

# **Trust, Reciprocity and the Strength of Social Ties: Economic Experiments on an Online Social Network**

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## **Abstract**

We design a novel Facebook application to play a non-anonymous investment game that allows us to study the linkage between strength of social ties and trust in an online social network. We estimate the marginal effects of three different strength of ties measures computed within Facebook, the most dominant global social network setting. We find that, for the average user, social tie strength as measured by actively interacting with someone else is positively linked to trust. We find that each wall-post made on a friend's wall results in a 21% increase in trust. Similarly, we find that each photo two friends jointly appear in, a signal of social affinity and physical world ties, is associated with a 5.1% increase in trust. Interestingly, we find that that the unconditional correlation between the classic "number of common friends" metric - a widely used structural equivalence based strength of ties measure in the social networks literature - and trust is not significant. Further, conditional on the cohesion based, revealed preference style, active interaction strength of ties measure, number of common friends is weakly significant and negatively linked with trust. We examine whether there is some latent heterogeneity in Facebook users' normative view of friendship. We endogenously discover "non-selective users" and "selective users," and find that for non-selective users, their intersection of common friends is largely spurious. We provide the first evidence showing that above a threshold, triadic closure style metrics don't offer much with respect to trust in an economic exchange; however, evidence of offline friendships do hold some explanatory power. Our study showcases how large-scale online social networks can serve as platform to take social science and economics experimental research traditionally done in the physical laboratory to real-world subjects in their natural environment.