Social cooperatives, social welfare associations and social networks

Degli Antoni, Giacomo and Sabatini, Fabio

University of Parma, Sapienza University of Rome

3 November 2015

Social cooperatives, social welfare associations and social networks

Giacomo Degli Antoni♣

Fabio Sabatini♦

Abstract

We use an original dataset to study how participation in two types of nonprofit organizations, i.e. social welfare associations and social cooperatives, affects individual social capital, intended as networks of cooperative relationships. Participation in both the types of organization allows members to start new social relations. However, social welfare associations seem to play a significantly greater role in the development of volunteers' social capital, favouring the creation of weak ties that are used to exchange information and advice, and offering the opportunity to establish stronger ties entailing concrete mutual support. Within social cooperatives, workers appear to develop their individual social capital to a greater extent than volunteers. Our results suggest that the composition of the workforce, the depth of members' involvement in the organization's activities and human resources strategies adopted by the management influence the creation of cooperative relations through on-the-job interactions.

Keywords: social capital, nonprofit organizations, social cooperatives, social networks, volunteering.

JEL Codes: L31, L33, P13, Z1, Z13

1. Introduction

The early literature on social capital commonly claimed that nonprofit organizations play a positive role in the diffusion of civic attitudes, sentiments of trust and the development of networks of cooperative relationships. After the publication of the seminal work of Putnam et al. (1993), many empirical studies have measured social capital through indicators of membership of nonprofit, non-governmental, associations belonging to civil society. The habit of considering civil society as an integral part of social capital has since then spread among scholars and policy makers, causing some confusion between the two concepts (see for example the influential World Bank's guidelines for social development: World Bank, 2011). An implication of this approach is that support for the nonprofit sector and for participatory processes has been long considered a decisive policy tool for the accumulation of social capital, the promotion of welfare, and the strengthening of democracy (Grootaert and van Bastelaer, 2001; European Commission, 2005; OECD, 2010).

We argue that nonprofit organizations are not all alike in how they contribute to the creation of social capital. Different types of organization play a diverse role depending, for example, on their institutional aims and purposes, the composition of the workforce (e.g. the proportions of workers and volunteers), and the effort made by the organization to promote social interactions among its members. To investigate this thesis, we study how participation in two specific types of nonprofit organization - social welfare associations (hereafter SWAs) and social cooperatives (SCs) - is related to the development of social networks of cooperative relationships among their workers and volunteers.

With respect to the previous studies in the field (see section 3), our work innovates in two ways. First, it focuses on social networks, by studying the effect of participation in different types of organizations on the development of cooperative relations. Networks are analyzed through the elaboration of indicators of the strength of relationships. We measure the weak ties allowing the transmission of information and advice, and the stronger ties entailing concrete mutual support. The indicators we use as outcome variables allow us to assess how involvement in SWAs and SCs

affects aspects of social capital, such as networks of relations, which have not been investigated before and primarily disclose their effect at the micro level both at the individual (e.g. Antoci et al., 2012; 2013; 2015; Brown et al., 2006; Folland, 2006; Andriani & Sabatini, 2015; Fiorillo & Sabatini, 2011; 2015) and at the organizational level (Hansen, 1999; Leana & Van Buren, 1999). Second, unlike previous studies on the effect of membership in nonprofit organizations, which focused solely on volunteers, our sample enables us to analyze the effect of participation on two distinct types of subjects, i.e. volunteers and workers. In fact, we will specifically consider a distinctive feature of SWAs and SCs in our sample, i.e. the composition of the organization's workforce.[1]

We specifically focus on those organizations that, in our view, better match Putnam's concept of civic community, as they share the institutional aim of pursuing *solidarity goals*, (Putnam et al., 1993; Putnam, 2000). The strategy of distinguishing between organizations of a different nature and with different characteristics but similar purposes enhances understanding of the relationship between the nonprofit sector and social capital, by suggesting how nonprofit organizations may be modelled for the purpose of fostering the accumulation of social capital. The effect of SCs – and, more generally, of cooperative firms – on the structural components of individual social capital has, to date, been unexplored, despite the growing attention that has been given to this type of enterprise in the economics literature. Our study also makes a first step towards filling this gap.

Our research question can be summarized as follows: *may different types of nonprofit organization, with similar purpose but diverse nature and characteristics, produce different effects on the creation of social networks of their members?*

To reach our goals, we draw on a unique dataset of individual-level microdata collected by the authors through the administration of a questionnaire to a sample of volunteers and workers in SCs and SWAs in the Italian province of Parma.

---

[1] In 1991, Law 266 (in Italy) established that, in order to access public grants and to benefit from tax relief, organizations must have solidarity aims and their members must be for the most part volunteers. All the SWAs included in our sample conform to Law 266/1991. In SCs, by contrast, volunteers represent a residual part of the workforce.

Creating social capital across employees is often considered to be an important goal by organizations. Case studies show that the building of a cooperative climate within the workforce and favouring the establishment of trust relations among employees and between employees and managers generally constitute key tasks for management. Studies on life satisfaction, on the other hand, show that workers' well-being is significantly affected by the quality of relationships with colleagues, the establishment of friendships in the workplace, and other non-economic dimensions of job quality (Findlay et al. 2013). According to Gui (2000), these "relational assets" contribute to firms' economic performance just as do new investments in physical capital, because they increase workers' effort and productivity, thereby improving the organization's performance (Andrews, 2010; Sabatini et al., 2014; Zhang and Lin, 2015). The possible linkage between the workforce's social capital and labour productivity may develop along two dimensions. Firstly, social capital fosters the diffusion of knowledge and information among workers (e.g. Nahapiet & Ghoshal, 1998 Mäkelä & Brewster, 2009), "making possible the achievement of certain ends that would not be attainable in its absence" (Coleman, 1990: 302). Secondly, social interactions may affect workers' effort and motivation. In their famous study on organizations, March and Simon (1958) argued that, even if managers are authoritative and the enterprise's hierarchy is definite and well functioning, employees are able to influence the achievement of tasks in different ways, such as by delaying the execution of orders and, more in general, engaging in opportunistic behaviour. Many studies show that, if human relations within the workforce are trustful and relaxed, employees are more inclined to do their best at work, and they will be more likely to sanction shirking behaviour through peer monitoring (Kandel & Lazear, 1992; Sabatini, 2008; 2009; Huck, Kübler & Weibull, 2012). More in general, the establishment of trust-intensive relationships across the workforce favours organizational socialization, meaning "the process by which new members acquire the attitudes, values, knowledge and expected behavior needed to participate as organizational members" (Haski-Leventhal & Bargal, 2008: 68). In its turn, socialization strengthens employee commitment in terms

of attachment to the organization, identification with its goals, and willingness to work hard for it (Haski-Leventhal & Bargal, 2008).

The experience of the nonprofit organizations investigated in this study shows that the composition of the workforce, the depth of members' involvement in the organization's activities and human resources strategies adopted by the management influence the creation of cooperative relations through on-the-job interactions.

The next sections briefly provide some definitions and review the related literature. Then we describe our data and empirical strategy. The following sections present some descriptive evidence and the econometric analysis. A discussion and interpretation of results is offered in the last sections.

2. Definitions and related literature

A SWA is a type of nonprofit organization that has the statutory objective of carrying out charitable activities such as the provision of social welfare services for disadvantaged or deprived people, or the promotion of collective actions on public interest issues such as civil rights and environmental protection. Italian SCs conjugate characteristics of traditional cooperative enterprises and traditional nonprofit organizations in which ownership and governance rights are assigned to the workers or to a mix of categories of stakeholders (Degli Antoni & Portale, 2011). Residual earnings are for the most part reinvested in reserves that are not available to members. In this perspective, SCs can be considered nonprofit organizations with distribution constraint (Borzaga & Tortia, 2006). Both these types of organization are widespread across the world. For example, World Values Survey data include information about membership in all the possible types of SWA, i.e. those engaged in activities of assistance, healthcare, environmental protection, childcare or elderly care, education, and civil rights protection. SCs, which almost doubled in number in Italy

between 2001 and 2011, reaching a total of 11,264 and employing about 320,513 workers,[2] may be included in the broader category of social enterprises[3] (Borzaga & Defourny, 2001; Kerlin, 2006), whose presence has grown dramatically in many regions of the world over the past two decades (Kerlin, 2010).

Social capital is generally referred to as all "features of social life – networks, norms, and trust – that enable participants to act together more effectively to pursue shared objectives" (Putnam, 1995, p.67). At the level of individuals, Bourdieu (1980) stressed the role of social relations and defined social capital as "the sum of the resources, actual or virtual, that accrue to an individual or group by virtue of possessing a durable network of relationships of mutual acquaintance and recognition" (Bourdieu & Wacquant, 1992). Putnam (1995) argued that a research priority is to clarify the dimensions of social capital. Uphoff (1999) drew a distinction between the structural and cognitive dimensions of the concept. Structural social capital concerns individuals' behaviours and mainly takes the form of networks. Cognitive social capital derives from individuals' perceptions resulting in norms, values and beliefs that contribute to cooperation.

Several studies have investigated the effect of associational participation on social capital's cognitive dimensions before. At the individual level, Stolle and Rochon (1998) used World Values Survey cross-sectional data from the U.S., Germany and Sweden to show that membership of diverse associations affects social capital in different ways. The authors found that the degree of "associational diversity" is positively correlated with generalized trust and community reciprocity among members (p.61). At the macro level, Knack and Keefer (1997) investigated the effect of different types of organization on generalized trust. More recently, Grießhaber and Geys (2012), found that the impact of membership on corruption significantly varies according to the

---

[2] 9° "Censimento industria e servizi e Istituzioni non profit 2011" (Census of industry and services and nonprofit institutions in 2011), http://dati-censimentoindustriaeservizi.istat.it/.

[3] The category "social enterprise" presents some differences between the US and the European context. In the latter, SCs are explicitly considered as social enterprises (see in particular the approach developed by EMES: European Research Network; see also Kerlin, 2006).

association's characteristics in terms of inclusiveness and interconnectedness in a cross-section of 20 European democracies. Similar results on the different effects of diverse types of association have been obtained by other authors (e.g. Hooghe, 1998).

In this paper we focus on the so far neglected structural dimension of social capital. We study how different types of organization may affect the social networks of their members.

3. Dataset, social capital indices and independent variables

3.1 Dataset

The empirical analysis is based on an original dataset obtained by merging data collected by the authors through the administration of an anonymous questionnaire in two different surveys, in 2007 and 2011 respectively. Despite the economic crisis that occurred between the two years, the merging of the two datasets seems not to undermine our empirical results. In fact, a dummy equal to 1 for subjects who filled in the questionnaire in 2007 and 0 for those who filled in the questionnaire in 2011 is not significantly related to the formation of social networks when included in regressions presented in Table 2.

In 2007, respondents were volunteers in SWAs. 290 members of 45 associations operating in the province of Parma in northern Italy participated in the survey. The number of volunteers per association was 6.4 on average (minimum 2, maximum 11 and standard deviation 2.4). The sample of organizations was a stratified random sample[4] that represents 10% of organizations in the province. Volunteers were randomly chosen among members of the associations. They filled in a questionnaire of 64 questions about their experience as volunteers and returned it immediately to the person in charge of administering and collecting the questionnaires. We did not observe self-selection problems with respect to volunteers of SWAs, as volunteers where randomly selected and they all returned their questionnaire.

---

[4] Strata referred to the district where the association operated (the province of Parma is divided into four administrative districts very different in terms of population density) and its main activity.

In 2011, the questionnaire was administered to volunteers and salaried workers at SCs operating in the same province. SCs were contacted through a consortium of associations involving 37 SCs. This consortium represents a significant part of the 73 SCs operating in the province. All 37 SCs were invited to take part in the research project. 17 SCs agreed to participate (12 of which were A-type, 1 was B-type and 4 were A+B-type).[5] In total, we collected questionnaires from 32 volunteers in 12 SCs (2.7 volunteers per organization on average; minimum 1; maximum 5 and standard deviation 1.5)[6] and 106 workers in 17 SCs (6.2 workers per organization on average, minimum 1, maximum 15 and standard deviation 4.5). In the 2011 survey, we asked managers of SCs to distribute questionnaires to all their workers and volunteers. Questionnaires were distributed and filled in at home. Since many subjects did not return the questionnaires (we received questionnaires from the 26% of workers and 9% of volunteers),[7] there could be a problem of self-selection with respect to subjects involved in SCs. However, our main empirical result (i.e. that volunteers seem to be less able to develop networks when they operate in SCs rather than in SWAs) induces us to think that self-selection does not invalidate our result. What we found is that the "more cooperative" individuals (more inclined to fill in and to return the questionnaires) among volunteers of SCs develop less social capital than volunteers of SWAs. If self-selection is at work, we should expect that, without it, our results would be even stronger.

In both the surveys, we asked senior members with a detailed knowledge of their organization questions about the organization's characteristics, such as its size, operational characteristics, etc.

Table 1 summarizes the size of sub-samples of volunteers and workers across the two types of organization.

---

[5] "Type A" cooperatives are those that aim to supply welfare services such as healthcare, assistance, education, and environment protection services. "Type B" cooperatives are those promoting work integration for disadvantaged people. "Type A + B" cooperatives are those pursuing both aims (see Law 381/1991 - *Disciplina delle cooperative sociali*, available at the url: bit.ly/381-1991 – in Italian).

[6] The sample of volunteers in SCs is smaller than the samples of workers in SCs and volunteers in SWAs. This reflects the limited involvement of volunteers in SCs. 12 out of 17 SCs included in our sample have less than 10 volunteers and 14 out of 17 less than 20. Five SCs did not return any questionnaires filled by volunteers.

[7] With respect to SCs, the lowest percentage of volunteers involved in the research is mainly due to the highest difficulty to contact them than workers (who spend much more time within the organization).

Table 1 - here

Our data are not representative at a national level. They reflect a situation observed in a province of Italy with 445,283 inhabitants characterized by many SWAs and a significant number of SCs.[8] However, the SWAs and the SCs that are considered in our analysis conform to Laws 266/1991(see footnote 1) and 381/1991 (see footnote 5) respectively. As such, they are in general comparable to the associations and cooperatives operating in Italy and conforming to the previous Laws.

The questionnaire was specifically designed by the authors to investigate the relationship between participation in different kinds of organization and the creation of social capital. This special focus allows us to carry out an analysis that would have not been possible using existing national databases.

3.2 Social Capital Indices

Following the approach of *(anonymized citation)*, who drew on a subset of our data to analyse associations only, we elaborated two indices of social capital intended as networks of cooperative relations. They explicitly consider the degree of attachment characterizing the relations formed through the organization. A proxy named *Strong_ties* is the standardized[9] mean value of the answers to the following questions:

"1. How many of the people you have met through the association/cooperative would you:

    a. Talk to about family problems?

    b. Trust to look after your relatives (e.g. children or elderly persons)?

---

[8] With 7.3 voluntary associations per 10,000 inhabitants, Parma has the ninth largest number of voluntary associations per inhabitant (Istat, 2003) of the 113 Italian provinces. It has the 37th largest number, with 17.08 per 100,000 inhabitants, of SCs (our calculation on data from Istat: http://dati-censimentoindustriaeservizi.istat.it/ and http://demo.istat.it/bil20111009/index04.html).

[9] The standardization procedure is: $\dfrac{x_{ic} - min(x_i\ )}{max(x_i\ ) - min(x_i\ )}$ where: x_{ic} is the value *i* related to the organization *c*. This standardization process creates standardized indicators with values ranging between 0 and 1, and generates a more robust trial in the presence of *outliers*, which seem to characterize our indicators.

c. Ask to take care of your home when you are on holiday?

d. Give/ask for help with errands such as shopping, accompanying children or elderly persons
to do different activities, etc.?"

The second index of social capital, named *Weak_ties*, is the standardized mean value of the answers to the question:

"2. With how many of the people you've met through the association/cooperative have you started the following relations:

a. Phone calls to ask for information or advice?

b. Doing not very demanding errands?

c. Asking for information about job opportunities?"

In adopting the labels "strong ties" and "weak ties" to denote these indicators, we basically follow Granovetter's (1973) notion of the strength of ties as a "combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie" (1973, p.1361). According to this definition, the act of providing concrete mutual support reflects a high "degree of strength" of an interpersonal tie. However, we are aware that ties entailing lighter forms of support – such as the provision of information or advice on the telephone – may in principle match Granovetter's (1973) definition of strong ties as well. The label "weak" that we apply to the indicator serves only to compare these ties with the stronger relations entailing more concrete forms of support.

3.3. Independent Variables

The two independent variables of main interest are:

• A dummy variable (*Volunteer_in_association*) equal to 1 if the respondent is a volunteer in a SWA and 0 if s/he is a volunteer or a worker in a SC;

- A dummy variable (*Worker*) equal to 1 if the respondent is a worker in a SC and 0 if s/he is a volunteer (in a SC or in a SWA).

We include in our regressions several control variables that give us the opportunity to interpret our results in light of some characteristics of the organizations and of the associational activities carried out by their members.

At the individual level, the independent variables included in the regressions concern socio-demographic characteristics, and the depth and type of respondents' involvement in the organization. At the level of the organization, the independent variables included in the regressions concern various operational and structural characteristics of the organization. See Appendix 1 for a detailed description of these variables.

4. Descriptive findings

As regards the different trust-based relationships started between members and the people met through the organization and considered to the elaboration of the two social capital indices:

- The following percentages of respondents declared to have met through the organization at least one person they would: 1) talk to about family problems: 77.62% (mean and median of answers: 4.873 and 2 respectively); 2) trust to look after their relatives (children/elderly persons): 62.44% (3.192;1); 3) ask to take care of their home while they were on holiday 55.42% (2.756;1); 4) give/ask for help with errands such as shopping, accompanying a child or elderly persons in different circumstances, etc.: 47.45% (2.717;0);

- The following percentages of respondents declared to have met through the organization at least one person they would: 1) call to ask for information or advice: 71.28% (4.844;2); 2) ask for help doing not very demanding errands: 54.85% (3.094;1); 3) ask for information about a job: 65.24% (5.091; 2).

These figures are different, even though the difference was not always statistically significant, when we compared volunteers and workers between and within organizations (Figure 1):

a) Volunteers in associations show higher values than volunteers in SCs;

b) In SCs, workers show higher values than volunteers;

c) Volunteers in associations present almost the same values as workers in cooperatives.

When we specifically looked at the two social capital indices elaborated from the previous indicators, we found that:

- The *Weak_ties* index presents a distribution of values significantly larger (at 10% of significance) when it refers to volunteers in SWAs in comparison with volunteers in SCs (*Weak_ties*: Wilcoxon p = 0.0581; *Strong_ties*: Wilcoxon p= 0.140);

- The two indices do not show statistically significant differences when we compare workers and volunteers belonging to SCs (*Weak_ties*: Wilcoxon p = 0.160; *Strong_ties*: Wilcoxon p= 0.154);

- The indices do not show statistically significant differences when we compare workers in SCs and volunteers in associations (*Weak_ties*: Wilcoxon p = 0.614; *Strong_ties*: Wilcoxon p= 0.100).

Figure 1 - Here

5. Econometric results

We used OLS estimates where standard errors are clustered by accounting for the organization to which the member belonged; that is, we assumed that observations were independent across groups, but not necessarily between groups, where the groups were formed by respondents belonging to the same organization.

Table 2 shows our regression results where the two indices of social capital are the dependent variables, in regressions 1 and 2 respectively. The main independent variables are the dummies *Volunteer_in_association* (equal to 1 if the respondent volunteers in a SWA) and *Worker* (equal to 1 if the respondent is a worker in a SC).

Control variables are: age, gender, the number of years spent in the organization, and a dummy variable equal to 1 if the respondent has at least a university degree. Notice that the following results, including the robustness check, do not significantly change if we consider, instead of this variable, a categorical variable measuring the level of education between 0 (no education) and 6 (postgraduate qualification).[10] Descriptive statistics of these variables are reported in Appendix 2.

After controlling for socio-demographic variables and for the degree of involvement in the organization, we found that (Table 2):

Result 1   Volunteering in SWAs is associated with higher levels of volunteers' social capital than volunteering in SCs. Being a volunteer in a SWA instead of a volunteer in a SC is associated with a 45% higher level of the *Strong_ties* index and with a 54% higher level of the *Weak_ties* index with respect to the sample mean.

Result 2   In SCs workers exhibit higher levels of social capital. Being a worker instead of a volunteer is associated with a 43% higher value of the *Strong_ties* index and a 59% higher value of the *Weak_ties* index.

Result 3   There are no statistically significant differences in the two indices of *Strong_ties*[11] and *Weak_ties*[12] between volunteers in SWAs and workers in SCs.

Socio-demographic characteristics seem not to be significantly associated with the creation of social capital.

Table 2- here

Tables 3 and 4 propose a robustness check for the significance of the different correlation of participation in the two types of organization with social capital presented in Table 2. Evidence presented in the following tables allows us to go further into both the investigation of the

---

[10] There is only one case where a weakly significant effect disappears: Table 3, Reg.7, variable *Workers* in relation to *Strong_ties*.
[11] Wald test between coefficient of *Volunteer_in_association* and *Worker* p=0.927.
[12] Wald test between coefficient of *Volunteer_in_association* and *Worker* p=0.757.

determinants of social capital creation and the possible reasons – associated with the different characteristics of the organizations and of the organizational activities performed by their members – for the different effects recorded between volunteers and workers within and between organizations.

In Table 3 we included variables measured at the individual level. In Table 4 we included variables at the level of the organization. All the control variables were measured for both volunteers and workers.

In Tables 3 and 4 we add one by one the control variables to the regressions presented in Table 2. The practice of testing control variables individually is not common (even though some other studies use similar approaches, e.g. Becchetti et al., 2010; Burks et al., 2003). We decided to include them one by one in the robustness check because of the high number of missing values. When we include all the independent variables in the regressions presented in Table 2, the number of observations drops from more than 360 to less than 250. In particular, the limited sub-sample of volunteers in SCs becomes very small when we include all the control variables in the same regression. Moreover, the problem with missing values cannot be tackled by including all but one or two control variables in the regression. In fact, missing values affect the different variables with respect to different observations. Obviously the situation changes when we include the control variables one by one, with regressions that, in the worst case, have 324 observations. All variables are described in the Appendix 1.

Table 3 shows the coefficient of the independent variable of main interest (*Volunteer_in_association* and *Worker*) when the control variables considered in the regressions presented in Table 2 are included (*Age, Female, University, Time_in_ org*) along with other individual covariates.

Regressions 1–5 account for the frequency with which the respondent participates in activity groups with volunteers (Reg.1), or enters into relations with users (Reg.2), with family members of users (Reg.3), with representatives of the local community (Reg.4), or with representatives of local

institutions (Reg.5). The first four aspects are positively and significantly associated with social capital creation. Moreover the degree of participation in activity groups with other volunteers is the only control variable that eliminates the significance of the dummy *Volunteer_in_association* in respect to the *Strong_ties* index.

Regression 6 highlights that the *Strong_ties* and *Weak_ties* indices positively correlate with managers' efforts to support the integration of new members into the organization, for example through group presentations, welcoming dinners, and organized trips.

Regression 7 suggests that the frequency of respondents' involvement in informal activities promoted by the organization – such as social dinners, trips, cultural events, and discussion groups – may promote the creation of networks of cooperative relations with the people met through the organization.

Regression 8 reveals a significant correlation between the creation of social capital and the importance given by respondents to the spirit of cooperation among members of the organization.

Regression 9 includes dummy variables representing the place of birth of respondents (northern Italy, central Italy, or abroad). They are not significantly correlated with social capital creation, with the exception of the *abroad* dummy, which significantly and negatively correlates with the *Strong_ties* index.

Regression 10 includes binary variables representing the main type of activity that respondents perform in their organization. The type of activity does not significantly affect the creation of social capital, apart from a negative effect of accounting activities.

Regression 11 shows that the importance given by respondents to the embeddedness of the organization in the local community is significantly and positively correlated with the *Strong_ties* index.

Regression 12 considers the effect of the motivations that induced respondents to join the organization. We considered both intrinsic and extrinsic motivation. Following Deci, one ''is intrinsically motivated to perform an activity when one receives no apparent reward except the

activity itself'' (Deci, 1971, p.105). Intrinsic motivations may have an important role in organizations characterized by high participation in decisions and solidarity goals (Degli Antoni, 2009) and in nonprofit organizations in general and SCs (Becchetti et al., 2013), where the presence of volunteer work may strengthen the idea that people act because they obtain satisfaction from the action in itself (Frey and Goette, 1999). However, both volunteers and workers who join nonprofit organizations may also be extrinsically motivated. They may want to enrich their social network (Prouteau and Wolff, 2004) or they may look for the social recognition that derives from volunteering or working in nonprofit organizations characterized by social goals (Schiff, 1990; Meier and Stutzer, 2008). In our analysis, we consider two intrinsic motivations, i.e. ideal motivation (*Mot_ideal*) and the desire to feel useful to others (*Mot_usefulness*), and two extrinsic motivations, i.e. the desire to increase the number of acquaintances or friends (*Mot_friends*) and the pursuit of social recognition (*Mot_social*).

Regression 12 shows that people with a higher ideal motivation seem to experience a larger increase in their social capital than do people with poor ideal motivations. A weakly significant effect emerges with respect to the pursuit of social recognition, in relation to the *Weak_ties* index.

Regression 13 reveals a strong association with social capital of the level of respondents' current motivation in joining the organization's activity.

Finally, Regression 14 includes two dummies related to work status. *No-income* takes the value of 1 for unemployed workers and those who are not in the labour force (i.e. students and housewives). *Low-income* refers to subjects with low-income occupations (blue-collar workers, educators and workers with atypical contracts) and retired workers. The two proxies for subjects' socio-economic conditions neither affect the formation of social networks nor do they significantly change our main results.

Table 3 – here

16

In Table 4, control variables at the level of the organization are considered.

The frequency of informal meetings to discuss organizational activity is positively associated with the two social capital indices (Reg.1). This suggests that the integration of newcomers into the organization may not entirely depend on workers' individual efforts to learn how to fit in. Rather, the organization's relational climate and the human resources strategies adopted by the management are likely to play a positive role. However, the negative coefficient of the number of formal meetings held during the past year (Reg. 2) suggests that not all types of meeting can have the same impact on the creation of social networks. The literature on relational goods provides possible insights to explain this result. Uhlaner (1989) intended relational goods as intangible goods that cannot be enjoyed alone and that are generated as the relation with non-anonymous agents goes on. Examples of relational goods are friendship and social approval (Uhlaner, 1989, p.255). The production of relational goods is strictly based on mutual agreement (Uhlaner, 1989). The creation of relational goods cannot be imposed and goodwill is particularly important for their production. Even though they may be generated through encounters that may happen in any circumstances, some situations seem to be more convenient than others. In particular, relations that are started spontaneously are more likely to foster the creation of relational goods (Prouteau and Wolff, 2004). Following these arguments, we suppose that informal meetings promoted by the organization represent a more effective circumstance for the creation of social relations than formal meetings.

When the percentage of volunteers in the workforce is considered, the difference in the creation of social capital between volunteers in SWAs and in SCs is no longer significant with respect to the *Strong_ties* and *Weak_ties* indices (Reg.3). However, multicollinearity between *Volunteer_in_association* and *Volunteers_%* suggests caution in interpreting the result from Reg.3.[13]

---

[13] Even though the Variance Inflation Factor of the two variables (*volunteer_in_association* and *volunteers_%*) is not particularly high (8.35 and 7.20 when the dependent variable is *Strong_ties* and 8.36 and 7.01 when the dependent variable is *Weak_ties*), the correlation between the two variables is very high (0.91) and the F-test of the hypothesis that the coefficients of the two variables are simultaneously equal to 0 rejects the null.

The other covariates considered in the Table (regressions 4–11) neither significantly affect, at least in the large majority of cases, the creation of social capital, nor do they substantially change the different effects of respondents' participation within and between organizations as they emerged in Table 2.The only exception is the *Worker* dummy, which becomes not significant with respect to the *Strong_ties* index when the sector of activity of the organization is considered (Reg.10).

Table 4 – here

6. Discussion of results

Both workers in SCs and volunteers in the two types of organization report that in-the-field interactions have contributed to the creation of new personal contacts. If we focus on the creation of strong and weak ties by volunteers, the econometric analysis shows that SWAs perform better. If we also account for salaried workers, our results suggest that on-the-job interactions within SCs increase the individual social capital of workers to the same extent to which in-the-field interactions influence the individual social capital of volunteers in SWAs.

We find that the establishment of both weak and strong ties is significantly and positively associated with managers' efforts to support the integration of newcomers and by the degree of involvement in informal group activities promoted by the organization, such as social and cultural events.

The significance of the relationship between volunteering in SWAs and the creation of strong ties entailing mutual support disappears if we include in the analysis a control variable measuring the degree of participation in group activities with other volunteers. This result suggests that the main difference between SWAs and SCs may lie in the depth of volunteers' involvement in group activities with other volunteers. This may be related to differences in the composition of the workforce between the two types of organization. In SWAs salaried workers constitute a minority of the workforce. In SCs, by contrast, volunteers are only a residual and limited part of the

workforce. The effect of the degree of volunteers' involvement in group activities with other volunteers leads us to think that volunteers better empathize and develop new ties with people with similar status and motivations, consistent with the claims of the literature on tokenism. Evidence from this field of studies suggests that volunteers and workers may better empathize and develop new ties with people with similar status and motivations. The concept of tokenism (Kanter, 1977) is often used to explain the effects of being a numerical minority in a relatively homogeneous environment (female tokens in male-dominated jobs in the seminal study by Kanter). Members of numerical minorities in work environments are found to receive less support from colleagues than members of the numerically dominating group (in terms, for example, of empathy and actual assistance), to develop fewer informal ties and job-related contacts, and to report lower job satisfaction and health (Ducharme and Martin, 2000; Wallace and Kay, 2012).

The analysis suggests that ideal motivations and cooperative attitudes also play an important role in fostering workers' and volunteers' ability to develop their networks through in-the-field interactions.

Overall, the empirical evidence suggests that the homogeneity of members' status and motivation may be an important driver of the association's ability to foster the creation of social capital by their members.

7. Conclusions

Our findings suggest that SCs and SWAs are not all alike in how they affect their members' social capital. In-the-field interactions probably allow volunteers in SWAs to develop their networks to a greater extent than is the case in SCs. The latter type of organization, however, is likely to effectively foster the development of workers' social capital through on-the-job interactions.

Our results enrich the literature on associational diversity. First, we add to the debate by analysing the contribution of two specific types of Putnam groups to the creation of social capital.

Second, our questionnaire allows us to use as outcome variables refined and reliable indicators of the structural dimensions of the concept – as given by social networks of human relations with different degrees of strength. The specificity of these indicators is fundamental for providing a more in-depth evaluation of the impact of participation in nonprofit organizations. In addition, our research design allows us to exclude the existence of reverse causality – one of the most common forms of endogeneity in social capital studies – since changes that have occurred in workers' and volunteers' networks cannot in any way influence their past choice to work or volunteer for a SC or for a SWA. Finally, unlike previous studies on associational participation, which prevalently focus on volunteers, our sample also includes workers.

However, much research has to be done in the area to improve our understanding of the role of nonprofit organizations– and of organizational diversity – in economic development and well-being. Our results do not clarify whether the organization is able to "socialize" the sentiments of trust that are developed in the context of workers' and volunteers' personal networks. The relationship between our two main independent variables and the outcome variables accounted for in Knack and Keefer (1997) and Stolle and Rochon (1998) – i.e. civic attitudes and generalized trust – should be investigated, possibly in a larger sample.

Even if our research design allows us to overcome reverse causality issues, other endogenity problems still remain open. Organizational participation, as workers or as volunteers, and the individual propensity of workers to develop social networks as a consequence of their interaction with the organization's environment, may be influenced by omitted variables. An effort must be made to collect suitable – possibly longitudinal – data to address causality in the econometric analysis.

Appendix 1 – Description of individual variables

Volunteer_in _association	Dummy variable (DV) = 1 if volunteer in a nonprofit association		Motivations for joining the association/social cooperative measured by response to the following question: "With respect to your decision to become a volunteer (to start/accept your work in the cooperative), how important were the following aspects, from 1 (not at all) to 7 (entirely)?"
Worker	DV = 1 if worker in a social cooperative	*Mot_social* *Mot_ideal*	pursuit of social recognition ideal motivations
Age	Respondent's age in years	*Mot_Usefulness* *Mot_friends*	desire to feel useful for others desire to increase your number of acquaintances or friends
Female	DV=1 respondent is a female	*Current_ Motivation*	Strength of the current respondent's motivation for joining the organization, between 1 (I feel really poorly motivated in my activity) and 7 (very strongly motivated)
University	DV=1 respondent has at least a university degree	*No-income* *Low-income*	= 1 for people who do not have an occupation, e.g. students, housewives, and unemployed subjects with low income occupations (manual workers, educators and workers with atypical contracts) and retired people
Time_in_ org	Years spent in the organization	*Entrance*	Effort made by managers to welcome new members in the organization (e.g. group presentations, social dinners)
Informal_ activities	How often the respondent participates in informal activities promoted by the organization (e.g. dinners, trips), from 1 (never) to 5 (always)		How often, from 1 (never) to 5 (every week), the respondent:
Dummy variables measuring the activities carried out in the organization		*Contact_ volunteers*	participates in group activities with volunteers
Manual	manual activities	*Contact_Users*	enters into relations with users
Service	service delivery	*Contact_relatives*	enters into relations with household members of users
Accounting	accounting	*Contact_ institutions*	enters into relations with representatives of local institutions
Public	public relations	*Contact_ community*	enters into relations with representatives of the local community
North *Centre* *Abroad*	Macroregion of birth	*Contact_ Forprofit*	enters into relations with managers of for-profit firms
Spirit_coop	Importance given to the creation of a spirit of cooperation among members (7- level scale)	*Local_community*	Importance given to the creation of connections between the organization's members and the local community (7-level scale)

Appendix 1 – Description of organizational variables

Parma, Fidenza, Taro_ceno, Sud_est	DV indicating the administrative district of the province of Parma in which the organization operates
Assistance	DV=1 if the organization operates in the sector of Assistance
Civil_right	DV=1 " Civil Rights Promotion and Preservation
Education	DV=1 " Education
Recreation	DV=1 " Recreation and Culture
Health	DV=1 " Health
Environment	DV=1 " Environmental and Animal Conservation
Civile_defence	DV=1 " Civil Defence
Commercial	DV=1 " Commercial activity
Area	DV=1 if the organization operates only within the province of Parma, 0 otherwise
Coop_a	DV=1 social cooperative of type A
Coop_b	DV=1 " of type B
Coop_ab	DV=1 " of type A+B
Years_org	Number of years in operation
Volunteers	Number of volunteers in the organization
Workers	Number of workers in the organization
Workers and volunteers	Total number of workers and volunteers in the organization
Volunteers_%	Percentage of volunteers in the organization
Formal_meetings	Number of formal meetings held in the last 12 months
Informal_meetings	DV=1 if the organization promotes informal meetings to discuss its activity

Appendix 2 - Descriptive Statistics

	Observations	Mean	St. dev.	Min.	Max.
Dependent variables					
Strong _ties	377	0.042	0.072	0	1
Weak _ties	378	0.056	0.085	0	0.702
Independent variables					
Volunteer_in_association	428	0.678	0.468	0	1
Worker	428	0.248	0.432	0	1
Age	412	46.777	15.892	17	87
Female	421	0.563	0.497	0	1
University	422	0.280	0.449	0	1
Time_in_org	422	8.633	7.802	1	49

References

Andrews Rhys (2010). Organizational social capital, structure and performance. *Human Relations* 63 (5): 583-608.

Andriani, Luca & Fabio Sabatini, (2015). Trust and Prosocial Behaviour in a Process of State Capacity Building: the Case of the Palestinian Territories. *Journal of Institutional Economics* 11 (4), 823-846.

Antoci, Angelo, Fabio Sabatini & Mauro Sodini (2012). The Solaria Syndrome: Social Capital in a Hypertechnological Growing Economy, *Journal of Economic Behavior & Organization*. 81(3): 802-814.

Antoci, Angelo, Fabio Sabatini & Mauro Sodini (2013). Economic growth, technological progress and social capital: the inverted U hypothesis. *Metroeconomica* 64 (3), 401-431.

Antoci, Angelo, Fabio Sabatini & Mauro Sodini (2015). Online and offline social participation and social poverty traps. *Journal of Mathematical Sociology*, dx.doi.org/10.1080/0022250X.2015.1022278.

Becchetti, Leonardo & Giacomo Degli Antoni (2010).The sources of happiness: Evidence from the investment game, *Journal of Economic Psychology*. 31(4): 498–509.

Becchetti, Leonardo, Stefano Castriota & Ermanno C. Tortia (2013). Productivity, wages and intrinsic motivations, *Small Business Economics*. 41(2): 379–399.

Borzaga, Carlo & Jacques Defourny (2001). *The emergence of social enterprise*. London: Routledge.

Borzaga, Carlo & Ermanno Tortia (2006). Worker Motivations, Job Satisfaction, and Loyalty in Public and Nonprofit Social Services, *Nonprofit and Voluntary Sector Quarterly*. 35(2): 225–249.

Bourdieu, Pierre (1980). Le capital social, *Actes de la Recherche en Sciences Sociales*. 31: 2–3.

Bourdieu, Pierre & Loïc Wacquant (1992). *An Invitation to reflexive sociology*. Cambridge: Polity.

Brown, Timothy T., Scheffler Richard M., Seo Sukyong & Mary Reed (2006). The empirical relationship between community social capital and the demand for cigarettes, *Health Economics*. 15: 1159–1172.

Burks, Stephen V., Jeffrey P. Carpenter and Eric Verhoogen (2003). Playing both roles in the trust game, *Journal of Economic Behavior & Organization*. 51(2): 195–216.

Coleman, James S. (1990). *Foundations of Social Theory*. Cambridge: Harvard University Press.

Deci, Edward L. (1971). Effects of Externally Mediated Reward on Intrinsic Motivation, *Journal of Personality and Social Psychology*.18: 105–115.

Degli Antoni, Giacomo (2009). Intrinsic vs. Extrinsic Motivations to Volunteer and Social Capital Formation, *Kyklos*, 62(3): 359–370.

Degli Antoni, Giacomo & Elisa Portale (2011). The Effect of Corporate Social Responsibility on Social Capital Creation in Social Cooperatives. *Nonprofit and Voluntary Sector Quarterly*40 (3), 566-582.

Ducharme, Lori J. & Jack K. Martin (2000). Unrewarding work, coworker support, and job satisfaction. *Work & Occupations*,27, 223–43.

European Commission (2005). *The Contribution of Social Capital in the Social Economy to Local Economic Development in Western Europe*. EU Research in Social Sciences and Humanities. Final Report. Brussels: European Commission.

Findlay, Patricia, Arne L. Kalleberg, & Chris Warhurst (2013). The challenge of job quality. *Human Relations* 66(4): 441-451.

Fiorillo, Damiano & Fabio Sabatini (2011). Quality and quantity: the role of social interactions in individual health, *Social Science and Medicine*. 73: 1644–1652.

Fiorillo, Damiano & Fabio Sabatini (2015). Structural social capital and health in Italy. *Economics & Human Biology* 17, 129-142.

Folland, Sherman (2006). Value of life and behavior toward health risks: an interpretation of social capital, *Health Economics*. 15(2): 159–171.

Frey, Bruno S. & Lorenz Götte (1999). Does Pay Motivate Volunteers? Unpublished Manuscript. Institute for Empirical Economic Research. University of Zurich.

Granovetter, Mark (1973). The Strength of Weak Ties, *American Journal of Sociology*. 78(6): 1360–1380.

Grießhaber, Nicolas & Benny Geys (2012).Civic Engagement and Corruption in 20 European Democracies, *European Societies*. 14(1): 57–81.

Grootaert, Christiaan & Thierry Van Bastelaer (eds.) (2001).*The Role of Social Capital in Development: an Empirical Assessment*. Cambridge, UK: Cambridge University Press.

Gui, Benedetto (2000). Beyond Transactions: on the Interpersonal Dimension of Economic Reality. *Annals of Public and Cooperative Economics* 71(2): 139–169.

Hansen, Morten T. (1999). The search-transfer problem: The role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly, 44*(1), 82-111.

Haski-Leventhal, Debbie & David Bargal (2008). The volunteer stages and transitions model: Organizational socialization of volunteers. *Human Relations* 61(1): 67-102.

Hooghe, Marc (1998). Voluntary Associations and Democratic Attitudes: Value Congruence as a Causal Mechanism, in Marc Hooghe and Dietlind Stolle (eds.) *Generating Social Capital. Civil Society and Institutions in Comparative Perspective*. New York: Palgrave MacMillan.

Huck, Steffen, Dorothea Kübler, & Jörgen Weibull (2012). Social Norms and Economic Incentives in Firms. *Journal of Economic Behavior & Organization* 83(2): 173-185.

Istat (2003). *Le Organizzazioni di Volontariato in Italia*. Rome: Istat.

Kandel, Eugene & Edward, P. Lazear (1992). Peer Pressure and Partnerships. *Journal of Political Economy* 100(4): 801-817.

Kerlin, Janelle A. (2006). Social enterprise in the United States and Europe: Understanding and learning from the differences, *Voluntas: International Journal of Voluntary and Nonprofit Organizations*. 17(3): 247–263.

Kerlin, Janelle A. (2010). A Comparative Analysis of the Global Emergence of Social Enterprise, *Voluntas: International Journal of Voluntary and Nonprofit Organizations*.21(2):162-179.

Knack, Stephen & Philip Keefer (1997). Does Social Capital Have an Economic Payoff? *The Quarterly Journal of Economics*. 112(4): 1251–1288.

Leana, Carrie R., & Harry J. Van Buren (1999). Organizational social capital and employment practices. *Academy of Management Review, 24*, 538-555.

Mäkelä, Kristiina, & Chris Brewster (2009). Interunit interaction contexts, interpersonal social capital, and the differing levels of knowledge sharing. *Human Resource Management*. 48.4: 591-613.

Nahapiet, Janine, & Sumantra Ghoshal (1998). Social capital, intellectual capital, and the organizational advantage. *Academy of management review* 23(2): 242-266.

OECD (2010). *Social Capital, Human Capital and Health: What is the Evidence?* Paris: OECD.

Prouteau, Lionel & François-Charles Wolff (2004). Relational Goods and Associational Participation, *Annals of Public & Cooperative Economics*. 75(3): 431–463.

Putnam, Robert D. (1995). Bowling Alone: America's Declining Social Capital, *Journal of Democracy*. VI: 65–78.

Putnam, Robert D. (2000). *Bowling Alone. The Collapse and Revival of American Community*. New York: Simon & Schuster.

Putnam, Robert D., Robert Leonardi & Raffaella Y. Nanetti (1993). *Making Democracy Work*. Princeton: Princeton University Press.

Sabatini, Fabio (2008). Does social capital improve labour productivity in Small and Medium Enterprises?. *International Journal of Management and Decision Making* 9(5): 454-480.

Sabatini, Fabio (2009). Social Capital as Social Networks: a New Framework for Measurement and an empirical analysis of its determinants and consequences. *Journal of Socio-Economics*, 38 (3), 429-442.

Sabatini, Fabio, Modena, Francesca and Ermanno Tortia (2014). Do cooperative enterprises create social trust? *Small Business Economics* 42 (3), 621-641.

Schiff, Jerald Alan (1990). *Charitable Giving and Government Policy. An Economic Analysis*. New York: Greenwood Press.

Stolle, Dietlind, & Thomas R. Rochon (1998).Are All Associations Alike? *American Behavioral Scientist*. 42(1): 47–65.

Uhlaner, Carole Jeane (1989). Relational goods and participation: incorporating sociability into a theory of rational action, *Public Choice*. 62(3): 253–285.

Uphoff Norman (1999). Understanding Social Capital: Learning from the Analysis and Experience of Participation, in Partha Dasgupta and Ismail Serageldin (eds.) *Social Capital: A Multifaceted Perspective*. Washington, D.C.: The World Bank.

Wallace, Jean A. & Kay, Fiona M. (2012). Tokenism, organizational segregation, and coworker relations in law firms, *Social Problems*. 59(3): 389–410.

World Bank (2011). Social Capital and Civil Society, retrieved at the url http://go.worldbank.org/4NQ143KXT0.

Zhang, Yanlong, & Nan Lin (2015). Hiring for Networks: Social Capital and Staffing Practices in Transitional China. *Human Resource Management*. DOI:10.1002/hrm.21738.

Tables

Table 1

Number of subjects per employment status (volunteers vs. workers) and type of organization

	Volunteers	Workers
Social welfare associations	290	0
Social cooperatives	32	106

Table 2

The effect of membership of different types of organizations on individual social capital

Regression	1	2
	Dependent Variable	
	Strong_ties	*Weak_ties*
Volunteer_in_association	0.019***	0.030***
	(0.006)	(0.008)
Worker	0.018***	0.033***
	(0.006)	(0.008)
Age	0.000	0.000
	(0.000)	(0.000)
Female	-0.001	-0.012
	(0.008)	(0.009)
University	0.004	0.008
	(0.010)	(0.012)
Time_in_ org	0.001	0.000
	(0.000)	(0.000)
Constant	0.016	0.032**
	(0.015)	(0.015)
R^2	0.0084	0.0151
Root MSE	0.0717	0.08197
Obs.	364	366

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%.

Table 3

Correlation of membership of different types of organizations with social capital – robustness check with individual variables

		Strong_ties	Weak_ties			Strong_ties	Weak_ties
	Volunteer_in_association	0.008	0.018**		Volunteer_in_association	0.019***	0.029***
		(0.007)	(0.009)			(0.006)	(0.008)
Reg.1	Worker	0.013	0.028***	Reg.5	Worker	0.017**	0.032***
		(0.008)	(0.013)			(0.006)	(0.009)
	Contact_volunteers	0.011***	0.012***		Contact_institutions	0.003	0.005
		(0.004)	(0.004)			(0.003)	(0.004)
	R^2	0.0508	0.0555		R^2	0.0108	0.0192
	Volunteer_in_association	0.027***	0.038***		Volunteer_in_association	0.025***	0.036***
		(0.008)	(0.009)			(0.007)	(0.009)
Reg.2	Worker	0.015*	0.030***	Reg.6	Worker	0.030***	0.045***
		(0.008)	(0.009)			(0.008)	(0.010)
	Contact_users	0.010**	0.010***		Entrance	0.007***	0.007***
		(0.004)	(0.004)			(0.002)	(0.002)
	R^2	0.0405	0.0396		R^2	0.0296	0.03144
	Volunteer_in_association	0.029***	0.040***		Volunteer_in_association	0.012**	0.021***
		(0.010)	(0.011)			(0.005)	(0.008)
Reg.3	Worker	0.009	0.025**	Reg.7	Worker	0.010*	0.022**
		(0.009)	(0.011)			(0.006)	(0.009)
	Contact_relatives	0.011*	0.011**		Informal_activities	0.010***	0.011***
		(0.006)	(0.005)			(0.003)	(0.003)
	R^2	0.0489	0.0456		R^2	0.0286	0.0355
	Volunteer_in_association	0.016**	0.023***		Volunteer_in_association	0.021***	0.031***
		(0.006)	(0.008)			(0.007)	(0.008)
Reg.4	Worker	0.013**	0.021**	Reg.8	Worker	0.021***	0.035***
		(0.007)	(0.008)			(0.008)	(0.010)
	Contact_community	0.006	0.013***		Spirit_coop	0.009***	0.010***
		(0.003)	(0.005)			(0.003)	(0.003)
	R^2	0.0154	0.0457		R^2	0.0356	0.0399

Table 3 (continued)

Reg.9	*Volunteer_in_association*	0.018**	0.027***		*Volunteer_in_association*	0.022***	0.037***
		(0.007)	(0.009)			(0.007)	(0.010)
	Worker	0.017**	0.032***		*Worker*	0.023***	0.037***
		(0.007)	(0.008)			(0.007)	(0.010)
	North	-0.008	0.0072		*Mot_ideal*	0.005**	0.006**
		(0.010)	(0.014)			(0.002)	(0.003)
	Centre	0.030	0.076	**Reg.12**	*Mot_usefulness*	0.003	0.002
		(0.027)	(0.051)			(0.003)	(0.004)
	Abroad	-0.030***	-0.020		*Mot_friends*	0.003	0.001
		(0.010)	(0.012)			(0.002)	(0.003)
					Mot_social	0.006	0.007*
	R^2	0.0169	0.0357			(0.004)	(0.004)
Reg.10	*Volunteer_in_association*	0.016**	0.024***				
		(0.007)	(0.0109)		R^2	0.0589	0.0573
	Worker	0.007	0.030***		*Volunteer_in_association*	0.016**	0.026***
		(0.008)	(0.011)			(0.006)	(0.008)
	Service	0.016	0.005	**Reg.13**	*Worker*	0.021***	0.035***
		(0.010)	(0.011)			(0.007)	(0.009)
	Accounting	-0.015**	-0.021**		*Current_ Motivation*	0.011***	0.013***
		(0.006)	(0.009)			(0.004)	(0.004)
	Manual	0.003	0.002				
		(0.009)	(0.013)		R^2	0.0377	0.0434
	Public	-0.012	0.007		*Volunteer_in_association*	0.020***	0.030***
		(0.007)	(0.021)			(0.007)	(0.009)
	R^2	0.0275	0.0254		*Worker*	0.017**	0.033***
						(0.006)	(0.009)
Reg.11	*Volunteer_in_association*	0.018**	0.030***		*No-income*	0.003	0.014
		(0.007)	(0.010)	**Reg.14**		(0.008)	(0.015)
	Worker	0.019**	0.035***		*Low-Income*	0.010	0.007
		(0.008)	(0.011)			(0.008)	(0.010)
	Local_community	0.006**	0.004				
		(0.003)	(0.003)		R^2	0.0113	0.0183
	R^2	0.0225	0.0196				

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%. All estimates include the constant and the following independent variables: *Age, Female, University, Time_in_ org*. Estimates' results related to these variables and Root MSE are omitted for reasons of space and available from the authors.

Table 4

Correlation of membership of different types of organization with social capital – robustness check with organizational variables

		Strong_ties	Weak_ties			Strong_ties	Weak_ties
Reg.1	Volunteer_in_association	0.022*** (0.007)	0.034*** (0.009)	Reg.5	Volunteer_in_association	0.019*** (0.007)	0.028*** (0.009)
	Worker	0.019*** (0.007)	0.034*** (0.009)		Worker	0.018** (0.007)	0.034*** (0.010)
	Informal_Meetings	0.026** (0.011)	0.028* (0.015)		Workers	0.000 (0.000)	-0.000 (0.000)
	R^2	0.0190	0.0252		R^2	0.0084	0.0143
Reg.2	Volunteer_in_association	0.021*** (0.006)	0.033*** (0.008)	Reg.6	Volunteer_in_association	0.017** (0.007)	0.029*** (0.009)
	Worker	0.017*** (0.006)	0.032*** (0.009)		Worker	0.017** (0.007)	0.032*** (0.009)
	Formal_Meetings	-0.002*** (0.001)	-0.002** (0.001)		Workers and volunteers	0.000 (0.000)	0.000 (0.000)
	R^2	0.0215	0.0228		R^2	0.0177	0.0159
Reg.3	Volunteer_in_association	0.018 (0.011)	0.024 (0.015)	Reg.7	Volunteer_in_association	0.023** (0.010)	0.037*** (0.012)
	Worker	0.019*** (0.007)	0.034*** (0.010)		Worker	0.017** (0.007)	0.030*** (0.008)
	Volunteers_%	0.000 (0.000)	0.000 (0.000)		coop_a	0.008 (0.011)	0.007 (0.012)
					coop_b	-0.015 (0.012)	0.059*** (0.012)
	R^2	0.0084	0.0145		R^2	0.0105	0.0228
Reg.4	Volunteer_in_association	0.016** (0.007)	0.028*** (0.009)	Reg.8	Volunteer_in_association	0.019*** (0.007)	0.029*** (0.009)
	Worker	0.018** (0.007)	0.033*** (0.009)		Worker	0.018*** (0.006)	0.033*** (0.009)
	Volunteers	0.000 (0.000)	0.000 (0.000)		Years_org	-0.000 (0.000)	-0.000 (0.000)
	R^2	0.0186	0.0169		R^2	0.0073	0.0179

Table 4
(continued)

	Volunteer_in_association	0.021**	0.032***
		(0.009)	(0.012)
	Worker	0.018***	0.032***
		(0.007)	(0.009)
Reg.9	*Fidenza*	-0.011	-0.018
		(0.017)	(0.011)
	Parma	0.001	0.001
		(0.018)	(0.012)
	Taro_ceno	-0.018	-0.019
		(0.021)	(0.014)
	R^2	0.0161	0.0258
	Volunteer_in_association	0.016***	0.026***
		(0.005)	(0.006)
	Worker	0.019	0.036**
		(0.012)	(0.015)
	Assistance	0.001	-0.008
		(0.009)	(0.013)
Reg.10	*Civil_right*	0.009	0.009
		(0.022)	(0.031)
	Education	-0.001	-0.05
		(0.013)	(0.018)
	Recreation	0.032	0.034
		(0.040)	(0.045)
	Health	0.000	-0.007
		(0.012)	(0.014)
	Environment	-0.003	-0.002
		(0.009)	(0.014)
	Civile_defence	-0.035**	-0.023
		(0.015)	(0.018)
	R^2	0.0179	0.0269
	Volunteer_in_association	0.017***	0.026***
		(0.006)	(0.007)
Reg.11	*Worker*	0.018***	0.032***
		(0.006)	(0.008)
	Area	-0.004	-0.008
		(0.010)	(0.011)
	R^2	0.0090	0.0164

Robust standard errors in brackets. *Significant at 10%; **significant at 5%; ***significant at 1%. All estimates include the constant and the following independent variables: *Age, Female, University, Time_in_ org*. The results of estimates related to these variables and Root MSE are omitted for reasons of space and available from the authors.

Figures

Figure 1

Social capital creation comparing volunteers and workers within and between organizations
(Wilcoxon rank-sum (Mann-Whitney) test in parenthesis)

■ Volunteers of associations (V.A.) ■ Volunteers of social cooperatives (V.SC.)
■ Workers of social cooperatives (W.SC.)