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Damiano Fiorillo; Giuseppe Lubrano Lavadera & Nunzia Nappo

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Damiano Fiorillo
Department of Business and Economics, Parthenope University
damiano.fiorillo@uniparthenope.it

Giuseppe Lubrano Lavadera
Department of Economics and Statistics, Salerno University
glubrano@unisa.it

Nunzia Nappo
Department of Political Science, Federico II University
nunzia.nappo@unina.it

Abstract

Although social capital have been hypothesized to have positive influence on psychological health, few papers found a relationship between social capital dimensions and psychological wellbeing. This study investigates the longitudinal relationship between social participation in associations and self-rated psychological health. The paper uses five waves of the British Household Panel Survey (BHPS) that follows the same individuals between 1991 and 1995. Ordered logit fixed effect methods have been used to study the longitudinal link between structural social capital (being member, active, and both member and active in associations) and self-rated psychological health assessed by single items of the General Health Questionnaire (GHQ-12) controlling for age, marital status, household size, number of children, education, income, economic status, number of visit to GP or family doctor. The paper shows that being both member and active in associations is linked to all "positive" items of self-rated psychological health and to two main "negative" items of psychological wellbeing. Instead, being only member or only active in associations have no statistical effect on single items of the GHQ-12, with few exceptions. Findings highlight the protective role of being both member and active in associations against poor psychological health outcomes.

JEL codes: C23, D71, I10, I31, Z1

Keywords: social capital**,** social participation, psychological health, ordered logit fixed effect, British Household Panel Survey

1. Introduction

Recently, in the public health literature the number of empirical papers, which tested the association among social interaction, social participation in various kinds of associations and social trust (i.e. social capital), and psychological health has been increasing.

Defined by Putnam (1995) as features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit, the concept of social capital is characterized by a structural and a cognitive dimension (Uphoff 1999). Structural social capital deals with individuals' behaviors and mainly takes the form of networks and associations that can be observed and measured through surveys. Cognitive social capital derives from individuals' perceptions, resulting in norms, values and beliefs that contributes to cooperation (Fiorillo and Sabatini 2015). Psychological health is "a state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (Ding et al. 2015). The General Health Questionnaire (GHQ) (Craig 2007) provides the most common assessment of psychological wellbeing. The GHQ makes available a self-reported measure of mental health and consists of questions regarding the respondent's emotional and psychological health over the past few weeks that precede the interview. It captures current mental health problems in an individual's life (Lordan and Pakrashi 2014). Available in several versions using 60, 30, 28 or 12 items, the 12-item version (GHQ-12) is the most broadly used screening instrument for common mental disorders, in addition to being a more general measure of psychological wellbeing (del Pilar Sánchez-López and Dresch 2008).

In this paper, we focus on the individual structural dimension of social capital and refer to the definitions of Bourdieu (1980) and Coleman (1988) according to whom social capital is an individual resource available through social participation/social networks. Structural social capital have been hypothesized to have positive effect on psychological health for several reasons. (i) *Social influence*, regarding the way by which members of social organizations obtain guidance about health relevant behaviors (physical activity, alcohol consumption or cigarette smoking), which may have positive influence on mental health (Kawachi and Berkman 2001); (ii) *social integration*, according to which integration in social organizations may have direct positive effect on psychological states through a sense of purpose, belonging, security and recognition of self-worth and self-esteem (Brunner and Marmot 1999; Cohen et al. 2000); (iii) *social location*, which enhances the likelihood of accessing to various forms of

support (access to health appropriate information and/or informal health care, which, in turn, protect against psychological distress) (Lin et al. 1999; Phongsavan et al. 2006); (iv) *buffering effect*, according to which social interactions in organizations provide morale and affective support which may reduce either negative emotional reaction to a stressful event or dampen the psychological responses to stress (Kawachi and Berkman 2001; Harpham et al. 2002).

A number of empirical papers estimated the link between individual social capital and psychological health.

McCulloch (2001) utilizes the BHPS (1998/999) to study if neighbourhood problems, as measure of social capital, are correlated to the 12-item GHQ as measure of morbidity. Results show that people in the lowest categories of social capital have higher probability to report risk of psychiatric morbidity than people in the highest one. Lindström (2004) studies the association between social participation and trust and self-reported psychological health in Southern Sweden (year 2000): higher trust and social participation are positively associated with self-reported psychological health. Ahnquist et al. (2012) also analyse, for Sweden, social and economic determinants of psychological distress, employing the GHQ-12 (year 2009). They find: 1) a negative association between trust and psychological distress for men and women, 2) a negative correlation between social participation and psychological distress for men. Nieminen et al. (2010) study whether social support, social participation and networks, trust and reciprocity are related to psychological well-being (GHQ-12) for Finns. Results show an association between trust and reciprocity and psychological wellbeing, and between social participation and networks and psychological wellbeing, although much weaker. Finally, Bassett and Moore (2013) investigate the association among the psychological and the network dimensions of social capital and depressive symptoms obtained from the 10-item Depression Scale (CES – D Scale): individuals with high levels of trust were less likely to have depressive symptoms.

Other evidences use longitudinal data to study the effect of structural and cognitive dimension of social capital on self-rated psychological wellbeing. Giordano and Lindström (2011) investigate on the link between interpersonal trust, active social participation, and frequency of talking with neighbours and changes in self-rated psychological health obtained by means of the GHQ-12 with the BHPS (2000/2007). Trust is the only social capital variable to maintain a positive and highly significant effect on self-rated psychological health. Lindström and Giordano (2016) employ data from BHPS pre - and immediately post – the 2008 crisis to compare the buffering effects of generalised trust and social participation

against worse psychological wellbeing (GHQ-12) during and after the 2008 financial crisis. The authors found that individuals with low levels of trust had an increased risk of worse psychological wellbeing in 2008 compared to 2007, while social participation was not associated with psychological health.

Considering the studies surveyed above, we aim to test the longitudinal relationship between social participation in associations and self-rated psychological health in the UK. In particular, our original contribution to the literature is analyzing whether being member, active, and both member and active in associations, we accounted for within the study, are effectively beneficial for perceived psychological health using single item of GHQ-12 between years 1991 and 1995 and ordered fixed effect model specifications. Previous studies on the UK found no association between social participation and indexes of self-rated psychological health obtained from the GHQ-12 (Giordano and Lindström 2011; Lindström and Giordano 2016).

2. Methods

Data

The BHPS is a longitudinal survey of randomly selected private households in Great Britain. Individuals within selected households have been annually interviewed with a view of identifying social and economic changes inside the British population. The BHPS data contain information on various domains of the respondents' lives, ranging from income to jobs, household consumption, education, health, social and political values. We use the waves 1-5 (years 199/1995) because our variable of interest related to social participation in associations is continuously present in those waves.

Dependent variables

The dependent variables are self-rated psychological health from the GHQ-12. The twelve items are all ordinal variable varying from 1 to 4. These variables are:

1) *ghqa: concentration. Have you recently been able to concentrate on whatever you are doing?*

2) *ghqb: loss of sleep. Have you recently lost much sleep over worry?*

3) *ghqc: playing a useful role. Have you recently felt that you were playing a useful part in things?*

4) *ghqd: capable of making decisions. Have you recently felt capable of making decisions about things?*

5) ghqe: constantly under strain. Have you recently felt constantly under strain?

6) *ghqf: problem overcoming difficulties. Have you recently felt you could not overcome your difficulties?*

7) *ghqg: enjoy day-to-day activities. Have you recently been able to enjoy your normal day-to-day activities?*

8) *ghqh: ability to face problems. Have you recently been able to face up to problems?*

9) *ghqi: unhappy or depressed. Have you recently been feeling unhappy or depressed?*

10) *ghqj: losing confidence. Have you recently been losing confidence in yourself?*

11) *ghqk: believe in self-worth. Have you recently been thinking of yourself as a worthless person?*

12) *ghql: general happiness. Have you recently been feeling reasonably happy, all things considered?*

The 12-item GHQ-12 comprises six "positive" and six "negative" items concerning the past few weeks (Hu et al. 2007). Positive items include 1, 3, 4, 7, 8 and 12 listed above. The remainders are negative items. Positive items having as responses: "Better than usual", "Same as usual", "Less than usual" and "Much less than usual". Responses to negative items are: "Not at all", "No more than usual", "Rather more than usual" and "Much more than usual". All items are rescored so that a low score is indicative of endorsement of these items (i.e. Better than usual/Not at all), while higher scores indicate greater difficulty of these items (i.e. Much less than usual/Much more than usual). Table 1 illustrates descriptive statistics.

Social participation

Social participation within organizations is measured by asking the respondent the following questions: i) "are you currently a member of any of the kinds of organizations on this card?"; ii) "are you currently active in any of the kinds of organizations on this card?".

We consider the following kinds of organizations: environmental group, parents association, tenants group, religious group, voluntary group, other community group, social group, sports club, women institute, women group, other organizations.

We build three binary independent variables. *Member* equal to 1 whether the respondent is a member at least of one of the organizations listed above. *Active* equal to 1 if the respondent is active at least in one of the organizations listed above. *Member*Active* equal to 1 if the respondent is both a member and active at least in one of the organizations listed above.

Table 1. Twelve items GHQ descriptive statistics

	mean	sd	min	max
1) ghqa : concentration	2.162	0.549	1	4
2) ghqb : loss of sleep	1.856	0.787	1	4
3) ghqc : playing a useful role	2.017	0.587	1	4
4) ghqd : capable of making decisions	1.957	0.507	1	4
5) ghqe : constantly under strain	2.117	0.789	1	4
6) ghqf : problem overcoming difficulties	1.812	0.716	1	4
7) ghqg : enjoy day-to-day activities	2.130	0.589	1	4
8) ghqh : ability to face problems	2.021	0.493	1	4
9) ghqi : unhappy or depressed	1.919	0.824	1	4
10) ghqj : losing confidence	1.645	0.744	1	4
11) ghqk : believe in self-worth	1.393	0.650	1	4
12) ghql : general happiness	2.013	0.570	1	4
# Observation	45168			

Control variables

In order to control for other factors that might influence simultaneously psychological health and social participation, we include in the analysis a full set of socio-demographic variables (Giordano and Lindström 2011).

At the individual level, we account for age (*c_age)*[1], marital status (*married*), the number of individuals living in the household (*hsize*), the number of children in household (<16 years) (*children*), educational level (*o_cse*, *hnd_a*, *degree*, with no qualification as reference category), the equivalent uninflated income (in logarithm), self-defined current economic status (*employed*, *unemployed*, *retired*, *otheremp*), and the number of visits to GP or family doctor (*hl2gp*). Regional and year fixed effects are also included (with Inner London and year 1991 as reference categories). Table 2 reports summary statistics.

Methodology

Riedl and Geishecker (2014) report the absence of a consistent estimator for fixed effect ordered dependent variable. They list six estimation strategies adopted to circumvent this problem for ordered logit. They find that the smallest biased and more efficient estimator for the ordered logit with fixed effects is implemented by Baetschmann et al. (2015). Although this is a recent estimation strategy it was already used in other studies (Brown and Gray 2015; Dickerson et al. 2014; Frijters and Beatton 2012; Geishecker et al. 2012; Mujcic and Frijters 2015).

[1] Introducing at the same time a variable and its square in a regression can induce a relative high level of collinearity (Chatterjee and Hadi 2015). To avoid this problem we centered the variable age and its square subtracting their average.

Table 2. Descriptive statistics of social participation and all control variables

		mean	sd	min	max
Member	= 1 if member of at least one of the organizations	0.515	0.500	0	1
Active	= 1 if active in at least one the organizations	0.478	0.500	0	1
Member*Active	= 1 if member and active	0.413	0.492	0	1
C_age	= demeaned age = age-mean(age)	-0.315	18.26	-29.01	52.99
Married	= 1 if married	0.569	0.495	0	1
Hsize	= number of household members	2.880	1.355	1	11
Children	= number of children in the household	0.592	0.947	0	9
Degree	= 1 if graduated	0.088	0.283	0	1
Hnd_a	= 1 if higher school	0.302	0.459	0	1
O_cse	= 1 if lower than lower school	0.109	0.312	0	1
Lnincome	= logarithm of equivalised real income, adjusted using the Retail Price Index and McClement's scale to adjust for household size and composition	9.219	0.716	-0.524	12.04
Employed	= 1 if works in the year	0.588	0.492	0	1
Unemployed	= 1 if unemployed in the year	0.333	0.471	0	1
Retired	= 1 if retired in the year	0.038	0.190	0	1
Otheremp	= 1 if nor employed nor unemployed either retired	0.041	0.199	0	1
Hl2gp	= number of visits to GP: 1 = none, 5 = more than ten	2.375	1.188	1	5
# Observation		45168			

All strategies to estimate the fixed effects ordered logit simplify the problem transforming the ordered into a binary problem. As known, it does exist a logit fixed effect estimator (Chamberlain 1980), assuming the independence of the dependent variable from the fixed effect, it makes the fixed effect disappear. For all those methods, the observations that do not change their original order value do not contribute at coefficient estimation.

Baetschmann et al. (2015) suggest an approach in two stages: "Blow Up and Cluster" (Hereafter BUC). In the first stage, BUC replaces each observation with k-1 observations (k are the number of ordered categories) and dichotomises each observation obtained. In the second stage, the fixed effect logit is used over the entire sample. Observations are dependent by construction and to overcome this problem, estimation uses the individual cluster.

We implement BUC estimation using the twelve items individually (*ghq-12*) as dependent variables to understand if *member*, *active*, and *member*active* are linked to each *ghq*, controlling for all other variables (Z);

$$ghq_{it} = \alpha + \beta_1 member_{it} + \beta_2 active_{it} + \beta_3 member_{it} * active_{it} + \gamma Z_{it} + u_i + \varepsilon_{it} \quad (1)$$

3. Results

In this section, we present the estimations of the empirical models described in section 2. Table 3, Columns (1-6), and Table 4, Columns (7-12), report the results of the fixed effects ordered logit models, using the longitudinal dataset previously described, for the single items of the GHQ-12. In all columns, we show all the predictors. For each item, we present coefficients and standard errors (in parentheses), which are corrected for heteroskedasticity through individual cluster level. Overall, our data highlight three major findings.

First, the estimates of the parameters associated to $member_{it}$ and $active_{it}$ are not statistically significant in almost all the GHQ-12 items with the exception of *believe in self-worth* (ghqk), *concentration* (ghqa) and *loss of sleep* (ghqb). In particular, results indicate that being a member of at least one association is positively correlated to a higher likelihood of reporting "better than usual" in *believe in self-worth* (ghqk) (statistically significant at 5%, $p<0.05$). Furthermore, individuals who are active at least in one associations have higher probability to declare, respectively, "better than usual" in *concentration* (ghqa) ($p<0.05$) and "much more than usual" in *loss of sleep* (ghqb) ($p<0.05$). The evidences on the other GHQ-12 items seem in line with Giordano and Lindström (2011) and Lindström and Giordano (2016) who did not find for the whole UK population an association between being active in associations and indexes of self-rated psychological health obtained from GHQ-12.

Second, the estimates of the parameters associated to $member_{it} * active_{it}$ are statistically significant in most of the GHQ-12 items with the exception of *loss of sleep* (ghqb), *constantly under strain* (ghqe), *problem overcoming difficulties* (ghqf) and *unhappy or depressed* (ghqi). Hence, being member and active rises the likelihood of declaring "better than usual" in the following "positive" item: *concentration* (ghqa) ($p<0.01$), *playing a useful role* (ghqe) ($p<0.001$), *capable of making decisions* (ghqd) ($p<0.10$), *enjoy day-to-day activities* (ghqg) ($p<0.001$), *ability to face problems* (ghqh) ($p<0.001$) and *general happiness* (ghql) ($p<0.05$). Moreover, being member and active decreases the probability of declaring "much more than usual" in the "negative" items: *losing confidence* (ghqj) ($p<0.05$) and *believe in self-worth* (ghqk) ($p<0.05$).

Table 3. Self-rated psychological health estimations: items from 1 to 6

	(1)	(2)	(3)	(4)	(5)	(6)
	ghqa	ghqb	ghqc	ghqd	ghqe	ghqf
Member	-0.064	0.043	-0.038	-0.067	0.044	0.006
	(0.061)	(0.052)	(0.058)	(0.062)	(0.050)	(0.052)
Active	-0.149*	0.113*	-0.068	-0.028	0.086	0.004
	(0.067)	(0.057)	(0.066)	(0.069)	(0.054)	(0.056)
Member*Active	-0.147**	0.019	-0.153***	-0.086+	0.026	-0.033
	(0.048)	(0.042)	(0.046)	(0.049)	(0.040)	(0.042)
C_age2	0.001+	-0.000	0.000	0.001+	-0.001***	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
C_age	-0.020	-0.068	0.006	-0.094	0.034	0.075
	(0.071)	(0.060)	(0.000)	(0.073)	(0.058)	(0.061)
Married	-0.205*	-0.295***	-0.257***	0.034	-0.216**	-0.239**
	(0.089)	(0.077)	(0.085)	(0.089)	(0.076)	(0.081)
hhsize	0.018	-0.030	-0.030	0.039	-0.020	-0.005
	(0.029)	(0.028)	(0.029)	(0.030)	(0.026)	(0.027)
Children	0.009	-0.117**	-0.052	-0.089*	-0.014	-0.052
	(0.041)	(0.036)	(0.040)	(0.041)	(0.034)	(0.035)
Degree	0.039	-0.153	0.010	-0.240	-0.279	-0.469*
	(0.268)	(0.254)	(0.225)	(0.238)	(0.224)	(0.233)
Hnd_a	0.004	-0.065	0.013	-0.089	-0.173+	-0.219*
	(0.119)	(0.102)	(0.110)	(0.116)	(0.100)	(0.102)
O_cse	-0.417*	-0.081	-0.030	0.030	-0.246	-0.232
	(0.184)	(0.176)	(0.195)	(0.176)	(0.166)	(0.170)
Lnincome	-0.049	-0.056+	0.083*	0.031	-0.038	-0.034
	(0.036)	(0.033)	(0.035)	(0.035)	(0.030)	(0.031)
Employed	-0.215*	-0.135+	-0.713***	-0.461***	-0.111	-0.126
	(0.089)	(0.081)	(0.090)	(0.092)	(0.078)	(0.081)
Unemployed	-0.060	-0.012	-0.025	-0.178*	-0.073	0.070
	(0.082)	(0.074)	(0.082)	(0.085)	(0.071)	(0.075)
Retired	-0.097	0.017	-0.000	-0.288*	-0.302**	-0.000
	(0.118)	(0.100)	(0.013)	(0.128)	(0.098)	(0.013)
hl2gp	0.208***	0.141***	0.119***	0.161***	0.147***	0.119***
	(0.018)	(0.015)	(0.017)	(0.018)	(0.015)	(0.017)
Region	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
N	45159	45142	45128	45162	45164	45150
Obs Buc	32873	47050	36307	30048	49536	45577
Individuals	5377	7189	5749	5070	7729	7298
pseudo R^2	0.013	0.012	0.015	0.012	0.009	0.010
AIC	24143.0	35228.5	26558.5	22013.9	37210.8	34188.1
BIC	24453.8	35552.6	26873.0	22321.4	37536.8	34511.0
ll	-12034.5	-17577.3	-13242.2	-10970.0	-18568.4	-17057.0
chi2	211.8	272.5	263.5	194.2	229.9	221.6

Notes:Standard errors in parenthesis and + p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

Table 4. Self-rated psychological health estimations: items from 7 to 12

	(7)	(8)	(9)	(10)	(11)	(12)
	ghqg	ghqh	ghqi	ghj	ghqk	ghql
Member	-0.040	-0.108	-0.034	-0.046	-0.128*	-0.046
	(0.057)	(0.066)	(0.051)	(0.054)	(0.064)	(0.059)
Active	-0.066	-0.050	0.047	0.027	0.060	-0.076
	(0.062)	(0.070)	(0.055)	(0.059)	(0.068)	(0.061)
Member*Active	-0.154***	-0.175***	-0.029	-0.098*	-0.103*	-0.112*
	(0.046)	(0.051)	(0.040)	(0.044)	(0.050)	(0.046)
C_age2	0.000	0.000	0.000	-0000	-0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
C_age	-0.004	0.074	0.017	0.028	-0.045	-0.033
	(0.065)	(0.076)	(0.059)	(0.063)	(0.075)	(0.067)
Married	-0.147+	-0.016	-0.360***	-0.377***	-0.337***	-0.314***
	(0.084)	(0.095)	(0.077)	(0.084)	(0.098)	(0.083)
hhsize	0.012	0.024	-0.000	0.001	-0.019	-0.012
	(0.029)	(0.033)	(0.026)	(0.029)	(0.033)	(0.028)
Children	-0.056	-0.061	-0.123***	-0.067+	-0.070	-0.060
	(0.039)	(0.044)	(0.035)	(0.038)	(0.044)	(0.038)
Degree	0.095	0.122	-0.176	-0.086	0.248	-0.038
	(0.240)	(0.260)	(0.229)	(0.241)	(0.293)	(0.234)
Hnd_a	-0.089	0.036	-0.095	-0.029	0.003	-0.003
	(0.110)	(0.120)	(0.098)	(0.107)	(0.123)	(0.012)
O_cse	0.068	-0.086	-0.182	-0.361*	0.187	0.037
	(0.173)	(0.179)	(0.159)	(0.170)	(0.177)	(0.169)
Lnincome	0.028	-0.040	-0.051	-0.007	-0.062+	-0.002
	(0.034)	(0.039)	(0.031)	(0.033)	(0.037)	(0.035)
Employed	-0.139+	-0.335***	-0.282***	-0.399***	-0.440***	-0.318***
	(0.084)	(0.091)	(0.077)	(0.086)	(0.097)	(0.087)
Unemployed	0.011	0.002	-0.054	0.025	0.005	-0.069
	(0.077)	(0.086)	(0.071)	(0.079)	(0.088)	(0.080)
Retired	-0.091	-0.097	-0.033	-0.043	0.016	-0.163
	(0.112)	(0.126)	(0.101)	(0.109)	(0.124)	(0.124)
hl2gp	0.194***	0.136***	0.164***	0.144***	0.122***	0.100***
	(0.017)	(0.019)	(0.015)	(0.016)	(0.018)	(0.017)
Region	Yes	Yes	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes	Yes	Yes
N	45174	45177	45169	45162	45147	45177
Obs Buc	36810	28292	51030	43413	34567	35732
Individuals	5939	4674	7563	6709	5317	5776
pseudo R^2	0.012	0.010	0.014	0.013	0.012	0.007
AIC	27087.9	20654.8	38292.4	32430.4	25690.5	26345.3
BIC	27402.9	20960.1	38619.5	32751.5	26003.2	26650.8
ll	-13507.0	-10290.4	-19109.2	-16178.2	-12808.3	-13136.7
chi2	218.1	138.2	346.0	270.4	189.9	122.2

Notes: Notes:Standard errors in parenthesis and + p < 0.10; * p < 0.05; ** p < 0.01; *** p < 0.001

Third, only few parameters of the control variables are statistically significant in single GHQ-12 item equations. In line with previous empirical studies, covariates that protect against worse self-rated psychological health include marital and employed status (statistical significant in 10 items on 12). On the contrary, the number of visits to GP worsens self-rated psychological health (in all items $p < 0.001$).

4. Discussion

The aim of this longitudinal panel study is to analyse whether being a member, active, and both member and active in associations in the UK has positive relationship with self-rated psychological health over time using single items of the GHQ-12, ordered logit fixed effects models and controlling for socioeconomic characteristics.

We employed the indicator of social capital that most closely fits with the definition of social capital used in the paper, i.e. social participation in associations. Our methodological approach has the disadvantage of losing the multidimensionality of the concept but has the advantage of simplifying the analysis and the interpretations of the results as well as some advantages on cross sectional and time series, as panel data have more accuracy on parameter estimation and generate more correct predictions. Moreover, applying fixed effects estimator in short panel is a promising solution to accommodate the unobserved heterogeneity as this estimator, imposing that the heterogeneity is time invariant, permits to estimate unbiased coefficients.

Our first main evidences indicate marital and employment status increase psychological wellbeing. These results support previous research demonstrating that marriage and employment protect against worse psychological health over time (see Giordano and Lindström 2011; Lorant et al. 2003; Wyke and Ford 1992). Our results also indicate that education is only important in overcoming difficulties (ghqf) mirroring previous studies regarding socioeconomic status and mental health outcomes (Wang et al. 2010).

After considering socioeconomic characteristics, our findings on membership and active participation in associations, with few exceptions, show no effect on single items of the GHQ-12. These evidences are in line with previous empirical investigations conducted on the UK with BHPS data (Giordano and Lindström 2011; Lindström and Giordano 2016)

Our original results add to the increasing volume of research demonstrating that being both member and active in associations has a longitudinal associations with most items of the GHQ-12 psychological health. These evidences seem in line with the hypotheses according to

which individual with strong structural social capital, i.e. with strong social ties in associations, are likely to have more promoting behaviours (*social influence*), stress reducing responses to challenging situations (*buffering effect*), sense of purpose, belonging and security (*social location*) and multiple resources based on their social relationships (*social integration*) that enable them to maintain better overall psychological health.

Indeed, being both member and active in positively associated with a higher likelihood of declaring “better than usual” in concentration, playing a useful role, capable of making decisions, ability to face problems and with a lower probability of reporting “much more than usual” in losing concentration and believe in self-worth. These findings highlight the protective role of structural social capital against poor psychological health outcomes.

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