Social Science Research xxx (2017) 1–10

Contents lists available at ScienceDirect

Social Science Research

journal homepage: www.elsevier.com/locate/ssresearch

Full Length Article

Preference effects on friendship choice: Evidence from an online field experiment

Siyu Yu [a], Yu Xie [*, b]

[a] Department of Management and Organization, 44 W 4th St, New York University, New York, NY, 10012, United States
[b] Princeton University, Department of Sociology, 186 Wallace Hall, Princeton, NJ, 08544, United States

ARTICLE INFO

Article history:
Received 22 April 2013
Received in revised form 29 November 2016
Accepted 27 January 2017
Available online xxx

Keywords:
Friendship preference
Field experiment
Identity
Status
Social network service

ABSTRACT

Observed friendship choices are constrained by social structures and thus problematic indicators for underlying personal preferences. In this paper, we report on a study demonstrating the causal effects of preference in friendship choice based on an online field experiment. Specifically, we tested two important forces that govern friendship choices: preference for shared group identity (operationalized as the desire to befriend others sharing the same place-of-origin identity) and preference for high status (operationalized as the desire to befriend others from high-status institutions). Using an online field experiment in one of the largest social network service websites in China, we investigated the causal preference effects of these two forces free from structural constraints. The results of our study confirm the preference effects on friendship choice in both of the two dimensions we tested.

1. Introduction

Human beings have an intrinsic need to form and maintain interpersonal social bonds (Freud, 1930). In the words of British poet John Donne, "No man is an island" (1975)[1624]. Of all forms of association in modern society, friendship is perhaps one of the most socially significant. In contrast with other important forms of association (i.e., family kinship, coworkers, etc.), friendship is unique in being personal, voluntary, and flexible. Due to its informal nature, friendship is a good indicator for measuring social distances (González et al., 2007; Huckfeldt, 1983; Kinzler et al., 2009; Verbrugge, 1977; Vigil, 2007; Zeng and Xie, 2008).

However, the causal effect of personal preferences on friendship choice cannot be distinctly identified in observational data, because observed friendship patterns result from the combined forces of personal preferences and structural constraints (e.g., Zeng and Xie, 2008). In this paper, we investigate the causal role of preference in friendship choice in terms of two dimensions: (1) preference for shared group identity and (2) preference for high status. We empirically tested the preference effects with an online field experiment on one of the largest social network service (SNS) websites in China. The results of our study confirm that people prefer to befriend others sharing greater overlaps of place of origin and those from high status institutions.

* Corresponding author. Princeton University, Department of Sociology, 186 Wallace Hall, Princeton, NJ 08544, United States.
E-mail addresses: syu2@stern.nyu.edu (S. Yu), yuxie@princeton.edu (Y. Xie).

http://dx.doi.org/10.1016/j.ssresearch.2017.01.006
0049-089X/

2. Theoretical background

2.1. Uncovering unconstrained friendship preferences confounded by structural constraints

Friendship is widely observed, but it does not necessarily reflect individuals' genuine preferences. For example, suppose that most in-school friends of black students in a U.S. high school are blacks. We cannot simply conclude that black students in this school prefer to have blacks as friends. If most of the students in the school are black, even when students are color-blind in choosing friends, most in-school friends would, albeit by chance, be blacks. This example illustrates the importance of "structural constraints" in friendship choice, which has long been recognized in sociology. Social structures, such as schools, neighborhoods, organizations, or metropolitan areas (Feld, 1981; Kornrich, 2009; Kossinets and Watts, 2009; McPherson and Smith-Lovin, 1987; Mouw and Entwisle, 2006; Tilly, 1999; Wimmer and Lewis, 2010) create social boundaries between individuals and impose structural constraints on friendship formation. Another structural constraint is triad closure (Goodreau et al., 2009; Wimmer and Lewis, 2010), such that two individuals tend to be friends merely because both of them are friends with a third common friend. In sum, observed friendship patterns are shaped by both preference and structural constraints (Zeng and Xie, 2008).

Because of potential confounding between these two factors, separating out the sheer effects of individual preferences from structural constraints has long been of central interest in the literature on friendship choice. For instance, researchers have adapted dyad analysis to eliminate the confounding effect of group size (Hallinan and Teixeira, 1987; Moody, 2001; Quillian and Campbell, 2003; Mouw and Entwisle, 2006), controlled for individual-level structural variations, such as shared school activities (Moody, 2001) and school segregation (Mouw and Entwisle, 2006), and used exponential random graph models to take triad closure into account (Goodreau, 2007; Goodreau et al., 2009; Wimmer and Lewis, 2010). Despite these efforts, empirically estimating the causal effects of preference free of the confounding of structural constraints remains a methodological challenge (e.g., Currarini et al., 2010; Moody, 2001; Mayer and Puller, 2008; Quillian and Campbell, 2003; Mouw and Entwisle, 2006; Wimmer and Lewis, 2010; Zeng and Xie, 2008).

Previous efforts at separating out the influences of structural constraints have all essentially relied on statistical controls in observational data. As is well acknowledged in the causal inference literature, however, the method of statistical controls relies on an unverifiable assumption of ignorability, i.e., there are no unobserved confounders once the relevant covariates are controlled for (Morgan and Winship, 2007). For studies of friendship choice, the ignorability assumption means assuming that individuals with different preferences have no systematic differences in structural constraints after all contextual variations have been properly measured and included in the statistical analyses. This is a very strong, unrealistic, and unverifiable assumption. Zeng and Xie (2008) recognized this in their methodological discussion on separating out structural constraints and personal preferences in friendship choice. They implemented certain forms of structural constraints based on ad hoc assumptions on observed data pertaining to nominations of in-school friends in the National Longitudinal Study of Adolescent to Adult Health (Add Health). Only after imposing such a *priori* structural constraints were Zeng and Xie able to study preference free of structural constraints.

Zeng and Xie (2008) pointed out that when structural constraint is equalized for all actors, choices are unconstrained. They stated, axiomatically, that unconstrained choices are driven solely by preferences. Importantly, they realized that unconstrained choices cannot be found in real life and thus proposed a thought experiment to define unconstrained choices:

> In unconstrained choice, choice is based purely on preferences for alternatives under consideration. A prime example of unconstrained choice is a consumer survey of product preference, where respondents are presented with a hypothetical choice situation and asked to make one or more selections from a list of products. For example, they may be given a choice of Coke and Pepsi and asked which soft drink they prefer (Zeng and Xie, 2008, p.618).

In this paper, we report on a study that follows up on Zeng and Xie's basic idea in uncovering personal preferences for friends from unconstrained choices. We conducted an online field experiment in which we randomly assigned characteristics of potential friends to our subjects so as to eliminate the confounding effects of structural constraints. The results from the field experiment provide strong evidence for the causal effects of preference on friendship choice.

2.2. Preference for shared group identity

One important force driving people's friendship choices is the preference for shared group identity. Group identity has been defined as an individual's sense of self derived from perceived membership in social groups (Tajfel and Turner, 1979). This preference for shared identity is deeply rooted in people's fundamental need to belong (e.g., Baumeister and Leary, 1995; Maslow, 1943). Maslow, in his hierarchy of needs, placed the belonging need immediately above primitive needs such as physiological and safety needs. Specifically, one critical means of fulfilling the belonging need is through confirming group identity (Brewer, 1995). In addition, bonding with one's own group members also helps enhance self-esteem and reduces subjective uncertainty within the social world (Turner, 1975; Turner et al., 1987; Abrams and Hogg, 1990; Long and Spears, 1997; Hogg and Mullin, 1999; Terry and Hogg, 2000; Stets and Burke, 2000). Therefore, by finding friends who share their group identity, individuals are able to reaffirm that identity and thus enhance their sense of belonging, self-esteem, and sense of control.

Hypothesis 1. *Individuals have a genuine preference for befriending someone who shares the same group identity.*

Please cite this article in press as: Yu, S., Xie, Y., Preference effects on friendship choice: Evidence from an online field experiment, Social Science Research (2017), http://dx.doi.org/10.1016/j.ssresearch.2017.01.006

To quote an old adage, "Birds of a feather flock together." It has long been noted that friends tend to fall into the same social categories(for a review, see McPherson et al., 2001) in terms of gender, race, ethnicity, age, class background, educational attainment, etc. However, as we noted above, the causal effect of preference for shared group identity in friendship choice is still subject to debate, as persons with the same observed characteristics tend to be in similar social structures—confounding structural constraints(Zeng and Xie, 2008).

2.3. Preference for high status

Another important factor guiding people's friendship choices is the preference for high status. Status is defined as the extent to which an individual or group is respected or admired by others (e.g., Ridgeway and Walker, 1995). Prior theorists have argued that the desire for status is a fundamental human motive (e.g., Anderson et al., 2015; Fiske, 2012; Maslow, 1943). Maslow (1943) noted that human beginnings have an intrinsic desire for respect or esteem from other people. Evolutionary scholars have argued that the desire for status has provided individuals with adaption benefits throughout evolutionary history (e.g., Barkow, et al., 1975; Buss, 1999). High status comes with a variety of instrumental, social, and psychological benefits, such as greater access to scarce resources (Savin-Williams, 1979), greater prestige (Sherif et al., 1955), more autonomy and control (Berger et al., 1980), elevated self-esteem (Barkow et al., 1975) and subjective well-being (Anderson et al., 2012), and less mental and physical illness (Adler et al., 2000; Marmot, 2004).

Ordinary people prefer to befriend high-status others for several reasons. First, people prefer to have high-status friends so as to enhance their own status in the eyes of others. An individual's status in a group is based on the perception of this individual's importance to the group (Emerson, 1962; Keltner et al., 2008; Willer, 2009). Having high-status friends can be perceived as a sign of competence, i.e., the potential to use these valuable social connections to achieve other goals.

Second, befriending high-status others can be an end itself. High-status people usually have superior ability, wealth, power, and positions in the social hierarchy (Lin, 1999). Thus, high-status friends can serve as a form of social capital to the focal individual. Given this, befriending high status others is a rational strategy for maximizing the profit associated with spending one's limited time and energy to build a friendship network. Empirically, studies have found that children tend to befriend other children with higher peer-assessed popularity (Hardy et al., 2002). Zeng and Xie (2008) also report that in adolescent friendships, students are likely to befriend those of high status in terms of age, grade point average (GPA), and socio-economic status (SES) relative to those of other students.

For the above reasons, we hypothesize:

Hypothesis 2. *Individuals have a genuine preference for befriending someone having high status.*

3. Research design

3.1. The need for a field experiment

In the preceding two subsections, we reviewed the existing literature that motivated our focus on the two preference dimensions governing friendship choice – preference for shared group identity and preference for high status. However, observed friendship patterns are always confounded by structural constraints (Zeng and Xie, 2008). As we discussed above, individuals in actual social settings are segregated into limited social circles by social structures (e.g., McPherson and Smith-Lovin, 1987; Mouw and Entwisle, 2006), in which their exposure to potential friends is constrained. Furthermore, the phenomenon of triad closure (Goodreau et al., 2009; Wimmer and Lewis, 2010) also creates constraints to individuals' friendship choices, as their choice basis is predetermined by common friends.

In our study, we designed a field experiment to reveal these casual preference effects on friendship choice. The main advantage of a field experiment is that it enables us to equalize potential friend exposure and thus to eliminate the confounding effects of structural constraints in uncovering true preference effects. Another advantage of an experimental design is that it allows us to orthogonally manipulate the two preference dimensions in friendship choice, so as to understand the unique effects of each dimension.

3.2. Social network sites, online friendship, and renren.com

Social network sites (SNSs) such as Facebook, MySpace, Friendster, and CyWorld are some of the most popular online destinations created in recent years (Young and Quan-Haase, 2009). SNSs allow individuals to present themselves according to their preferred image, to maintain their pre-existing social networks, and to build new connections based on shared characteristics, interests, political views, or activities (Boyd and Ellison, 2007; Ellison et al., 2007; Parks and Floyd, 1996; Wellman, 1996; Walther and Parks, 2002). SNSs also connect individuals in various specific areas, such as romance (e.g., Friendster.com), business (e.g., LinkedIn.com), and shared interests (e.g., MySpace.com). The blossoming of SNSs has triggered academic research in different fields, such as identity construction and expression (Boyd and Heer, 2006), racial homophilly (Mayer and Puller, 2008; Wimmer and Lewis, 2010), social capital building and maintenance (Ellison et al., 2007), social grooming (Tufekci, 2008), information disclosure (Gross and Acquisti, 2005), personal profile characteristics (Lampe et al.,

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2007), privacy concerns (Gross and Acquisti, 2005; Hodge, 2006; Lewis et al., 2008), and user and non-user differences (Hargittai, 2007).

Friendship formation in SNSs provides opportunities for testing the effects of our two preference dimensions —shared group identity and high status — on friendship choice. Technological developments in distribution lists, photo directories, and search capabilities have made online interactions in SNSs practical and efficient ways to establish and maintain social capital (Ellison et al., 2007; Resnick, 2001). While online friendship relationship is no substitution for offline relationship, researchers have also observed similarities between online and offline friendship, such as racial homophily (e.g., Bosancianu et al., 2013; Boyd and Ellison, 2007; Ivcevic and Ambady, 2012; Wimmer and Lewis, 2010). In this study, we have a more limited goal in studying the initiation of online friendship formation, rather than actual online friendship activities. However, we consider online friendship formation as a precursor of potential enduring friendship and as such to serve as a simple and easily operationalized instrument for testing friendship choice preference in the real world.

The SNS we used in this experiment, Renren.com, is known as the "Facebook of China." Launched in December 2005, Renren.com is one of the largest real name SNS Web sites in the country. By March 31, 2011, Renren.com had over 117 million activated users across China, most of whom were Chinese college students, high school students, or young urban professionals. Users on Renren.com averaged approximately 7 h per month on the site and collectively produced 40 million pieces of user-generated content per day, including approximately three million photos and 13 million status updates. According to the same 2011 report, Renren.com had accumulated a total of approximately 2.9 billion photos, 249 million blogs, and 20.8 billion comments or reviews. Renren.com helps users communicate and stay connected with their friends, classmates, family members, and co-workers. Like Facebook users, Renren.com users begin by creating a free account and a personal profile with their personal information, education and work, places they live, contact information, relationships, etc. After creating their initial profiles, users can establish "friendship" relationships with other registered users by sending "adding friend" requests to them. Among friends in a social network, a Renren.com user can easily communicate using different tools and functions, including status updates, photo sharing and commenting, chatting, onsite e-mail, and mini-groups. Our experiment capitalized on some of these features.

3.3. Operationalization of shared group identity preference: place of origin in China

In this experiment, preference for shared identity was operationalized by place of origin. We chose place of origin to test our hypothesis 1 for three main reasons. First, place-of-origin identity is one of the most important social identities in Chinese culture. Researchers have long known that place of origin is part of Chinese people's self-identity and serves as one key factor in determining in-group and out-group boundaries (Honig, 1992). Shared place-of-origin identity is known as *Laoxiang* in China, and the linguistic origin of the word can be traced back to the Ming Dynasty (1368—1644). Sharing *Laoxiang* identity has important economic implications in China for benefits such as job and resource opportunities (i.e., Zhang and Xie, 2013, 2016).

Second, place-of-origin identity allows us to test the monotonic effect of preference on shared group identity overlaps. Unlike other group identities with only a binary indicator, for example, whether two persons both belong to the same book club or not, place-of-origin identity has a nested, monotonic structure containing different geographic levels. In the current Chinese administrative system, a county is nested within a city (or prefecture), and a city is nested within a province. Thus, people coming from the same county (and thus, necessarily, the same city and the same province) indicates a relatively tight *Laoxiang* identity, coming from the same province but different cities points to a relatively loose *Laoxiang* identity, and coming from the same city but different counties signifies something in between. Therefore, this monotonic feature of place of origin allows us to test whether a tighter *Laoxiang* identity is associated with a stronger friendship preference.

Third, *Laoxiang* is a geographically based concept. Theoretically speaking, it identifies a relationship between two individuals as either an in-group relationship or an out-group relationship, symmetrically. In our research, we took measures, via random assignment, to eliminate the potential confounding effects on social status hierarchy of non-overlapping places of origin. In other words, we consider place of origin to be a nominal social attribute that demarcates group boundaries but has no status value.

3.4. Operationalization of high status preference: university status in China

We operationalized high status preference by manipulating users' affiliations to universities with varying levels of prestige. In contemporary China, university affiliation is commonly recognized as an important marker of an individual's social status (e.g., Lin and Bian, 1991; Xie and Wu, 2008; Xie et al., 2009). Moreover, which may surprise some readers, ordinary Chinese are keenly interested in and well aware of a university's level of prestige. This awareness is related to Chinese college admission policies. Unlike in the United States, where status stratification among universities is less apparent, college admission in China is segmented into non-overlapping strata based on applicants' scores on the National College Entrance Examination. While applicants may list multiple schools in order of preference in each stratum, each student is admitted by only one school in one stratum. This "one-chance deal" policy renders university status obvious in China, because there is a one-to-one correspondence between test scores and university stratum. Furthermore, the higher status university one attends, the higher the potential economic return is from one's education (Li et al., 2011). Therefore, we use university status to test our hypothesis 2: people prefer to befriend high-status others.

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4. Method

Subjects in this experiment were first-year and second-year college students at a well-known, relatively prestigious national university in Beijing. We received the roster of 1395 students from the university administrative office. We applied two criteria to identify our target participants: First, participants should be active in Renen.com. They should have at least 50 Renren friends, their own page should have been visited at least 100 times, and they should have at least one diary and one album. Second, participants should come from a place other than Beijing, Tianjin, Shanghai, Chongqing, Hong Kong, Macao, or Taiwan, as these places are administrated as "municipalities" or "special administrative regions" and do not have the normal province-city nested administrative structure. When we conducted the experiment, potential subjects who blocked the function of receiving friendship invitations from strangers were identified and removed from the target participants. After applying these criteria, 688 students remained in our sample (405 females and 283 males, 410 of whom were in their first year and 278 in their second year). Target participants came from many different places of origin − 21 provinces and 171 cities in various geographic regions in China.

This study features a 3 (place-of-origin overlaps: no overlap, same province, same city) x 4 (university status: low-status university, slightly lower-status university, same-status university, high-status university) x 2 (gender: male, female) between-subject design.[1] Target participants were randomly assigned to one of the manipulation conditions. For experimental manipulations, we first generated eight fictitious applicant accounts[2] on Renren.com. These fictitious accounts, or applicants, were all identical except for attributes we wished to manipulate. To make our fictitious applicants seem like real users, for each account we created a credible number of blogs, photo albums, status pages, sharings, friends, and visit totals, based on average target users' activities in Renren.com. Then we set privacy restrictions so that personal pages were visible only to the target participants. A sample experimental account can be found in the Appendix.

Experimental manipulations all operated through the "adding friend" function in Renren.com. Gender and status manipulations can be directly observed from the "adding friend" default setting, as requester's gender and university affiliation were automatically displayed in the request box. We manipulated place-of-origin overlaps through the message box in the "adding friend" request so that the requester randomly indicated place-of-origin information in the message box. A sample "adding friend" request can be found in the Appendix.

Our experiment was conducted continuously throughout the months of June and July 2011. "Adding friend" requests were sent out around 10:00 a.m. every day. We then continuously monitored and recorded the number of acceptances. Once a target accepted our "adding friend" request, we immediately deleted him or her from the requester's friend list. In this way, we controlled the number of "common friends" as being constantly zero for all requester-target dyads and thus blocked the effect of triad closure. Our dependent variable is the success count of each friendship request, which is a categorical variable. One friendship request is coded 1 if a target user accepted the request and 0 if a user did not accept it. In Table 1, we present summary statistics for the manipulation variables and target subjects' basic characteristics. Correlations among these variables are reported in the Appendix.

We are aware that our field experiment design has several limitations. First, online friendship is not the same as offline friendship. For instance, Chan and Cheng (2004) found that despite diminishing differences between online and offline friendship over time, they remain different in certain key features such as interdependence, breadth, depth, and commitment. Thus, testing online friendship preference is only a proxy for real friendship preference.

Second, acceptance of online friendship requests may not reflect an enduring friendship. Measuring the "first-step" response is a common practice in research using field experiments, because it affords the researchers a simple and uniformly applicable outcome measure. For instance, Bertrand and Mullainathan (2004) and Pager et al. (2009) measured the callback rates after sending fictitious resumes in studying job discrimination. Ahmed and Hammarstedt (2009) measured email responses to homosexual/heterosexual couples' apartment rental applications in studying sexual-orientation discrimination in housing. However, this approach suffers from a major methodological drawback in that it does not directly measure outcomes of interest. At best, it measures a procurer to the outcome of interest. In our study, we consider acceptance of a friendship request a limited outcome that may not lead to long-lasting friendship, but a precursor for a potential friendship. Thus, our study constitutes a preliminary exploration towards a better understanding of social interactions on social network sites such as Renren.com and Facebook in the future.

5. Results

We first conducted an analysis of variance (ANOVA) for the data from our 3 (place-of-origin overlaps: no overlap, same province, same city) x 4 (university status: low-status university, slightly lower-status university, same-status university, high-status university) x 2 (gender: male, female) between-subject design. Results revealed a main effect of place-of-origin, $F(2, 664) = 13.85$, $p < 0.001$, a main effect of university status, $F(3, 664) = 13.17$, $p < 0.001$, and a marginally significant main effect of requester's gender, $F(1, 664) = 3.28$, $p = 0.07$. We did not find significant interaction between the factors.

[1] The detailed breakdown by conditions can be found in the Appendix.

[2] Renren users cannot normally change university affiliations and gender once registered. As we have four manipulation conditions on status asymmetry and two conditions on gender, we created eight identical fictional accounts accordingly.

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Table 1
Descriptive statistics.

Variable Names	Participants Frequency
Place-of-origin Overlap Manipulation	
No Overlap	228
Same Province	233
Same City	227
University Status Manipulation	
Lower Status	165
Slightly lower Status	188
Same Status	163
Higher Status	172
Gender Manipulation	
Female Requester	350
Male Requester	338
Receiver's Gender	
Female Receiver	405
Male Receiver	283
Receiver's Year of Enrollment	
2009	410
2010	278
Receiver's Hometown Geographic Region	
East (Hebei, Liaoning, Zhejiang, Jiangsu, Fujian, Shandong, Guangdong, Hainan)	212
Mid (Heilongjiang, Jilin, Shanxi, Anhui, Jiangxi, Henan, Hubei, Hunan)	377
West (Neimenggu, Guangxi, Sichuan, Guizhou, Yunnan, Xizang, Shannxi, Gansu, Qinghai, Niangxia, Xinjiang)	99
Receiver's Hometown City Population	
Small (Below 200,000)	148
Medium (500,000–1,000,000)	213
Large (1,000,000–5,000,000)	63
Extremely Large (5,000,000–10,000,000)	168
Super Large (Above 10,000,000)	96
Receiver's Major Field	
Natural Science	100
Humanity & Art	138
Social Science	245
Business & Economics	205
Receiver's Mean Number of Friends	445.03
Receiver's Mean Number of Visitors	2347.33
Receiver's Privacy Setting	
Yes	618
No	70
$N = 688$	

To test the robustness of our results, we further applied a logistic regression model to separately estimate the effects of place of origin and university status on friendship request acceptance.[3] Our dependent variable, friendship request acceptance, is coded 1 if a target user accepted the request and 0 if a user did not accept it. Independent variables include place of origin (1 = no overlap, 2 = same province, 3 = same city), university status (1 = low-status university, 2 = slightly lower-status university, 3 = same-status university, 4 = high-status university), and applier's gender (1 = female, 0 = male). Control variables include the receiver's gender, year of enrollment, hometown province, geographic region, hometown city population, academic major, number of friends, number of visitors, and whether his/her main page is visible to strangers. Results from logistic regression estimates of this multivariate model are displayed in the following table. Odds ratios greater than 1.00 represent positive effects, and those lower than 1.00 represent negative effects. As predicted, both overlapping place of origin ($r = 1.81$, $p < 0.001$) and university status ($r = 1.60$, $p < 0.001$) are positively associated with friendship request acceptance. Detailed results are shown in Table 2.

We next unpacked the monotonic impact of the place-of-origin manipulation on friendship preference by performing a simple Pearson Chi-square test. We found that sharing the same province place of origin significantly increased the number of acceptances to friendship requests, compared to a request with no place-of-origin overlap $\chi^2(1, N = 461) = 8.56$, $p = 0.003$. Sharing the same city place of origin resulted in a higher number than both no place-of-origin overlap, $\chi^2(1, N = 455) = 24.80$, $p < 0.001$, and sharing the same province place of origin, $\chi^2(1, N = 460) = 4.94$, $p = 0.03$.

Next, we applied the Chi-square test to evaluate the monotonic effect of the university status manipulation. Again, we found a monotonic pattern, as we expected. Requests from students at a slightly lower-status university resulted in a higher number of acceptances than those from students at a lower-status university, but the difference was not statistically significant, $\chi^2(1, N = 353) = 2.23$, $p = 0.14$. Enrollment at a same-status university significantly elevated the acceptance number

[3] Correlation among variables can be found in the Appendix.

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Table 2
Logistic Regression Estimates of Place of origin and University Status Predicting Friendship Request Acceptance.

	Odds Ratio	p value
Place-of-origin Overlap	1.81	0.00
University Status	1.60	0.00
Requester's Gender	1.42	0.04
Receiver's Gender	0.53	0.00
Receiver's Grade	0.44	0.00
Receiver's Hometown Category	0.99	0.91
Receiver's Hometown City Population	0.88	0.04
Receiver's Major Category	1.14	0.13
Receiver's Number of Friends	1.00	0.20
Receiver's Number of Visitors	1.00	0.00
Receiver's Privacy Setting	0.93	0.79
Constant	0.73	0.62
χ^2	125.37	
R-square	0.13	
N	688	

relative to those requesters from students enrolled at a lower-status university, $\chi^2(1, N = 328) = 13.41$, $p < 0.001$, and students enrolled at a slightly lower-status university, $\chi^2(1, N = 351) = 5.32$, $p = 0.02$. The number of acceptances was higher when requests came from students at a higher-status university than those from students at a same-status university, $\chi^2(1, N = 335) = 3.04$, $p = 0.08$, those at a slightly lower-status university, $\chi^2(1, N = 360) = 16.88$, $p < 0.001$, and those at a lower-status university, $\chi^2(1, N = 337) = 29.24$, $p < 0.001$. Finally, we tested the effect of requesters' gender on acceptance but did not find the gender difference to be statistically significant, $\chi^2(1, N = 688) = 2.17$, $p = 0.14$. We summarized the success counts and the success rate for each of the manipulation conditions in Table 3.

6. Conclusion

Friendship is one of the most socially significant interpersonal associations in modern society. Its personal nature makes it a good indicator for measuring social preferences. However, realized friendship choices result from the combined forces of both personal preferences and structural constraints. Thus, it is difficult to infer preferences from observed friendship data without invoking unrealistic assumptions about structural constraints. Separating the effects of preference and opportunity on friendship choice has been a long-standing concern in sociological research on friendship. This separation has at least two main benefits, as Zeng and Xie (2008) pointed out:

First, given the significance attached to intergroup relations for social integration, it is important to know whether the high level of homogeneous association in friendship is due mainly to people's psychological predispositions or to the constraints of social structure. Second, the separation of preference and opportunity allows researchers to compare patterns of preference across social contexts and to predict choice behavior under a new set of conditions (Zeng and Xie, 2008, p. 616).

While the importance of separating the preference effects from those of structural constraint on friendship choice has long been recognized, actually achieving the separation in empirical research remains a methodological challenge. Our main goal

Table 3
The success counts and the success rate for each manipulation condition.

By place-of-origin				
Success counts	No overlap	Same province	Same city	
0	124	95	71	
1	104	138	156	
Success rate	45.61%	59.23%	68.72%	
By university status				
Success counts	Lower status	Slightly lower status	Same status	Higher status
0	93	91	59	47
1	72	97	104	125
Success rate	43.63%	51.60%	63.80%	72.67%
By gender				
Success counts	Male requester	Female requester		
0	152	138		
1	186	212		
Success rate	55.03%	60.57%		

Please cite this article in press as: Yu, S., Xie, Y., Preference effects on friendship choice: Evidence from an online field experiment, Social Science Research (2017), http://dx.doi.org/10.1016/j.ssresearch.2017.01.006

in this paper was to illustrate a solution to this challenge with an experimental design. In our article, we report the results of an online field experiment study on one of the largest social network service (SNS) websites in China in demonstrating the role of preference in friendship choice. Specifically, we test preference effects in terms of two dimensions: preference for shared group identity (operationalized as the desire to befriend others sharing the same place-of-origin identity) and preference for high status (operationalized as the desire to befriend others from high-status institutions). Our findings indicate that (1) group identity enhances the likelihood of friendship request acceptance, the effect being monotonic, with incrementally nested place-of-origin overlaps, and (2) higher social status also monotonically increases the likelihood of friendship request acceptance. These results confirm the pure preference effects of both dimensions tested on friendship choice.

This study has some wider implications. First, we use the field experiment method to address a methodological difficulty in studying friendship choice: separating exposure from preference. The field experiment method provides unconstrained choices to subjects and thus facilitates the inference about the causal effects of preference on friendship, avoiding the potential confounding of structural constraints. Additionally, the field experiment measures people's real behavior in their social lives, which has better external validity than in studies in laboratory experiment settings. In past sociological studies, the field experiment method has mainly been used to study discrimination (e.g., Correll and Benard, 2007; Pager et al., 2009; Tilcsik, 2011). In the future, researchers may adapt the field experiment method to studying broader topics concerning different types of interpersonal relationships, such as friendship, dating, risk sharing, assistance, and so on.

Second, we conclude that group identity and high status are two core dimensions of preference that affect friendship choice. In our experiment, we conceptualized the degree of group identity through a nested relationship. We successfully showed that the degree of group identity monotonically increases interpersonal relationships. Thus, our study treated group identity and high status as two separate, continuous dimensions of preference and did not find interaction effects between them. However, the interaction between the two dimensions may be present in specific contexts. For example, consider the roles of race and social status in friendship choice. Both should matter. It is possible that racial identity may matter less for more educated individuals than for those less educated.

Finally, in contemporary society, online SNSs, such as Facebook, Twitter, MySpace, and Renren.com, are becoming ever more important in shaping people's lives. For researchers, these online communities not only provide opportunities for possible experiments, but are also becoming real settings in which social lives take place. While we used a particular SNS mainly to conduct a field experiment on friendship choice, the results we obtained from the experiment reflected real behaviors of real online users. Given the increasingly important role of SNS for actual friendship choices today and in the future, the conclusions from our study may become increasingly relevant to the real (non-artificial) world. As more and more users become connected in cyberspace, they may find it easier to exercise their preferences in choosing friends than in the past, when they were constrained by physical location. One possible outcome of this, as discussed by Cheng and Xie (2013), is that the enhanced role of preference may lead to more social segregation and less social integration across different social and ethnic groups.

Appendix A. Supplementary data

Supplementary data related to this article can be found at http://dx.doi.org/10.1016/j.ssresearch.2017.01.006.

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Please cite this article in press as: Yu, S., Xie, Y., Preference effects on friendship choice: Evidence from an online field experiment, Social Science Research (2017), http://dx.doi.org/10.1016/j.ssresearch.2017.01.006

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Please cite this article in press as: Yu, S., Xie, Y., Preference effects on friendship choice: Evidence from an online field experiment, Social Science Research (2017), http://dx.doi.org/10.1016/j.ssresearch.2017.01.006

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Please cite this article in press as: Yu, S., Xie, Y., Preference effects on friendship choice: Evidence from an online field experiment, Social Science Research (2017), http://dx.doi.org/10.1016/j.ssresearch.2017.01.006