Social Networks, Social Capital, and Trust: Experiment Proposal with Albanian Immigrants in Germany

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Background and Question. Culture is a well motivated topic in the economics literature (Akerlof (2007), Ashraf and Galor (2007), Alesina and Giuliano (2007)). Most of this literature, however, focuses on cultural persistence (North (1981), Guiso, Sapienza, and Zingales (2006), Tabellini (2008)), and cultural change has received little attention. My question attempts to fill this gap.

A central puzzle motivating my research is that while in (1) **loose societies** characterized with bridging social capital individuals trust a broad set of co-citizens (generalized trust), in (2) **tight societies** characterized with bonding social capital, individuals trust only a narrow set of kin and kith (localized trust) (Plateau (2000), Putnam (1993, 2000) Tabellini (2008,2010), Moscona, Nunn, & Robinson (2017), Enke (2019)).\(^1\) Compared to individuals from loose societies, individuals in tight societies are relatively more trusting toward in-group members \((t_{\text{tight},\text{in}} > t_{\text{loose},\text{in}})\), but relatively less trusting toward out-group members \((t_{\text{tight},\text{out}} < t_{\text{loose},\text{out}})\).\(^2\) A visualization of this relationship is presented below.

\[
\begin{align*}
& t_{\text{tight},\text{out}} < t_{\text{loose},\text{out}} < t_{\text{loose},\text{in}} < t_{\text{tight},\text{in}} \\
\end{align*}
\]

My question is whether immigrants from a tight society to a loose society adopt generalized trust norms in their host country, and whether their norms become context-dependent, i.e. whether they exhibit generalized trust in some contexts, and localized trust in others.

The population I have in mind is Albanian immigrants to Germany. Waves of immigrants left the Balkans to Germany as Gastarbeiers (guest workers) in the 1960s or war refugees in the 1990s. The Albanian immigrants are a pertinent population to study for at least two reasons. First, the Albanian culture and the German culture are good representative cases of tight vs. loose societies respectively. Second, the Albanian immigrants, while living and working abroad, still foster strong ties to their ancestral land and culture, evidenced through their seasonal migrations and high levels of remittances.

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\(^1\)The loose-tight terminology is a staple in social psychology, and the bonding-bridging social capital terminology is well established in political science. Economists have found both terminologies useful, and they capture the same idea for the purposes of my research.

\(^2\)This implies higher relative in-group trust in tight societies \((t_{\text{tight},\text{in}} - t_{\text{tight},\text{out}} > t_{\text{loose},\text{in}} - t_{\text{loose},\text{out}})\).
Trust Game. I propose a Facebook experiment. A targeted ad will be shown to an audience that well approximates our population of interest, offering them money to play a quick game. The ad will then take participants to an online platform to play two Trust Games: one against a 1) Random Facebook Friend and another against a 2) Facebook Stranger (user is not in their Friend List). In each Trust Game, in the first stage, the first player (subject of interest) is given 10 euros and is asked to split the money between the second player and the themselves. Whatever amount \( t \in [0,10] \) they send to the second player is tripled, and they get to keep \( 10 - t \) instantaneously. In the second stage, the second player gets the tripled amount \( 3t \) and plays a dictator game with it: they can keep any amount \( s \in [0,3t] \) for themselves, and allocate back \( 3t - s \) to the first player. The first player gets \( (10 - t) + (3t - s) \) and the second player gets \( s \). I interpret the quantity of interest \( t \) as amount of trust the first player has for the second player.

I plan to vary the language of the experiment, generating two treatment arms: (1) Albanian Language (2) German Language. The idea behind varying language is to instrument for the context of different cultures, in a way that is both simple and mimics the real-world.

Hypotheses I. Let \( t_{\text{Language}, \text{Recipient}} \) be the average fraction of the 10 euros (level of trust) that participants allocate in the \( \text{Language} \in \{\text{German, Albanian}\} \) treatment arm in the game against \( \text{Recipient} \in \{\text{Friend, Stranger}\} \). Consistent with the stylized findings from the literature, if cultural change happens and language cues different behavior consistent with different cultures I expect:

\[
t_{\text{Alb.}, \text{Stranger}} < t_{\text{Germ.}, \text{Stranger}} < t_{\text{Germ.}, \text{Friend}} < t_{\text{Alb.}, \text{Friend}}
\]  

(1)

Mechanism. Observing that language can trigger an immigrant population to behave in ways consistent with two different cultures is interesting in and of itself. However, a natural question concerns the underlying mechanism: what exactly does language cue? My idea is that the language cues the "state" of the world, in which it is either optimal to play a "generalized trust" strategy or a "localized trust" strategy.

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3) Live in Germany; 2) Speak Albanian; 3) Are "away from hometown"; 4) Are "away from family"

4) Participants would have to agree to share a list of friends.

5) One advantage of this game is that it mimics trust in an investment setting and can have a clear economic interpretation.

6) Studies find cultural "code switching" and different personalities in bilingual people (Chen and Bond (2010); Veltkamp (2013), Ramírez-Esparza and García-Sierra (2014); Benet-Martínez et. al. (2002))
I posit that trust is a consequence\(^7\) of repeated interaction and cooperation between individuals. Whom individuals interact with regularly depends ultimately on the social network in which the individual is embedded. Societies such as those on the Balkans, where the Albanian immigrants come from, are characterized by weak institutions and informal enforcement of cooperation through communal monitoring and punishment. Theoretical models of informal enforcement on networks find that such communal punishment strategies give rise to equilibrium social networks (in a game-theoretic sense) that are dense and local, as those features facilitate more efficient spread of information about deviants (Jackson et. al (2012), Bloch et. al. (2008)). The notion of dense networks maps intuitively onto the "tight" society and the "bonding" social capital terminology\(^8\). On the other hand, the German society to which the immigrants moved, is characterized by impartial institutions with strong third-party contract enforcement, in which optimal networks are less dense and more "global", mapping onto the loose society and bridging social capital category\(^9\).

I hypothesize that Albanian language will cue subjects to see themselves as embedded in a "tight" and "bonding" social network, while German language will psychologically cue the state in which subjects see themselves as part of a "loose" and "bridging" social network. I want to conduct a novel Implicit Sociogram Test\(^10\) to check this. After the Trust Games, I want to ask subjects to draw a sociogram which features themselves, a few friends, and a few strangers, each individual represented as a circle and each link between circles representing a relationship between the individuals.

To see how the Implicit Sociogram Test can be useful consider two sociograms: a Bonding Network (Figure 1) and a Bridging Network (Figure 2). These sociograms have the same nodes: the yellow represents a hypothetical participant (M), the green are friends (F) connected to the participant, and the red are strangers (S) connected among themselves and potentially to participant’s friends. Notice the intuition behind the networks: the bonding network depicts roughly two dense ("bonding" or "tight") clusters with only one link ("bridge") between them. The Bridging Network however, has less dense ("loose") clusters and has three "bridges" between friends and strangers.

\(^7\)I think of it as an evolutionarily learned cultural trait that coordinates human behavior and expectations in different social contingencies in a way that achieves some equilibrium network outcome in a game-theoretic sense.

\(^8\)I haven’t seen any work making this explicit connection across these literatures.

\(^9\)I'm working on formalizing these intuitions myself.

\(^10\)Sociograms have been used as an experimental tool in social psychology (Talhelm et. al. (2014))
Figure 1: Bonding Network: $Bnd = 0.66, Brg = 0.33$

Figure 2: Bridging Network: $Bnd = 0.33, Brg = 0.40$
To make this hypothesis testable, I want to use the participant-drawn sociograms to elicit some intuitive network-based measurements which will allow me to compare subtle differences in drawn sociograms. I define a **Bonding coefficient** (*Bnd*) as the density in the sub-network of friends (green nodes): the number of drawn links within the friend sub-network divided by the total number of possible links between them. *Bnd* varies between 0 and 1, and is 0.66 for the drawn Bonding Network and 0.33 for the Bridging Network (they have 4 vs 2 links respectively out of possible 6 links among the green nodes). Define the **Bridging coefficient** (*Brg*) as the inverse of the average path length between the participant and the drawn Strangers. A path is defined as the shortest distance between two nodes. *Brg* ranges between 0 and 0.5 (minimal distance between subject and stranger is 2 by construction) and is \((\frac{3+2+3+4}{4})^{-1} = 0.33\) for the Bonding Network, and it is \((\frac{3+2+2+2}{4})^{-1} = 0.4\) for the Bridging Network.\(^{11}\)

**Hypotheses II.** If Albanian language is cuing a "state" of the world in which participants imagine themselves embedded within a "bonding" network, and German language triggers a state of "bridging" social networks, then I expect that:

\[ Bnd_{Albanian} > Bnd_{German} \text{ and } Brg_{Albanian} < Brg_{German} \]  

(2)

This hypothesis serves as an instrument check. However, given my proposed mechanism of trust being reflective of equilibrium network topology, there are two other hypotheses which I expect to hold within each treatment condition if my proposed mechanism is at play:

**Trust toward Friend is increasing in Bonding coefficient**  

(3)

**Trust toward Stranger is increasing in Bridging coefficient**  

(4)

These reflect the stylizing finding that generalized trust exists in "loose" societies with "bridging" social capital, while localized trust characterizes "tight" and "bonding" societies. If (2)-(4) hold, then I hope this will help my interpretation of cultural change as switching optimal strategies in a game where language can be a signal of the state of the world. I believe these would also suggest a close relationship between social network structure and trust, and that trust can be potentially (un)learned after repeated interactions within networks of different structures.

\(^{11}\)Notice that while the literature treats Bonding vs Bridging as distinct categories, in my framework each network has "bonding" and "bridging" qualities. My illustrative example exaggerates one for illustrative purposes about the intuition.
References


