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Do "Birds of a Feather Flock Together?" Gender Differences in Decision-making Homophily of Friendships

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Keywords: Homophily; Friendship Formation; Risk Preferences; Social Preferences; Gender Differences
JEL codes: D85, D91, J16

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"Homophily" – the tendency of individuals to associate with others who are similar – is considered as a key determinant of friendships. Most studies focus on the homophily of friendships as measured by demographic characteristics. In this paper, we explore patterns of homophily as measured by risk preferences and social preferences, both of which are elicited from a large-scale laboratory experiment. Our focus is on gender differences in homophily, which are examined by testing for behavioral gaps in friendship formation within a pair of same-gender friends in a series of decision-making tasks. We find significant gender differences in homophily: among males, friendship appears along with similar patterns in social decision-making, while females are more likely to become friends with those who exhibit different patterns of decision-making. Our findings are consistent across various robustness checks. We conclude by proposing potential explanations for these gender differences.

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1. Introduction

In modern society, one's social network connects one to others, and plays an important role in assisting individuals in acquiring information and opportunities (Calvo-Armengol and Jackson, 2004). One's friendship network, as an indispensable component of social networks, has received wide attention in the literature, and is proven to have important implications for economic and social consequences (Aguilera, 2002; Currarini et al., 2010; Landini et al., 2016). Aguilera (2002) finds that friendship networks provide applicants with more job opportunities, thus increasing labor force participation. For adolescents, the impact of friendship networks is even more striking. Huang et al. (2014) indicate that adolescent use of tobacco and alcohol is significantly influenced by friends' behavior. Moreover, friendship is vital to one's mental health and happiness (Myers, 2000; Almquist et al., 2014). Other studies reveal that making friends contributes to the formation of social capital, a valuable resource originating from interpersonal relationships and benefiting society and individuals (Coleman, 1988).

In terms of friendship formation, some studies argue that people tend to make friends with those who share more similarities with them across demographic characteristics like age, gender, and race, as well as religion and social characteristics such as education, occupation, and social status (Verbrugge,1977; Billy et al., 1984). This phenomenon is often referred to as "homophily", the tendency of individuals to associate with others who are similar. Subsequent work has investigated many dimensions by which homophily is induced in structuring friendship networks. For example, Clark and Ayers (1992) report that adolescents select friends who are of the same gender and race, and Xu and Fan (2018) find that U.S. high school adolescents are more likely to form ties with peers who have the same immigrant status as them.

However, despite important insights from these studies, there are still many dimensions of homophily that are not fully unexplained. First, some studies are conducted on students in primary education, which leads to a difficulty in extrapolation of the findings, as students at this stage of life may not have developed a mature mindset and may well behave differently from older individuals. Second, most studies focus on the homophily in sociodemographic characteristics, while it is unknown whether the homophily also applies to decision-making behaviors. Third, although several studies have

indicated that boys and girls behave differently in forming social relationships (Rose and Rudolph, 2006; Haynie et al., 2014), the possible existence of gender differences in the patterns of homophily during friendship formation remains unknown.

In this paper, we add to the literature on homophily by focusing on two questions. First, do people show homophily in making friends regarding decision-making behaviors? Second, do gender differences exist in these patterns of homophily?

Our investigation relies on a lab experiment with 684 new college entrants conducted within two weeks after their enrollment at college. College students are more mature than primary school students, and they have more social interactions beyond the traditional school environment, such as dormitory co-residence, club interactions, and off-campus activities. Further, in the construction of friendship networks, we do not rely solely on one-sided information. Instead, we match a pair of friends based on bilateral recognition. Finally, to capture potential patterns within dyads (or groups of two people), we use a range of tasks regarding risk preference and social preference.

We find two basic results in homophily. First, for both-male dyads, friends have more similar preferences in terms of social preferences than non-friends. In contrast, for both-female dyads, there are larger gaps between friends than non-friends. This demonstrates gender differences in homophily during friendship formation; specifically, the principle of homophily in terms of decision-making only applies to male friendships rather than female friendships. Second, for both-female dyads, the factors influencing friendship formation include both risk preferences and social preferences, while for both-male dyads, friendship formation is influenced only by social preferences.

Our study makes several important contributions. We extend the existing literature on friendship formation by showcasing homophily with respect to risk preferences and social preferences. We also provide evidence for the principle of homophily by applying the experimental methodology to investigate decision-making patterns of friends. Finally, we identify the distinct features of friendship formation across genders, demonstrating that the widely accepted principle of homophily applies more to male friendships than to female friendships. This finding serves as a starting point to explain some gender-specific phenomena or outcomes, thus paving the way for future research.

Our paper is constructed as follows. Section 2 reviews some relevant literature. Section 3 describes our experimental design. Section 4 presents our data and empirical results. Section 5 concludes with some interpretations of the results and suggests some potential explanations for the gender differences in homophily.

2. Relevant Literature on Friendship Formation

Prior studies on friendship formation provide us with many valuable insights. In this section, we review this literature.

Many studies empirically examine the determinants of friendship formation. The key factor indicated by these studies is "homophily", defined as the preference for associating with those who are similar to ourselves. Much of this literature has explored the role of homophily in forming social networks, especially friendships, concerning demographic attributes such as age, gender, and race (Currarini et al., 2009; Kossinets and Watts, 2009; Rethemeyer and Ryu, 2020; Shrum et al., 1988). For example, Shrum et al. (1988) focus on the development of racial and gender homophily among schoolchildren, and find a curvilinear relationship between homophily and grade. Hallinan and Williams (1989) find that high school students are only one-sixth as likely to choose a cross-race peer than a same-race peer as a friend, thus confirming the existence of racial homophily. Similarly, Rethemeyer and Ryu (2020) examine the effects of sex and racial homophily on friendship formation, and find that similarity of demographic attributes is only associated with the formation of friendship ties in the initial stages of friendship formation. Also, Thomas (2019) discovers that racial homophily of friendships generally declines with age due to the changes over time in friendship sources. Besides, Kandel (1978) assesses levels of homophily on four behavioral traits (e.g., frequency of current marijuana use, level of educational aspirations, political orientation, and participation in minor delinquency), and finds that adolescents tend to maximize congruence between their behaviors and their friends' behaviors.

These studies demonstrate the crucial role of sociodemographic characteristics in friendship formation. However, other dimensions also seem likely to affect these social connections, and many researchers have found that structural proximity is equally important for forming social connections

as homophily (Godley, 2008; McPherson et al, 2001). Structural proximity leads to more opportunities for contacts and communication, thus promoting the formation of new social ties. Kossinets and Watts (2009) hold that the ubiquitous presence of homogeneous ties is attributed to two types of homophily, or "choice homophily" and "induced homophily". Choice homophily means that people form ties with similar individuals just because they prefer to form these friendships. By contrast, induced homophily refers to the homophily arising from more opportunities for interacting with similar others in shared environments, such as schools, workplaces, neighborhoods, social organizations, and the like. Likewise, Marmaros and Sacerdote (2006) highlight the importance of structural proximity, and find that placing Black and White students in the same dorm creates more chances of meeting and thus increases the frequency of interactions. Zeng and Xie (2008) propose a framework that identifies the effects of preference and opportunity on friendship choice, which are often combined and difficult to separate.

As for gender, many prior studies have provided abundant experimental evidence of gender differences in various behaviors and preferences. Charness and Gneezy (2012) examine the relationship between gender and risk-taking behavior, and find that women invest less and are more financially risk averse than men. In investment games, Buchan et al. (2008) find that women are more trustworthy than men while men are more trusting than women. In prisoner's dilemma games, Ortmann and Tichy (1999) find significant gender differences in cooperative behavior, with women cooperating significantly more than men in the first round of the games. In dictator games, Heinz et al. (2012) find that male dictators behave more selfishly, while female dictators are more reciprocal and prefer lower taking rates. These findings indicate widespread gender differences in decision-making, while they are also found in other aspects, for example, social networks. Ibarra (1997) explores the differences in the workplace networks of women and men in managerial positions, and finds that managerial women show less homophily in their workplace networks than managerial men. Besides, literature also shows that women tend to maintain more kin ties and less ties outside their family than men, who prefer to establish relationships with coworkers rather than kin (Moore, 1990). There is also work on the ways by which gender (and other) differences in social networks affect tax compliance (Alm et al., 2017) and, more broadly, on differences in tax compliance behavior by gender, age, and race (Alm, 2019).

Despite these important insights on gender differences in social interactions, the ways in which patterns of homophily in friendship formation vary with gender remain largely unexplored.

3. Experimental Design

We randomly drew 200 college freshmen admitted to Wuhan University in 2019, i.e., Class of 2023, on 22 September 2019**,** 2 weeks immediately after their enrollment. At this time, the students had not yet started their class and had not yet received training in their majors, and they did not interact very much with other students collegewide. We invited them to attend a lab experiment on decision-making, which consisted of several tasks eliciting risk preferences and social preferences. Each subject received an average of RMB55 within 3 days after the experiment, including an RMB25 show-up fee. We discuss the specific experimental decision-making tasks later.

In order to characterize and quantify the respondents' social networks, we surveyed them, asking them to nominate three best friends of the same gender that they had made at Wuhan University. We also collected information on demographics and family background, including gender, race, major, hometown, childhood health, food taste (e.g., "Do you like spicy or not"), self-rating for social activity participation, stipends per month, parental occupations, number of siblings (or not), and family deaths in the last year (or not).

To enable matches and comparison, we needed more information on respondents' nominees, so we contacted the respondents' nominees and invited them to enroll in our lab experiment. In the end, 484 nominees (out of 600) responded. Likewise, we asked these new respondents to self-report their three best friends, and we collected similar information on demographics and family background for these new respondents as well.

By this snowballing procedure, we generated a sample of 684 subjects. With the respondents' self-reported nominations about their best friends, we were able to classify the relationships between any two people in our sample into three categories: (1) *no relation*, neither one nominated the other as his/her friend; (2) *acquaintanceship*, one nominated the other as his/her friend but not vice versa; (3) *friendship*, both recognized the other as a friend. Finally, we identified 197 friendships of same-sex (both-male = 68, both-female = 129). This information was similar to acquaintanceships – there were

244 pairs in total, where 111 of them were both-male and 133 were both-female. Based on this classification, we compared differences in terms of preference measurements within and across groups, and we then explored these underlying patterns.

To give a better sense of our analyses, we introduce the incentivized preference eliciting tasks in the following subsections. Detailed questionnaires are in Appendix A.

3.1. Individual Decision-making Tasks

We applied the choice-list procedure (Miller et al., 1969; Holt and Laury, 2002) to elicit the subjects' attitudes toward risk and ambiguity. We differentiate between risky lotteries (where the probabilities of the outcomes are known) and ambiguous lotteries (where the probabilities of the outcomes are unknown). We further categorize the risky lotteries into gain- and loss-oriented tasks depending on whether the outcomes were positive or negative. Therefore, we classify even-chance gains and longshot gains as gain-oriented tasks, and even-chance losses and longshot losses as loss-oriented tasks. Following Ellsberg (1961), we elicit the subjects' preferences for the two ambiguous lotteries based on whether they correctly guessed the color of a card drawn from a deck of twenty cards of unknown color proportion. The two ambiguous lotteries shared the same outcomes as the corresponding even-chance lotteries. For each lottery task, subjects made a series of binary choices between receiving the given lottery and each of a range of sure outcomes. The certainty equivalent (CE) for the given lottery was estimated using the mid-point between these two sure outcomes. The risk premium was measured by the difference between the CE and the expected value of the given lottery. Multiple switching observed in the experiment was considered in this process.

3.2. Social Decision-making

We use six behavioral games to elicit subjects' other-regarding behavior and one for strategic thinking.

Dictator Game (DG). For a dictator game, each subject is randomly matched with another subject, and one is endowed with a certain amount of money while the other is endowed with nothing. The subject with money is known as "the dictator", and is asked to allocate the money between the pair. Whatever the allocation, it must be accepted by the other player, known as "the recipient" (Franzen

and Pointner, 2012). In our study, the amount of money sent to the recipient is multiplied by a factor *R*, which can take values of 1/3, 1/2, 1, 2, and 3.

Trust Game (TG). For a trust game, Player A chooses to allocate a part of ¥80 to Player B, and the offered amount is tripled. After receiving the tripled amount of money from Player A, Player B chooses to return any portion of what she/he gets from Player A. Each subject is asked to report the amount she/he wants to send to her/his partner as Player A (denoted as Investment) and the amount returned as Player B, conditional on every possible Investment she/he may receive.

Jealousy Game (JG). For a jealousy game, Player A decides the amount of payoff for Player B, with zero payoff for herself/himself.

Ultimatum Game (UG). For a standard ultimatum game, Player A proposes a division of ¥120 for Player B, and Player B states her/his minimum acceptable offer (*MAO*). If the amount proposed by Player A is lower than Player B's MAO_1, then both receive ¥0; otherwise, Player A's proposal is implemented. For a random ultimatum game, the amount of the offer is randomly decided, and Player B's minimum acceptable offer is MAO_2. The difference between them, $MAO_1 - MAO_2$, is a proxy of indignation.

Public Goods Game (PGG). For a public goods game, both Player A and Player B are endowed with ¥80, and each must decide how much to deposit into a common pool independently and simultaneously. After they make their deposit decisions, the amount of money in the pool is multiplied by 1.6 and then divided equally between two persons. Each subject reports her/his amount of deposit.

Sequential Prisoner's Dilemma (SPD). Figure 1 presents the game tree of a sequential prisoner's dilemma, with four possible payoff pairs depending on the choices made by Player A in Stage 1 and Player B in Stage 2. In Stage 1, Player A makes her/his choice and reports. In Stage 2, Player B decides upon Player A's choice. We categorize the subjects into three groups according to Player B's choice: if Player B always chooses R no matter what Player A chooses, the subject is uncooperative; if Player B chooses L only when Player A chooses L, the subject is conditionally cooperative; if Player B always chooses L, she/he is unconditionally cooperative.

[Figure 1 about here.]

4. Data and Empirical Results

4.1. Summary Statistics

Table 1 describes the summary statistics for outcomes collected from our experiment. For individual decision-making, we find that subjects overall display risk aversion towards even-chance gain, longshot gain, and ambiguity gain, and females display more risk aversion compared to males. With regards to the loss domain, we find that females are more risk-tolerant. For social decision-making, in the DG, females are willing to give more on average (58.004 versus 44.441). In the UG, males offer more (59.292 versus 58.606), demand less (39.994 versus 43.814), and have less indignation (18.691 versus 19.825) compared to females. In the JG, males give more and show less jealousy than females. In the TG, males show higher degrees of trust (59.690 versus 50.667) and trustworthiness (0.391 versus 0.257). In the SPD, males tend to be more cooperative, as shown by a lower proportion of uncooperativeness (18.8 percent versus 28.5 percent) and a higher proportion of either conditional or unconditional cooperativeness (58.8 percent versus 45.2 percent and 23.9 percent versus 15.5 percent, respectively). In the PGG, males contribute marginally more (49.677 versus 48.909) than females. These findings are consistent with most other experiments (Chew et al., 2021).

[Table 1 about here.]

4.2. Results for Pooling Data

To start our analyses, we examine the overall patterns in pooling data. Here we consider all potential matches with dyads of different genders dropped generated by our survey.[1] Recall that according to respondents' nominations, we can classify all of these matches into three categories as follows:

(1) Friendships: both nominate the other as his/her friend.

(2) Acquaintanceship: one nominates the other as his/her friend but not the opposite.

(3) No relation: neither nominates the other as his/her friend.

We measure each respondent's traits regarding risk and social preferences through a series of tasks as stated above, and we then use the absolute value of the difference between two individuals in each

[1] Note that [(684 X 683)/2 = 233856].

dyad to proxy the degree of homophily.[2] Clearly, the narrower the absolute deviation, the more similar are the two individuals and the greater is the homophily. The question we try to answer is whether greater homophily is associated with a higher likelihood of becoming friends, as found in much of the previous literature.

Table 2 presents information on the absolute gaps across three categories of dyads. Columns (1)-(3) display the mean of each task for friendship, acquaintanceship, and no relation, representing different levels of homophily, and in column (4) we group acquaintanceships and lack of relations together and call them "non-friendship" as a comparison group to friendships. To examine the differences in homophily across categories of dyads, we implement two-sample *t*-tests on the means, using one-sided tests to highlight differences. Differences of mean absolute gaps and other testing results are shown in columns (5)-(7).

If homophily exists in making friends, we should expect at least the majority of differences to be negative, confirming that friends are indeed more alike. However, the results shown in Table 2 are mixed. We take the differences between friendships and acquaintanceships in column (5), the differences between friendships and no-relation in column (6), and the differences between friendships and non-friendships in column (7). We find that in general the signs of differences are positive and negative, without a consistent pattern in Table 2. Starting from here, we try to determine in the following sections whether there is a gender difference in the decision-making homophily.

[Table 2 about here.]

4.3. Results for Same-gender Dyads

Here we discuss gender difference in the gaps of decision-making between friendships and non-friendships. Table 3 presents the results for both-male ones. The mean absolute gaps across categories are shown in first four columns, followed by *t*-test results between groups in columns (5)-(10). Compared to pooling data, the patterns for both-male dyads are quite consistent. Table 3 shows that most significant differences are negative, which is consistent with homophily. In addition, the results on trust in the TG and on uncooperativeness and conditional cooperativeness in the SPD are significant

[2] We use the absolute value of the difference instead of the difference because the permutation of two individuals of a dyad does not matter for the questions we study.

and robust to the selection of benchmark groups. When the benchmark group is switched to totally non-related dyads or non-friendships, the three differences remain negative, indicating that both-male friends significantly are more similar in terms of social preferences, specifically, trust in the TG and uncooperativeness and conditional cooperativeness in the SPD.

[Table 3 about here.]

Table 4 presents the results for both-female dyads. In columns (5)-(10), we notice that all significant differences are positive, and, when we change the benchmark group, most dimensions of differences (ambiguity gain, offer in the UG, trustworthiness in the TG, and uncooperativeness in the SPD) are robust in terms of both statistical significance and signs. This indicates a clear pattern that both-female friends show greater gaps in decision-making behavior than non-related dyads, or in other words, lower degrees of homophily. These results are quite different from those for both-male dyads, which demonstrates obvious gender differences in friendship formation: Similar girls are less likely to become friends while similar boys are more likely to become friends. Note also that both-male friendships associate more with similarity regarding social preferences, while both-female friendships relate to dissimilarity regarding both risk preferences and social preferences.

[Table 4 about here.]

4.4. Counterfactual Test

We further check that our results are not a coincidence through counterfactual tests. Using the 684 respondents in our sample, we randomly match each to be friends or acquaintances, keeping the aggregate and gender composition unchanged relative to the randomly matched data. This procedure still generates identical numbers of friends and acquaintances, but what differs is that these relationships are now "fake" ones and no longer in line with an individual's nominations. We expect that the former significant findings and pattern should be disappeared. Table A3 and Table A4 in Appendix report results for similar analyses. No matter whether we examine both-male or both-female dyads, the patterns that we observed before disappear. Although there are still some significant differences, their signs alternate between positive and negative. For example, consider the counterfactual comparison between both-female friends and acquaintances (see column (5) in Table A4). Only one task is significantly positive (longshot loss), and three are significantly negative

(indignation in the UG and jealousy in the JG), in contrast to the all-negative trends in the original data. Also, these significances are not robust. For example, when the benchmark group is switched to non-friendships, there are no differences that are detected. These falsification tests indicate that our findings are not a coincidence.

4.5. Further Results

In the previous sections, we explored how friendships correlate with homophily by gender, and we found that the principle of homophily (e.g., similarity breeds friendship) seems only applicable to males and not to females. In this section, we restrict the subsamples to dyads in the same college major, in order to alleviate potential concerns on the chance of meeting, which is an important determinant of friendship formation (Zeng and Xie, 2008). As our subjects are college freshmen who just completed registration within two weeks, being in the same major should largely control opportunities of meeting, given that students in the same major participate in the same group activities and even live close to each other as the university assigns dormitories according to major and gender. Therefore, by restricting to same-major subsamples, we are able to make more robust comparisons of homophily between friends and other dyads, by eliminating the possibility that individuals in the benchmark group do not become friends just because they are unlikely to meet. Furthermore, as major selection is an outcome of individual personalities and characteristics, focusing on dyads in the same major and taking within-group difference largely eliminates this concern.

Table A1 and Table A2 in the Appendix display the results for both-male and both-female dyads of the same major, respectively. The patterns shown in Table A1 and Table A2 are almost identical to Table 3 and Table 4, which indicate that both-male friends share higher degrees of homophily than both-male non-friends, while both-female friends have lower degrees of homophily.

In Table 5, we compare both-male and both-female friends. The first two columns are absolute gaps for both-male and both-female friends, and column (5) reports differences of these two. We observe that both-male friends have narrower gaps in social preferences than both-female friends, in terms of normalized giving in the DG, jealousy in the JG, trust in the TG, and uncooperativeness and conditional cooperativeness in the SPD. Given that genders may lead to distinct baselines, which matters in comparison, we thus adjust absolute gaps of both-male and both-female friends by

differencing out corresponding mean gaps of non-friend dyads. Adjusted gaps are shown in columns (3) and (4), and their difference is shown in column (7). Similar to column (5), column (7) indicates that both-male friends have greater degrees of homophily compared to both-female counterparts.

[Table 5 about here.]

4.6. Regression Analysis and Exogeneity Test

All of these results show strong evidence that friendships and decision-making homophily are correlated heterogeneously across gender. While we still lack of a comprehensive analysis rather the task-by-task comparison. In this section, we employ regression analysis to shed more light on this issue.

Our regression model is specified as follows:

$$Friendship_i = \beta_0 + \beta_1 Gap_i \times BothMale_i + \beta_2 Gap_i \times BothFemale_i + \beta_3 BothMale_i + X_i\delta + \varepsilon_i.$$

The subscript i codes dyad, and we put all same-gender dyads into the analysis, similar to section 4.2. $Friendship_i$ is a binary variable equal one if dyad i forms a friendship and zero if an acquaintanceship or no relation. Gap_i is an aggregated variable accounting for absolute gaps between a dyad's two individuals. We standardize all terms of absolute gaps and take the average to generate Gap_i. $BothMale_i$ is a dummy variable coding the gender composition of a dyad, which takes value at one if both-male and 0 otherwise. $BothFemale_i$ is similarly defined as $BothMale_i$. X_i contains a set of variables representing demographic information of two individuals in dyad i, including hometown, major, stipends per month, food preference, health, and having siblings or not. ε_i is the error term. The coefficients of interest here are β_1 and β_2, which capture the heterogeneous effects of homophily on friendship formation for both-male and both-female dyads.

Table 6 shows the regression results with different specifications. Column (1) corresponds to the simplest specification, where we do not add other covariates. The estimates show that gaps in dyads are negatively correlated with both-male friendship formation, but are positively correlated with both-female friendship formation. In column (2), we add two variables to control for province and major, and thus to control for the opportunities of meeting. The heterogeneous effects of homophily still exist, and the coefficients do not change sharply relative to column (1), thus ensuring the robustness of our

findings. In addition, we observe that being from the same province does not promote friendship formation, while being in the same major does, with a significant positive coefficient. In column (3), we further control more covariates, and get consistent findings.

[Table 6 about here.]

The exogeneity of the degrees of homophily, i.e., the absolute gaps, is a potential concern in causality inference. One might argue that the two individuals begin to become similar (male) or dissimilar (females) after they become friends. Recall that our survey was conducted right after students got into the university for a few weeks, so it is hardly likely that one's traits and preferences would be influenced by one's friends during such a short period. Besides, an individual's decision making is relatively stable in a short time period. In this sense, we consider that the absolute gaps are predetermined. To further address this concern, we follow Alan et al. (2017) and use a set of predetermined variables to predict the gaps, replacing the original gaps in the model with predicted values to see whether previous findings remain unchanged. Note that we are not claiming that this procedure is a strict instrumental variable (IV) approach, even though it to some extent helps ease any concern of reverse causality. The variables we use for prediction include hometown, race, childhood health, parents' preference, father's and mother's occupations, social activity participation, food taste, single child or not, and family calamity in the past year. Estimation results are left in Table A5 in Appendix. Table 7 displays the results with predictors. According to In column (3), similar males are more likely to establish a friendship, but the effect is statistically insignificant. There is a significant positive effect of greater gaps on friendship formation for both-female dyads. Though not a fully strict causal inference, this analysis at least partially rules out the possibility of reverse causality from friendships to degrees of homophily.

[Table 7 about here.]

In sum, our results suggest the degrees of homophily play an important role in friendship formation. However, the old line "Birds of a feather flock together" only applies to both-male relationships and not to both-female ones, especially in social decision-making. In the final section, we suggest some possible explanations for these results, which may pave way for future research.

5. Discussions and Conclusions

Our results demonstrate that, in terms of, especially social preferences, males tend to select similar patterns as their friends, while females prefer dissimilar ones. Referring to prior literature, these results suggest that gender differences in friendship formation are attributed to the distinct emotional needs and social styles of males and females. Vigil (2007) holds that men's friendships are transactional, and generally establish on shared activities, such as working together on a project. By contrast, women prefer sharing personal problems and emotions with their same-sex friends, which shows a more intimate relationship (Aukett et al., 1988). In accordance with this view, Weiss and Lowenthal (1975) find that male friendships tend to emphasize "commonality" (e.g., shared activities and shared experiences), but female friendships emphasize "reciprocity" (e.g., helping, emotional support, and confiding). Given the differences in friendship between genders, it is not difficult to understand why homophily only applies to the formation of male friendships rather than female friendships. As females seek emotional support and connection, they tend to bond with someone who can share their emotions and feelings. In most cases, the mutual support is better achieved if two individuals are complementary, which makes them less likely to suffer from frustration at the same time, thus enabling one to support the other in need. In this sense, female friendships might be more diverse rather than similar. In contrast, for males, the tendency for shared activities with their friends leads to more homogeneous friendship networks.

Another potential explanation for gender differences may be the different attitudes of males and females towards maintaining friendships. The literature finds that women tend to invest more time and efforts in maintaining intimate relationships such as the relationship with their best friends, while men pay less attention to the maintenance of friendships (Vigil, 2007). It is not surprising to see that men can have no contact with their best friends over months or even years, and their friendships are still solid. The gender differences in investment in friendship maintenance naturally lead to the differences in friendship formation. In general, the relationships with similar counterparts are easier to maintain, as they have a lot in common and are less likely to conflict (Block and Grund, 2014; Kossinets and Watts, 2009). This means that the homogeneous ties are more stable and more solid, if the additional cost of maintaining ties is not preferred. Therefore, for males who are less willing to spend more time

in maintaining friendships, what they prefer would be homogeneous relationships with similar others. However, for females, they can allow more diverse relationships with those dissimilar ones, given their more relational maintenance investment.

Furthermore, what lies behind the different patterns in friendship formation could be a result of traditional sex roles and social behavior patterns. Wright (1982) points out that common hazards and pressures have exposed males to activities like hunting and warfare, hence to cooperate is to survive. On the contrary, females have not been subject to such hazards and pressures. In this context, the sex role of males is generally defined as instrumental and task oriented, and the sex role of females is defined as affective oriented. Wheeler and Nezlek (1977) also provide similar insights that men are group oriented, an inclination stemming from hunting era, while women tend to exchange all types of information. In this sense, a natural consequence is that male friendships should smooth collaboration via homogeneity, and female friendships allow heterogeneity for the sake of information exchange.

Overall, we find that the conventional argument that similar people tend to become friends only applies to male friendships rather than female friendships, even after controlling for major and other demographic characteristics. Our various analyses suggest that degrees of homophily indeed influence friendship formation in different manners by gender. We put forward several potential explanations for the results. First, the gender differences in friendship formation may result from the distinct emotional needs and social styles of males and females: males emphasize commonality, while females emphasize emotional supports. Second, the different attitudes towards maintaining friendships may lead to different preferences between males and females for homogeneous friendships or diverse friendships. Third, the deeper determinants can be traced back to the traditional sex roles, which stem from the long-term social evolution. Distinguishing these channels could be a direction of future research. Also, more efforts could be contributed to explore the dynamics of friendship networks in the long run, and to examine the effects of different patterns on fostering long-lasting friendships.

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Table 1. Summary Statistics for Main Variables

	Overall		Male		Female	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
Risk Preference (Premium)						
Even-chance gain: (240, ½)	16.024	21.091	14.031	19.876	17.919	22.047
Even-chance loss: (-60, ½)	-1.632	2.230	-1.504	2.307	-1.756	2.149
Longshot gain: (800,0.01)	-6.315	11.217	-5.000	10.328	-7.569	11.883
Longshot loss: (-120, 0.02)	1.820	3.159	1.728	3.156	1.909	3.163
Ambiguity gain: (240, unknown)	36.482	47.553	34.389	50.552	38.467	44.508
Ambiguity loss: (-60, unknown)	-0.872	4.930	-0.795	5.118	-0.946	4.752
Social Preference						
Dictator game						
Normalized giving	51.418	62.382	44.411	75.699	58.004	45.660
Ultimatum Game						
Offer	58.938	13.172	59.292	16.273	58.606	9.379
MAO	41.963	21.607	39.994	24.006	43.814	18.929
Indignation	19.277	26.053	18.691	26.497	19.825	25.656
Jealousy Game						
Jealousy	105.333	35.190	107.244	32.508	103.537	37.495
Trust Game						
Trust	55.091	23.629	59.690	22.019	50.667	24.303
Trustworthiness	0.288	0.376	0.319	0.397	0.257	0.351
Sequential Prisoner's Dilemma						
Uncooperative	0.238	0.426	0.188	0.391	0.285	0.452
Conditionally cooperative	0.518	0.500	0.588	0.493	0.452	0.498
Unconditionally cooperative	0.196	0.397	0.239	0.427	0.155	0.363
Public Goods Game						
Contribution level	49.677	24.715	49.677	25.449	48.909	24.016

Table 2. Results for Pooling Comparison

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Diff. (1)-(3) (6)	Diff. (1)-(4) (7)
Risk Preference (Premium)							
Even-chance gain: (240, ½)	22.346 (1.476)	20.837 (1.295)	21.919 (0.043)	21.918 (0.043)	1.509	0.427	0.428
Even-chance loss: (-60, ½)	2.437 (0.140)	2.501 (0.122)	2.461 (0.004)	2.461 (0.004)	-0.064	-0.024	-0.024
Longshot gain: (800,0.01)	12.138 (0.832)	11.361 (0.690)	11.632 (0.023)	11.632 (0.023)	0.777	0.506	0.506
Longshot loss: (-120, 0.02)	3.495 (0.206)	3.142 (0.172)	3.470 (0.006)	3.470 (0.006)	0.354*	0.025	0.025
Ambiguity gain: (240, unknown)	53.374 (3.171)	52.547 (2.560)	52.303 (0.089)	52.303 (0.088)	0.827	1.071	1.071
Ambiguity loss: (-60, unknown)	5.975 (0.317)	5.350 (0.256)	5.555 (0.009)	5.555 (0.009)	0.625*	0.420*	0.420*
Social Preference							
Dictator Game							
Normalized giving	49.288 (2.655)	63.991 (8.931)	50.623 (0.151)	50.637 (0.151)	-14.703*	-1.335	-1.350
Ultimatum Game							
Offer	8.675 (1.010)	8.378 (0.957)	9.185 (0.034)	9.184 (0.034)	0.297	-0.510	-0.509
MAO	22.376 (1.451)	21.085 (1.214)	22.457 (0.043)	22.456 (0.043)	1.291	-0.081	-0.079
Indignation	27.242 (1.602)	28.541 (1.722)	27.987 (0.051)	27.988 (0.051)	-1.291	-0.745	-0.746
Jealousy Game							
Jealousy	28.918 (3.145)	26.907 (2.740)	25.610 (0.088)	25.611 (0.088)	2.011	3.308	3.306
Trust Game							
Trust	24.104 (1.361)	26.236 (1.355)	26.190 (0.044)	26.190 (0.044)	-2.133	-2.086	-2.086
Trustworthiness	0.416 (0.036)	0.350 (0.032)	0.382 (0.001)	0.382 (0.001)	0.066*	0.033	0.033
Sequential Prisoner's Dilemma							
Uncooperative	0.392 (0.035)	0.371 (0.030)	0.364 (0.001)	0.364 (0.001)	0.021	0.028	0.028
Conditionally cooperative	0.503 (0.036)	0.470 (0.031)	0.500 (0.001)	0.500 (0.001)	0.033	0.002	0.002
Unconditionally cooperative	0.246 (0.031)	0.303 (0.028)	0.316 (0.001)	0.316 (0.001)	-0.057*	-0.069**	-0.069**
Public Goods Game							
Contribution level	25.732 (1.441)	26.992 (1.344)	27.532 (0.045)	27.531 (0.045)	-1.260	-1.780	-1.800

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 3. Results within Both-Male Dyads

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (1)-(3) (7)	Sign (8)	Diff. (1)-(4) (9)	Sign (10)
Risk Preference (Premium)										
Even-chance gain: (240, ½)	21.104 (2.293)	20.763 (1.937)	20.445 (0.084)	20.445 (0.084)	0.341		0.660		0.659	
Even-chance loss: (-60, ½)	2.618 (0.220)	2.621 (0.175)	2.567 (0.009)	2.567 (0.009)	-0.003		0.051		0.051	
Longshot gain: (800,0.01)	10.809 (1.388)	9.261 (0.870)	10.597 (0.043)	10.594 (0.043)	1.548		0.212		0.214	
Longshot loss: (-120, 0.02)	3.316 (0.355)	3.355 (0.270)	3.460 (0.012)	3.459 (0.012)	-0.038		-0.143		-0.143	
Ambiguity gain: (240, unknown)	49.272 (5.574)	57.582 (3.929)	55.690 (0.193)	55.694 (0.193)	-8.309		-6.418		-6.422	
Ambiguity loss: (-60, unknown)	6.206 (0.590)	5.236 (0.401)	5.789 (0.019)	5.556 (0.009)	0.970		0.417		0.419	
Social Preference										
Dictator Game										
Normalized giving	39.831 (4.108)	76.766 (17.549)	47.395 (0.413)	47.455(0.414)	-36.935*	-	-7.564		-7.624	
Ultimatum Game										
Offer	9.529 (1.891)	11.829 (1.816)	12.173 (0.084)	12.172 (0.084)	-2.299		-2.643		-2.643	
MAO	25.618 (2.843)	23.459 (1.967)	25.111 (0.099)	25.108 (0.098)	2.158		0.507		0.510	
Indignation	27.242 (1.602)	28.541 (1.722)	28.694 (0.109)	28.694 (0.109)	-1.299		-0.791		0.791	
Jealousy Game										
Jealousy	19.441 (4.861)	25.278 (3.980)	22.506 (0.173)	22.512 (0.173)	-5.837		-3.065		-3.071	
Trust Game										
Trust	18.765 (1.975)	22.883 (1.842)	23.711 (0.087)	23.709 (0.087)	-4.118*	-	-4.496**	-	-4.944**	-
Trustworthiness	0.380 (0.052)	0.396 (0.047)	0.411 (0.002)	0.411 (0.002)	-0.017		-0.031		-0.031	
Sequential Prisoner's Dilemma										
Uncooperative	0.191 (0.048)	0.315 (0.044)	0.306 (0.002)	0.306 (0.002)	-0.124**	-	-0.115**	-	-0.115**	-
Conditionally cooperative	0.412 (0.060)	0.432 (0.047)	0.486 (0.002)	0.486 (0.002)	-0.021		-0.074		-0.074	
Unconditionally cooperative	0.265 (0.054)	0.360 (0.046)	0.365 (0.002)	0.365 (0.002)	-0.096*	-	-0.101**	-	-0.101**	-
Public Goods Game										
Contribution level	26.559 (2.540)	26.198 (1.975)	28.477 (0.095)	28.473 (0.095)	0.361		-1.918		-1.913	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 4. Results within Both-Female Dyads

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (1)-(3) (7)	Sign (8)	Diff. (1)-(4) (9)	Sign (10)
Risk Preference (Premium)										
Even-chance gain: (240, ½)	23.213 (1.932)	20.397 (1.825)	23.156 (0.086)	23.150 (0.086)	2.816		0.058		0.063	
Even-chance loss: (-60, ½)	2.345 (0.181)	2.368 (0.184)	2.353 (0.008)	2.353 (0.008)	-0.023		-0.008		-0.008	
Longshot gain: (800,0.01)	12.997 (1.049)	13.373 (1.084)	12.474 (0.046)	12.476(0.046)	-0.377		0.522		0.521	
Longshot loss: (-120, 0.02)	3.637 (0.257)	3.089 (0.241)	3.486 (0.012)	3.485 (0.012)	0.548*	+	0.151		0.152	
Ambiguity gain: (240, unknown)	54.992 (3.895)	47.175 (3.475)	49.025 (0.161)	49.021 (0.161)	7.812*	+	5.968**	+	5.971**	+
Ambiguity loss: (-60, unknown)	5.897 (0.374)	5.465 (0.355)	5.329 (0.017)	5.329 (0.017)	0.432		0.568*	+	0.568*	+
Social Preference										
Dictator Game										
Normalized giving	54.165 (3.378)	44.465 (3.296)	51.334 (0.159)	51.319 (0.159)	9.700**	+	2.831		2.846	
Ultimatum Game										
Offer	8.200 (1.187)	5.797 (1.023)	6.298 (0.047)	6.297 (0.047)	2.403*	+	1.902**	+	1.903**	+
MAO	20.632 (1.625)	19.617 (1.604)	19.667 (0.074)	19.667 (0.074)	1.015		0.965		0.965	
Indignation	26.097 (2.035)	28.449 (2.644)	27.309 (0.097)	27.311 (0.097)	-2.351		-1.211		-1.213	
Jealousy Game										
Jealousy	34.304 (4.033)	27.758 (4.021)	28.465 (0.179)	28.464 (0.179)	6.546		5.839*	+	5.840*	+
Trust Game										
Trust	26.871 (1.765)	28.813 (2.056)	27.340 (0.086)	27.343 (0.086)	-1.942		-0.469		-0.472	
Trustworthiness	0.439 (0.049)	0.326 (0.048)	0.351 (0.002)	0.351 (0.002)	0.113*	+	0.088**	+	0.088**	+
Sequential Prisoner's Dilemma										
Uncooperative	0.496 (0.044)	0.414 (0.043)	0.409 (0.002)	0.409 (0.002)	0.083*	+	0.087**	+	0.087**	+
Conditionally cooperative	0.550 (0.044)	0.489 (0.044)	0.497 (0.002)	0.497 (0.002)	0.062		0.054		0.054	
Unconditionally cooperative	0.233 (0.037)	0.233 (0.037)	0.263 (0.002)	0.263 (0.002)	-0.001		-0.031		-0.031	
Public Goods Game										
Contribution level	25.088 (1.754)	27.719 (1.987)	26.558 (0.086)	26.560 (0.086)	-2.631		-1.470		-1.472	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 5. Results for Comparison between Both-Male and Both-Female Dyads

	Both-Male Friendship (1)	Both-Female Friendship (2)	Adjusted Both-Male Friendship (3)	Adjusted Both-Female Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (3)-(4) (7)	Sign (8)
Risk Preference (Premium)								
Even-chance gain: (240, ½)	21.104 (2.293)	23.213 (1.932)	0.659 (2.293)	0.063 (1.932)	-2.109		0.596	
Even-chance loss: (-60, ½)	2.618 (0.220)	2.345 (0.181)	0.051 (0.220)	-0.008 (0.181)	0.273		0.059	
Longshot gain: (800,0.01)	10.809 (1.388)	12.997 (1.049)	0.212 (1.388)	0.521 (1.049)	-2.188		-0.309	
Longshot loss: (-120, 0.02)	3.316 (0.355)	3.637 (0.257)	-0.143 (0.355)	0.152 (0.257)	-0.320		0.294	
Ambiguity gain: (240, unknown)	49.272 (5.574)	54.992 (3.895)	-6.418 (5.574)	5.971 (3.895)	-5.719		-12.389**	-
Ambiguity loss: (-60, unknown)	6.206 (0.590)	5.897 (0.374)	0.417 (0.590)	0.568 (0.374)	0.309		-0.150	
Social Preference								
Dictator Game								
Normalized giving	39.831 (4.108)	54.165 (3.378)	-7.624 (4.108)	2.846 (3.378)	-14.334***	-	-10.470**	-
Ultimatum Game								
Offer	9.529 (1.891)	8.200 (1.187)	-2.643 (1.891)	1.903 (1.187)	1.329		-4.545**	-
MAO	25.618 (2.843)	20.632 (1.625)	0.510 (2.843)	0.965 (1.625)	4.986		-0.455	
Indignation	29.485 (2.621)	26.098 (2.035)	0.791 (2.621)	-1.213 (2.035)	3.387		2.004	
Jealousy Game								
Jealousy	19.441 (4.861)	34.304 (4.033)	-3.071 (4.861)	5.840 (4.033)	-14.863**	-	-8.911*	-
Trust Game								
Trust	18.765 (1.975)	26.871 (1.765)	-4.944 (1.975)	-0.472 (1.765)	-8.106***	-	-4.472*	-
Trustworthiness	0.380 (0.052)	0.439 (0.049)	-0.031 (0.052)	0.088 (0.049)	-0.059		-0.119*	-
Sequential Prisoner's Dilemma								
Uncooperative	0.191 (0.048)	0.496 (0.044)	-0.115 (0.048)	0.087 (0.044)	-0.305***	-	-0.202***	-
Conditionally cooperative	0.412 (0.060)	0.550 (0.044)	-0.074 (0.060)	0.054 (0.044)	-0.139**	-	-0.128**	-
Unconditionally cooperative	0.265 (0.054)	0.233 (0.037)	-0.101 (0.054)	-0.031 (0.037)	0.032		-0.070	
Public Goods Game								
Contribution level	26.559 (2.540)	25.088 (1.754)	-1.913 (2.540)	-1.472 (1.754)	1.471		-0.441	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided *t*-tests. Adjustments in Columns (3)(4) are made by subtracting mean of measurements of no-relation dyads from measurements of friendships.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 6. Homophily and Friendship Formation

	(1)	(2)	(3)
Average normalized gap × Both male	-1.18e-3***	-9.83e-4*	-1.04e-3*
	(5.54e-4)	(5.46e-4)	(5.45e-4)
Average normalized gap × Both female	1.48e-3*	1.35e-3*	1.32e-3
	(7.76e-4)	(7.67e-4)	(7.60e-4)
Both male	-8.13e-4	-1.08e-4	-1.91e-5
	(2.39e-4)	(2.30e-4)	(2.71e-4)
Same province		5.81e-4	6.13e-4
		(4.86e-4)	(4.86e-4)
Same major		0.019***	0.019***
		(0.001)	(0.001)
Other controls	No	No	Yes
Obs.	116766	116766	116766
R^2	0.0002	0.017	0.017

Notes: The dependent variable is a binary variable encoded for friendships, taking value at 1 if friends and 0 otherwise. Other control variables include: single child, social activity participation, food taste, physical health, and stipends per month.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table 7. Homophily and Friendship Formation: Robustness Check

	(1)	(2)	(3)
Predicted gap × Both male	1.33e-3	7.54e-4	-7.75e-4
	(2.38e-3)	(2.38e-3)	(2.37e-3)
Predicted gap × Both female	8.41e-3**	7.55e-3**	6.51e-3*
	(3.53e-3)	(3.49e-3)	(3.53e-3)
Same province	No	6.58e-4	6.79e-4
		(5.10e-4)	(5.10e-4)
Same major	No	0.019***	0.019***
		(1.43e-3)	(1.43e-3)
Other controls	No	No	Yes
Obs.	108691	108691	108691
R^2	0.0002	0.016	0.017

Notes: The dependent variable is a binary variable encoded for friendships, taking value at 1 if friends and 0 otherwise. Other control variables include: single child, social activity participation, food taste, physical health, and stipends per month.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Appendix

A. Experimental Instructions

There are 7 tasks under individual decision-making and 6 tasks under social decision-making. Individual decision-making tasks are divided into three gain tasks and three loss tasks in addition to a task eliciting attitude towards temporal discounting. The social decision-making tasks are in the form of behavioral games. The first 4 tasks involve other-regarding behavior while the last two concern strategic thinking. We apply a random incentive mechanism so that one individual task and one social task will be chosen at random to be implemented.

I. Individual Decision-making

a) Attitude towards Even-chance Gain

This situation involves your guessing the color – red or black – of a card drawn randomly from a deck of 20 cards, comprising **10 black** cards and **10 red** cards.

Option A: You guess the color-black or red, and then draw a card from the 20 cards. If you make a correct guess, you receive ￥240; otherwise, you receive nothing. That is: **50% chance of receiving ￥240 and 50% chance of receiving ￥0.**

The **Option B** column lists the amounts you will receive for sure if you choose this option.

DECISION: For each of the 10 rows, please indicate your decision in the final column with a tick (√).

	Option A	Option B	Decision
1	50% of receiving ￥240, 50% of receiving	Receiving ￥60 for	A □ B □
2	50% of receiving ￥240, 50% of receiving	Receiving ￥76 for	A □ B □
3	50% of receiving ￥240, 50% of receiving	Receiving ￥92 for	A □ B □
4	50% of receiving ￥240, 50% of receiving	Receiving ￥100 for	A □ B □
5	50% of receiving ￥240, 50% of receiving	Receiving ￥108 for	A □ B □
6	50% of receiving ￥240, 50% of receiving	Receiving ￥116 for	A □ B □
7	50% of receiving ￥240, 50% of receiving	Receiving ￥120 for	A □ B □
8	50% of receiving ￥240, 50% of receiving	Receiving ￥124 for	A □ B □
9	50% of receiving ￥240, 50% of receiving	Receiving ￥132 for	A □ B □
10	50% of receiving ￥240, 50% of receiving	Receiving ￥140 for	A □ B □

b) Attitude towards Longshot Gain

This situation involves your drawing one card randomly from a deck of cards comprising **99 black cards** and **1 red card**.

Option A: If you draw the red card, you receive ￥800. Otherwise, you receive ￥0. That is: **1% chance of receiving ￥800 and 99% chance of receiving ￥0.**

The **Option B** column lists the amounts you will receive for sure if you choose this option.

DECISION: For each of the 10 rows, please indicate your decision in the final column with a tick (√).

	Option A	Option B	Decision
1	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 2.00 for	A □ B □
2	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 4.00 for	A □ B □
3	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 7.20 for	A □ B □
4	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 8.00 for	A □ B □
5	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 8.80 for	A □ B □
6	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 12.00 for	A □ B □
7	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 16.00 for	A □ B □
8	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 22.00 for	A □ B □
9	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 28.00 for	A □ B □
10	1% of receiving ¥ 800, 99% of receiving	Receiving ¥ 36.00 for	A □ B □

c) *Attitude towards Even-chance Loss*

This situation involves your guessing the color – red or black – of a card drawn randomly from a deck of 20 cards, comprising **10 black** cards and **10 red** cards.

Option A: You guess the color-black or red, and then draw a card from the 20 cards. If you make a correct guess, you lose ¥ 0; otherwise, you lose ¥ 60. That is: **50% chance of losing ¥ 60 and 50% chance of losing ¥ 0.**

The **Option B** column lists the amounts you will lose for sure if you choose this option.

DECISION: For each of the 10 rows, please indicate your decision in the final column with a tick (√).

	Option A	Option B	Decision
1	50% of losing ¥ 60, 50% of losing ¥ 0	Losing ¥ 32.00 for	A □ B □
2	50% of losing ¥ 60, 50% of losing ¥ 0	Losing ¥ 31.20 for	A □ B □
3	50% of losing ¥ 60, 50% of losing ¥ 0	Losing ¥ 30.40 for	A □ B □
4	50% of losing ¥ 60, 50% of losing ¥ 0	Losing ¥ 30.00 for	A □ B □
5	50% of losing ¥ 60, 50% of losing ¥ 0	Losing ¥ 29.60 for	A □ B □

6	50% of losing ￥60, 50% of losing ￥0	Losing ￥28.80 for	A □ B □
7	50% of losing ￥60, 50% of losing ￥0	Losing ￥28.00 for	A □ B □
8	50% of losing ￥60, 50% of losing ￥0	Losing ￥27.20 for	A □ B □
9	50% of losing ￥60, 50% of losing ￥0	Losing ￥26.40 for	A □ B □
10	50% of losing ￥60, 50% of losing ￥0	Losing ￥25.60 for	A □ B □

d) Attitude towards Longshot Loss

This situation involves your drawing one card randomly from a deck of cards comprising **49 black** cards and **1 red** card.

Option A: If you draw the red card, you lose ￥120. Otherwise, you lose ￥0. That is: **2% chance of losing ￥120 and 98% chance of losing ￥0.**

The **Option B** column lists the amounts you will lose for sure.

DECISION: For each of the 10 rows, please indicate your decision in the final column with a tick (√).

	Option A	**Option B**	**Decision**
1	2% of losing ￥120, 98% of losing	Losing ￥8.00 for sure	A □ B □
2	2% of losing ￥120, 98% of losing	Losing ￥6.00 for sure	A □ B □
3	2% of losing ￥120, 98% of losing	Losing ￥4.80 for sure	A □ B □
4	2% of losing ￥120, 98% of losing	Losing ￥4.00 for sure	A □ B □
5	2% of losing ￥120, 98% of losing	Losing ￥3.20 for sure	A □ B □
6	2% of losing ￥120, 98% of losing	Losing ￥2.80 for sure	A □ B □
7	2% of losing ￥120, 98% of losing	Losing ￥2.40 for sure	A □ B □
8	2% of losing ￥120, 98% of losing	Losing ￥2.00 for sure	A □ B □
9	2% of losing ￥120, 98% of losing	Losing ￥1.20 for sure	A □ B □
10	2% of losing ￥120, 98% of losing	Losing ￥0.40 for sure	A □ B □

e) Attitude towards Gain Ambiguity

This situation involves your drawing randomly one card from a deck of 20 cards with unknown proportions of red and black cards.

Option A: Guess the color of a card to be drawn randomly by you from a deck of 20 cards with unknown proportions of red and black cards. You will receive ￥240 if your guess is correct; and ￥0 otherwise.

The **Option B** column lists the amounts you can receive for sure if you choose this option.

DECISION: For each of the 10 rows, please indicate your decision in the final column with a tick (√).

	Option A	Option B	Decision
1	Betting on the color of a card drawn	Receiving ¥ 60 for sure	A □ B □
2	Betting on the color of a card drawn	Receiving ¥ 76 for sure	A □ B □
3	Betting on the color of a card drawn	Receiving ¥ 92 for sure	A □ B □
4	Betting on the color of a card drawn	Receiving ¥ 100 for	A □ B □
5	Betting on the color of a card drawn	Receiving ¥ 108 for	A □ B □
6	Betting on the color of a card drawn	Receiving ¥ 116 for	A □ B □
7	Betting on the color of a card drawn	Receiving ¥ 120 for	A □ B □
8	Betting on the color of a card drawn	Receiving ¥ 124 for	A □ B □
9	Betting on the color of a card drawn	Receiving ¥ 132 for	A □ B □
10	Betting on the color of a card drawn	Receiving ¥ 140 for	A □ B □

f) Attitude towards Loss Ambiguity

This situation involves your guessing the color – red or black – of a card drawn randomly from a deck of 20 cards with unknown proportions of **black** cards and **red** cards.

Option A: Guess the color of a card to be drawn randomly by you from a deck of 20 cards with unknown proportions of red and black cards. You will receive ¥ 0 if your guess is correct; otherwise, you will lose ¥ 60.

The **Option B** column lists the amounts you will lose for sure if you choose this option.

DECISION: For each of the 10 decisions in the final column, please tick (√) your choice.

	Option A	Option B	Decision
1	Betting on the color of a card drawn	Losing ¥ 32.00 for	A □ B □
2	Betting on the color of a card drawn	Losing ¥ 31.20 for	A □ B □
3	Betting on the color of a card drawn	Losing ¥ 30.40 for	A □ B □
4	Betting on the color of a card drawn	Losing ¥ 30.00 for	A □ B □
5	Betting on the color of a card drawn	Losing ¥ 29.60 for	A □ B □

6	Betting on the color of a card drawn	Losing ¥ 28.80 for	A □ B □
7	Betting on the color of a card drawn	Losing ¥ 28.00 for	A □ B □
8	Betting on the color of a card drawn	Losing ¥ 27.20 for	A □ B □
9	Betting on the color of a card drawn	Losing ¥ 26.40 for	A □ B □
10	Betting on the color of a card drawn	Losing ¥ 25.60 for	A □ B □

II. Social Decision-making

a) Dictator Game

In this situation, Person A is endowed a fixed amount of money, and is asked what amount of money he/she wants to send to Person B. Person B makes no decision. The amount of money Person A sends to Person B will be multiplied by a factor R. That is, Person B will receive R dollars for every dollar sent by Person A. The amounts that Person A and Person B receive depend solely on how Person A decides to allocate the money.

Example 1: (Endowed with ¥ 200: Keep ___, and Send ___ x 2) *Person A is endowed with ¥200 and R factor of 2. Person A can keep all of the ¥200, keep some and send the balance, or send all ¥200 to the anonymous and randomly matched Person B. In this example, Person B will receive ¥2 for every dollar sent. For example, if Person A keeps ¥200 and sends ¥0, Person A will get ¥200, and Person B will get ¥0. (If Person A keeps ¥0 and sends ¥200, Person A will get ¥0, and Person B will get ¥200 x 2 = ¥400.) Person A can choose any number between 0 and ¥200 to keep.*

Example 2: (Endowed with ¥ 120: Keep ___, and Send ___ x 1/3) *Person A is endowed with ¥120, and the ratio is 1/3. For every dollar Person A sends, Person B will receive 1/3 of a dollar.*

Your decision as Person A:

1. Endowed with ¥ 160: Keep _____, and Send _____ x 2.
2. Endowed with ¥ 80: Keep _____, and Send _____ x 3
3. Endowed with ¥ 160: Keep _____, and Send _____ x 1/2
4. Endowed with ¥ 240: Keep _____, and Send _____ x 1/3
5. Endowed with ¥ 120: Keep _____, and Send _____ x 1

Note: The amount of money you keep plus the amount of money you send **must** equal the amount of your endowment.

b) Ultimatum Game

This situation involves the division of ￥120 between you and another participant randomly paired with you. One will be **Person A** and the other will be **Person B**. Your role will be determined **at the end of the overall experiment**.

Person A is asked to propose **possible distributions of money** between him/her and Person B. At the same time, Person B states the **minimum acceptable amount** for him/her to accept the proposal. If the money proposed to Person B by Person A is lower than the minimum acceptable amount, Person B rejects Person A's proposed distribution and both receive ￥0. If the amount proposed by Person A to Person B is **NOT** lower than the minimum acceptable offer, Person A's proposal is accepted and will then be implemented, i.e., each receives the proposed amount.

Person A can propose that Person B receive any amount between ￥0 and ￥120 inclusive, keeping the balance. Person B can choose any minimum acceptable amount between ￥0 and ￥120 inclusive. Person A and Person B make their decisions without knowing each other's decision.

Your decision as Person A: Propose that Person B receives ￥_____, and keep the rest.

Your decision as Person B: Your minimum acceptable amount would be ￥___

c) Trust Game

Person A is endowed with ￥80 while Person B is endowed with no money. Person A has the option to send any part of ￥80 to **Person B**. The money Person A sends to person B is **tripled**; That is, for every ￥1 Person A sends, Person B receives ￥3. After receiving the tripled amount from Person A, Person B will have the option to send back to Person A any part of the tripled amount received. The payoffs of Person A and Person B are given by:

Person A: ￥80 – Amount sent to Person B + Amount sent by Person B back to Person A

Person B: Tripled amount received from Person A – Amount sent to Person A

Your decision as Person A: Amount to be sent to Person B is ____.

Your decision as Person B: For each possible sum of money which Person A might send to you, you would send the amount as indicated below to Person A.

Sent by A	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
Tripled	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180	192	204	216	228	240
To be sent by B																				

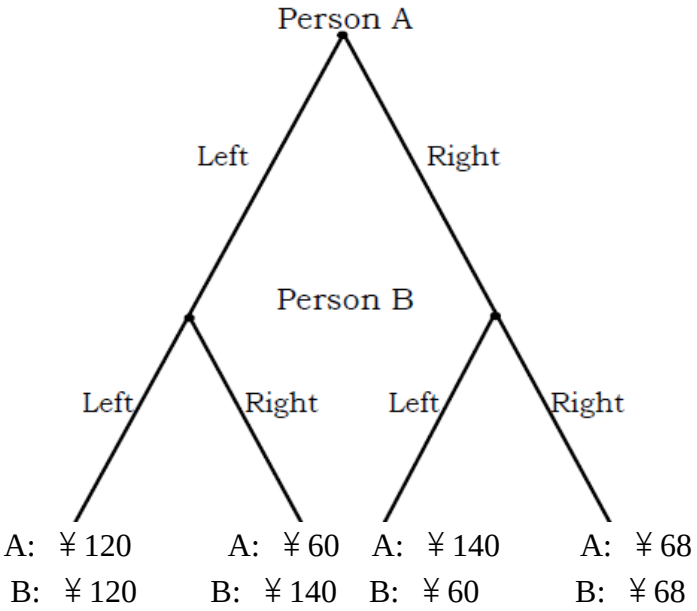
d) Jealousy Game

In this situation, Person A decides how much of ￥120 Person B will receive. Regardless of his/her decision, Person A always receives ￥0. Person B makes no decision and receives the amount decided by Person A.

Your decision as Person A: You receive nothing. Person B will receive _____ (between ￥0 and ￥120 inclusive).

e) Sequential Prisoners' Dilemma

Person A can choose either LEFT or RIGHT as illustrated in the diagram below. **Once Person A's decision is known**, Person B can choose between LEFT and RIGHT. Together the choices of Person A and Person B determine each person's payoff as shown. If both choose LEFT, they each receive ￥120. If both choose RIGHT, they each receive ￥68. If person A chooses RIGHT and B chooses LEFT, the payoffs are ￥140 and ￥60 respectively. If person A chooses LEFT and B chooses RIGHT, the payoffs are ￥60 and ￥140 respectively.



Before making your decisions please examine the diagram.

Note: Please tick (√) your decisions on LEFT or RIGHT below.

Your decision as Person A: □ LEFT □ RIGHT

Your decision as Person B if Person A had chosen LEFT: □ LEFT □ RIGHT

<u>Your decision</u> as Person B if Person A had chosen RIGHT: □ LEFT □ RIGHT

f) Public Goods Game

Person A and Person B are both endowed with ¥80. Each Person decides how much of ¥80 (from ¥0 to ¥80 inclusive) to deposit into a common pool and how much to keep. The deposits from both persons into the pool will be multiplied by 1.6. After both persons have made their deposit decisions without knowing each other's decisions, the amount in the pool (after multiplying the deposits by 1.6) will be divided equally between the two persons.

There are two parts to each participant's earning:

- Own endowment of ¥80 minus own deposit to the pool.
- The person's share of the common pool, i.e., half of 1.6 x total deposits by both persons.

<u>Illustrative exercises (**Answer key at bottom of page)**</u>. *Here are some exercises to help you understand the decision situation.*
1. Both deposit zero to the pool. Person A's earnings is _____. Person B's earnings is _____.
2. Both persons deposit ¥80 to the pool. Person A's earnings is ____, Person B's earnings is _____.

After the decision sheets have been collected, your earnings will be computed based on both your decision and that of the other participant's decision.

Decision: I will deposit _____ (between ¥0 and ¥80 inclusive) to the common pool.

Answer Key

80; 80; 128; 128

B. Tables

Table A1. Results for Both-Male Dyads of the Same Major

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (1)-(3) (7)	Sign (8)	Diff. (1)-(4) (9)	Sign (10)
Risk Preference (Premium)										
Even-chance gain: (240, ½)	19.148 (2.332)	21.278 (2.128)	19.770(0.336)	19.814 (0.332)	-2.131		-0.622		-0.667	
Even-chance loss: (-60, ½)	2.551 (0.220)	2.666(0.186)	2.485(0.035)	2.490 (0.035)	-0.115		0.066		0.061	
Longshot gain: (800,0.01)	10.700 (1.461)	8.871(0.902)	10.089(0.173)	10.054 (0.170)	1.829		0.611		0.646	
Longshot loss: (-120, 0.02)	3.436 (0.381)	3.262(0.286)	3.464(0.050)	3.458 (0.050)	0.174		-0.028		-0.022	
Ambiguity gain: (240, unknown)	49.258(5.771)	58.224(4.179)	57.395(0.802)	57.420 (0.788)	-8.966		-8.137*	-	-8.161*	-
Ambiguity loss: (-60, unknown)	6.123(0.622)	5.551(0.428)	5.502(0.075)	5.503 (0.073)	0.572		0.621		0.619	
Social Preference										
Dictator Game										
Normalized giving	39.276(4.233)	70.258(16.110)	48.885(1.745)	49.514 (1.759)	-30.983*	-	-9.609		-10.238	
Ultimatum Game										
Offer	8.274(1.854)	12.214 (1.969)	13.260(0.353)	13.230 (0.347)	-3.940*	-	-4.986**	-	-4.955**	-
MAO	24.226(2.929)	22.796 (2.124)	24.609(0.391)	24.555 (0.385)	1.430		-0.382		-0.329	
Indignation	29.267(2.759)	29.969(2.561)	28.032(0.447)	28.088 (0.440)	-0.702		1.235		1.178	
Jealousy Game										
Jealousy	18.097(4.938)	25.264(4.334)	23.374(0.715)	23.430 (0.706)	-7.168		-5.277		-5.333	
Trust Game										
Trust	17.871(2.107)	23.429(1.922)	24.304(0.363)	24.279 (0.357)	-5.558**	-	-6.433***	-	-6.408***	-
Trustworthiness	0.393(0.054)	0.406(0.049)	0.407(0.009)	0.407 (0.009)	-0.013		-0.014		-0.014	
Sequential Prisoner's Dilemma										
Uncooperative	0.194(0.051)	0.306(0.047)	0.270(0.008)	0.271 (0.008)	-0.113*	-	-0.077*	-	-0.078*	-
Conditionally cooperative	0.435(0.063)	0.439(0.050)	0.448(0.009)	0.448 (0.009)	-0.003		-0.012		-0.012	
Unconditionally cooperative	0.274(0.057)	0.388(0.049)	0.338(0.008)	0.340 (0.008)	-0.114*	-	-0.064		-0.065	
Public Goods Game										
Contribution level	25.790(2.590)	26.949(2.171)	28.832(0.394)	28.777 (0.388)	-1.159		-3.042		-2.987	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A2. Results for Both-Female Dyads of the Same Major

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (1)-(3) (7)	Sign (8)	Diff. (1)-(4) (9)	Sign (10)
Risk Preference (Premium)										
Even-chance gain: (240, ½)	23.573(1.991)	19.505(1.957)	23.495(0.292)	23.424(0.289)	4.068*	+	0.078		0.148	
Even-chance loss: (-60, ½)	2.400(0.183)	2.276(0.198)	2.293(0.026)	2.292(0.026)	0.124		0.107		0.108	
Longshot gain: (800,0.01)	13.084(1.072)	12.406(1.134)	12.230(0.147)	12.233(0.146)	0.678		0.854		0.851	
Longshot loss: (-120, 0.02)	3.669(0.263)	3.008(0.260)	3.543(0.038)	3.533(0.038)	0.661**	+	0.126		0.136	
Ambiguity gain: (240, unknown)	54.131(3.988)	46.324(3.684)	51.966(0.544)	51.865(0.539)	7.807*	+	2.165		2.266	
Ambiguity loss: (-60, unknown)	5.747(0.370)	5.543(0.399)	5.405(0.055)	5.408(0.055)	0.204		0.342		0.339	
Social Preference										
Dictator Game										
Normalized giving	53.505(3.479)	43.558(3.545)	51.168(0.516)	51.027(0.510)	9.947**	+	2.337		2.478	
Ultimatum Game										
Offer	7.875(1.224)	4.607(0.894)	7.091(0.167)	7.045(0.164)	3.268**	+	0.784		0.830	
MAO	20.625(1.681)	19.953(1.796)	21.522(0.257)	21.493(0.255)	0.672		-0.897		-0.868	
Indignation	25.432(2.041)	28.538(3.012)	24.224(0.275)	24.304(0.276)	-3.106		1.208		1.129	
Jealousy Game										
Jealousy	34.692(4.150)	31.065(4.673)	29.231(0.587)	29.265(0.583)	3.626		5.461*	+	5.427*	+
Trust Game										
Trust	26.891(1.796)	28.941(2.285)	27.781(0.282)	27.803(0.280)	-2.050		-0.890		-0.912	
Trustworthiness	0.428(0.048)	0.333(0.054)	0.367(0.007)	0.366(0.006)	0.095*	+	0.062*	+	0.062*	+
Sequential Prisoner's Dilemma										
Uncooperative	0.500(0.045)	0.455(0.047)	0.423(0.006)	0.424(0.006)	0.045		0.077**	+	0.076**	+
Conditionally cooperative	0.540(0.045)	0.482(0.047)	0.490(0.006)	0.490(0.006)	0.058		0.051		0.051	
Unconditionally cooperative	0.242(0.039)	0.250(0.041)	0.221(0.005)	0.221(0.005)	-0.008		0.021		0.021	
Public Goods Game										
Contribution level	25.383(1.774)	26.832(2.181)	27.548(0.284)	27.535(0.282)	-1.448		-2.164		-2.151	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A3. Results within Randomly Matched Both-Male Dyads

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (1)-(3) (7)	Sign (8)	Diff. (1)-(4) (9)	Sign (10)
Risk Preference (Premium)										
Even-chance gain: (240, ½)	19.138(2.239)	17.835(1.742)	20.453(0.084)	20.448(0.084)	1.304		-1.315		-1.309	
Even-chance loss: (-60, ½)	2.650(0.245)	2.774(0.201)	2.566(0.009)	2.567(0.009)	-0.124		0.084		0.083	
Longshot gain: (800,0.01)	9.659(1.137)	10.171(0.923)	10.596(0.043)	10.595(0.043)	-0.516		-0.937		-0.937	
Longshot loss: (-120, 0.02)	3.625(0.363)	3.495(0.269)	3.459(0.012)	3.459(0.012)	0.130		0.166		0.166	
Ambiguity gain: (240, unknown)	61.701(5.860)	54.955(4.461)	55.680(0.193)	55.679(0.193)	6.747		6.021		6.023	
Ambiguity loss: (-60, unknown)	5.644(0.576)	5.717(0.442)	5.789(0.019)	5.789(0.019)	-0.073		-0.145		-0.144	
Social Preference										
Dictator Game										
Normalized giving	63.426(17.698)	38.214(3.678)	47.445(0.414)	47.426(0.413)	25.212**	+	15.981**	+	16.000***	+
Ultimatum Game										
Offer	14.824(2.733)	10.540(1.609)	12.168(0.084)	12.165(0.084)	4.283		2.655		2.658	
MAO	27.338(2.882)	24.225(2.225)	25.107(0.099)	25.105(0.098)	3.113		2.231		2.233	
Indignation	30.191(3.770)	29.297(2.088)	28.692(0.109)	28.693(0.109)	0.894		1.500		1.498	
Jealousy Game										
Jealousy	26.397(5.618)	21.653(3.841)	22.505(0.173)	22.503(0.173)	4.744		3.892		3.894	
Trust Game										
Trust	29.500(2.785)	24.613(1.943)	23.693(0.087)	23.695(0.087)	4.887*	+	5.806***	+	5.805***	+
Trustworthiness	0.463(0.064)	0.492(0.053)	0.411(0.002)	0.411(0.002)	-0.029		0.053		0.052	
Sequential Prisoner's Dilemma										
Uncooperative	0.309(0.056)	0.351(0.046)	0.306(0.002)	0.306(0.002)	-0.043		0.003		0.003	
Conditionally cooperative	0.456(0.061)	0.523(0.048)	0.486(0.002)	0.486(0.002)	-0.067		-0.030		-0.030	
Unconditionally cooperative	0.353(0.058)	0.378(0.046)	0.365(0.002)	0.365(0.002)	-0.025		-0.012		-0.012	
Public Goods Game										
Contribution level	29.088(2.568)	28.982(1.874)	28.468(0.095)	28.469(0.095)	0.106		0.620		0.619	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A4. Results within Randomly Matched Both-Female Dyads

	Friendship (1)	Acquaintanceship (2)	No Relation (3)	Non-Friendship (4)	Diff. (1)-(2) (5)	Sign (6)	Diff. (1)-(3) (7)	Sign (8)	Diff. (1)-(4) (9)	Sign (10)
Risk Preference (Premium)										
Even-chance gain: (240, ½)	28.293(2.150)	25.818(2.074)	23.134(0.086)	23.139(0.086)	2.475		5.159***	+	5.153***	+
Even-chance loss: (-60, ½)	2.511(0.189)	2.315(0.173)	2.353(0.008)	2.353(0.008)	0.196		0.158		0.158	
Longshot gain: (800,0.01)	12.036(1.023)	12.852(0.985)	12.477(0.046)	12.478(0.046)	-0.816		-0.442		-0.442	
Longshot loss: (-120, 0.02)	3.787(0.274)	3.888(0.252)	3.484(0.012)	3.485(0.012)	-0.101		0.303		0.302	
Ambiguity gain: (240, unknown)	45.145(3.728)	53.008(3.697)	49.033(0.161)	49.041(0.161)	-7.863*	-	-3.888		-3.896	
Ambiguity loss: (-60, unknown)	6.072(0.391)	5.416(0.383)	5.328(0.017)	5.328(0.017)	0.657		0.744**	+	0.744**	+
Social Preference										
Dictator Game										
Normalized giving	48.314(3.672)	51.558(3.446)	51.331(0.159)	51.331(0.159)	-3.244		-3.017		-3.017	
Ultimatum Game										
Offer	6.072(1.000)	6.504(1.014)	6.301(0.047)	6.302(0.047)	-0.432		-0.229		-0.230	
MAO	20.456(1.603)	23.122(1.668)	19.660(0.074)	19.667(0.074)	-2.666		0.796		0.789	
Indignation	26.040(1.810)	26.798(2.229)	27.312(0.097)	27.311(0.097)	-0.758		-1.272		-1.271	
Jealousy Game										
Jealousy	32.871(4.343)	31.031(4.144)	28.461(0.179)	28.467(0.179)	1.840		4.409		4.404	
Trust Game										
Trust	25.714(1.844)	25.651(1.693)	27.349(0.086)	27.345(0.086)	0.063		-1.635		-1.631	
Trustworthiness	0.340(0.043)	0.323(0.047)	0.352(0.002)	0.352(0.002)	0.016		-0.012		-0.012	
Sequential Prisoner's Dilemma										
Uncooperative	0.419(0.044)	0.383(0.042)	0.409(0.002)	0.409(0.002)	0.035		0.010		0.010	
Conditionally cooperative	0.581(0.044)	0.481(0.043)	0.497(0.002)	0.497(0.002)	0.100*	+	0.085**	+	0.085**	+
Unconditionally cooperative	0.233(0.037)	0.226(0.036)	0.263(0.002)	0.263(0.002)	0.007		-0.031		-0.031	
Public Goods Game										
Contribution level	25.320(1.859)	25.481(1.831)	26.562(0.086)	26.560(0.086)	-0.161		-1.242		-1.240	

Notes: Columns (1)-(4) display each variable's mean of different groups, and standard errors are in the parentheses. The three "Diff." columns report results of two-sample one-sided t-tests.
* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Table A5. Predictor for Degrees of Homophily

Dependent Variable: Average Absolute Gaps	
province_dummy1	-0.077***
	(0.023)
province_dummy2	-0.107***
	(0.022)
province_dummy3	-0.108***
	(0.023)
province_dummy4	0.090***
	(0.024)
province_dummy5	-0.066**
	(0.026)
province_dummy6	-0.095***
	(0.022)
province_dummy7	-0.082***
	(0.021)
province_dummy8	-0.241***
	(0.025)
province_dummy9	-0.128***
	(0.023)
province_dummy10	-0.059***
	(0.021)
province_dummy11	-0.143***
	(0.021)
province_dummy12	-0.062***
	(0.021)
province_dummy13	-0.128***
	(0.021)
province_dummy14	-0.035
	(0.022)
province_dummy15	0.003
	(0.022)
province_dummy16	-0.095***
	(0.022)
province_dummy17	-0.115***
	(0.021)
province_dummy18	-0.117***
	(0.021)
province_dummy19	-0.120***
	(0.021)
province_dummy20	-0.073***
	(0.022)
province_dummy21	0
	(omitted)

province_dummy22	-0.080***
	(0.021)
province_dummy23	-0.110***
	(0.021)
province_dummy24	-0.105***
	(0.022)
province_dummy25	-0.049**
	(0.022)
province_dummy26	0.109***
	(0.031)
province_dummy27	-0.072***
	(0.023)
province_dummy28	-0.071***
	(0.022)
province_dummy29	-0.102***
	(0.022)
province_dummy30	-0.081***
	(0.022)
province_dummy31	-0.077***
	(0.025)
province_dummy32	-0.056**
	(0.023)
province_f_dummy1	0.233***
	(0.019)
province_f_dummy2	0.139***
	(0.016)
province_f_dummy3	0.094***
	(0.017)
province_f_dummy4	0.359***
	(0.02)
province_f_dummy5	-0.112
	(0.085)
province_f_dummy6	0.172***
	(0.017)
province_f_dummy7	0.178***
	(0.016)
province_f_dummy8	0
	(omitted)
province_f_dummy9	0.088***
	(0.018)
province_f_dummy10	0.164***
	(0.016)
province_f_dummy11	0.109***
	(0.016)

province_f_dummy12	0.190***
	(0.016)
province_f_dummy13	0.175***
	(0.016)
province_f_dummy14	0.189***
	(0.017)
province_f_dummy15	0.203***
	(0.018)
province_f_dummy16	0.128***
	(0.016)
province_f_dummy17	0.130***
	(0.016)
province_f_dummy18	0.124***
	(0.016)
province_f_dummy19	0.136***
	(0.016)
province_f_dummy20	0.158***
	(0.016)
province_f_dummy21	0.141***
	(0.02)
province_f_dummy22	0.160***
	(0.016)
province_f_dummy23	0.127***
	(0.016)
province_f_dummy24	0.188***
	(0.017)
province_f_dummy25	0.173***
	(0.016)
province_f_dummy26	0.155***
	(0.022)
province_f_dummy27	0.158***
	(0.017)
province_f_dummy28	0.097***
	(0.017)
province_f_dummy29	0.151***
	(0.017)
province_f_dummy30	0.168***
	(0.017)
province_f_dummy31	0.258***
	(0.021)
province_f_dummy32	0.124***
	(0.018)
race_dummy1	0
	(omitted)

race_dummy2	-0.125***
	(0.04)
race_dummy3	-0.157***
	(0.039)
race_dummy4	-0.113***
	(0.04)
race_dummy5	0.112***
	(0.042)
race_dummy6	-0.132***
	(0.044)
race_dummy7	-0.408***
	(0.042)
race_dummy8	-0.123***
	(0.038)
race_dummy9	-0.255***
	(0.04)
race_dummy10	-0.210***
	(0.042)
race_dummy11	-0.281***
	(0.042)
race_dummy12	0.036
	(0.054)
race_dummy13	-0.315***
	(0.043)
race_dummy14	-0.089**
	(0.039)
race_dummy15	-0.157***
	(0.04)
race_dummy16	-0.197***
	(0.043)
race_f_dummy1	0.351***
	(0.044)
race_f_dummy2	0.324***
	(0.042)
race_f_dummy3	0.307***
	(0.041)
race_f_dummy4	0.248***
	(0.041)
race_f_dummy5	0.370***
	(0.044)
race_f_dummy6	0.271***
	(0.047)
race_f_dummy7	0
	(omitted)

race_f_dummy8	0.250***
	(0.041)
race_f_dummy9	0.261***
	(0.045)
race_f_dummy10	0.215***
	(0.055)
race_f_dummy11	0.126**
	(0.049)
race_f_dummy12	0.401***
	(0.044)
race_f_dummy13	0.141***
	(0.044)
race_f_dummy14	0.255***
	(0.043)
race_f_dummy15	0.269***
	(0.042)
race_f_dummy16	0.339***
	(0.043)
childhood_health_dummy1	0.018***
	(0.003)
childhood_health_dummy2	0
	(omitted)
childhood_health_dummy3	0.003
	(0.002)
childhood_health_f_dummy1	-0.005**
	(0.003)
childhood_health_f_dummy2	0
	(omitted)
childhood_health_f_dummy3	0.003
	(0.002)
family_son_preference_dummy1	-0.087***
	(0.007)
family_son_preference_dummy2	0
	(omitted)
family_son_preference_dummy3	-0.021***
	(0.003)
family_son_preference_dummy4	-0.019***
	(0.003)
family_son_preference_f_dummy1	0
	(omitted)
family_son_preference_f_dummy2	0.087***
	(0.008)
family_son_preference_f_dummy3	0.059***
	(0.008)

family_son_preference_f_dummy4	0.050***
	(0.008)
mother_occupation_dummy1	0
	(omitted)
mother_occupation_dummy2	0.009***
	(0.003)
mother_occupation_dummy3	0.031***
	(0.003)
mother_occupation_f_dummy1	0
	(omitted)
mother_occupation_f_dummy2	-0.009***
	(0.003)
mother_occupation_f_dummy3	0.026***
	(0.003)
father_occupation_dummy1	0.079***
	(0.003)
father_occupation_dummy2	0.043***
	(0.003)
father_occupation_dummy3	0
	(omitted)
father_occupation_f_dummy1	0.001
	(0.003)
father_occupation_f_dummy2	0
	(omitted)
father_occupation_f_dummy3	-0.044***
	(0.003)
social_f	-0.001*
	(0)
Social	0.002***
	(0)
family_calamity_dummy1	-0.005**
	(0.002)
family_calamity_dummy2	0
	(omitted)
family_calamity_f_dummy1	-0.005***
	(0.002)
family_calamity_f_dummy2	0
	(omitted)
single_child_dummy1	0.009***
	(0.002)
single_child_dummy2	0
	(omitted)
single_child_f_dummy1	0.003
	(0.002)

single_child_f_dummy2	0
	(omitted)
family_income	0.003***
	(2.519e-4)
family_income2	-0.000***
	(4.55e-6)
family_income_f	0.001***
	(2.512e-4)
family_income_f2	0
	(4.60e-6)
_cons	-0.336***
	(0.063)
N	108691
adj. R-sq	0.056

Note: Dummy variables "province" refer to respondents' hometown. Dummy variables "race" refers to respondents'race. "Family_son_preference" encodes whether one's family is partial to a son. "mother_occupation" and "father occupation" are dummy variables account for three types of occupations: a job in public sectors, a job in private sections, and self-employment. "social" denotes respondents' rating on their own social activity participation level, ranging from 1 to 10. "Family_calamity" is a dummy variable equal to one if one has a relative passed away last year. "Single_child" takes one if the respondent does not have any siblings. "Family_income" is self-reported family income.

* p < 0.1, ** p < 0.05, *** p < 0.01.