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# A Study on Attitudes Toward Family and Gender in Mainland China Based on the Latest Three Waves of the Asian Barometer

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# A Study on Attitudes Toward Family and Gender in Mainland China Based on the Latest Three Waves of the Asian Barometer

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## Abstract

In this study, I use the latest three waves of the Asian Barometer survey to investigate the relationships between a set of demographic indicators including (1) age (2) education (3) income (4) urbanization relevant for the postmaterialist thesis and attitudes toward family structure and gender roles represented by four question items in the traditionalism section which focus on (1) putting family interests first (2) obeying parents' orders (3) wives obeying mothers-in-law (4) preferring boy than girl babies in Mainland China. This study employs a two-step approach conducting both separate regressions for each wave and an aggregated regression with all the waves combined. Descriptive statistics show that there is no decreasing trend in the traditional attitudes toward family and gender across the three waves. Separate regression results show that in general age and education perform more consistently than income and urbanization. Large inconsistencies exist in how the demographic variables perform across question items and waves and between the separate and aggregate regressions. The demographic variables perform more consistently in the aggregated regression than the separate regressions. The unclear longitudinal trends and inconsistencies in the regression results suggest that the "socialization" and "scarcity hypotheses" do not work so well, and the "Asian uniqueness" argument is relevant in the context of Mainland China, a "natural laboratory" with large demographic variations and a "Confucian" background. To elaborate more on the implications of "Confucianism," other societies in the Greater China area and East Asia can be compared, and to improve sample quality, provide qualitative explanations, and distinguish and address gender topics on different levels, other methods using domestic surveys, survey experiments, text analysis, interviews, and fieldwork can be incorporated.

**Keywords**: Family Structure, Gender Roles, Asian Barometer, Mainland China

## Using Asian Barometer

In this study, I use the latest three waves of the Asian Barometer which were conducted around every five years from 2012 to 2019 to investigate attitudes toward (1) traditional structure of family and (2) role of the two genders. These attitudes toward family structure and gender roles can be seen as a relevant "component" in Inglehart (1997)'s postmaterialist framework, and since the postmaterialist thesis is primarily based on observations from Western industrialized societies such as North America and Western Europe, it is worth exploring this thesis through looking at patterns of family and gender values in the context of Mainland China. On the one hand, we have "traditional" attitude toward family that (1) puts family interests first (2) obeys parents' orders, and (3) endows males (and their parents) with more power in the household. One the other hand, we have more "modern" or "liberal" attitude toward family that (1) focuses on individual endeavors over family and parents and (2) sees women as independent individuals and should have equal statuses to men in the household. The Asian Barometer is helpful here because it (1) contains detailed questions about family and marriage dynamics, e.g., prioritizing family's interests, obeying parents, statuses of wives and mothers-in-law, and preferring boys or girls, (2) the questions are simple and can be easily understood by the respondents, (3) it has a large sample size for Mainland China and a sampling method covering different provinces, although some regions such as Xinjiang and Tibet are left out.

I investigate the applicability of the postmaterialist thesis with the example of the attitudes toward family structure and gender roles in the context of Mainland China. Mainland China seems to be a good case study for applying the postmaterialist model and shed light on the "Asian uniquness" argument because it (1) has a "Confucian" context (2) has a large socio-economic and regional span, making it a "natural laboratory." I aim to (1) look at the descriptive statistics of the responses for each wave and the longitudinal changes of them across the three waves, (2) conduct regressions with the responses and a set of demographic variables which are important in the postmaterialist thesis, i.e., age, education, income, and urbanization, across separate waves and see to what extent the regression results meet the expectations supposed by the postmaterialist thesis, i.e., "socialization" and "scarcity hypotheses," (3) regress the responses with the waves combined, to have a general image or "snapshot" of Mainland China and emphasize the differences between the separate and aggregated results. Through a two-step appraoch which shows the inconsistency in the performances of the demographic variables across the three waves as well as between separate and combined waves, light can be shed on to what extent the "Asian uniqueness" argument is relevant in Mainland China.

## Research Gaps

Studies that use the Asian Barometer to discuss gender equality exist, but they often look at the relationships between civic culture, social capital, and familial values such as Lee and Hsiao (2017) or look at the relationships between a range of social and individual factors and attitude toward gender affirmative actions such as Kim and Yoo (2010). The former does not look at individual-level demographic variables on the independent variables side, and the latter does not look at general attitudes toward family structure and gender roles on the dependent variables side. Also, most studies that use the Asian Barometer to discuss gender equality do not look at

Mainland China, do not provide detailed discussions on longidtuinal changes through using multiple waves, and do not use familial values to shed light on the applicbaility of the postmaterialist thesis and the "Asian uniqueness" argument in East Asia. Furthremore, while much survey research in comparative politics use transational survey data to look at gender gaps in democratic values, political participation such as voting behaviors, and religious and economic behaviors such as Liu (2020) which uses Asian Barometer and Julia et al. (2024) and Freese (2004) which use the World Values Survey (WVS), and they are not interested in how people perceive gender inequality. In other words, much survey research use gender to explain politics on the independent variables side, but they do not discuss how people look at the concept of gender itself in different settings such as inside the family on the dependent variables side. Regarding those that look at the concept of gender in Mainland China, many of them do not employ empirical methods with standardized survey data and look at demographic indicators.

Regarding the positioning of this analysis, (1) I see familial values as a component of postmaterialism, and I do not look at the relationships between postmaterialist or libertarian/authoritarian values, political ideologies or left-right orientations, or nationalist sentiments, and familial values. (2) I do not look at the relationship between feminist sentiments and familial values. In other words, I do not use any culture and value indicators as indepenent variables, and I only use individual-level demographic variables as dependent variables. (3) I do not look at how familial values translate into movements on gender equality and feminism. While Inglehart investigates the postamterialist hypotheses by comparing data from a large set of nations and using macroeconmic variables as independent variables, this study focuses on longitudinal changes in Mainland China and looks at individual-level demographics as independent variables. Also, this study looks at familial values as a component of postmaterialist, which is not used directly by Inglehart.

Furthermore, while Inglehart often uses the WVS, this study uses the Asian Barometer which includes question items on familial values not included in the WVS. Inglehart and Norris (2000) use gender gaps to explain men and women's voting behaviors across societies, they do not look at how people perceive the concept of gender itself as I do in this analysis with Asian Barometer. Therefore, this study contributes to the literature by (1) looking at the relationships between individual-level demographic variables and general attitudes toward family structure and gender roles and emphasizes the longitudinal changes in these relationships through using the latest three waves of the Asian Barometer. Through discussing the inconsistencies in the relationships over time, this study aims to (2) discuss the relevance of the "Asian uniqueness" argument in the postmaterialist framework in the context of Mainland China. Also, this study can generally (3) provide insights into how people in Mainland China perceive the concept of gender equality in a family-related setting.

## Question Items

It is a good idea to not look at attitude toward family and gender as a vague and monolithic whole but break it down and discuss specific topics within it, especially daily topics relatable to

the respondents. I choose four dependent variables which are four questions in the "traditionalism" section in the Asian Barometer to represent the respondents' attitudes toward (1) traditional family structure and (2) role of women, or attitudes toward interaction styles and gender stereotypes in the family, and they provide daily scenarios highly relatable to the respondents and easy for them to imagine. They include (1) for the sake of the family, the individual should put his personal interest second, (2) even if parents' demands are unreasonable, children still should do what they ask, (3) when a mother-in-law and a daughter-in-law come into conflict, even if the mother-in-law is in the wrong, the husband should still persuade his wife to obey his mother, and (4) if one could have only one child, it is more preferable to have a boy than a girl.

In other words, the four questions point to (1) prioritizing family (2) obeying parents (3) wives obeying mothers-in-law and (4) preferring boy over girl babies. The first two questions are about following the traditional family hierarchy and the parents' doctrines and the other two are more about womens' lower status and wives' submission to the husband and his family in the marriage represented by mother-in-law as somewhat an authority. I leave out other questions in this section related to attitudes toward groups, the nation, teachers, and co-workers, e.g., (1) in a group, we should sacrifice our individual interest for the sake of the group's collective interest, (2) for the sake of national interest, individual interest could be sacrificed, (3) being a student, one should not question the authority of their teacher, (4) in a group, we should avoid open quarrel to preserve the harmony of the group, and (5) a person should not insist on his own opinion if his co-workers disagree with him.

Although these questions can also fit into the postmaterialist framework, they (1) do not relate to the topics of this study which are family structure and gender roles, and (2) some questions can be harder to relate to oneself and answer, e.g., the question about national interest, compared to questions about family dynamics. In other words, I focus on perceptions toward the "smaller" family rather than "bigger" sentiments toward imaginary groups or the nation as a whole in the "traditionalism" package. However, I notice that while questions on attitudes toward family structure and gender roles are included, no questions that directly represent "feminism" are included in the Asian Barometer, e.g., women should be allowed to work, get educated, or participate in politics, or women should be allowed not to take primary role at home, or husbands should also participate or participate actively in housework and the children's education, so feminist sentiments cannot be directly measured with the Asian Barometer. Also, I note that attitude toward feminist movements in the New Left agenda can be another topic on another dimensional level compared to attitude to family and role of women.

The response categories of the four questions are on the Likert scale including (1) strongly agree (2) somewhat agree (3) somewhat disagree and (4) strongly disagree, and non-response categories exist including (1) do not understand the question, (2) can't choose, and (3) decline to answer, and so on. These "null answers" are not included in the regressions in this analysis and are combined into "Other" in the descriptive statistics. I note that the "social desirability bias" can exist, and the respondents can exaggerate their attitudes toward gender equality.

## Demographic Variables

I choose (1) age (2) income (3) education and (4) urban/rural as four independent variables, and attitudes toward family, parents, and female represented by the four question items are the dependent variables. While subjective social class or job title can also be included as an independent variable, it is not due to various and different categories across the waves and the difficulty of operationalization. I choose (1) gender and (2) marital status as control variables. Regarding the independent variables, age is the number of years, education is the number of years of formal education, income has five quantiles, urban/rural is dichotomous, and Urban is coded as 1, and Rural is coded as 2. Regarding the control variables, gender is dichotomous, and regarding marital status, it is also made dichotomous, and I combine two categories of Married and Living Together as Married as Married and code as 1, and Non-Married is coded as 2. All responses other than Married such as Single/Never Married, Widowed, Separated, and Divorced are combined into Non-Married, although having never gotten married before and have been married but divorced or widowed can have different implications.

The names and categories of the independent, dependent, and control variables are shown in Appendix, and while the categories are the same for all the variables in the three waves, their name labels are different. I note that education here only represents the number of years of formal education and does not distinguish different systems and styles of education that might be coded as the same level across villages, cities, and provinces in Mainland China, i.e., between (1) public/private/international school (2) curricula and textbooks used across provinces. Any variable, whether dependent or independent, that has missing or null values are excluded from the regressions. I note that social desirability bias can exist for not only the dependent variables where the respondents exaggerate their agreement of liberal values toward family and gender, it can also exist for independent variables where the respondents, for example, for some respondents in rural areas, in a small number of cases, they may exaggerate their years of formal education to show off a higher social status than they actually have, and some of them may not understand what “formal” education means and may more or less report some years of “formal” education even if they have not received any, leading to lower sample qualities.

I note that some other relevant control variables can also be included in the model e.g., education and income of the respondents’ parents (which can also be seen as a part of the socialization hypotheses), the number of siblings, ethnicity, religion or religious denomination, and religiosity. Regarding ethnicity, since Han makes up the majority of the population, it can be ignored. Regarding religion and religiosity, due to the existence of diverse folk religions without clear doctrines in Mainland China (Zhang and Lu, 2020), it is not useful to It is not useful to operationalize the concept dichotomously such as Christian/non-Christian and Buddhist/non-Buddhist. Moreover, the existence of the one-child policy in Mainland China may also be a relevant exogeneous factor to consider, as it ended during Wave 4. The existence or absence of legal barriers and economic penalty for having more children may have implications on the respondents’ attitudes especially Q4 regarding wanting to have a boy or a girl, i.e., if they are allowed to have only one child, it is likely that a boy is preferred because he can have more physical strength and higher economic status in the future to take care of the parents.

Although it is difficult to look at left-right orientations and party identification due to the one-party system, dichotomous membership in or not in the Chinese Communist Party (CCP) can be another relevant variable as the members may tend to have attitudes that follow the CCP's policies about family. Furthermore, sexual orientation, which is usually not included in survey databases can be another control variable to include especially when looking at attitude related to gender equality, patriarchy, and feminism, as we may imagine that those in the LGBTQ+ community may be less supportive of the traditional family structure. For example, homosexuals may want to pursue their own dating, partnership, and marriage styles, do not follow the traditional marriage expectations from their family and parents, and do not feel the need to have descendants. Also, lesbians may believe that women should be endowed with more decision-making power in the household and that wives and mothers should have higher statuses. Similarly, membership in feminist organizations or activeness in feminist movements can be another control variable that likely correlate with attitude toward family structure and gender roles.

## Descriptive Statistics

Figure 1 shows the percentage of the responses across the three waves, and "Other" combines the null answers such as "Do not Understand the Question," "Can't Choose" and "Decline to Answer," and Graph 1 contains four separate graphs which show the changes in the percentages of the response categories excluding "Other" for the four question items across the three waves in line plots for visual convenience. Figure 2 provides the descriptive statistics of the dependent and independent variables for the three waves. We can see that there is much variation in the demographic variables as shown by the standard deviations. The data are processed, and the tables and graphs are made using STATA. We could see from Figure 1 that for Wave 3, for Q1, "Somewhat Disagree" has the largest percentage of responses, which accounts for around 75%, and for Q2, "Somewhat Agree" has the largest percentage of responses, which accounts for around 58%, and "Somewhat Disagree" has the second largest percentage, which is around 32%. For Q3, "Somewhat Disagree" has the largest percentage, taking up 50%, and "Somewhat Agree" has the second largest percentage, which is 34%. For Q4, "Somewhat Agree" has the largest percentage, and "Somewhat Disagree" and "Agree" have similar percentages of around 17% and 15% respectively. In general, we could see that for Wave 3, regarding Q1 which is the question about prioritizing family over personal interests, around 75% of the respondents disagree, regarding Q2 which is about prioritizing parents' demands over personal demands, around 58% of the respondents somewhat agree, regarding Q3 on listening to mothers-in-law, half of the respondents somewhat disagree, and regarding the question about preferring boys than girls, 64% of the respondents somewhat agree. We could see that for Q1 and Q3 regarding prioritizing family over personal interests and following mothers-in-law, more than half of the respondents express some disagreement, but for Q2 and Q4 regarding prioritizing parents' demands over personal demands and preferring boys than girls, more than half of the respondents express that they somewhat agree. Also, we do not see responses on the two ends "Strongly Disagree" or "Strongly Agree" to have large percentages, which are lower than 15% all the time for the four question items, and this is probably in line with our impression the "middle ground" or the "golden mean" concept somewhat mentioned in Confucianism and some other systems of doctrines originated from China.

We could see that for Wave 4, for Q1, “Somewhat Disagree” has the highest percentage of around 64%, and for Q2, “Somewhat Agree” has the highest percentage of 53%. Similar to Wave 3, it seems that direct parents are given more priority than families in individual decision-making. For Q3, “Somewhat Disagree” and “Somewhat Agree” have similar percentages of around 38% and 39% respectively. For Q4, “Somewhat Agree” has the highest percentage of around 59%, showing that more than half of the respondents agree that boys are preferred than girls. Again, the percentages for “Strongly Agree” or “Strongly Disagree” are low for the question items, similar to Wave 3. Also, compared to Wave 3, the null answers represented by “Other” are higher, which is around 5% to 10% for all the question items. In general, we could see that for Q1, around 64% of the respondents disagree about prioritizing family interests, for Q2, around half of the respondents somewhat agree about prioritizing parents’ demands. For Q3, around 38% of the respondents somewhat agree about daughters-in-law listening to mothers-in-laws and around 39% of the respondents somewhat disagree, showing somewhat a split of opinions, and those who somewhat agree has increased from Wave 3. For Q4, around 59% of the respondents somewhat agree about preferring boys than girls, showing that there is not much gender equality in terms of people’s attitude toward having children in Mainland China. Compared to Wave 3, we do not see trends of any increase or decrease for the question items, and we do not see increase in disagreement over traditional values toward family and gender.

We could see for Wave 5, for Q1, “Somewhat Disagree” has the highest percentage of around 71%, which is higher than Wave 4 but lower than Wave 3, and for Q2, “Somewhat Agree” has the highest percentage of around 62%, which is higher than Wave 3 and 4. Again, the respondents seem to give more priority to their direct parents than their families. For Q3, “Somewhat Agree” has the highest percentage of around 56%, which is higher than around 34% in Wave 3 and around 38% in Wave 4. For Q4, “Somewhat Agree” has the highest percentage of around 67%, which is higher than Wave 3, which is around 64%, and Wave 4, which is around 59%. Again, the percentages of “Strongly Agree” and “Strongly Disagree” are low, similar to Wave 3 and 4. Also, the percentage of null answers represented by “Other,” similar to Wave 4, is higher in Wave 5 than Wave 3. Therefore, we could not see a decreasing trend of those somewhat agreeing that wives should listen to mothers-in-law and that boys should be preferred to girls for birth, which is somewhat contrary to our expectation. In Graph 2, we could see that we mostly do not see any increasing or decreasing trend in any response categories for the four question items across the three waves, and perhaps an exception is Q3, we do see an increase in “Somewhat Agree,” meaning that percentage of those who agree that wives should listen to mothers-in-law has even increased over the three waves, and even reaching around 70% in Wave 5. In general, we do not see a decreasing trend in agreement toward traditional family and gender values or an increasing trend in disagreement toward those values.

To sum, comparing Q1 and Q2, we could probably say that the interests from one’s direct parents seem to play more important roles than the overall family or the bigger family pack. Also, looking at Q3 and Q4, we could probably say that husbands and husbands’ wives have higher statuses or more power in decision-making within the family hierarchy, and boy babies are obviously preferred than girl babies. If we take into account potential social desirability bias which respondents can show more awareness toward gender equality, the actual figure expressing preference of boys over girls can be even higher than those in the figures in the three

waves. Around 34%, 39%, and 56% of the respondents somewhat agree with wives listening to mothers-in-law in Wave 3, 4, and 5 shown by Q3, and around 64%, 59%, 67% of the respondents somewhat agree with preferring boys than girls for birth in Wave 3, 4, and 5 shown by Q4. These figures are likely to be higher than Western societies (although there is no data on these same questions for Western societies in Asian Barometer). Perhaps compared to societies with Confucian contexts, Western societies may emphasize more on atomic family units with the wives and husbands (and the children, if any) rather than bringing in the wives and husbands' families and conceptualizing bigger families and may have more equal preferences for girl and boy babies. Also, we do not see any decreasing trend in the percentages of those who somewhat agree with Q3 and Q4 across the three waves. I note that the percent responses in the three waves may not be so comparable due to the potentially different sample qualities and sizes and varieties of null answers. If we look at Figure 2, the sample sizes, after deducting all the null answers, for the three waves are 2060, 1961, and 2222. The descriptive statistics of the three waves show that the demographic variables including age, education, income, and urbanization do show much variation, and there is no concentration on either side in their distributions. The samples have maximum ages of around 90 all the waves, and gender has a quite even distribution.

## Hypotheses and Regressions

I perform regressions for the four questions with the four demographic variables having gender and marital status controlled separately for the latest three waves, assuming that the four questions are independent and there are no interaction effects. Some variables, such as the question items that have four response categories from "Strongly Disagree" to "Strongly Agree" are treated as continuous variables although they are in intervals. Q1, Q2, Q3, and Q4 represent the four questions and Q5 is an "attitude to family relations" index I construct which is a mean of the four questions. This overall index is added in the regression model to draw some insights into the "overall" relationship between the set of demographics and attitude to family structure and gender roles. The overall index is from addition and no weighting is attached for the questions items. There are two components of the regressions on which to inspect (1) direction of the correlations represented by the signs (2) statistical significance represented by the asterisks. Figure 3 shows the separate regression results for the three waves. Based on the "socialization hypothesis," I hypothesize that (1) Age is positively correlated with the question items and the overall index representing traditional family and gender values, i.e., older generations have more traditional family and gender values, and (2) Education is negatively correlated with the question items and the overall index, i.e., more educated respondents have less traditional family and gender values. Based on the "scarcity hypothesis" of the postmaterialist thesis, I hypothesize that (3) Income and (4) Urbanization are negatively correlated with the question items and the overall index, i.e., richer respondents and respondents who live in more urbanized areas tend to have less traditional family values. In other words, there are four basic postmaterialist hypotheses to test. Because for the responses to the question items, "Strongly Agree" is coded as 1 and "Strongly Disagree" is coded as 4 for the regressions, the expected direction correlation for (1) age should be negative, for (2) education and (3) income should be positive, and for (4) urban should be negative, because Urban is coded as 1, and Rural is coded as 2.

In Figure 3, we could see from the regression results for Wave 3 that (1) Age conforms to the expected directions of correlation and carries statistical significances for all the question items and the overall index. (2) Education conforms to the expected directions of correlation for Q1, Q2, Q3, and the overall index, but it only carries statistical significances for Q3 and the overall index. (3) Income conforms to the expected directions and carries statistical significances for Q2, Q3, Q4, and the overall index, and it does not conform to the expected direction for Q1. (4) Urbanization conforms to the expected directions and carries statistical significances for Q2, Q3, Q4, and the overall index, and it does not conform to the expected direction for Q1. Regarding the control variables (I note that gender and marital status are not so relevant for the original postmaterialist thesis), we could see that gender has positive associations and carries statistical significances for Q3, Q4, and the overall index, which means that females tend to be more supportive of liberal gender roles, and this is somewhat in line with our common expectation, which we often believe that somewhat with vested interests in the existing family structure where males are endowed with more decision-making power, females should be less supportive of traditional family values, although there can be some gender difference in the social desirability bias. We could see that for marital status, it shows negative associations and carries statistical significances for Q1, Q2, Q4, and the overall index, which means that those who are not married seem to be less supportive of traditional family structure and gender roles, and this is somewhat in line with our common expectation. To sum, for Wave 3, age, income, and urbanization mostly conform to the expected directions and carry statistical significances for the question items and the overall index, but education only conforms to the expected direction for Q3 and the overall index. In other words, socialization hypotheses with regard to age and scarcity hypotheses regarding income and urbanization seem to work well in Wave 3, and only socialization hypothesis with regard to education does not seem to work as well. However, if we look at the overall index, all the demographic indicators conform to the expected direction and carry statistical significance. Also, we could see that Q1 has the most cases of demographic indicators that do not conform to the expected directions, meaning that family seems to play an important role in individual decision-making. In general, age, education, income, and urbanization do seem to "predict" attitudes toward family structure and gender roles in a consistent way for Wave 3.

We could see from the regression results for Wave 4 that, (1) Age conforms to the expected directions of correlation and carries statistical significances for all the question items and the overall index. (2) Education conforms to the expected directions and carries statistical significances for Q2, Q3, Q4, and the overall index. Compared to Wave 3, education has more cases that conform to the expected directions and carry statistical significances in Wave 4. (3) Income conforms to the expected directions for Q2, Q3, Q4, but it does not carry statistical significances. Compared to Wave 3, income performs worse in Wave 4 with fewer number of cases that have statistical significances. (4) Urbanization only conforms to the expected direction for Q2, and it carries statistical significance for Q2. Compared to Wave 3, urbanization performs in Wave 4 with fewer cases that conform to the expected directions. In general, we could see that education performs better in Wave 4 than Wave 3. However, urbanization and income perform worse in Wave 4 than Wave 3 with many more cases which have unexpected directions. Therefore, we could see that in Wave 4, age and education perform better than income and urbanization, and there are many cases where the expected directions and statistical significances are not seen. In other words, socialization hypotheses regarding to age and education work better than scarcity hypotheses regarding income and urbanization in Wave 4. Regarding the control

variables, we could see that gender shows positive associations for all the question items and the overall index and it carries statistical significances for Q1, Q3, Q4, and the overall index, which is similar to Wave 3, again meaning that females seem to be more supportive of liberal family and gender values, somewhat in line with our common belief. Regarding marital status, it shows negative correlations for Q1, Q3, Q4, and the overall index, and it does not show any statistical significances, which means that those not married are less supportive of traditional family values. Marital status shows less significance in Wave 4 compared to Wave 3 where marital status carries statistical significances for Q1, 2, 3, and the overall index. In general, we could see that compared to Wave 3, gender performs consistently, and marital status does not as much in Wave 4.

We could see from the regression results for Wave 5 that (1) Age conforms to the expected directions of correlation and carries statistical significances for all the question items and the overall index, which is similar to Wave 3 and 4. (2) Education conforms to the expected directions of correlation and carries statistical significances for Q2, Q3, and the overall index. Education in Wave 5 performs worse than Wave 4 but better than Wave 3. (3) Income conforms to the expected directions for Q2, Q3, Q4, and the overall index, and it carries statistical significances for Q2, Q3, and the overall index. Compared to Wave 4, income performs better in Wave 5 with more cases of statistical significances. (4) Urbanization only conforms to the expected direction of correlation for Wave 1, and it does not conform to the expected directions for the other question items and the overall index. This is similar to the results for Wave 4 but different from the results from Wave 3. In other words, socialization hypotheses regarding age and education and scarcity hypothesis regarding income work well, but scarcity hypothesis regarding urbanization does not work as well. We could see that there are longitudinal differences on how the demographic variables perform across the three waves, for example, education does not work well in Wave 3, but it does in Wave 4 and Wave 5, and urbanization works well in Wave 3, but it does not in Wave 4 and Wave 5. If we look at the overall index, we could see that all the demographic indicators conform to the expected directions and carry statistical significances except for urbanization. Regarding the control variables, we could see that gender has positive associations and carries statistical significances for Q1, Q3, Q4, and the overall index, meaning that females show higher agreement for liberal values toward family and gender, which is somewhat in line with our common belief. For marital status, it has negative associations and carries statistical significances for Q1, Q2, and the overall index, meaning that those not married show more agreement for liberal values toward family structure, which is somewhat in line with our common belief. The number of cases with statistical significances for marital status in Wave 5 is similar to Wave 3 and is higher than Wave 4.

To sum, we could see that (1) Age performs well for all the waves (2) Education performs well in Wave 4 and Wave 5 but not Wave 3. (3) Income performs better than Wave 3 and Wave 5 than Wave 4. (4) Urbanization only performs well in Wave 3, and it does not conform to the expected directions in Wave 4 and 5. In other words, socialization hypotheses regarding age and education perform work better than the scarcity hypotheses regarding income and urbanization across the waves. Education performs the worst in Wave 3, income performs the worst in Wave 4, and urbanization does not perform well in Wave 4 and Wave 5. Regarding the control variables, for all the three waves, in general, we could see that (1) female respondents show more agreement for liberal attitudes toward family and gender, and (2) non-married respondents show more

liberal attitudes toward family and gender, and the directions of correlation for gender and marital status for the question items and the overall index are consistent for the waves, except for marital status in Wave 4. Therefore, for the three waves, in general, age and education perform better than income and urbanization for the question items and the overall index, and urbanization perform the worst and has many cases that does not conform to the expected directions in Wave 4 and 5.

## Aggregating Three Waves

Regressions are conducted separately for the three waves to show inconsistencies over time, and to provide a general picture and static image of Mainland China as a whole and elaborate on the "Asian uniqueness" argument, I combine the three waves with the same set of question items and demographic variables. In Figure 4, we could see from the aggregated regression that (1) Age conforms to the expected directions of correlation and carries statistical significances for all the question items and the overall index, which is similar to the regression results from the separate three waves. (2) Education conforms to the expected directions and carries statistical significances for all the question items and the overall index except for Q1, which is similar to Wave 4. In other words, education performs better in Wave 4, Wave 5, and the aggregated regression compared to in Wave 3. (3) Income conforms to the expected directions and carries statistical significances for all the question items and the overall index except for Q1. Income performs better in Wave 3 and the aggregated regression compared to Wave 4 and Wave 5. (4) Urbanization conforms to the expected directions and carries statistical significances for all the question items and the overall index except for Q1. Urbanization performs better in Wave 3 and the aggregated regression compared to Wave 4 and Wave 5. Therefore, socialization and scarcity hypotheses work well in the aggregated regression. Also, if we look at Q1, we could see that it has the most cases where the demographic variables do not conform to the expected directions or do not carry statistical significances, showing that family seems to play an important role in individual decision-making. Regarding the control variables, gender shows positive associations and carries statistical significances for all the question items and the overall index, which is similar to Wave 4 and Wave 5, meaning that females tend to have more disagreement toward traditional family and gender values, and this result is consistent with the separate regressions, which is somewhat in line with our common belief. Gender performs more consistently in Wave 4, Wave 5, and the aggregated regression than Wave 3. For marital status, it shows negative associations and carries statistical significance for all the question items and the overall index, which is similar to Wave 3 and Wave 5, meaning that those not married tend to have more disagreement toward traditional family and gender values. Marital status performs more consistently in Wave 3, Wave 5, and the aggregated regression than Wave 4.

To sum, looking at the demographic variables, (1) Age performs consistently well in the separate and aggregated regressions for the question items and overall index. (2) Education performs better in Wave 4, Wave 5, and the aggregated regression than Wave 3. (3) Income performs better in Wave 3 and the aggregated regression than Wave 4 and Wave 5. (4) Urbanization performs better in Wave 3 and the aggregated regression than Wave 4 and Wave 5. Also, regarding the control variables, if we do not take into account marital status in Wave 4, gender and marital status mostly perform consistently for the question items and the overall index both in the

separate and aggregated regressions, and females and those not married tend to have more disagreement toward traditional family and gender values. The demographic variables, in the order of how well they perform for the question items and the overall index in the separate and aggregated waves, are (1) age, (2) education, (3) income, and (4) urbanization, and they perform more consistently in the aggregated regression than the separate regressions.

## Conclusion and Discussion

To conclude, on the one hand, we mostly do not see clear increasing or decreasing trends for the percent responses of the four question items across the three waves, except for Q3 which shows an increasing trend, meaning that the male side, i.e., the husbands and their mothers are endowed with more decision-making power in the marriage and family hierarchy. We could see that it is shared by the three waves that (1) respondents prioritize their direct parents more than their families (2) more than half of the respondents somewhat and strongly agree with prioritizing boys than girls for birth. However, it is important to note that due to the differences in the sample qualities and sizes and varieties of null answers, the figures from the three waves may not be so comparable. The lack of a decreasing longitudinal trend in those who somewhat agree with Q3 and Q4 in the descriptive statistics may suggest that filial piety and gender stereotypes still play important roles in contemporary Mainland China and the holding back of more liberal values toward family and gender by "Confucian" traditions in Mainland China.

However, I note that Confucianism itself has a package of vague, dynamic, multifaceted, and even contrasting doctrines that have been changing over time and different across Asian societies as well as being interpreted and instrumentalized flexibly by policymakers and researchers, i.e., carrying risks of definitional gerrymandering" and "epistemological anarchism." It may contain opposite doctrines that support patriarchal hierarchy and gender equality and support familism and collectivism and personal expression and personal autonomy at the same time. With its diverse and dynamic doctrines, Confucianism does not necessarily mean unlimited compromise for family, parents, male elders, and husbands in the family hierarchy, and it may actually emphasize the value of personal voices within the family, the equality of different family members, and the equality between male and female members. To what extent the statistical results here show the "holding back" of more liberal values toward family and gender by Confucianism is unclear, and saying "holding back" is simply based on a common impression of Confucianism. To empirically test the relationship between "Confucian values" and attitudes toward family and gender, it is essential to make an index for "Confucianism," e.g., religious denomination and religiosity, but it is difficult because there is no one single document that lays out the doctrines of Confucianism, so concept similar to biblical literalism for Christianity cannot be applied, and because there is no specific religious activities that account for being Confucian, it is difficult to measure religiosity similar to the frequency of visiting the church, especially given that there are diverse folk religions and their practices in the Greater China area. Without clear definition and measurement, there is the risk of "definitional gerrymandering" and "epistemological anarchism," i.e., anything can be a Confucian doctrine, and any behavior can be seen as religious.

On the other hand, we see that the demographic indicators perform differently across the question items and the three waves, and in general, age and education perform better than income and urbanization. There are cases where demographic variables do not conform to the expected directions, or the correlations are not significant for some question items, such as urbanization in Wave 4 and 5. Sometimes a demographic variable conforms to the hypothesis in one wave but does not in another, for example, urbanization performs well in Wave 3 but not Wave 4. The large inconsistencies in how the demographic variables perform across question items and waves and the unclear longitudinal trends may both suggest the relevance of the "Asian uniqueness argument" and "Confucianism." If we look at the aggregated regression, we could see that all the demographic variables perform for the question items and the overall index. The difference between the inconsistent results from the separate regressions and the more consistent results from the aggregated regressions again may suggest the relevance of the "Asian uniqueness" argument.

First, to elaborate more on the "Asian uniqueness" argument and the implications of "Confucianism," we can employ a comparative approach by adding other cases in the Greater China area such as Hong Kong and Taiwan as well as in East Asia such as Japan and South Korea, as these societies are often seen as having a historical background in Confucianism. Also, we can add cases from some developing and underdeveloped regions at different economic stages, such as Africa, Latin America, and Southeast Asia, although the Asian Barometer does not have data for these regions and other survey data with similar question items have to be used.

Second, while this study pays attention to specific topics regarding attitude toward gender equality based on the some question items and does not look at gender equality as a vague and monolithic whole, to shed more light on gender, sexuality, even feminism, we can look at other related topics such as attitudes toward women working and receiving education and attitude toward and activeness in feminist movements and organizations which are more directly related to feminist sentiments. Also, more recent topics such as attitudes toward the LGBTQ+ community and rainbow movements and organizations as well as attitudes between heterosexuals and homosexuals also relate to the broad topic of gender equality and can be seen as another issue in the postmaterialist package, perhaps on a different dimension compared to attitude toward family structure and gender roles. Gender equality embodies various areas and details to discuss, for example, we often see the LGBTQ+ as a whole, but naturally differences can exist between how each subgroup the LGBTQ+ perceive each other or the heterosexuals. Similarly, heterosexuals may also perceive each subgroup in the LGBTQ+ differently. Furthermore, the respondents' general attitudes toward the LGBTQ+ members in society as individuals and more specific attitudes toward one's own children if they are part of the LGBTQ+ as parents can also have differences, perhaps they show more positive attitudes toward the former. However, other quantitative and qualitative methods that use domestic survey databases, original survey experiments, text analysis with social media data, e.g., Weibo as well as interviews and fieldwork are needed to touch upon these topics and perhaps compare across regions, which are beyond the four question items in the Asian Barometer used in this analysis.

Third, caution should be paid to how the question items are phrased, as different ways through which questions are asked, or different dimension or "spatial" or "generality" levels the questions point to can yield different answers. For example, asking whether someone believes

"we" or "people" should not prefer one sex over another when having a child is different from asking whether he/she him/herself prefers a certain sex when having a child. Although "social desirability bias" can exist for both, the former is about one's sense of what should be for society, and the latter is about personal choices, i.e., the former is more impersonal, and the latter is more personal. In the case of the four question items in the Asian Barometer used here, "you" is not included in the wording, and "if one…"is used, making the questions rather impersonal. In fact, due to the differences in personal cognitive abilities, cultural differences across provinces, and personal understanding, we are not able to distinguish to what extent one respondent answers personally or impersonally toward the four question items, and likely the responses are a combination of both personal and impersonal understandings (the size of social desirability bias and cognitive capabilities can be measured by original survey experiments through manipulating different questions). To distinguish spatial levels and improve sample quality, data from the Asian Barometer can be combined with other survey bases that touch upon similar topics on family and gender, although this can make longitudinal and regional comparisons difficult.

Fourth, the regression model can be improved by introducing other control variables beyond gender and marital status, such as the education and income of the respondents' parents, the number of siblings and the number of children, as well as sexual orientation and membership or participation in feminist organizations and movements. Also, we can include some more subjective indicators such as life satisfaction which may capture some recent conditions of the respondents and some period effects. Furthermore, we can introduce some exogenous factors such as the economic status of the provinces and the presence of the one-child policy as well as government policy changes such as those about pension insurance and elderly care, media coverage on family structure and gender equality issues, movements of domestic and international feminist NGOs and NPOs, and civic feminist movement as well as the government reactions that may have brought life-cycle and period effects. Also, while ideological orientation can be difficult to look at due to the one-party system, party membership in CCP can be a relevant dichotomous variable as those in the party may have attitudes that follow the CCP rhetoric. Also, I assume independent effects and do not look at the interaction effects between the four question items in the model, which are likely to exist. The inconsistencies in the regression results can mean (1) the postmaterialist hypotheses do not apply (2) the sample quality and regression model are insufficient making the hypotheses seem not applicable and (3) the postmaterialist hypotheses are not good in the first place, and without more empirical analyses and qualitative methods, it is difficult to know which possibility is more convincing. Also, "age" in the regression model does not necessarily just reflect generational replacement and formative and preadult experiences, it may also capture some post-adult and more recent life-cycle and period effects, such as feminist movements, events, media coverage, and the government reactions, which may not be so relevant to the socialization hypothesis in the original postmaterialist framework focusing on generational replacement.

Lastly, while regression results for each wave is discussed, no qualitative explanations on why performances of the demographic variables sometimes are different across question items and waves. Only by comparing with cases from other regions in the Greater China area and East Asia and by looking at some macro factors and historical background such as modernization and democratization trajectories as well as period effects such as family- and gender-related movements and policies, more informative discussions about the "Asian uniqueness" argument

and whether “Confucianism” has held back more liberal values toward family and gender can be made.

## References


Freese, J. (2004). Risk preferences and gender differences in religiousness: Evidence from the World Values Survey. *Review of Religious Research.* URL: https://www.jstor.org/stable/3512255

Inglehart, R. (1997). Modernization and postmodernization: cultural, economic and political change in 43 societies. Princeton: Princeton University Press; 1997. URL: https://press.princeton.edu/books/paperback/9780691011806/modernization-and-postmodernization?srsltid=AfmBOoqpPZi3aoeyswDW27jCylj55qgQQ4thPOLA8UA0sGT-MGN-tIQ3

Inglehart, R. and Norris, P. (2000). The developmental theory of the gender gap: Women’s and men’s voting behavior in global perspective. *International Political Science Review*. URL: https://journals.sagepub.com/doi/abs/10.1177/0192512100214007

Julia, Z. et al. (2024). Global Evolutionary Perspectives on Gender Differences in Religiosity, Family, Politics and Pro-Social Values Based on the Data from the World Values Survey. *Social Evolution & History*. URL: https://cyberleninka.ru/article/n/global-evolutionary-perspectives-on-gender-differences-in-religiosity-family-politics-and-pro-social-values-based-on-the-data-from

Lee, Z. and Hsiao, H. (2017). Familism, Political Favoritism and National Identity in Asian Societies: An Empirical Test of Asia Barometer Survey. *Chuo University Departmental Bulletin Paper*. URL: https://chuo-u.repo.nii.ac.jp/records/13659

Liu, S. (2020). Gender gaps in political participation in Asia. *International Political Science Review*. URL: https://journals.sagepub.com/doi/abs/10.1177/0192512120935517

Zhang, C. and Lu, Y. (2020). The Measure of Chinese Religions: Denominational-Based or Deity-Based ? *Chinese Journal of Sociology*. URL: https://journals.sagepub.com/doi/full/10.1177/2057150X20925312

Kim, J. and Bum, Y. (2010). A Comparative Study on the Determinants of Male Attitudes toward Gender Affirmative Action in Asian Countries Using AsiaBarometer 2006 Data. *Asia*

*Barometer Workshop, Research & Information Center for Asian Studies.* URL: https://ricas.ioc.u-tokyo.ac.jp/aasplatform/achivements/pdf/2010_ab_kim.pdf

## Tables and Graphs

Wave 3

| Q1 | Freq. | Percent | Cum. |
|---|---|---|---|
| Strongly Disagree | 474 | 13.65 | 13.65 |
| Somewhat Disagree | 2,590 | 74.58 | 88.22 |
| Somewhat Agree | 300 | 8.64 | 96.86 |
| Strongly Agree | 16 | 0.46 | 97.32 |
| Other | 93 | 2.68 | 100 |
| Q2 | Freq. | Percent | Cum. |
| Strongly Disagree | 161 | 4.64 | 4.64 |
| Somewhat Disagree | 1,097 | 31.59 | 36.22 |
| Somewhat Agree | 2,013 | 57.96 | 94.18 |
| Strongly Agree | 133 | 3.83 | 98.01 |
| Other | 69 | 1.99 | 100 |
| Q3 | Freq. | Percent | Cum. |
| Strongly Disagree | 298 | 8.58 | 8.58 |
| Somewhat Disagree | 1,753 | 50 | 59.06 |
| Somewhat Agree | 1,189 | 34 | 93.29 |
| Strongly Agree | 73 | 2.1 | 95.39 |
| Other | 160 | 4.61 | 100 |
| Q4 | Freq. | Percent | Cum. |
| Strongly Disagree | 100 | 2.88 | 2.88 |
| Somewhat Disagree | 588 | 16.93 | 19.81 |
| Somewhat Agree | 2,225 | 64.07 | 83.88 |

| | | | |
|---|---|---|---|
| Strongly Agree | 506 | 14.57 | 98.45 |
| Other | 54 | 1.55 | 100 |

Wave 4

| Q1 | Freq. | Percent | Cum. |
|---|---|---|---|
| Strongly Disagree | 714 | 17.55 | 17.55 |
| Somewhat Disagree | 2,595 | 63.79 | 81.34 |
| Somewhat Agree | 383 | 9.41 | 90.76 |
| Strongly Agree | 31 | 0.76 | 91.52 |
| Other | 345 | 8.48 | 100 |

| Q2 | Freq. | Percent | Cum. |
|---|---|---|---|
| Strongly Disagree | 211 | 5.19 | 5.19 |
| Somewhat Disagree | 1,169 | 28.74 | 33.92 |
| Somewhat Agree | 2,156 | 53 | 86.92 |
| Strongly Agree | 299 | 7.35 | 94.27 |
| Other | 233 | 5.73 | 100 |

| Q3 | Freq. | Percent | Cum. |
|---|---|---|---|
| Strongly Disagree | 334 | 8.21 | 8.21 |
| Somewhat Disagree | 1,549 | 38.08 | 46.29 |
| Somewhat Agree | 1,569 | 38.57 | 84.86 |
| Strongly Agree | 240 | 5.9 | 90.76 |
| Other | 376 | 9.24 | 100 |

| Q4 | Freq. | Percent | Cum. |
|---|---|---|---|
| Strongly Disagree | 176 | 4.33 | 4.33 |
| Somewhat Disagree | 715 | 17.58 | 21.9 |
| Somewhat Agree | 2,414 | 59.34 | 81.24 |

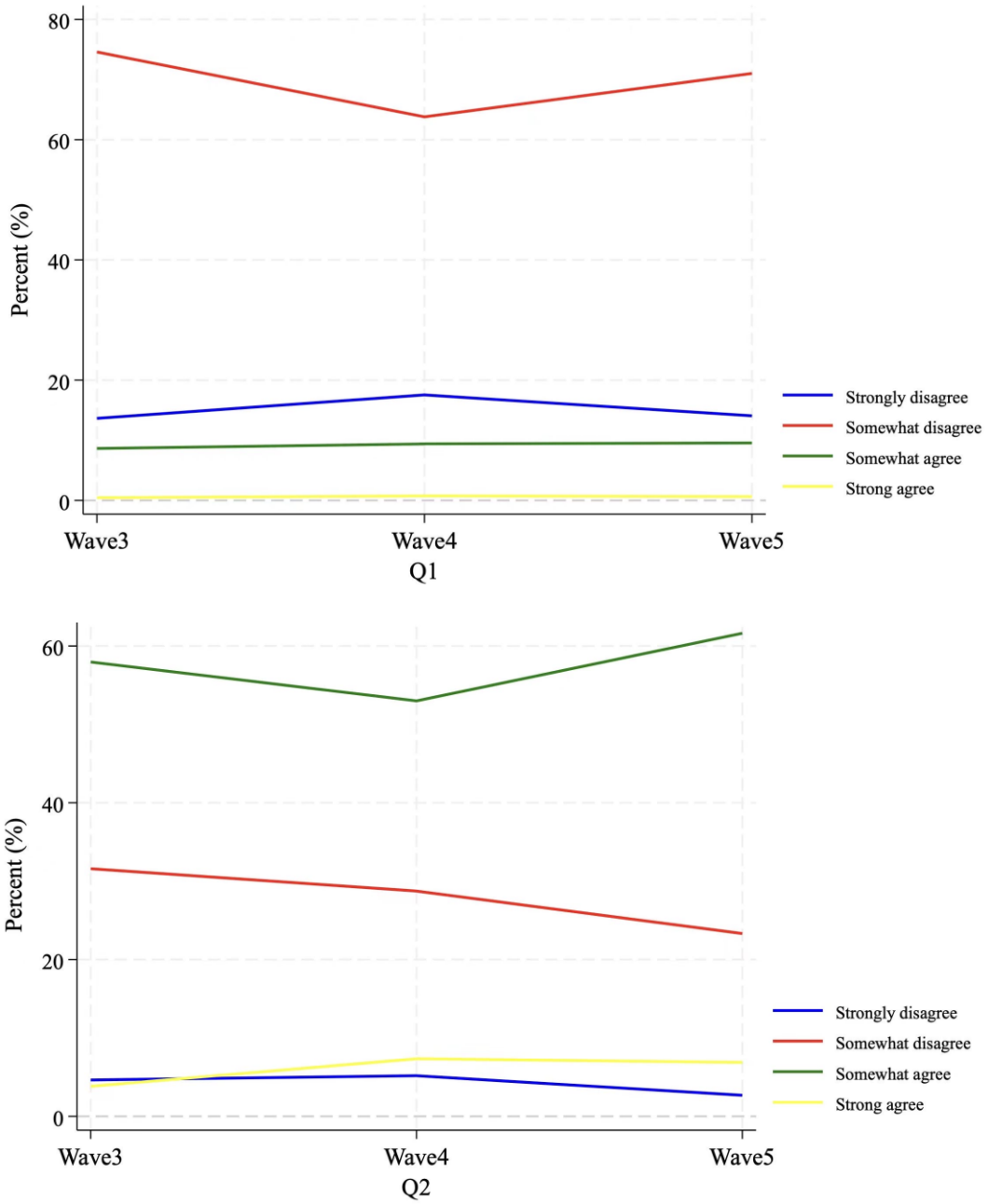
| | | | |
|---|---|---|---|
| Strongly Agree | 591 | 14.53 | 95.77 |
| Other | 172 | 4.23 | 100 |

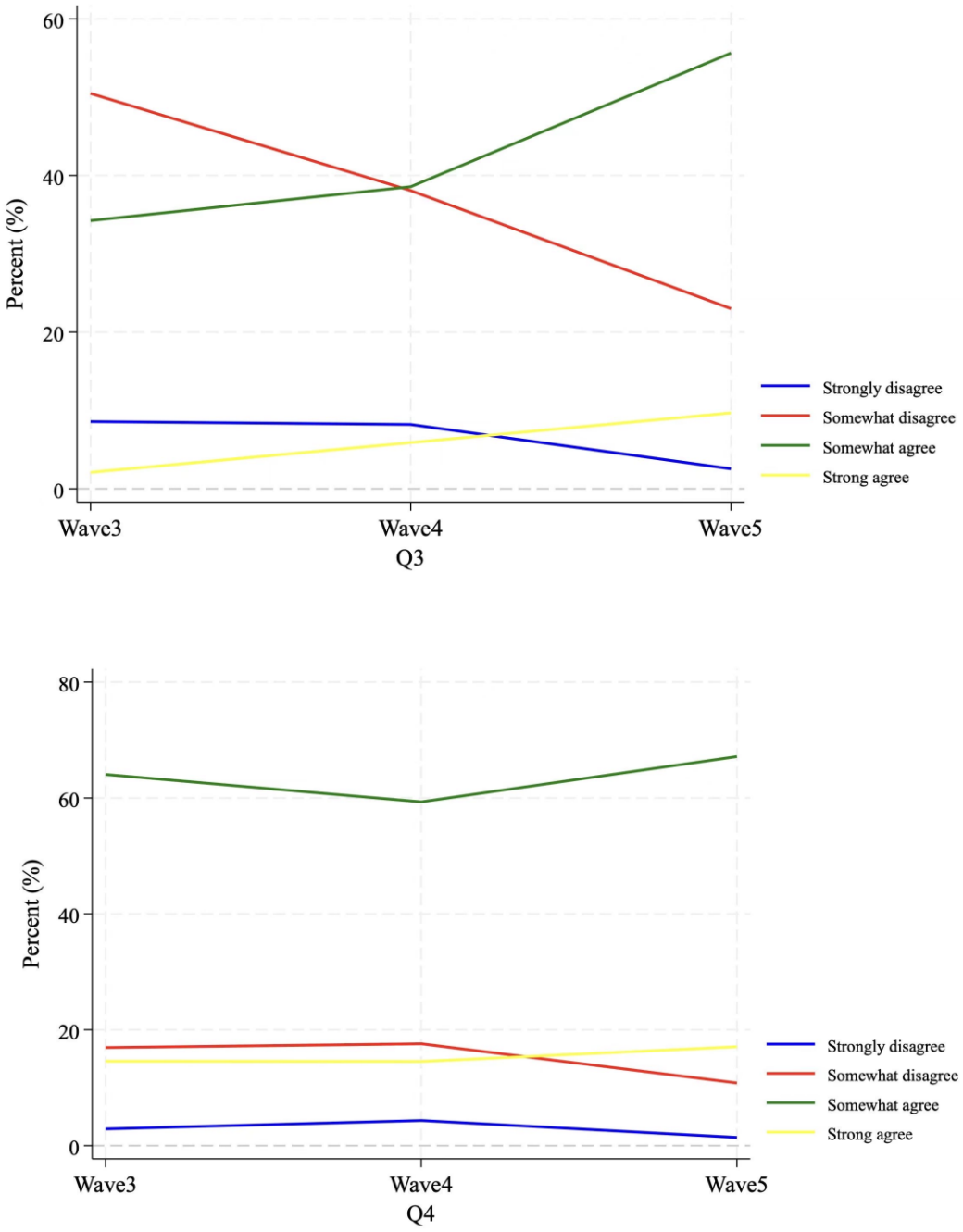
Wave 5

| Q1 | Freq. | Percent | Cum. |
|---|---|---|---|
| Strongly Disagree | 695 | 14.07 | 14.07 |
| Somewhat Disagree | 3,509 | 71.02 | 85.08 |
| Somewhat Agree | 473 | 9.57 | 94.66 |
| Strongly Agree | 31 | 0.63 | 95.28 |
| Other | 233 | 4.72 | 100 |
| Q2 | Freq. | Percent | Cum. |
| Strongly Disagree | 133 | 2.69 | 2.69 |
| Somewhat Disagree | 1,152 | 23.32 | 26.01 |
| Somewhat Agree | 3,045 | 61.63 | 87.63 |
| Strongly Agree | 340 | 6.88 | 94.52 |
| Other | 271 | 5.48 | 100 |
| Q3 | Freq. | Percent | Cum. |
| Strongly Disagree | 126 | 2.55 | 2.55 |
| Somewhat Disagree | 1,143 | 23 | 25.68 |
| Somewhat Agree | 2,749 | 55.64 | 81.32 |
| Strongly Agree | 479 | 9.69 | 91.01 |
| Other | 444 | 8.99 | 100 |
| Q4 | Freq. | Percent | Cum. |
| Strongly Disagree | 70 | 1.42 | 1.42 |
| Somewhat Disagree | 534 | 10.81 | 12.22 |
| Somewhat Agree | 3,318 | 67.15 | 79.38 |

| | | | |
|---|---|---|---|
| Strongly Agree | 844 | 17.08 | 96.46 |
| Other | 175 | 3.54 | 100 |

Figure 1: Mainland China: Percent responses across waves






Graph 1: Mainland China: Percent responses across waves in line plots

Wave 3

| Variable | Obs | Mean | Std. dev. | Min | Max |
|---|---|---|---|---|---|
| Q1 | 2,060 | 1.948 | 0.469 | 1 | 4 |

| | | | | | |
|---|---|---|---|---|---|
| Q2 | 2,060 | 2.613 | 0.641 | 1 | 4 |
| Q3 | 2,060 | 2.320 | 0.654 | 1 | 4 |
| Q4 | 2,060 | 2.898 | 0.660 | 1 | 4 |
| Age | 2,060 | 45.743 | 14.764 | 18 | 92 |
| Education | 2,060 | 5.990 | 4.062 | 0 | 43 |
| Income | 2,060 | 2.918 | 1.392 | 1 | 5 |
| Urban/Rural | 2,060 | 1.548 | 0.498 | 1 | 2 |
| Gender | 2,060 | 1.431 | 0.495 | 1 | 2 |
| Marital Status | 2,060 | 1.908 | 0.289 | 1 | 2 |

Wave 4

| Variable | Obs | Mean | Std. dev. | Min | Max |
|---|---|---|---|---|---|
| Q1 | 1,961 | 1.914 | 0.572 | 1 | 4 |
| Q2 | 1,961 | 2.646 | 0.715 | 1 | 4 |
| Q3 | 1,961 | 2.475 | 0.754 | 1 | 4 |
| Q4 | 1,961 | 2.892 | 0.700 | 1 | 4 |
| Age | 1,961 | 48.262 | 15.905 | 18 | 95 |
| Education | 1,961 | 7.689 | 4.555 | 0 | 22 |
| Income | 1,961 | 2.438 | 1.371 | 1 | 5 |
| Urban/Rural | 1,961 | 1.347 | 0.476 | 1 | 2 |
| Gender | 1,961 | 1.510 | 0.500 | 1 | 2 |
| Marital Status | 1,961 | 1.908 | 0.289 | 1 | 2 |

Wave 5

| Variable | Obs | Mean | Std. dev. | Min | Max |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| Q1 | 2,222 | 1.959 | 0.532 | 1 | 4 |
| Q2 | 2,222 | 2.779 | 0.620 | 1 | 4 |
| Q3 | 2,222 | 2.808 | 0.668 | 1 | 4 |
| Q4 | 2,222 | 3.042 | 0.608 | 1 | 4 |
| Age | 2,222 | 47.925 | 16.808 | 18 | 88 |
| Education | 2,222 | 8.996 | 4.578 | 0 | 27 |
| Income | 2,222 | 2.629 | 1.236 | 1 | 5 |
| Urban/Rural | 2,222 | 1.284 | 0.451 | 1 | 2 |
| Gender | 2,222 | 1.521 | 0.450 | 1 | 2 |
| Marital Status | 2,222 | 1.893 | 0.309 | 1 | 2 |

Figure 2: Mainland China: Descriptive statistics of questions and demographics

Wave 3

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q5 |
| Age | -0.001* | -0.005*** | -0.003*** | -0.004*** | -0.010*** |
| | (-1.680) | (-4.305) | (-3.079) | (-3.282) | (-4.945) |
| Education | 0.001 | 0.004 | 0.010*** | -0.000 | 0.014** |
| | (0.344) | (0.978) | (2.600) | (-0.033) | (2.007) |
| Income | -0.004 | 0.043*** | 0.045*** | 0.038*** | 0.094*** |
| | (-0.444) | (3.903) | (3.994) | (3.293) | (4.397) |
| Urban/Rural | 0.017 | -0.112*** | -0.085*** | -0.168*** | -0.222*** |
| | (0.740) | (-3.665) | (-2.722) | (-5.333) | (-3.761) |
| Gender | 0.018 | 0.024 | 0.123*** | 0.080*** | 0.185*** |
| | (0.856) | (0.830) | (4.195) | (2.673) | (3.332) |

| | | | | | |
|---|---|---|---|---|---|
| Marital Status | -0.102** | -0.142*** | -0.146*** | -0.040 | -0.400*** |
| | (-2.552) | (-2.657) | (-2.679) | (-0.725) | (-3.877) |
| _cons | 2.158*** | 3.090*** | 2.520*** | 3.181*** | 8.562*** |
| | (22.072) | (23.663) | (18.954) | (23.573) | (33.973) |
| N | 2060 | 2060 | 2060 | 2060 | 2060 |
| R-sq | 0.009 | 0.054 | 0.058 | 0.048 | 0.083 |

Wave 4

| | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| | Q1 | Q2 | Q3 | Q4 | Q5 |
| Age | -0.002** | -0.002* | -0.003** | -0.002** | -0.008*** |
| | (-2.354) | (-1.755) | (-2.335) | (-2.037) | (-3.455) |
| Education | 0.005 | 0.033*** | 0.034*** | 0.017*** | 0.077*** |
| | (1.445) | (7.325) | (7.252) | (3.869) | (8.888) |
| Income | -0.021** | 0.001 | 0.014 | 0.012 | -0.003 |
| | (-1.962) | (0.071) | (1.019) | (0.935) | (-0.128) |
| Urban/Rural | 0.008 | -0.081** | 0.071* | 0.065* | 0.015 |
| | (0.267) | (-2.183) | (1.863) | (1.793) | (0.210) |
| Gender | 0.044* | 0.023 | 0.149*** | 0.082** | 0.237*** |
| | (1.656) | (0.703) | (4.428) | (2.546) | (3.805) |
| Marital Status | -0.036 | 0.032 | -0.066 | -0.001 | -0.071 |
| | (-0.723) | (0.516) | (-1.030) | (-0.013) | (-0.598) |
| _cons | 2.030*** | 2.507*** | 2.127*** | 2.639*** | 7.324*** |
| | (17.759) | (17.873) | (14.682) | (19.102) | (27.386) |
| N | 1961 | 1961 | 1961 | 1961 | 1961 |

| | | | | | |
|---|---|---|---|---|---|
| R-sq | 0.011 | 0.047 | 0.085 | 0.035 | 0.099 |

Wave 5

| | (1) Q1 | (2) Q2 | (3) Q3 | (4) Q4 | (5) Q5 |
|---|---|---|---|---|---|
| Age | -0.003*** | -0.002** | -0.005*** | -0.002** | -0.010*** |
| | (-3.242) | (-2.377) | (-4.692) | (-2.236) | (-5.301) |
| Education | 0.001 | 0.011*** | 0.020*** | 0.005 | 0.033*** |
| | (0.243) | (2.924) | (5.302) | (1.475) | (4.513) |
| Income | -0.010 | 0.023* | 0.025** | 0.012 | 0.041* |
| | (-0.979) | (1.904) | (1.970) | (0.997) | (1.679) |
| Urban/Rural | -0.016 | 0.064** | 0.023 | 0.095*** | 0.094 |
| | (-0.628) | (2.114) | (0.730) | (3.185) | (1.551) |
| Gender | 0.079*** | 0.029 | 0.128*** | 0.111*** | 0.264*** |
| | (3.491) | (1.096) | (4.619) | (4.283) | (4.984) |
| Marital Status | -0.109*** | -0.115** | -0.043 | -0.072 | -0.284*** |
| | (-2.626) | (-2.402) | (-0.843) | (-1.524) | (-2.946) |
| _cons | 2.217*** | 2.825*** | 2.646*** | 2.912*** | 8.416*** |
| | (23.266) | (25.645) | (22.734) | (26.838) | (37.887) |
| N | 2222 | 2222 | 2222 | 2222 | 2222 |
| R-sq | 0.022 | 0.037 | 0.075 | 0.028 | 0.087 |

Figure 3: Mainland China: Regression results

| | (1) Q1 | (2) Q2 | (3) Q3 | (4) Q4 | (5) Q5 |
|---|---|---|---|---|---|
| Age | -0.002*** | -0.002*** | -0.002*** | -0.002*** | -0.007*** |

| | | | | | |
|---|---|---|---|---|---|
| | (-4.592) | (-3.817) | (-2.814) | (-2.900) | (-5.681) |
| Education | 0.002 | 0.019*** | 0.038*** | 0.013*** | 0.062*** |
| | (1.215) | (9.364) | (17.371) | (6.328) | (15.362) |
| Income | -0.011** | 0.026*** | 0.017** | 0.031*** | 0.040*** |
| | (-2.012) | (3.939) | (2.462) | (4.770) | (3.097) |
| Urban/Rural | 0.003 | -0.060*** | -0.072*** | -0.029* | -0.136*** |
| | (0.239) | (-3.527) | (-4.018) | (-1.715) | (-4.061) |
| Gender | 0.047*** | 0.042** | 0.177*** | 0.112*** | 0.294*** |
| | (3.517) | (2.520) | (9.977) | (6.710) | (8.918) |
| Marital Status | -0.084*** | -0.094*** | -0.109*** | -0.058* | -0.301*** |
| | (-3.321) | (-3.019) | (-3.266) | (-1.842) | (-4.868) |
| _cons | 2.147*** | 2.779*** | 2.341*** | 2.834*** | 7.976*** |
| | (36.999) | (38.642) | (30.632) | (39.339) | (56.063) |
| N | 6243 | 6243 | 6243 | 6243 | 6243 |
| R-sq | 0.013 | 0.043 | 0.093 | 0.031 | 0.098 |

Figure 4: Mainland China: Aggregared regression results

## Appendix: Variable Names and Values

Wave 3

| Variable Name | Variable Code | Categories |
|---|---|---|
| Dependent Variables | | |
| Q1 | q50 | |
| Q2 | q55 | Strongly Agree/Somewhat Agree/Somewhat |
| Q3 | q56 | Disagree/Strongly Disagree/Other |
| Q4 | q62 | |
| | | |
| Independent Variables | | |
| Age | SE3a | Number of Years |
| Income | SE13 | The First Quintile=5 |
| | | The Second Quintile=4 |
| | | The Third Quintile=3 |
| | | The Fourth Quintile=2 |
| | | The Fifth Quantile=1 |
| Education | SE5a | Number of Years |
| Urban/Rural | level3 | Urban=1, Rural=2 |
| | | |
| Control Variables | | |
| Gender | SE2 | Male/Female, Male=1, Female=2 |
| Marital Status | SE4 | Married/Non-Married, Married=1, Non-Married=2 |

Note: Null answers such as “Can’t Choose” and “Decline to Answer” are not included in the regressions.

Wave 4

| Variable Name | Variable Code | Categories |
|---|---|---|
| Dependent Variables | | |
| Q1 | q55 | |
| Q2 | q60 | Strongly Agree/Somewhat Agree/Somewhat |
| Q3 | q61 | Disagree/Strongly Disagree/Other |
| Q4 | q67 | |
| | | |
| Independent Variables | | |
| Age | SE3_2 | Number of Years |
| Income | SE14 | The First Quintile=5 |
| | | The Second Quintile=4 |
| | | The Third Quintile=3 |
| | | The Fourth Quintile=2 |
| | | The Fifth Quantile=1 |
| Education | SE5a | Number of Years |
| Urban/Rural | level | Urban=1, Rural=2 |

| | | |
|---|---|---|
| Control Variables | | |
| Gender | SE2 | Male/Female, Male=1, Female=2 |
| Marital Status | SE4 | Married/Non-Married, Married=1, Non-Married=2 |

Note: Null answers such as “Can’t Choose” and “Decline to Answer” are not included in the regressions.

Wave 5

| Variable Name | Variable Code | Categories |
|---|---|---|
| Dependent Variables | | |
| Q1 | q58 | |
| Q2 | q62 | Strongly Agree/Somewhat Agree/Somewhat |
| Q3 | q63 | Disagree/Strongly Disagree/Other |
| Q4 | q69 | |
| | | |
| Independent Variables | | |
| Age | SE3_1 | Number of Years |
| Income | SE14 | The First Quintile=5 |
| | | The Second Quintile=4 |
| | | The Third Quintile=3 |
| | | The Fourth Quintile=2 |
| | | The Fifth Quantile=1 |
| Education | SE5a | Number of Year |
| Urban/Rural | level | Urban/Rural, Urban=2. Rural=1 |
| | | |
| Control Variables | | |
| Gender | SE2 | Male/Female, Male=1, Female=2 |
| Marital Status | SE4 | Married/Non-Married, Married=1, Non-Married=2 |

Note: Null answers such as “Can’t Choose” and “Decline to Answer” are not included in the regressions.