



Job satisfaction in Italy: individual characteristics and social relations

Job satisfaction
in Italy

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Abstract

Purpose – The purpose of this paper is to analyze the determinants of job satisfaction in Italy with particular emphasis on social relations.

Design/methodology/approach – This paper uses the data from the Multiscopo Survey of Households (MSH) conducted by the Italian Central Statistical Office for the years 1993-1995-1998-2000 for empirical investigations with ordered probit and robustness tests. A statistical matching procedure to impute missing values on household income in MSH is also performed.

Findings – The paper finds that social interactions matter. While visits to relatives are not statistically significant, volunteer work and the frequency of meetings with friends are significantly and positively correlated with job satisfaction, with church attendance having the biggest impact on job satisfaction. These results seem to confirm the main assumption of the paper: social relations are helpful in gaining more and in improving career prospects. The findings also show that meetings with friends increase job satisfaction through self-perceived health, suggesting a “buffering effect” of the networks of friends. In addition, results for Italy confirm findings gathered from job satisfaction studies with some novel evidence.

Originality/value – The role of social relations in job satisfaction has received no attention. The paper contributes to the literature by carrying out the first empirical analysis on the relationship between social relations and job satisfaction. Overall, the value-added of the study is twofold. First, it adds a new piece of evidence to the existing literature on job satisfaction, i.e. the effects of social relations. To the best of the knowledge, there are no studies which consider social interactions as determinants of job satisfaction. Second, it extends the country evidence on the determinants of job satisfaction.

Keywords Job satisfaction, Social capital, Health, Italy, Social relations, Statistical matching

Paper type Research paper

1. Introduction

Social relations play a prominent role in job-market searches. A large and growing body of evidence emphasizes the positive role of friends and relatives (so-called social or informal networks) in helping people to find work (see Ioannides and Loury, 2004; Bentolila *et al.*, 2010; Pellizzari, 2010; Ponzio and Scoppa, 2010). Furthermore, happiness studies underline the importance of social interactions for individual well-being (see Becchetti *et al.*, 2008, 2011; Bruni and Stanca, 2008).

In relatively recent times, economists used workers’ reported job satisfaction to study utility from work. According to Locke (1976), job satisfaction is an individual’s



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subjective assessment of different aspects of his/her job whose analysis may provide a number of insights into certain aspects of the labour market. Workers' decisions about their labour force participation, whether to stay in a job or to quit, and how much effort to devote to their job are all likely to depend, in part, upon their subjective evaluation of their work, in other words, on their job satisfaction (Clark, 1996). However, while Freeman (1978, p. 140) states "that subjective variables like job satisfaction [...] contain useful information for predicting and understanding behaviour, but that they also lead to complexities due to their dependency on psychological states", Hamermesh (2001) argues that "studying job satisfaction is still important for understanding labor-market behavior and perhaps economic activity more generally". The latter statement explains why several studies have attempted to identify the determinants of job satisfaction (see Borjas, 1979; Miller, 1990; Meng, 1990; Idson, 1990; Clark, 1996, 1997; Clark and Oswald, 1996; Sousa-Poza and Sousa-Poza, 2000, 2003; Gazioglu and Tansel, 2006; Jones and Sloane, 2009).

The present paper, linking the above research lines, analyses the determinants of job satisfaction, with particular emphasis on social interactions. The contribution of the paper to the literature is twofold. First, it adds a new piece of evidence to the existing literature on job satisfaction, i.e. the effects of social relations. To the best of our knowledge, there are no studies which consider social interactions as determinants of job satisfaction. Second, it extends the country evidence on the determinants of job satisfaction.

Our empirical analysis employs the Multipurpose Household Survey (hereafter MHS) conducted annually by the Italian Central Statistical Office.

In the empirical analysis, the dependent variable is job satisfaction, measured through the question "How satisfied do you feel with your work?". In terms of independent variables, our econometric analysis focuses on various aspects of social relations (including volunteering in non-profit associations, the frequency of meetings with friends and visits to relatives and church attendance) and on standard socio-demographic and economic characteristics (including imputed household income).

Ordered probit regressions and robustness tests show that social interactions matter. Results seem to confirm that social relations are helpful in gaining more and in improving career prospects.

The paper is organized as follows. Section 2 reviews the relevant literature on the determinants of job satisfaction as well as suggests potential channels through which social interactions might influence job satisfaction. Section 3 describes the data and presents descriptive analysis. Section 4 illustrates the main results from the econometric analysis. The last section concludes.

2. Job satisfaction and social relations

This section provides an overview of studies on the determinants of job satisfaction.

2.1 Determinants of job satisfaction: an overview of the literature

Economists, who tend to avoid data on subjective feelings (Freeman, 1978; Sloane and Williams, 2000), have long left the study of job satisfaction to other disciplines. Both workers' personal characteristics (demographic variables such as gender, marital status, age, education, health), and characteristics of the job itself (such as income, hours of work, union membership, professional status, activity sector) are explanatory variables in the job satisfaction equation.

In terms of gender, by and large, females experience significantly more job satisfaction than males (Clark, 1997; Sloane and Williams, 2000; van Praag *et al.*, 2003; Gazioglu and Tansel, 2006)[1]. With respects to the relationship between job satisfaction and marital status, in some European countries[2] single people emerge among those most satisfied with their jobs (European Foundation for the Improvement of Living and Working Conditions, 2007). However, according to Clark (1996, 1997) marriage has a strong positive effect on women's job satisfaction.

The relationship between age and job satisfaction is also controversial: some studies show it is a U-shaped relationship (Clark, 1996; Clark *et al.*, 1996; Sloane and Ward, 2001; Blanchflower and Oswald, 2004; Van Praag *et al.*, 2003; Ghinetti, 2007). Others (Belcastro and Koeske, 1996; Billingsley and Cross, 1992; Cramer, 1993; Jones Johnson and Johnson, 2000; Larwood, 1984; Loscocco, 1990; Saal and Knight, 1988) reach the conclusion that job satisfaction increases with age.

With respect to education, by and large, it seems that job satisfaction depends on how much aspirations match education. However, findings are controversial (Camp, 1994; Loscocco, 1990; Ting, 1997; Vorster, 1992). A well-established result is the negative relationship between education and job satisfaction (Clark, 1996, 1997; Clark and Oswald, 1996; Sloane and Williams, 2000; Sousa-Poza and Sousa-Poza, 2003; Jones and Sloane, 2009). By contrast, Battu *et al.* (1999), Jones Johnson and Johnson (2000) and Vila and García-Mora (2005) show a positive relationship between the two.

Looking at the relationship between (self-perceived) health and job satisfaction, results (Clark, 1996, 1997; Sousa-Poza and Sousa-Poza, 2003; Vila and García-Mora, 2005; Booth and van Ours, 2008; Ghinetti, 2007; Jones and Sloane, 2009) show a strong positive correlation between the two.

The relationship between income and job satisfaction can be distinguished into on-the-job earned income and household income. Since working income indicates how the worker is evaluated by the employer, the larger the labour income, the higher the job satisfaction (Clark, 1996, 1997; Clark and Oswald, 1996; Sloane and Williams, 2000; Van Praag *et al.*, 2003; Vila and García-Mora, 2005; Gazioglu and Tansel, 2006; Ghinetti, 2007; Jones and Sloane, 2009). In terms of household income, van Praag *et al.* (2003) and Pedersen and Schmidt (2011) found a positive relationship with job satisfaction.

Working hours are also likely to influence job satisfaction. Findings are controversial since the variable "hours worked" may cause econometric problems in the job satisfaction equation: for some workers it is a choice variable and therefore may be endogenously determined. Negative effects of workings hours on job satisfaction have been widely reported (Clark, 1996, 1997; Clark and Oswald, 1996; Sloane and Williams, 2000; van Praag *et al.*, 2003; Sousa-Poza and Sousa-Poza, 2003; Gazioglu and Tansel, 2006; Ghinetti, 2007; Jones and Sloane, 2009). By contrast, Bartel (1981) and Schwochou (1987) found a positive relationship between the two.

Surveys on employees' opinions typically reveal that union members reported job satisfaction to be lower than that of non-members (Bryson *et al.*, 2010). Empirical evidence relates mainly to English-speaking countries. The negative effects of union membership on job satisfaction are documented by Freeman and Medoff (1984), Gordon and Denisi (1995) and Borjas (1979) for the USA; Guest and Conway (2004), Bender and Sloane (1998) and Bryson *et al.* (2004) for the UK. Finally, job satisfaction may also be explained by working status and activity sector. Previous results showed that managers and professionals are more satisfied with their jobs than clerical and sales staff (Clark, 1996, 1997; Gazioglu and Tansel, 2006; Ghinetti, 2007).

Furthermore, as reported by Heywood *et al.* (2002) and Ghinetti (2007), working in the public sector increases overall job satisfaction.

2.2 Social relations in job satisfaction: suggestions

Job satisfaction is a “multifaceted feeling”, generated also by the relational goods[3] which in the work place arise as a consequence of the interaction generated: with colleagues and with management; and with customers (Mosca *et al.*, 2007). Although the impact of relationships at work on job satisfaction as an important explanatory variable in job satisfaction equations has been addressed (Clark, 1996, 1997; Sousa-Poza and Sousa-Poza, 2000; Mosca *et al.*, 2007), various aspects of the relational sphere of individuals have not been addressed. These aspects include volunteering in non-profit associations as well as relationships with family and friends and church attendance. This paper proposes that such types of social relations may have effects on job satisfaction because they are helpful in gaining more and in improving career prospects. This section will suggest why.

In terms of volunteering, which entails production and consumption of relational goods (see, e.g. Nappo and Verde, 2010), one strand of the literature (see among others Meier and Stutzer, 2008) suggests people are motivated to volunteer to gain work experience, which raises a volunteer’s future employability, when unemployed, and earning power, when employed. Some empirical studies show that there is a wage premium for volunteers. Making use of Canadian data, Day and Devlin (1998) look at the relationship between volunteering and potential increases in wages in the standard labour market. The results show that on average, people who volunteered earn about 7 per cent more than people who did not. However, such econometric specification neglects the possibility of bias. Employing better data and adopting the Heckman procedure of auto selection, Devlin (2000) obtained different quantitative results: individuals who volunteered got a 4 per cent higher wage than individuals who did not. Furthermore, Hackl *et al.* (2007), using Austrian data, find that on average the wage premium for volunteering amounts to up to 18.5 per cent. Hence, these findings seem to suggest that volunteering increases job satisfaction because of the wage premium which it implies. Another reason why volunteering is supposed to increase job satisfaction is that it can boost workers’ career prospects (Wilson, 2000). This is likely to happen as organizational theory (Smith *et al.*, 1983; Organ, 1988) documents the importance of altruistic characteristics in workers. Altruists will be more productive in the work place, since they are “team players” who are willing to cooperate with others (Kats and Rosemberg, 2005).

The frequency of meetings with friends and visits to relatives facilitate the transmission of job information. Networks of relations are a place both to share previous and current work experience and to discuss important matters, such as security, pay and duties. This privileged channel of information lowers the costs of job information and speeds up the diffusion of knowledge on work aspects (economic, legal, technical), encouraging workers to adopt appropriate behaviour. Such behaviour may enhance job satisfaction related to non-pecuniary aspects of work, such as nature of the job and/or organizational context.

A growing body of evidence emphasizes the positive role of friends and relatives in helping people to find a job (see Ioannides and Loury, 2004 for a review of the literature on the role of social networks in the labour market): workers who find a job in this way have longer tenure and higher wages (see Loury, 2006; Pellizzari, 2010). This is likely to happen because relatives, friends and acquaintances reduce uncertainty about the

quality of the match between worker and employer. Hence, meetings with friends and visiting parents increase job satisfaction because could provide access to working position for which individuals earn more and/or have longer tenure than people who find a job through other formal and informal channels.

Religious background could impact labour market outcomes in several ways. Religious values like modesty, honesty and accuracy tend to increase the quality of everyday work and foster collaboration: this could translate into greater income and better job prospects (Steen, 1996; Steiner *et al.*, 2010). Religious background and practice could also be used as a signal by employers to employees for certain desirable characteristics related to productivity. In addition, as men from certain religious traditions tend to marry women that accept traditional roles (e.g. not participating in the paid labour force) men may be able to work more hours and receive higher incomes (Steen, 1996, 2004). Moreover, there is also empirical evidence that suggests the influence of religion on personal income. Tomas (1984) shows that Catholics with college education earn more than Protestants with the same education. Steen (1996, 2004) and Ewing (2000) support this result, providing evidence that people raised in the Catholic religion have a substantial wage premium. Hence, if we assume that going to church is associated with religious background, church attendance increases job satisfaction because of greater income and better job prospects which implies.

Finally, volunteering, meetings with friends, visiting relatives and religious participation provide moral and affective support which mitigates distress related to employment and therefore, indirectly, increase (conjointly with each of the above analysed ways) job satisfaction. This “buffering effect” may have a key role in reducing occupational stress as well as in modifying perceptions of distress associated with work (Cummings, 1990; Lu, 1999): workers who feel supported by others may feel less stressed. For example, volunteering contributes to decreasing psychological distress and buffers negative consequences of stressors (Rietschlin, 1998). Also, volunteering tends to decrease depression (Thoits and Hewitt, 2001; Borgonovi, 2008) and to increase self-esteem and self-confidence (Harlow and Cantor, 1996) with potential beneficial effects on job satisfaction. According to Soydemir *et al.* (2004), church attendance involves patterned engagements in ritual events to which participants assign special significance. Such ritualistic events may foster mental health, thus promoting feeling of (occupational) well-being. Furthermore, church attendance may improve (occupational) well-being by bolstering self-esteem and self-efficacy (Lim and Putnam, 2010), as well as by moderating or mediating the harmful effects of stress (Ellison, 1991).

3. Sample description

The data used in the present study is drawn from Multiscopo Survey of Households (MSH), a cross-sectional survey administered annually by ISTAT. The new MSH series was initiated in 1993. Every year a representative sample of 20,000 Italian households (roughly corresponding to 60,000 individuals) is surveyed on key aspects of daily life and behaviour. Though MSH is annual, it is not panel data. Among information provided, there are data on social relations, on a wide range of domain satisfactions as well as on socio-demographic characteristics.

However, MSH does not collect information on household income. To fill this gap, the MSH was combined with the SHIW carried out by the Bank of Italy. The SHIW covers 8,000 households (20,000 individuals) and contains detailed information on income and wealth of family members as well as socio-demographic characteristics

of the household. Both samples are representative of the Italian population at national and regional level. We imputed the household income of an individual from the SHIW to a similar individual from the MHS through a statistical matching procedure[4]. The data set is a pooled cross-section sample of 70,000 observations collected in the years 1993, 1995, 1998 and 2000.

The dependent variable is job satisfaction, measured through the question “How satisfied do you feel with your work?”. Responses to the above question are: “very satisfied”; “quite satisfied”; “not very satisfied”; “not at all satisfied”. Answers were recorded on a scale from 1 to 4, with 1 being “not at all satisfied” and 4 being “very satisfied”.

Social relations are measured through the following set of variables:

- volunteering, coded as 1 if the individual had done unpaid work for a volunteer association in the 12 months preceding the interview;
- the frequency of meetings with friends, coded as 1 if the interviewee meets friends every day or several times a week;
- the frequency of visiting relatives, coded as 1 if the interviewee meets relatives every day or several times a week; and
- church attendance, measured by a binary variable which is equal to 1 if the interviewee goes to church or other places of worship one or more times a week.

Table I presents the weighted sample distribution of the dependent variable. The median value for job satisfaction is 3. The weighted trends of job satisfaction and social relations are shown in Table II.

MSH provides detailed information on demographic and social characteristics of all the individuals in a household (age, gender, marital status, household size, presence and age of children, educational level, hours worked, health status, reading newspapers, homeownership, union membership, use of a bus to go to work, professional status and activity sector). These variables are used as control variables in the empirical investigation. Moreover, we control for the natural logarithm of the imputed household income (sum of labour income, capital income and pensions) obtained through the statistical matching procedure. Finally, we also control for the influences of economic

Table I.
Job satisfaction

Satisfaction level	Number of individuals	Percentage
4 (Very satisfied)	11,262	16.04
3 (Quite satisfied)	43,828	62.29
2 (Not very satisfied)	12,144	17.64
1 (Not at all satisfied)	2,766	4.03

Table II.
Job satisfaction and social relation variables across time (average)

	1991	1993	1995	2000
Job satisfaction	2.87	2.89	2.89	2.96
Volunteering	0.09	0.09	0.10	0.10
Meetings with friends	0.73	0.75	0.71	0.73
Visiting relatives	0.33	0.33	0.35	0.33
Church attendance	0.29	0.26	0.24	0.24

conditions by including variables related the individual's judgment about household economic situation and the adequateness of household economic resources. All the variables are described in detail in Table AI in the Appendix. Summary weighted statistics are reported in Table III.

Variable	Mean	SD	Obs.
Job satisfaction	2.90	0.70	70,000
Volunteering	0.09	0.29	70,000
Meetings with friends	0.73	0.44	69,839
Visiting relatives	0.34	0.47	70,000
Church attendance	0.26	0.44	69,835
Male	0.63	0.48	70,000
Single, with partner	0.01	0.10	70,000
Married	0.67	0.47	70,000
Divorced	0.05	0.22	70,000
Widowed	0.01	0.12	70,000
Age 31-40	0.34	0.47	70,000
Age 41-50	0.25	0.43	70,000
Age 51-60	0.13	0.34	70,000
Age > 61	0.02	0.16	70,000
Household size	3.24	1.20	70,000
Children 0-5	0.25	0.51	70,000
Children 6-12	0.28	0.56	70,000
Children 13-17	0.17	0.44	70,000
Junior high school	0.34	0.47	70,000
High school (diploma)	0.41	0.49	70,000
Bachelor's degree	0.11	0.32	70,000
< 16 hours pw	0.03	0.18	69,444
17-30 hours pw	0.11	0.31	69,444
31-40 hours pw	0.52	0.50	69,444
Household income (ln)	10.77	0.43	70,000
Economic situation as last year	0.60	0.49	69,466
Economic situation better last year	0.10	0.30	69,466
Economic resources adequate	0.66	0.47	69,379
Poor health	0.03	0.18	69,253
Good health	0.84	0.37	69,253
Newspapers	0.32	0.47	69,862
Homeowner	0.69	0.46	70,000
Union member	0.16	0.37	69,938
Bus	0.05	0.22	70,000
Entrepreneur	0.10	0.30	70,000
Self-employed	0.16	0.36	70,000
Manager	0.01	0.11	70,000
Middle manager	0.03	0.17	70,000
Staff	0.22	0.41	70,000
Skilled worker	0.21	0.41	70,000
Apprentice	0.01	0.08	70,000
Agriculture	0.04	0.19	70,000
Manufacturing	0.19	0.39	70,000
Public administration	0.14	0.34	70,000
Commerce	0.11	0.32	70,000
Finance	0.03	0.17	70,000
Transport	0.03	0.17	70,000

Table III.
Descriptive statistics

Table III shows that 73 and 34 per cent of employees meet, respectively, friends and relatives one or more times per week; 9 per cent of respondents supply unpaid labour for a volunteer association; 26 per cent of the sample attend churches or other places of worship one or more times per week.

3.1 Empirical strategy

The empirical strategy follows Blanchflower and Oswald (2004) and assumes that there exists a reported well-being function associated with job satisfaction j :

$$r_j = h_j(u_j(s, y, z, t)) + e_j \quad (1)$$

where r denotes some self-reported number or level collected in the survey associated with job satisfaction j . The $u(\dots)$ function is the respondent's true well-being associated with job satisfaction j and it is observable only to the individual asked; $h(\dots)$ is a non-differentiable function relating actual to reported well-being for job satisfaction j ; s represents social relations; y denotes income; z is a set of socio-demographic and personal characteristics and e is an error that subsumes the inability of human beings to communicate accurately their well-being levels associated with job satisfaction j .

The empirical counterpart of Equation (1) is:

$$JS_{it}^* = \alpha + \beta S_{it} + \lambda Y_{it} + Zk_{it}'\delta + \varepsilon_{it} \quad (2)$$

where job satisfaction (JS) is the reported well-being for individual i at time t ; S are vectors of social relations; Y is the annual household income; vector Z consists of the other variables that are supposed to influence occupational well-being, including age, gender, marital status, household size, presence and age of children, educational level, hours worked, health status, reading newspapers, homeownership, union membership, taking the bus to go to work, professional status and activity sector, as well as region and year dummies; and ε is a random-error term.

We do not observe JS^* in the data. Rather, we observe JS as an ordinal variable, measured on a scale from 1 to 4. Thus, the structure of Equation (2) makes it suitable for estimation as an ordered probit model:

$$P(JS_{it} = J - 1) = \Phi(\mu_j - \alpha - \beta S_{it} - \lambda Y_{it} - Z_{it}'\delta) - \Phi(\mu_{j-1} - \alpha - \beta S_{it} - \lambda Y_{it} - Z_{it}'\delta) \quad (3)$$

where J takes a value from 1 to 4, μ_j is defined as $JS = J - 1$ when $\mu_{j-1} < JS^* \leq \mu_j$ and $\Phi(\cdot)$ is the cumulative normal distribution[5].

4. Econometric results

This section analyses the impact of individual and socio-economic features as well as social relations on job satisfaction.

4.1 Baseline findings: individual characteristics

In Table IV, Columns (I)-(III) present the ordered probit estimations of Equation (3), coefficients and standard errors, using job satisfaction as dependent variable. Marginal effects of the covariates of Column (III) of Table IV express in terms of a change in the

	I		II		III	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Volunteering	0.077***	0.012	0.072***	0.012	0.051***	0.011
Meetings with friends			0.084***	0.013	0.083***	0.013
Visiting relatives					-0.004	0.010
Church attendance					0.113***	0.012
Male	-0.042***	0.014	-0.048***	0.014	-0.033**	0.014
Single, with partner	0.021	0.050	0.033	0.051	0.047	0.050
Married	0.065***	0.013	0.076***	0.013	0.075***	0.013
Divorced	-0.004	0.021	0.007	0.022	0.011	0.021
Widowed	0.087***	0.032	0.102***	0.032	0.096***	0.034
Age 31-40	-0.088***	0.009	-0.082***	0.009	-0.083***	0.009
Age 41-50	-0.132***	0.012	-0.120***	0.012	-0.127***	0.011
Age 51-60	-0.137***	0.018	-0.121***	0.018	-0.138***	0.017
Age > 61	-0.070*	0.039	-0.054	0.038	-0.075**	0.037
Household size	-0.039***	0.008	-0.038***	0.008	-0.039***	0.007
Children 0-5	0.013	0.014	0.018	0.014	0.018	0.014
Children 6-12	-0.006	0.009	-0.005	0.009	-0.010	0.008
Children 13-17	0.026**	0.011	0.027**	0.011	0.025**	0.011
Junior high school	0.020	0.023	0.021	0.023	0.020	0.022
High school (diploma)	0.044	0.035	0.044	0.035	0.039	0.034
Bachelor's degree	0.122***	0.047	0.121***	0.046	0.114**	0.045
< 16 hours pw	-0.026	0.028	-0.026	0.029	-0.031	0.029
17-30 hours pw	-0.036*	0.020	-0.038*	0.020	-0.044**	0.020
31-40 hours pw	-0.037*	0.019	-0.040**	0.020	-0.042**	0.019
Household income (ln)	0.129***	0.030	0.130***	0.030	0.130***	0.030
Economic sit. as last year	0.054***	0.011	0.052***	0.011	0.052***	0.011
Economic sit. better last year	0.121***	0.021	0.118***	0.021	0.119***	0.021
Economic resources adequate	0.067***	0.012	0.067***	0.012	0.067***	0.012
Poor health	-0.100***	0.025	-0.099***	0.025	-0.099***	0.024
Good health	0.240***	0.011	0.237***	0.011	0.237***	0.012
Newspapers	0.142***	0.011	0.139***	0.011	0.140***	0.011

(continued)

Table IV.
Job satisfaction equations

Table IV.

	I		II		III	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Homeowner	0.055***	0.013	0.053***	0.012	0.048***	0.012
Union member	-0.046***	0.016	-0.048***	0.016	-0.047***	0.016
Bus	-0.080***	0.019	-0.079***	0.019	-0.077***	0.019
Entrepreneur	0.086***	0.019	0.085***	0.019	0.086***	0.018
Self-employed	0.007	0.012	0.005	0.012	0.008	0.012
Manager	0.011	0.038	0.014	0.038	0.011	0.038
Middle manager	0.036	0.029	0.039	0.029	0.042	0.029
Staff	-0.022*	0.011	-0.022*	0.011	-0.021*	0.012
Skilled worker	-0.065***	0.012	-0.065***	0.012	-0.064***	0.011
Apprentice	-0.121*	0.066	-0.121*	0.066	-0.122*	0.065
Agriculture	-0.002	0.022	-0.003	0.022	-0.005	0.022
Manufacturing	0.024	0.016	0.024	0.016	0.024	0.016
Public administration	0.051***	0.019	0.051***	0.019	0.049***	0.019
Commerce	-0.018	0.020	-0.019	0.020	-0.017	0.021
Finance	0.049	0.034	0.047	0.036	0.048	0.037
Transport	0.037	0.028	0.039	0.029	0.040	0.030
Regional dummies	Yes	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes
No. of observations	67,840	67,840	67,720	67,720	67,629	67,629
Pseudo R^2	0.025	0.025	0.026	0.026	0.027	0.027
Log-likelihood	-67,319.31	-67,319.31	-67,152.86	-67,152.86	-66,995.74	-66,995.74
LR test	$\chi^2(1)$ (p-value) 0.000	$\chi^2(1)$ (p-value) 0.000	$\chi^2(2)$ (p-value) 0.000	$\chi^2(2)$ (p-value) 0.000	$\chi^2(3)$ (p-value) 0.000	$\chi^2(3)$ (p-value) 0.000

Notes: Ordered probit estimates. The dependent variable *job satisfaction* takes discrete values and is based on a recoded self-declared job satisfaction (1 not at all satisfied, 2 not very satisfied, 3 quite satisfied, 4 very satisfied). The model is estimated with an ordered probit. Regressors' legend: see the Appendix. Regional and years dummies are omitted from the Table for reasons of space. The standard errors are corrected for heteroskedasticity and clustering of errors at the regional level. The estimated cut-off points are not reported. The symbols ***, **, * denote that the coefficient is statistically different from zero at 1, 5 and 10 per cent levels, respectively

independent variables the probability of being not at all satisfied, not very satisfied, quite satisfied and very satisfied with one's job, as shown in Table V.

Females are more satisfied with their jobs than males. The estimated coefficient of the male dummy variable is negative and statistically significant at a conventional

	Not at all satisfied	Not very satisfied	Quite satisfied	Very satisfied
Volunteering	-0.004	-0.010	0.002	0.012
Meetings with friends	-0.007	-0.017	0.005	0.019
Visiting relatives	0.000	0.001	-0.000	-0.001
Church attendance	-0.008	-0.023	0.004	0.027
Male	0.002	0.007	-0.001	-0.008
Single, with partner	-0.003	-0.009	0.002	0.011
Married	-0.006	-0.016	0.004	0.018
Divorced	-0.001	-0.002	0.000	0.002
Widowed	-0.007	-0.019	0.002	0.024
Age 31-40	0.006	0.017	-0.004	-0.019
Age 41-50	0.010	0.027	-0.008	-0.029
Age 51-60	0.011	0.029	-0.010	-0.031
Age > 61	0.006	0.016	-0.005	-0.017
Household size	0.003	0.008	-0.002	-0.009
Children 0-5	-0.001	-0.004	0.001	0.004
Children 6-12	-0.001	0.002	-0.000	-0.002
Children 13-17	-0.002	-0.005	0.001	0.006
Junior high school	-0.001	-0.004	0.001	0.005
High school (diploma)	-0.003	-0.008	0.002	0.009
Bachelor's degree	-0.008	-0.023	0.003	0.028
< 16 hours pw	0.002	0.006	-0.002	-0.007
17-30 hours pw	0.003	0.009	-0.002	-0.010
31-40 hours pw	0.003	0.009	-0.002	-0.010
Household income (ln)	-0.010	-0.027	0.006	0.031
Economic sit. as last year	-0.004	-0.011	0.002	0.012
Economic sit. better last year	-0.008	-0.024	0.003	0.030
Economic resources adequate	-0.005	-0.014	0.003	0.016
Poor health	0.008	0.021	-0.007	-0.022
Good health	-0.021	-0.051	0.020	0.051
Newspapers	-0.010	-0.029	0.005	0.034
Homeowner	-0.004	-0.010	0.002	0.011
Union participation	0.004	0.010	-0.002	-0.011
Bus	0.006	0.016	-0.005	-0.017
Entrepreneur	-0.006	-0.018	0.003	0.021
Self-employed	-0.000	-0.001	0.000	0.002
Manager	-0.001	-0.002	0.000	0.003
Middle manager	-0.003	-0.009	0.001	0.010
Staff	0.002	0.004	-0.001	-0.005
Skilled worker	0.005	0.013	-0.003	-0.015
Apprentice	0.010	0.026	-0.009	-0.027
Agriculture	0.000	0.001	-0.000	-0.001
Manufacturing	-0.002	-0.005	0.001	0.006
Public administration	-0.003	-0.010	0.002	0.012
Commerce	0.001	0.004	-0.001	-0.005
Finance	-0.003	-0.010	0.002	0.011
Transport	-0.003	-0.008	0.001	0.010

Table V.
Marginal effects
of Model III

level throughout (Table IV). Being male is associated with a 0.8 per cent lower probability of declaring oneself very satisfied with one's job (Table V)[6].

Italian married workers are more satisfied with their jobs than workers who are single. The most occupationally satisfied are the widowed. Being married or widowed is associated, respectively, with a 1.8 and a 2.4 per cent higher probability of declaring oneself very satisfied with one's work. Overall, results are in line with previous studies (see Section 2.1).

There is a statistically significant non-linear relationship between age dummies and job satisfaction: non-linearity shows a U-shaped relationship, with those in the very young and old age groups being most satisfied. This result is in line with the literature. A possible explanation may be that young workers may feel satisfied with their jobs because they have little experience of the labour market against which to judge their own work. As they learn about the labour market with some years of experience, they are able to better judge their work conditions. With experience, satisfaction drops during middle age. The subsequent rise in satisfaction until the age of retirement may be due to the effect of reduced aspirations with age: older workers may realize that they face limited alternative choices. It may also be true that they may attach less importance to such ambitions (Gazioglu and Tansel, 2006; Clark, 1996). Job satisfaction seems to depend on family characteristics. The larger the number of people with whom workers share accommodation, the less satisfied the workers are with their jobs. The household size variable shows a statistically significant negative sign at 1 per cent. Furthermore, workers with children aged between 13 and 17 are happier than workers with no children. Previous empirical evidence seems to be conflicting (see Section 2.1).

Table IV shows that bachelor's degree holders have higher levels of job satisfaction than individuals with lower education or none at all (reference group). Having a bachelor's degree is associated with a 2.8 per cent higher probability of stating one is very satisfied with one's job (Table V). Since we are controlling for household income and professional status, it is not surprising that junior high school and diploma variables are not statistically significant. Better-educated workers have access to better positions, meaning that education affects utility, indirectly raising productivity and career prospects (Bryson *et al.*, 2004). Association between higher levels of education and job satisfaction is found in one strand of the literature (see Section 2.1).

Job satisfaction is related to self-perceived health. Workers who state they are in poor health are less satisfied than workers who claim to be in fair health, while workers in good health are more satisfied than those who state they enjoy fair health. Enjoying good health increases the probability of declaring oneself very satisfied with one's job by 5.1 per cent.

As in previous empirical analyses, household income increases job satisfaction: larger household income might well give each working member of the family more freedom to be selective as regards the type of work undertaken, there being the possibility to leave unsatisfactory jobs. Moreover, judging to have household economic situation as last year and better last year as well as to have adequate household economic resources matters for job satisfaction: coefficient takes the expected positive sign.

Working hours are found to be positively correlated with job satisfaction. People who work between 17 and 40 hours per week are less satisfied with their jobs than people who work more than 40 hours per week. This result is in line with one strand of the literature (see Section 2.1). A possible explanation for this result might be related

to better-educated workers. As stated above, better-educated workers access better positions, which increase career prospects and earnings. Consequently, such workers might be more satisfied with their jobs and may choose to work longer hours.

According to the literature, a negative correlation has been found between union membership and job satisfaction. However, there might be an issue of endogeneity since dissatisfied workers are more likely to join unions. Another possible explanation relies on the fact that unions, by providing workers with a voice, encourage them to stay in jobs they dislike and to try to change their work conditions (Bryson *et al.*, 2010).

Workers who own the property where they live are more satisfied with work than those who do not. Two explanations are possible. If ownership is seen as a proxy for social status, and thus for the individual's reference group, homeowners could make comparisons against a reference group with worse jobs, and hence report higher levels of job satisfaction. Furthermore, such findings could indicate that homeowners are not interested in geographic job mobility, possibly because they do not want to leave satisfying jobs (Clark, 1996).

Reading newspapers every day raises the probability of declaring oneself very satisfied with one's job by 3.4 per cent. Taking a bus decreases the probability of high job satisfaction by 1.7 per cent.

Entrepreneurs report higher job satisfaction (than other professional positions) while manual workers (skilled workers and apprentices) state they are less happy with their jobs. Being an entrepreneur raises the probability of being very satisfied with one's job by 2.1 per cent while being a skilled worker decreases the same probability by 1.5 per cent. Table IV shows that managers do not significantly differ from the other professional positions (e.g. reference group). Workers employed in the public administration sectors are more satisfied with their work than those employed in other sectors. Working in public administration is associated with a 1.2 per cent higher probability of being very satisfied with one's work. This result is in line with the literature and a possible explanation is that "besides wages, public employees also receive a welfare premium in terms of better working conditions, especially higher perceived job stability and a better social climate" (Ghinetti, 2007, p. 381).

Finally, our results show that Italy is characterized by considerable geographical differences: the North-East regions present a positive and highly significant correlation with job satisfaction, whereas satisfaction with work dramatically decreases in southern regions.

4.2 Baseline findings: social relations

We focus now on the relationship between social relations and job satisfaction.

We find a positive relationship, statistically significant at 1.0 per cent, between volunteer work in activities of official volunteer service associations and job satisfaction. Volunteering is associated with a 1.2 per cent higher probability of stating one is very satisfied with one's job. This finding seems to suggest that volunteering increases job satisfaction because of the wage premium and career prospects which it implies (Section 2.2).

The impact of meetings with friends on job satisfaction is positive and also statistically significant at 1 per cent. Meetings with friends is associated with a 1.9 per cent higher probability of high job satisfaction. As stated in Section 2.2, a first feasible explanation of this result is associated with the transmission of job information. Networks of friends lower the costs of job information and speeds up the diffusion of knowledge on work aspects (economic, legal, technical), encouraging

workers to adopt appropriate behaviour. Such behaviour may enhance job satisfaction related to a non-pecuniary aspects of job. A second possible explanation of the finding is related to the empirical evidence on job search, which supports the view that jobs created through personal contacts are better than jobs created through other channels (Loury, 2006; Pellizzari, 2010). As in Italy friends have a prominent role in helping to search for job (Ponzo and Scoppa, 2010), it could be that jobs found through friends have a wage premium and a longer tenure, which increases job satisfaction.

The effect of visiting relatives is positive but not statistically significant. A feasible reason for this finding recalls Granovetters' distinction between strong and weak ties. For workers' job satisfaction strong ties, such as relatives, are not crucial.

Furthermore, church attendance has a positive and statistically significant effect at 1 per cent on job satisfaction: it is associated with a 2.7 per cent increased probability of high job satisfaction.

Volunteering, meeting with friends, visits to relatives and church attendance (see Section 2.2) may compensate for the negative effects of psychological stress from work and may also provide the individual with a sense of self-esteem with positive effects on self-perceived health (Thoits and Hewitt, 2001; Music and Wilson, 2003; Ellison, 1991, 1993; Lelkes, 2007).

Hence, we tested the indirect effect of volunteering, meeting with friends and churchgoing on job satisfaction through the impact on self-perceived-health. If these social relations increase job satisfaction indirectly, increasing the level of self-perceived health, we should expect that the combined term, obtained by multiplying the social relation variable by the self-perceived health variable, has a statistically positive sign in the job satisfaction equation. This means the rejection of the null hypothesis that self-perceived health differential does not depend on social relations.

As poor health enters the job satisfaction equation with a negative and statistically significant sign (Table IV), we multiply this variable by the single social relations variables. In Table VI, we see that the null hypothesis is rejected only for the combined

	I		II		III	
	Coefficient	SE	Coefficient	SE	Coefficient	SE
Volunteering	0.046***	0.011	0.051***	0.011	0.051***	0.011
Volunteering × poor health	0.128	0.093				
Meeting friends	0.083***	0.013	0.080***	0.014	0.083***	0.013
Meeting friends × poor health			0.105*	0.060		
Church attendance	0.113***	0.012	0.113***	0.012	0.112***	0.012
Church attendance × poor health					0.017	0.047
Poor health	-0.112***	0.026	-0.172***	0.061	-0.103***	0.032
Individual and socio-economic characteristics	Yes		Yes		Yes	
Regional dummies	Yes		Yes		Yes	
Year dummies	Yes		Yes		Yes	
No. of observations	67,629		67,629		67,629	
Pseudo R ²	0.027		0.027		0.027	
Log-likelihood	-66,994.42		-67,006.59		-66,995.69	
LR test	χ^2 (1) (p-value) 0.105		χ^2 (1) (p-value) 0.041		χ^2 (1) (p-value) 0.755	

Table VI.

Job satisfaction equations with combined terms

Notes: Ordered probit estimates. See note to Table IV. The symbols ***, *denote that the coefficient is statistically different from zero at the 1 and 10 per cent levels, respectively

term between meetings with friends and poor health. The coefficient is positive and statistically significant at 10 per cent (Model II). While poor health reduces the probability of high job satisfaction being reported by 4.0 per cent, the combined term of meeting friends and bad health is associated with a 3.0 per cent higher probability of stating high job satisfaction. Hence this result seems to support the “buffering effect” of the networks of friends (Fiorillo and Sabatini, 2011a, b).

5. Conclusions

The paper adds a new piece of evidence to the existing literature on job satisfaction, i.e. the effects of social relations. To the best of our knowledge, this is the first study which focuses on social interactions as determinants of job satisfaction. Four different measures of social relations were used: volunteering in non-profit associations, meeting friends, visiting relatives and church attendance. The study estimates micro-econometric job satisfaction equations for Italy using the ISTAT MSH for the period 1993-2000. The reported level of job satisfaction is considered an ordinal measure, with ordered probit estimations being carried out. The data describe a correlation rather than cause-and-effect as almost all empirical studies on job satisfaction. We do not identify clear causal relationships in one direction or the other. It is reasonable to assume that causation goes in both directions, with more satisfied workers having more social relations and with the time spent on social relations fostering worker well-being.

Empirical evidence shows that there is a positive correlation between job satisfaction and both volunteering and interactions with friends. As regards volunteering, it is an extrinsically motivated activity and increases job satisfaction because of the wage premium and career prospects which it implies, in particular for male workers. As regards interactions with friends, by and large social relations are instrumental in gaining more and in improving career prospects. Specifically, network of friends lowers the costs of job information and speeds up the diffusion of knowledge on work aspects (economic, legal, technical), encouraging workers to adopt appropriate behaviour, and thus enhancing job satisfaction related to a non-pecuniary aspects of work; help to find jobs which have a wage premium and/or a longer tenure, which increases pecuniary job satisfaction; provide moral and affective support, which mitigates the psychological stress related to work. Visits to relatives are not significantly correlated with job satisfaction. Furthermore, there is a correlation between church attendance and job satisfaction: precisely church attendance raises income and generates better job prospects.

Notes

1. Results presented in Nguyen *et al.* (2003) do not suggest any difference in overall satisfaction nor in satisfaction with pay, fringe benefits, promotion prospects and job security by gender.
2. This is the case in Austria, Bulgaria, Germany and Portugal. The opposite occurs in Italy, Denmark and the Netherlands.
3. Relational goods are “immaterial goods”, which yield utility only if they are shared with others. They cannot be exclusively consumed by one individual only; their production asks for the participation of all those who enjoy it, but the terms of this participation are not negotiable; the fruition of relational goods cannot be separated by the need and the preferences of others since the relationship with others is constitutive of the consumption action (Mosca *et al.*, 2007, p. 5).
4. For detailed information about how the statistical matching was performed see Fiorillo (2008).

5. Following the literature, we interpret the reported level of job satisfaction as an ordinal measure, that is, higher levels reflect higher utility, but we do not assume that, for example, level 4 represents twice the utility of level 2.
6. This result can be explained by the fact that the types of jobs that men and women do are different, as are their qualifications (Clark, 1996; Gazioglu and Tansel, 2006).

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Variable	Description
<i>Dependent variable</i>	
Job satisfaction	Job satisfaction score, coded so that 1 = Not at all satisfied, 4 = Very satisfied
<i>Relational goods variables</i>	
Volunteering	Dummy, 1 if unpaid activity for a social organization of volunteer service; 0 otherwise
Meeting friends	Dummy, 1 if the respondent meets friends every day or several times a week; 0 otherwise
Visiting relatives	Dummy, 1 if the respondent meets relatives everyday or several times a week; 0 otherwise
Church attendance	Dummy, 1 if respondent goes to church one or more times a week; 0 otherwise
<i>Demographic and socio-economic characteristics</i>	
Male	Dummy, 1 if male; 0 otherwise. <i>Reference group: female</i>
Single, with partner	Dummy, 1 if single with partner; 0 otherwise. <i>Reference group: single, no partner</i>
Married	Dummy, 1 if married ; 0 otherwise
Divorced	Dummy, 1 if divorced ; 0 otherwise
Widowed	Dummy, 1 if widowed ; 0 otherwise
Age 31-40	Dummy, 1 if age is between 31 and 40; 0 otherwise. <i>Reference group: age 16-30</i>
Age 41-50	Dummy, 1 if age is between 41 and 50; 0 otherwise.
Age 51-60	Dummy, 1 if age is between 51 and 60; 0 otherwise
Age > 61	Dummy, 1 if age is above 61; 0 otherwise
Household size	Number of people who live in the family home
Children 0-5	Dummy, 1 if the number of children is aged between 0 and 5 years; 0 otherwise. <i>Reference group: no children</i>
Children 6-12	Dummy, 1 if the number of children is aged between 6 and 12 years; 0 otherwise
Children 13-17	Dummy, 1 if the number of children is aged between 13 and 17 years; 0 otherwise
Junior high school	Dummy, 1 if education of the respondent is completed junior high school (8 years); 0 otherwise. <i>Reference group: no and low education (elementary school)</i>
High school (diploma)	Dummy, 1 if education of the respondent is completed high school (13 years); 0 otherwise
Bachelor's degree	Dummy, 1 if education of the respondent is university degree and/or doctorate (18 years and more); 0 otherwise
< 16 hours pw	Dummy, 1 if weekly hours of paid work under 16
17-30 hours pw	Dummy, 1 if weekly hours of paid work between 17 and 30
31-40 hours pw	Dummy, 1 if weekly hours of paid work between 31 and 40. <i>Reference group: > 40 pw</i>
Household income (ln)	Natural logarithm of imputed household income (sum of labour income, capital income and pensions)
Economic situation as last year	Dummy, 1 if the respondent assesses the economic situation of his/her family as last year; 0 otherwise. <i>Reference group: worst than last year</i>
Economic situation better last year	Dummy, 1 if the respondent assesses the economic situation of his/her family better than year; 0 otherwise

(continued)

Table AI.
Detailed description
of variables

Variable	Description
Economic resources adequate	Dummy, 1 if the respondent assesses the economic resources of his/her family as adequate; 0 otherwise
Poor health	Dummy, 1 if the respondent assesses his/her state of perceived health as poor; 0 otherwise. <i>Reference group: fair health</i>
Good health	Dummy, 1 if the respondent assesses his/her state of perceived health as good; 0 otherwise
Newspapers	Dummy, 1 if the respondent reads newspapers every day of the week; 0 otherwise
Homeowner	Dummy, 1 if the respondent owns the house where he/she lives; 0 otherwise
Union member	Dummy, 1 if the respondent participates or supplies unpaid activity to a union; 0 otherwise
Bus	Dummy, 1 if the respondent uses the bus every day or several times a week within the city to go to work; 0 otherwise
Entrepreneur	Dummy, 1 if the individual is employed as an entrepreneur; 0 otherwise <i>Reference group: other professional positions</i>
Self-employed	Dummy, 1 if the respondent is self-employed; 0 otherwise
Manager	Dummy, 1 if the respondent is employed as a manager; 0 otherwise
Middle manager	Dummy, 1 if the respondent is employed as a middle manager, 0 otherwise
Non-management employee	Dummy, 1 if the respondent is employed as staff, 0 otherwise
Skilled worker	Dummy, 1 if the respondent is employed as a skilled worker, 0 otherwise
Apprentice	Dummy, 1 if the respondent is employed as an apprentice, 0 otherwise
Agriculture	Dummy, 1 if individual is employed in the agriculture sector; 0 otherwise <i>Reference group: other sectors</i>
Manufacturing	Dummy, 1 if individual is employed in the manufacturing sector; 0 otherwise
Public administration	Dummy, 1 if individual is employed in the public sector; 0 otherwise
Commerce	Dummy, 1 if individual is employed in the business sector; 0 otherwise
Finance	Dummy, 1 if individual is employed in the finance sector; 0 otherwise
Transport	Dummy, 1 if individual is employed in the transport sector; 0 otherwise
Passive membership	Participation in meetings of formal associations, 1 = ecological, cultural and political party
Active membership	Unpaid activity for formal associations, 1 = other volunteer service and political party
Politics	Dummy, 1 if individual talks politics every day or several times a week; 0 otherwise

Table AI.

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