our main hypothesis of highly educated people being more likely to believe in a positive relationship between inequality and development. We also expect that the well-educated and those with knowledge of actual levels of income, education, and health in different countries will be the most likely to believe that development is related to income inequality—either positively or negatively—rather than to see no relationship at all.

Before proceeding, we need to clarify that development and developmental hierarchies are not physical facts or realities like income, education, and life expectancy, but are social constructions like justice, equity, and human rights. As such, the social constructs of development provide models for evaluating countries and for understanding social change. Like many other social constructs, the ideas of development and developmental hierarchies have become so engrained in people's worldviews that they are often accepted as real and taken-for-granted attributes of countries and other entities. However, the social construction nature of development is made evident by the fact that no direct indicators of development exist and people must construct their estimates of development levels through indirect indicators such as income, technology, education, and health. This is what happens with the UN's construction of development as a composite of income, education, and life expectancy. There is evidence that many people around the world follow a similar approach, as they construct estimates of development levels for countries that closely match the UN HDI scores (Thornton et al., 2012a). Of course, there are also substantial differences among individuals in the extent to which their construction of development scores matches the scores of the UN.

Furthermore, our research is concerned about ordinary people's beliefs about the relationship of societal development and inequality, not the actual relationship between development and inequality in China, which has been the focus of extensive previous research (reviewed above). In addition, our research is not about whether development and income inequality are good or bad. We are also not concerned with people's attitudes towards the fairness or unfairness of income inequality, which is the focus of Whyte's (2010) research, although we will consider more fully how our findings may be important in interpreting Whyte's results.

3. Data and methods

We conducted a survey in 2006, with key items designed to address our research question, as part of a larger survey on fertility in six Chinese provinces. For simplicity, we refer to the survey as the 2006 Six Chinese Province Survey. A probability sample was drawn using a multi-stage, stratified, systematic sampling method. From a total of 31 provinces, autonomous regions, and directly governed municipalities, six were chosen to represent China's diversity in geography, income and education levels, and the urban/rural divide: Beijing, Hebei, Qinghai, Hubei, Sichuan, and Guangdong. Within each province (or

its administrative equivalent), three counties (or districts in Beijing municipality) were randomly selected. Within each selected county (or district), six villages (or neighborhood communities in urban areas), and within each village (or neighborhood community), 30–50 households were randomly selected. The survey then interviewed a married respondent of reproductive age (15–49), with a preference for women over men. The survey was conducted through face-to-face interviews in May 2006. Out of a total of 5400 attempted interviews, 4898 interviews were successfully conducted, yielding a response rate of 90.7%. We examine the data using a variety of strategies. To achieve analytical consistency, all the methods utilize the same restricted sample (n = 4583) that contains valid information for all the key variables. Key survey items are provided in English in Appendix A. Descriptive statistics about the analytical sample are given in Appendix Table A1. We note that women are overrepresented in the sample given the design of the survey. However, this over-representation of women should not bias the results, as gender is not a significant predictor in any of the analyses conducted for this study.

A key survey item is the development scale (Appendix A), which has been verified in surveys conducted in 13 diverse countries (Thornton et al., 2012a). For this scale, the interviewer asked the respondent to rate the level of development in the following five countries using a scale from zero to ten, with zero representing the least developed and 10 representing the most developed: China, Japan, Brazil, United States, and Pakistan. We then compared the respondents' responses to ratings given by the United Nations (UNDP, 2009). To study the respondent's attitudes towards inequality, we also designed and implemented an Inequality Scale (Appendix A), a 0–10 scale on which the respondents were asked to rate the level of inequality for the same five countries. We then compared their responses to Gini coefficients from other sources that measured the actual level of income inequality in the five countries. While some respondents had difficulty performing the task due to their unfamiliarity with all the countries about which they were asked, the number of cases missing on the items is remarkably small. Across the 10 ratings (two scales for five countries), 71 did not provide all ratings, with more than half of them (42) not even rating China. Because we knew that the development scale had good validity and were concerned that we might induce consistency in responses to the scales in favor of our hypothesis, we placed the questions for the inequality scale ahead of those for the development scale in the survey.

To test our societal projection hypothesis, we use a variety of statistical methods in analyzing the data from the 2006 Six Chinese Province Survey. We vary statistical methods when data analysis of the study calls for different methods, ranging from comparisons of averages, comparisons of individual-level correlations, multi-level models, and multinomial logistic models. Since each method is integrated with a separate substantive analysis, it is easier to discuss the methods in connection with the analyses. That is, we will discuss specific statistical methods when we present the results from the study in the following section.

4. Results

4.1. Direct questions about the relationship between development and income inequality

We begin by examining the answers from the direct questions we asked respondents about the relationship between development and income inequality. In the Six Chinese Province Survey, we asked respondents to tell us whether they strongly agreed, agreed, disagreed, or strongly disagreed with the statement that "Income inequality is larger in developed countries than in underdeveloped countries." In this survey, 62% agreed or strongly agreed with the statement, whereas 37% disagreed or strongly disagreed. These results are consistent with our expectations in that people's views on the relationship between development and inequality vary, but with more people believing in a positive relationship than in a negative one.

We also asked respondents to strongly agree, agree, disagree, or strongly disagree with the statement that "in order for an underdeveloped country to achieve economic development, it should increase income differences." A majority of respondents, 71%, disagreed or strongly disagreed with this statement. This result suggests a belief that increases in income inequality hurt rather than help efforts for economic development. However, interpretation of the result is ambiguous, as our question did not ask whether increases in income inequality "would" help economic development, but asked whether an underdeveloped country "should" increase income differences to achieve economic development. This way of asking the question may have mixed evaluations of the consequence, with those of the desirability, of increasing inequality. Further research is required to separate evaluations of the desirability of income inequality and perceptions of its influence on economic development.

4.2. Rating of countries on development

In Table 1, we present the average scores of the survey respondents on development (column 1), along with the UN HDI scores (column 2). We multiplied the UN scores by 10 to make them more comparable with the average respondent scores, but we emphasize that the metrics of both the UN scores and the respondent averages are arbitrary, making direct comparisons difficult. As we observed earlier, Chinese respondents, like people in other countries, have conceptions of development and rate country-level development very similarly to the way the UN rates it. With our scaling metrics, Chinese respondents tend to report lower scores on development than the UN reports, but the pattern of average ratings given by Chinese respondents is very similar to the pattern of HDI scores. As a summary measure, we calculated a Pearson correlation between the average respondent ratings and the UN HDI ratings. That correlation is .94.

Table 1
Respondents' rating on levels of development and inequality, in comparison to Human Development Index (HDI) and Gini coefficient.

Rated country	Average development rating (0–10)[a]	United Nations 2006 HDI (×10) (0–10)[b]	Average inequality rating (0–10)[a]	Gini coefficient (×10) (0–10)[c]
China	5.54	7.63	6.24	4.69
Japan	7.78	9.58	5.90	3.81
Brazil	5.48	8.08	5.43	5.67
United States	9.18	9.55	6.80	4.50
Pakistan	3.77	5.68	5.04	3.06

[a] 2006 Six Chinese Province Survey (N = 4583).
[b] United Nations' (2009) *Human Development Report: 2009*, Table G.
[c] CIA's (2007) *World Factbook: 2007*. The Gini coefficients of China and the US are for the year 2004, Japan and Pakistan 2002, and Brazil 2005.

Table 2
Distributions of individual-level correlations. *Source*: 2006 Six Chinese Province Survey (N = 4583).

	Development rating and UN 2006 HDI[a]	Inequality rating and Gini coefficient[b]	Development rating and inequality rating[c]
Percentile			
10th	0.55	−0.36	−0.94
20th	0.73	−0.19	−0.78
30th	0.81	−0.09	−0.30
40th	0.85	0.01	0.22
50th	0.88	0.09	0.58
60th	0.90	0.18	0.79
70th	0.92	0.28	0.91
80th	0.94	0.36	0.96
90th	0.95	0.53	1.00
Mean	0.78	0.08	0.24
Relative frequency (%)			
Negative correlations	3.40	38.84	35.59
Positive correlations	96.60	61.60	64.41

[a] The correlation between respondents' ratings on the level of development of five countries and the corresponding 2006 Human Development Indices released by the United Nations.
[b] The correlation between respondents' ratings on the level of economic inequality of five countries and the corresponding Gini coefficients reported by the CIA.
[c] The correlation between respondents' ratings on development and their ratings on economic inequality on the same five countries.

We now turn our attention to individual rather than average ratings of the development of countries. Just as we calculated a Pearson correlation between average respondent scores and UN HDI scores for the five countries, we calculated a similar correlation for each respondent in the data set. We present in column 1 of Table 2 summary statistics for the distribution of the individual Pearson correlations between the HDI scores and each respondent's ratings across the five countries.[3] We report these individual-level correlations by deciles of the correlation size (in 10 rows). These data indicate that most respondents in China rate countries on development very similarly to the HDI scores. Less than 10% of the respondents have correlations of their scores with the HDI scores of .55 or less, more than one-half have correlations greater than .88, and 40% have correlations at .90 or greater. The average correlation is .78.

4.3. Ratings of countries on income inequality

We now turn our attention to columns 3–4 of Table 1, where we have listed the average ratings of the respondents on income inequality and the Gini coefficients (multiplied by 10) taken from the CIA (2007) World Factbook. Almost all of the average inequality ratings (except for Brazil) are higher than the actual Gini coefficients. This is likely related to the fact that respondents were asked to use the full 11-point scale while country Gini coefficients seldom fall within the highest levels. Despite the use of different scales, comparison of columns 3 and 4 in Table 1 provides an opportunity to evaluate the extent of agreement between the two sets of distributions.

The country-by-country comparisons show very little association between the average respondent ratings of countries on income inequality and the actual levels of inequality in those countries. Specifically, on average, respondents rated either the US or China at the top, Japan and Brazil in the middle, and Pakistan at the bottom. Comparing their subjective rankings on inequality with objective measures of the United Nations, we observe that respondents generally believe, *incorrectly*, that

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[3] We realize that this is an unusual correlation coefficient to calculate, as it is based on only five observations, with only 4 degrees of freedom. However, in Table 2, we analyze the *distribution* of the coefficients across a large number of cases in the sample. If individual respondents' ratings do not match UN scores, as is the case for inequality measures, we would find low correlations for most of the cases. Thus, a high percentage of cases with high correlation coefficients between the HDI scores and ratings of development indicates a good fit between respondents' ratings with the HDI scores.

income inequality is higher in the United States and lower in Brazil than in China. In fact, the overall Pearson correlation between average respondent ratings and actual Gini coefficients is only .27. This confirms our expectation that people in China do not have conceptions of comparative income inequality that match the real world, whereas their constructions of development scores quite closely match those of the UN.

Just as we calculated a Pearson correlation between average respondent inequality scores and actual Gini coefficients for the five countries, we calculated a similar correlation for each respondent in the data set. Column 2 of Table 2 displays the distribution of individual correlations between country inequality ratings and Gini coefficients for the same countries. These data provide further evidence of the low level of knowledge about the distribution of income inequality. Those data indicate that between 30% and 40% of the respondents actually have negative correlations between their income inequality ratings and country Gini coefficients. Both the median and mean correlations are just slightly above zero. In addition, only 10% of the respondents had individual correlations above .53.

Is it possible that the respondents' inaccurate ratings of inequality in other countries reflects misinformation of state-controlled media in China more than a general lack of knowledge of inequality in other countries? After all, official channels of Chinese media, such as China Central Television (CCTV) stations, often broadcast negative images of the United States and Japan, although we do not have evidence that these negative images pertain specifically to higher levels of inequality.[4] In an earlier unpublished paper comparing China and the US (Thornton and Xie, 2010), we reported that Americans gave ratings on country inequality that were similarly uninformed as those of Chinese. In the data from a 2006 US nationally representative telephone survey, the correlation between the average inequality rating and the Gini coefficient is 0.22, with less than 10% of the respondents having individual correlations beyond 0.5 (Thornton and Xie, 2010). Thus, the US–China comparison results reveal that lack of understanding of inequality in other countries is a general phenomenon, rather than one specific to China and the nature of Chinese media.

In summary, the data that we have considered so far in Tables 1 and 2 reveal that the respondents have understandings of development that overlap with the UN HDI scores at both the aggregate and individual levels. By contrast, the respondents do not have understandings about income inequality that overlap with actual Gini coefficients at either the aggregate or the individual levels. This suggests that the Chinese respondents did not report their own direct understanding of income inequality across the countries but derived their inequality ratings from a different source. Our hypothesis is that they derived their inequality ratings from their development ratings for each country.

4.4. Comparing ratings of countries on development with ratings of countries on inequality

We now examine how the ratings of countries on development correlate with ratings on income inequality, following similar procedures to those as used above, but focusing only on respondent reports without reference to external indicators. One interesting pattern in Table 1 is that ordinary Chinese's average ratings of inequality levels in the five countries resemble more closely their average ratings of development than actual inequality measures. Whereas, as noted earlier, the correlation between average individual ratings of income inequality and actual Gini coefficients is merely .27, the correlation of country averages on development and income inequality is .84. The high correlation is consistent with the hypothesis that at the aggregate level Chinese people couple development and income inequality very closely.

Column 3 in Table 2 provides summary results on individual correlations between each individual's development and inequality ratings for the various countries, with the distributions of these correlations reported in deciles. These data show an enormous range of correlations between individual development and individual income inequality ratings. Some respondents had very large negative correlations between ratings of development and inequality while others had very large positive correlations. For example, 20% of the survey respondents had correlations of −.78 or lower. Even more respondents had large positive correlations. For example, 50% had correlations of .58 or greater while 30% had correlations of .91 or above.

We interpret these individual-level correlations as suggesting that many respondents in China extrapolate from development ratings to income inequality ratings positively while others extrapolate negatively. That is, although the respondents had very little information about actual income inequality levels in the five particular countries, they were nevertheless quite willing to provide numerical ratings of income inequality in those countries. It appears that when asked about inequality levels in unfamiliar countries, respondents tried to formulate estimates based on salient cues – development levels in this case. Their estimates, we hypothesize, involved projections from their own ideas about the relationship between development and inequality rather than their actual knowledge about inequality in these countries.

The data not only seem to support our hypothesis about societal projection, they also suggest that projection from development to inequality is largely positive rather than negative. This is reflected in the distributions discussed above, as positive correlations are more frequent than negative ones. This result suggests that many Chinese respondents may have based their projections on recent government rhetoric about the development–inequality relationship and/or on the actual experience of China in its recent history, i.e., concurrent growth in development and inequality. It is the preponderance of positive over negative correlations at the individual level that aggregates into a very substantial positive correlation between average development ratings and average income inequality ratings (at .84) that we observe from Table 1.

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[4] Negative images about the US in official Chinese media focus mostly on American hegemonism and domestic issues such as protests, riots, and natural or human disasters(Chang et al., 1994; Lee, 2003). However, as a reviewer pointed out, Chinese respondents may associate these negative images to higher levels of inequality.

4.5. Multilevel models predicting inequality ratings

In the preceding analyses, we have shown that, taken as a whole, our Chinese respondents did not possess accurate knowledge about inequality in the five countries they were asked to rate, as their ratings have little correlation on average with the Gini coefficient, a widely used indicator of inequality reported in the CIA (2007) *World Factbook*. However, their inequality ratings are still meaningful. We conjecture that they were somewhat based on the respondents' ratings of development and the implicit models of the respondents projecting inequality from development. Of course, individuals may be heterogeneous in both development ratings and models linking development and inequality. In this section, we explore the individual-level heterogeneity with a multivariate, multilevel model.

For the *j*th respondent, we denote his/her rating of inequality in country *i* as y_{ij}. Our basic projection model states that, for each (i, j) combination, inequality rating (y_{ij}) is a function of the development rating for that individual for a particular country, denoted as x_{ij}. This gives rise to the following basic form of a multilevel model:

$$y_{ij} = \eta_{1j} + \eta_{2j}x_{ij} + \varepsilon_{ij}. \tag{1}$$

Eq. (1) is the level-1 model. We further specify a level-2 model, in which we assume that the person-specific parameters, η_{1j} and η_{2j}, depend on person-specific attributes, a vector of *w*'s, plus a person-specific residual ς_j:

$$\eta_{1j} = \gamma_{11} + \gamma_{12}w_{2j} + \gamma_{13}w_{3j} + \ldots + \gamma_{1k}w_{kj} + \varsigma_{1j}$$
$$\eta_{2j} = \gamma_{21} + \gamma_{22}w_{2j} + \gamma_{23}w_{3j} + \ldots + \gamma_{2k}w_{kj} + \varsigma_{2j}. \tag{2}$$

Note that η_{1j} is the individual-level heterogeneity in normalizing scale, i.e., the tendency to use either high or low numbers in ratings inequality. Since η_{1j} reflects a person's idiosyncrasies or taste in responding to the 11-point scale, it is not of scientific interest and will be treated as a nuisance parameter. In contrast, η_{2j} measures the direction and the extent to which a person's rating of inequality depends on his/her rating of development. Our focus is on how η_{2j} depends on a person's observed attributes that will be explained below.

We begin with a simple model in which we do not allow any individual covariates at level 2 to have any effects in Eq. (2), that is, we set all γ at zero. This specification simplifies the multilevel model to a random coefficient model. The model states that a respondent's rating of inequality is derived from his/her rating of development, plus three noise components: a noise giving a specific inequality rating (ε_{ij}), a person-specific noise in tendency to give high versus low ratings (ς_{1j}), and a person-specific noise in projecting from development rating to inequality rating (ς_{2j}).

We present the results for the random-coefficient model, in the first two columns in Table 3.

The intercept coefficient (γ_{11}) is estimated to be 4.279 (with a standard error of .063), and the coefficient of development rating is estimated to be .250 (with a standard error of .010). These results show that a respondent's inequality rating does depend overall on his/her development rating statistically, but the dependence is much less than one-to-one. For someone who rates a country's development level at 0, he/she would likely rate the country's inequality at 4.3. For a full 10-point increase in his/her development rating, he/she would increase his/her inequality rating by 2.5, to 6.8. Hence, it is clear that development rating is limited as a linear predictor of inequality rating.

We next estimate our full multilevel model, with level-2 covariates measuring the respondent's attributes. We present the results in the last two columns in Table 3. We include the following observed level-2 covariates (*w*'s) in the full model: gender, age, marital status, urban residence status, geographical location (with five dummy variables), family income (logged per-capita income), education (with two dummy variables), and development rating correlation. Most of these variables and their coding are self-evident from the variable labels in Table 3, except for the last one. Development rating correlation is the individual-level correlation (across the five countries) between a respondent's individual development ratings and the UN HDI scores. A high correlation means that a respondent's ratings more closely resemble those of the UN HDI scores.[5] We interpret the coefficient to indicate the extent to which a respondent's construction of development levels in the different countries matches understandings of elite international organizations such as the UN.

According to goodness-of-fit statistics, the multilevel model overall improves upon the random coefficient model (with an increase of 458.81 in model chi-square for 26 degrees of freedom); a closer examination reveals that most of the gain in goodness of fit lies in nuisance parameters. Cross-level interaction parameters $(\gamma$'s) are statistically significant either for the main effects (not reported), or for geographical location only. For example, the geographical location estimates mean that residents in Beijing base their inequality ratings more closely on their development ratings than residents elsewhere (as noted by the fact that coefficients for other places are all negative). Is this because Beijing residents tend to believe in a model in which development causes inequality? We cannot be sure. Regional differences are known to be large in China. Some of these may be associated with levels of income, education, and related factors, while others may be due to other unknown reasons (Xie and Hannum, 1996). Thus, it is very difficult to interpret the location parameters theoretically.

Surprisingly, all other observed attributes, from age and gender to education and income, do not affect the baseline model of simple positive projection as expressed in Eq. (1). Earlier, we hypothesized that educated people have a greater understanding of both rhetoric and empirical realities concerning the trends in income growth and inequality and thus are more likely than less educated people to believe that income inequality and development are positively related. We also expected that the persons whose development scores are more closely aligned to the UN HDI scores would be more likely to

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[5] Again, the summary results of these individual correlations were presented in Table 2.

Table 3
Multilevel models predicting inequality rating. *Source*: 2006 Six Chinese Province Survey.

	Random-coefficient model		Full model	
	Coef.	SE	Coef.	SE
Level-1 variable				
Intercept (γ_{11})	4.279[***]	0.063	2.327[***]	0.637
Development rating (γ_{21})	0.250[***]	0.010	0.553[***]	0.105
Cross-level interactions				
Male (γ_{22})			−0.031	0.023
Age (γ_{23})			−0.002	0.001
Marital status (married = excluded)				
Never married, divorced, or widowed (γ_{24})			0.096	0.063
Urban residence (γ_{25})			−0.001	0.025
Province/city (Beijing = excluded)				
Hebei (γ_{26})			−0.149[***]	0.037
Hubei (γ_{27})			−0.392[***]	0.037
Guangdong (γ_{28})			−0.513[***]	0.037
Sichuan (γ_{29})			−0.427[***]	0.037
Qinghai (γ_{210})			−0.302[***]	0.038
Logged per capita family income (γ_{211})			0.004	0.010
Level of education (elementary school or less = excluded)				
Secondary education (γ_{212})			0.052	0.027
Post-secondary education (γ_{213})			0.005	0.045
Development rating correlation (γ_{214})			0.037	0.034
Model χ^2 (df)	8920.15 (3)		9378.96 (29)	
Sample size	4583		4583	

Notes: The level-1 and level-2 error terms are allowed to be correlated during estimation. Main effects of the level-2 covariates are estimated but not presented.
[*] $p < .05$.
[**] $p < .01$.
[***] $p < .001$.

believe that development causes income inequality. The results in Table 3 clearly reject these hypotheses: none of the covariates other than geographical location alters the effects of a respondent's development rating on his/her inequality rating.

4.6. Unpacking population heterogeneity

From the negative results of the multilevel model presented in Table 3, should we dismiss offhand the predictive power of individual-level observed covariates? Not yet.

Sociology is a population science. In a population science, the scientist should not assume that all concrete units in a population are essentially the same – or homogeneous. Rather, units of analysis in a population should be treated as different from one another – or heterogeneous (Xie, 2007). One possibility for our failure to find individual covariates that affect the dependence of inequality ratings on development ratings is that the population may be heterogeneous with respect to the perceived relationship between development and inequality. In other words, the failure of the multilevel model may lie in lumping heterogeneous people together.

Earlier, when we discussed results shown in Table 2, we already identified one potential dimension of heterogeneity that was not considered in the multilevel model: while a larger portion of individuals assume a positive association between development and inequality, another sizable proportion believe in a negative association between the two. Could our null finding in Table 3 result from mixing the two very different groups at the population level?

To answer this question, we first distinguish two extreme types of respondents. Here, we first focus on detailed response patterns in ranking orders rather than on numerical responses. For five countries, there can be a total of 120 (5!) possible rank-ordered combinations. We find four prevalent patterns: (1) US ⩾ Japan ⩾ China ⩾ Brazil ⩾ Pakistan, (2) US ⩾ Japan ⩾ Brazil ⩾ China ⩾ Pakistan, (3) Japan ⩾ US ⩾ Brazil ⩾ China ⩾ Pakistan, and (4) Japan ⩾ US ⩾ China ⩾ Brazil ⩾ Pakistan.[6] Together, these four patterns account for 71.5% of all respondents in our data. The first two patterns are particularly popular, chosen by 34.2% and 33.6% respectively of the respondents. Patterns 3 and 4 are chosen by much smaller percentages of respondents, at 2.2% and 1.4% respectively. These results show that Chinese tend to rate the US as more developed than Japan, but they are equally divided in rating China in contrast with Brazil.

We next examine response patterns to the inequality scale, i.e., the extent to which rankings on inequality very closely follow rankings on development and the extent to which rankings on inequality are very close to the opposite of rankings on development. The results are reported in Table 4, which cross-classifies response patterns to inequality (rows) by response patterns to development (columns). The first four rows, in the first panel, represent the four response patterns to the inequality scale that respectively correspond to the four major response patterns to the development scale. Pattern 1, for example,

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[6] For convenience, we made the classification mutually exclusive in the results reported here. If a respondent could be classified as fitting more than one pattern due to equality conditions, we gave priority to the less frequent pattern.

Table 4

Main response patterns of inequality rating by response patterns to development rating. *Source*: 2006 Six Chinese Province Survey.

Inequality response pattern	Development response pattern					Total
	Pattern 1	Pattern 2	Pattern 3	Pattern 4	All others[b]	
Pattern 1: US > JP > CN > BZ > PK[a]	**31.10**	7.53	4.90	17.19	10.09	13.16
Pattern 2: US > JP > BZ > CN > PK	8.35	**23.51**	5.88	3.13	7.80	16.41
Pattern 3: JP > US > BZ > CN > PK	0.70	0.45	**8.82**	3.13	0.31	0.72
Pattern 4: JP > US > CN > BZ > PK	0.64	0.32	0.00	**4.69**	0.46	0.52
Reverse of Pattern 1	*9.94*	3.31	5.88	4.69	2.14	6.90
Reverse of Pattern 2	3.38	*13.31*	11.76	0.00	3.52	5.32
Reverse of Pattern 3	0.45	1.75	*12.75*	3.13	0.46	1.20
Reverse of Pattern 4	0.57	0.58	0.00	*9.38*	0.38	0.63
All others[c]	44.87	49.22	50.00	54.69	74.85	55.14
Total	100.00	100.00	100.00	100.00	100.00	100.00
	(1569)	(1540)	(102)	(64)	(1308)	(4583)

Notes: All numbers in this table are percentages, except the last row, which contains frequency counts. Numbers in bold are cases of positive projection; numbers in italics are cases of negative projection.

[a] BZ = Brazil, CN = China, JP = Japan, PK = Pakistan, US = United States.
[b] All the 116 remaining response patterns on development.
[c] All the 112 remaining response patterns on inequality.

means that respondents rated inequality the highest in the US, followed by Japan, China, Brazil, and Pakistan. In the second panel, we present patterns (in rows 5 through 8) that are, respectively, reverses of patterns 1–4. For example, row 5 represents the following pattern in rated inequality level: US ⩽ Japan ⩽ China ⩽ Brazil ⩽ Pakistan. "All Others" is the residual category. We observe that there is much scattering in response patterns to the two scales, indicating the role of ambiguity, uncertainty, or noise in our respondents' responses.

An interesting finding emerges from Table 4: a significant portion of a person's responses to the inequality scale correspond exactly to the same person's responses to the development scale, either positively or negatively. Take the column labeled "pattern 1" as an example. Respondents in this column reported their ratings of development for the five countries that conform to the ranking pattern of US ⩾ Japan ⩾ China ⩾ Brazil ⩾ Pakistan. Among those respondents, 31.10% rated the same countries in inequality as conforming to exactly the same pattern: a positive projection. Furthermore, another 9.94% also rated inequality for the same countries as conforming to the exact opposite pattern: US ⩽ Japan ⩽ China ⩽ Brazil ⩽ Pakistan. We call the second association a "negative projection." Thus, we observe both positive and negative projections for all four modal patterns of response to the development scale. For patterns 1 and 2 (for development), which are much more prevalent than the other two, positive projection is very large and dominates negative projection. For patterns 3 and 4 (for development), negative projection seems to be more prevalent than positive projection.

These results suggest that while there is much noise in respondents' ratings of inequality, a significant proportion of the respondents derived their inequality ratings rather closely from their development ratings. Their derivations were based on their own understanding concerning either a positive or a negative association between the two. Because China has recently experienced increases in both development and inequality and has established some public policies connecting the two positively, many Chinese project this experience onto other countries, making a positive association dominant over a negative association.

We next ask whether there are social determinants that help distinguish positive projections from negative projections. As shown in the descriptive Appendix Table A1, among the 4583 respondents in our analytical sample, 19.0% rated inequality in the same ranking orders as found in their development ratings (i.e. positive projections), and 7.3% in the opposite ranking orders (i.e. negative projections). In Table 5, we present a multinomial model predicting the type of projection, either positive or negative, with neither as the reference outcome category. Again, we observed strong and significant effects of geographical location in this model. For positive projection, age seems to have a marginally significant effect, with older respondents, as expected, less likely to associate inequality positively with development. For an increment of 1-year increase in age, there is a 1% reduction in the odds of positive projection. Also for positive projection, as expected, logged per capita family income has a moderate positive effect. With each unit increase in logged per capita family income, which means an increment of 2.7 times in per capita family income, the odds of positive projection increase by 12%. That is, higher-income Chinese, who themselves have benefitted more from economic growth, are more likely to associate inequality positively with development than are lower-income Chinese. Neither age nor income has any significant effect on negative projection.

One particularly interesting finding in Table 5 is concerned with development rating correlation, a variable we interpret as individuals having constructions of development that are consistent with the constructions of international elites. In Table 4, we already observed that this variable does not help predict a respondent's overall projection from development to inequality. In Table 5, however, we observe that it has strong positive effects on both positive projection *and* negative projection. An increase in the full range, from 0 to 1, in the development rating correlation, would increase the odds of positive

Table 5
Multinomial models predicting type of development-to-inequality projection. *Source*: 2006 Six Chinese Province Survey.

	Positive projection		Negative projection	
	Coef.	SE	Coef.	SE
Male	−0.069	0.089	0.148	0.130
Age	−0.011[*]	0.005	0.003	0.007
Marital status (married = excluded)				
Never married, divorced, or widowed	0.147	0.229	−0.047	0.363
Urban residence	0.043	0.094	0.219	0.146
Province/city (Beijing = excluded)				
Hebei	−0.384[**]	0.132	1.242[**]	0.411
Hubei	−0.878[***]	0.142	1.495[***]	0.393
Guangdong	−0.759[***]	0.143	2.302[***]	0.378
Sichuan	−0.375[**]	0.136	2.305[***]	0.384
Qinhai	0.054	0.134	2.451[***]	0.385
Logged per capita family income	0.114[**]	0.044	0.051	0.065
Level of education (elementary school or less = excluded)				
Secondary education	0.114	0.107	−0.169	0.148
Post-secondary education	−0.110	0.175	−0.129	0.250
Development rating correlation	1.060[***]	0.187	0.762[**]	0.263
Constant	−2.416[***]	0.447	−5.367[***]	0.739
Model χ^2 (df)				292.02(26)
Sample size				4583

Note: The reference category is neutral projection.
[*] $p < .05$.
[**] $p < .01$.
[***] $p < .001$.

projection almost threefold. For negative projection, the same increase would increase the odds twofold. Hence, we have found that consistency with the larger world in views of development does foster projection from development to inequality, but in two opposing directions. We failed to observe this consistency effect in the multilevel model of Table 4 because the multilevel model forces the variable to have an overall effect, either positive or negative, as shown in Eq. (2). This bipolar pattern fits well with Converse's (1964) classic theory that elites are far more coherent in their beliefs than non-elites.[7] It also fits with Sidanius and Lau's (1989) finding that people on both ends of a left-wing and right-wing continuum have stronger cognitive skills than those nearer the middle. In our Chinese survey data, we find that consistency of constructions with the world's elites can significantly boost a respondent's confidence in making projections about inequality based on development, but these projections are both positive and negative.

5. Conclusion

Although extensive social science research has been focused on the causes and consequences of actual economic growth, very little attention has been directed toward attitudes and beliefs concerning the effect of economic development on social inequality. Such attitudes and beliefs, however, can have important political implications, influencing how people respond to inequality increases or declines in the course of economic growth and whether they will favor or oppose policy measures designed to encourage development.

In this paper, we propose that the developmental paradigm serves the important cognitive need of simplifying societal differences (historical or cross-national), so that development level becomes a salient cue characterizing a society. When a person does not know much about other aspects of an unfamiliar society, he/she may draw inferences about the society from his/her views of its development level. While this cognitive device would serve most people well, as it frees them from the impossible task of fully understanding all societies in detail, there is also an obvious risk: Misunderstanding and mistrust of people across different societies could arise from the cognitive need to rely on salient cues and the usual tendency to project from one's own understanding and experience.

We developed four propositions in this paper. First, ordinary Chinese have conceptions of development and are able to rate different countries on a development scale in ways that are consistent with the ratings of international elites such as the UN. Second, their ratings of inequality do not reflect actual levels of inequality, and are derivative of their development ratings based on their understanding of the relationship between development and inequality. Third, given both rapid economic growth and a sharp rise of inequality in China's recent history, many Chinese project this experience of a positive association onto other countries. Fourth, given long-term practice and rhetoric during the 1950s through the 1970s about negative links between development and inequality, we expect that many Chinese may also project development negatively on inequality.

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[7] Sidanius (1985) also argues that the acquisition of polarized ideology must be motivated by more genuine interest in social and political affairs and requires slightly greater intellectual abilities, whereas citizens who lack both the will and the ability to confront such a cognitive task tend to assume the middle ground of the political spectrum.

For our empirical work, we designed two key items to test these ideas and implemented them in a survey in six Chinese provinces, asking the respondents to rate the levels of development as well as inequality in five countries: the United States, Japan, Brazil, China, and Pakistan. Four main findings emerge from our survey data. First, the respondents' average ratings of development resemble those released by the United Nations. Second, the respondents' ratings of inequality in the five countries are not well informed and accurate when compared to the CIA (2007) Gini measures of inequality. Third, a significant portion of the respondents seem to project their ratings of inequality from their ratings of development, on the basis of their understanding of either a positive or a negative relationship between the two. Fourth, when the respondents project inequality from development, the majority tend to make a positive projection, presumably reflecting China's recent experience. The last finding shows that an overall model that assumes homogeneity about the perceived relationship between development and inequality would be misleading.

Of all individual-level covariates, we find geographic location to be the only consistent predictor affecting a respondent's projection of inequality from development. Surprisingly, demographic and socioeconomic characteristics play only a small role: we find that youth and high incomes are associated with a higher likelihood of a positive projection. We did show that development-rating consistency with the UN predicted projection patterns, with this consistency understood as an indicator of both interest in the issue (Converse, 1964) and better cognitive functioning (Sidanius, 1985; Sidanius and Lau, 1989). Our work showed this consistency to be a double-edged sword: it increases the likelihood of both a positive projection and a negative projection of inequality from development. In other words, persons whose views of developmental levels in other countries match the constructions of the UN also believe strongly in either a positive or a negative relationship between inequality and development. As Converse pointed out long ago (1964), most ordinary people are not intrinsically interested in public affairs, and only a minority of our sample (though a non-trivial proportion) provided sharp opinions. In our study, we found that both positive and negative projections are associated with higher development-rating consistency with the UN.

While a modest minority believes in a negative association between development and income inequality, the predominant view is that there is a positive correlation between the two variables. This asymmetry may be rooted in China's recent history. Since the early 1980s, China has been experiencing rapid economic growth over an extended period and on a large scale, while inequality has also increased dramatically. In our survey data, the majority of people perceive income inequality to be higher in more developed than in less developed countries. Respondents did not endorse increases in income inequality as a way of facilitating development, but that may have been due more to an overall aversion to increasing income inequality than to a belief that income inequality decreases development. Our research suggests a plausible socio-psychological explanation to the question of why Chinese today have such a high tolerance for inequality despite their strong aversion of it: many Chinese accept a rise in inequality as a necessary, albeit undesirable, product of economic development, which they welcome. We welcome further research to test this conjecture in the future.

Appendix A. Key question items on developmental idealism in the 2006 Six Chinese Province Survey

See Table A1.

Inequality Scale
From the best you can gather, please choose a number on the scale to indicate how you would rate the extent of economic inequality in the following five countries. On the scale below, "0" represents the smallest inequality, and "10" represents the largest inequality.

0	1	2	3	4	5	6	7	8	9	10

SMALLEST   LARGEST

China   _____(0-10)
Japan   _____(0-10)
Brazil   _____(0-10)
United States   _____(0-10)
Pakistan   _____(0-10)

Development Scale
Now we would like you to consider how developed the different places on this map are—China, Japan, Brazil, United States, and Pakistan. We would like you to rate each of these countries on this scale of development—with the least developed places in the world marked zero at the left and the most developed places in the world marked 10 at the right. Where would you place each country?

0	1	2	3	4	5	6	7	8	9	10

LEAST   MOST

China   _____(0-10)
Japan   _____(0-10)
Brazil   _____(0-10)
United States   _____(0-10)
Pakistan   _____(0-10)

Table A1
Descriptive statistics. *Source*: 2006 Six Chinese Province Survey.

Variable	Mean	SD
Gender		
Female	70.4%	0.456
Male	29.6%	0.456
Age	38.360	8.550
Marital status		
Married	97.3%	0.162
Never married, divorced, or widowed	2.7%	0.162
Residence		
Rural	62.3%	0.485
Urban	37.7%	0.485
Province/city		
Beijing	16.5%	0.372
Hebei	16.7%	0.373
Hubei	16.6%	0.372
Guangdong	16.0%	0.366
Sichuan	17.5%	0.380
Qinghai	16.8%	0.374
Per capita family income (RMB)	4489.857	13352.320
Logged per capita family income	7.905	1.163
Level of education		
Elementary school or less	24.5%	0.430
Secondary education	63.3%	0.482
Post-secondary education	12.3%	0.328
Development rating correlation[a]	0.784	0.298
Type of development-to-inequality projection		
Positive (exactly the same ranking)	19.0%	0.392
Neutral	73.7%	0.440
Negative (exactly reversed ranking)	7.3%	0.260
Inequality rating[b]	5.881	2.453
Development rating[b]	6.352	2.512
Sample size		4583

  [a] The correlation between respondents' rating on development and the UN 2006 Human Development Index of the five countries.

  [b] Each respondent rates development and inequality in five countries. The means are calculated based on a total of 4583×5 records.

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