Full Length Article

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

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## 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.

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## 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.

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## 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.*