Contents lists available at ScienceDirect

## European Economic Review

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

### Money or friends: Social identity and deception in networks $\stackrel{\scriptscriptstyle \, \ensuremath{\scriptstyle \sim}}{}$

Rong Rong<sup>a,\*</sup>, Daniel Houser<sup>b</sup>, Anovia Yifan Dai<sup>c</sup>

<sup>a</sup> Department of Economics, Weber State University, USA

<sup>b</sup> Department of Economics, George Mason University, USA

<sup>c</sup> Department of Economics, University of Iowa, USA

#### ARTICLE INFO

Article history: Received 3 February 2015 Accepted 6 April 2016 Available online 19 April 2016

JEL classification: D85 D02 C92

Keywords: Social networks Deception Committee decision making Strategic information transmission Parochial altruism Experiments

#### ABSTRACT

Strategic communication occurs in virtually all committee decision environments. Theory suggests that small differences in monetary incentives between committee members can leave deception a strategically optimal decision (Crawford and Sobel, 1982; Galeotti et al., 2013). At the same time, in natural environments social incentives can also play an important role in determining the way people share or withhold truthful information. Unfortunately, little is known about how monetary and social incentives interact to determine truth-telling. We investigate this issue by first building a novel model and then testing its equilibrium predictions using laboratory data. In the absence of social identity, the model's predictions are supported: there is more truthful communication between those who share monetary incentives than those who do not. We find that the effect of identity is asymmetric: sharing the same identity does not promote truth-telling but holding different identities reduces truthfulness. Overall, as compared to environments lacking social identity, committees with both monetary and social incentives exhibit truthful communication substantially less frequently.

Published by Elsevier B.V.

#### 1. Introduction

People with different financial incentives often deceive each other. A familiar example is department hiring decisions, where information may be shared strategically with an eye towards raising the priority of hiring a colleague in one's own preferred field. Similar examples exist in all organizations. For example, cases of CEOs manipulating information to favor themselves have been widely noted (Cloke and GoldSmith, 2000; Cowan, 2003; Tobak, 2008) and studied in economics, organizational psychology and management (Kolb et al., 1992; Rahim, 2000; De Dreu and Gelfand, 2007; Conrad and Poole, 2011; Miller, 2011).

Strategic manipulation of information has been studied within the context of sender-receiver games. Seminal work by Crawford and Sobel (1982) describes the case of one sender and one receiver (also known as the strategic information transmission game, or cheap talk game)<sup>1</sup>. One important variation enriches the theoretical framework by introducing







<sup>\*</sup> We thank NSF Dissertation Improvement Award for financial support of this project. For helpful comments we thank our colleagues at ICES, George Mason University and Goddard School of Business and Economics at Weber State University, seminar participants at Chapman University (2013), Utah Valley University (2013) and the ESA North-American meeting (2012). The authors are of course responsible for any errors in this paper.

<sup>\*</sup> Corresponding author.

E-mail addresses: rongrong@weber.edu (Rong. Rong), dhouser@gmu.edu (D. Houser), yifan-dai-1@uiowa.edu (A.Y. Dai).

<sup>&</sup>lt;sup>1</sup> Experimental studies supporting this prediction include Dickhaut et al. (1995), Blume et al. (1998), (2001), Cai and Wang (2006) and Wang et al. (2010).

players who both send and receive cheap-talk messages (Hagenbach and Koessler, 2010; Galeotti et al., 2013). In this paper we draw from this literature in modeling two "sub-groups", where players share the same payoff function within but not between sub-groups. Our model predicts that when monetary incentives of the sub-groups are sufficiently misaligned, truthful communication between sub-groups cannot occur in equilibrium.

Many past studies imply that social incentives substantially impact behavior. In particular, social identity impacts decisions in group settings including contributions to public goods (Eckel and Grossman, 2005; Chen and Li, 2009), punishment (Bernhard et al., 2006), cooperation (Goette et al., 2006; Charness et al., 2007; Brewer, 1999) and self-esteem (Shih et al., 1999). This social identity effect is reflected in the literature on parochial altruism where in-group members are treated more favorably than out-group members (Bernhard et al., 2006). Broadly speaking, the findings of this literature are that people often sacrifice personal economic gain in order to deliver benefits to in-group members. Similarly, our interest is in whether social identity (either shared or different) impacts the propensity to misrepresent information when it is in one's self-interest to do so. To do this, we build social identity into our model. Our approach is in the spirit of Chen and Li (2009) and Chen and Chen (2011), in that other-regarding preference parameters take different values according to whether one is interacting with a person holding the same identity or different social identity. Our theory predicts that the extent of deception will increase as more information receivers hold a different social identity.

We design and implement a laboratory experiment that assigns social identity and monetary incentives independently in order to test the predictions of our theory. Laboratory experiments are ideal for this topic. The reason is that in natural environments it can be difficult to identify separately the effects of monetary incentives and social identity since (1) shared social identity may form around similar monetary incentives; (2) people have multiple social identities (e.g., gender, ethnicity, age) and it can be difficult to know which identity is relevant to any particular decision process. Our experiment circumvents these problems by inducing identity (see, e.g., Tajfel et al., 1971; Chen and Li, 2009). By randomly assigning players with different identities to different incentive groups, we achieve variation that enables us to identify the separate and joint effects of "money" and "friend" on decisions to deceive.

Our main findings are as follows. First, absent social-identity identity, consistent with theory, truth-telling occurs among those with identical monetary incentives with high frequency (above 95%). We also find substantial truth-telling when monetary incentives are misaligned in the absence of social-identity, indeed even more than 50% rate predicted by theory<sup>2</sup>. Further, sharing an identity does not increase the frequency of truth-telling in relation to the baseline environment. One is more willing to lie, however, to those holding a different identity, and this occurs even when players face identical financial incentives.

This study contributes to the social identity literature by providing new theory and evidence with respect to how social identity affects decisions to deceive in a group environment. While many insights have been gleaned from one-sender-one-receiver environments, extending the strategic information transmission to a group context is important<sup>3</sup>. In particular, much real world communication occurs in multi-person groups where each group member is able both to send and to receive information. Our experiments shed light on the way social and financial incentives interact to affect deception decisions in these environments, and may inform the design of conflict-reducing institutions that foster truthful information transmission within organizations.

The remainder of the paper is organized as follows: The next section briefly reviews the theoretical and experimental literature. Section III lays out the theoretical background of the study. Section IV presents the hypotheses. Section V clarifies experimental design and procedure. Section VI reports experimental results. Section VII concludes.

#### 2. Literature on deception and social identity

A number of economic theories and experimental tests of these theories have appeared in the literature. We review key contributions and related experimental evidence, with particular attention to the literature on deception and social identity.

#### 2.1. Cheap talk games<sup>4</sup>

Information can be delivered strategically. When information holders and uninformed decision makers have different incentives, information may be withheld or distorted in order to gain advantage. In the seminal model by Crawford and Sobel (1982) a sender sends messages in an effort to affect receivers' beliefs and decisions. The receiver responds to these

<sup>&</sup>lt;sup>2</sup> The data from the "Control" treatment in this paper are a subset of the data reported in Rong and Houser (2016). The data in that paper include three additional "Control" sessions not available when this paper was originally drafted. To maintain consistency with early versions of this manuscript, we have elected not to include those additional data here. Including those data does not change any of the results reported in this paper.

<sup>&</sup>lt;sup>3</sup> A few studies consider environment with one sender and two receivers (Battaglini, 2002) or two senders and one receiver (Minozzi and Woon, 2011; Lai et al., 2011). Such studies differ from 6urs as players in those experiments make decisions as either sender or receiver, but never both. Another literature features players as both sender and receiver, but uses public chat room to implement communication. The free-style language makes it hard to examine deception in the communication observed. See Goeree and Yariv (2011) for an example. Wilson (2012) also allows subjects to both send and receive messages, however, the subject has no incentive to deceive. Instead, the study focuses on the impact of monetary cost of sending information.

<sup>&</sup>lt;sup>4</sup> Sections 2.1–2.3 below draw heavily from Rong and Houser (2016), which reports data from the "Control" treatment. This information keeps the current paper self-contained.

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