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Alessandro Buccioli, Simona Cicognani, Luca Zarri

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The Social Status-Enhancing Power of Social Ties

Alessandro Buccioli

Simona Cicognani

Luca Zarri*

University of Verona

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Abstract

This paper shows that social variables capturing individuals' sociability as well as strength of their social ties play an important role in affecting where individuals locate themselves in the social ladder, also when their objective location within society is taken into account. Using data from the US *Health and Retirement Study* (HRS) covering the period 2006-2012, we assess individuals' social ties and sociability through the number and quality of their friendships as well as a set of variables capturing their attitude towards others (loneliness, cynical hostility, social cohesion, discrimination and reciprocity). We find subjective social status to correlate positively with reciprocity and negatively with discrimination. Next, individuals that are more satisfied with their life seem disconnected from objective elements when subjectively evaluating their social status.

Keywords: Subjective social status; Objectively measured social status; Sociability; Social ties.

JEL Classification: I31; Z13.

* Corresponding author: Luca Zarri. Postal address: University of Verona, Department of Economics, Via Cantarane 24, 37129 Verona, Italy. Email: luca.zarri@univr.it.

1. Introduction

For decades, the standard economics approach has posited the importance of absolute levels of consumption and income for the well-being of individuals. However, many empirical contributions in recent years clearly indicate that subjective well-being depends to a significant extent on social comparisons (Ferrer-i-Carbonell, 2005; Luttmer, 2005; Dohmen et al., 2011) and that individuals themselves, in evaluating their own condition, often care more about relative rather than absolute terms. On top of this, what seems to matter most is not their *objective* position in the social ladder, but the *self-perception* of their own ranking within society (Buccioli et al., 2015; Fabiansson, 2015). Concerns with relative ranking are spread throughout virtually all societies, which are typically structured hierarchically (Sidanius and Pratto, 1999; Ball et al., 2001). Within most societies, searching for acceptance and avoiding refusal by others represents fundamental human tendencies, and attaining a high social status is central in this mechanism (Baumeister and Leary, 1995).

This paper provides direct evidence on the relationship between individuals' social status and variables concerning their attitude towards others (their degree of sociability) as well as their relevant social relationships. We connect subjective social status with objectively measured social status, describing both in terms of individuals' sociability and social ties. Importantly, we make use of variables capturing qualitative features of one's social dimension (e.g., quality and intensity of friendships, discrimination, reciprocity) rather than its quantity only, departing thus from prior work on the links between sociability and economically relevant variables. It is plausible to conjecture that, other things being equal, stronger social ties and positive attitudes towards others lead to higher objective social status (e.g., due to a higher propensity to trust others and/or better connections, and therefore better opportunities, than others). Next, we test the hypothesis that stronger social ties and positive attitudes towards others are also associated with higher subjective social status, even after controlling for objective social status, as a richer social dimension is likely to lead individuals to have a better perception of themselves in general and, therefore, to also have a better perception of their own position on the social ladder. As pointed out by MacDonald et al. (2003), subjects who consider themselves highly on sociable traits are characterized by

higher self-esteem, especially if they believe other people negatively consider those who lack sociable characteristics.¹

To address this issue, we use data from the US *Health and Retirement Study* (HRS), covering the period 2006-2012, where a psycho-social section called “Participant Lifestyle” regards personality, past events, social interactions, and self-perceptions of the respondents. We assess individuals’ social dimension by considering the number and quality of their friendships as well as a set of variables capturing their attitude towards others (loneliness, cynical hostility, social cohesion, discrimination and reciprocity). Importantly, in our empirical analysis we take into account as regressors the well-known “Big Five” personality variables (see on this Costa and McCrae, 1992) – i.e., Openness to experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism –, which have been recently shown to be important drivers of self-perceived social status (Buccioli et al., 2015).

The Subjective Socio-Economic Status (SSES) indicator originates from the self-reported answer to a specific HRS question. Our Objectively measured Socio-Economic Status (OSES) indicator was built with a factor analysis based on three key socio-economic variables (education, income and wealth): we considered those variables because the question behind SSES explicitly mentions education and money as dimensions to be taken into account in social status self-assessments. We also distinguish between the OSES of the respondent and that of her peers to take into account the possibility that a subjective evaluation of social status is also affected by the (objective) social status of similar individuals to whom the individual refers. Importantly, a person’s self-perception of social status may hinge on her current social context and everyday social interactions (Cooley, 1902; Cohen, 1982; Putnam, 1993; Davis and Reyna, 2015).

Our findings indicate that subjective status is correlated positively with the OSES of the respondent and of her peers, life satisfaction, age, being married, employee or self-employed and being in good health, and negatively with being a female and suffering from

¹ Along these lines, according to Donnellan et al. (2005), there exists a robust relation between low self-esteem and antisocial behavior, such as externalizing problems and aggression, independently of the measure of self-esteem used and of narcissism (against the common claim that narcissist people, and not those low in self-esteem, are aggressive and antisocial).

traumas early in life or from a life-threatening trauma. Regarding the social variables that are central in our analysis, we find subjective status to correlate positively with reciprocity, and negatively with discrimination. Individuals that are more satisfied with their life seem to be disconnected from objective elements when subjectively evaluating their social status, whereas only for least satisfied individuals there seems to be correlation between subjective and objective indicators. Our results provide support to the idea that social variables capturing individuals' social attitude as well as the number and quality of their social relationships play an important role when investigating the extent to which individuals locate themselves in the social ladder, also when their personality traits, their level of life satisfaction and their objective location within society are taken into account.

The remainder of the paper is structured as follows. Section 2 presents a selective review of the relevant streams of literature. In Section 3 we present the data we used to explore this topic and some descriptive statistics. Section 4 contains the main findings of our analysis and Section 5 concludes with a discussion of the results. The Appendix provides details on the construction of our key variables.

2. Related Literature

Empirical evidence documents that individuals care about social status as a distinctive feature within society for the sake of status itself (Truyts, 2010). In other words, utility carries an important relative component and we feel more or less satisfied in life according to the social comparisons with other individuals surrounding us (James, 1890). This strand of literature shows that what matters most in terms of happiness or subjective well-being is relative rather than absolute income (Clark and Oswald, 1996; Clark and Senik, 2010). This pattern has been proven to persist both in developed and in developing countries, but with important differences: Corazzini et al. (2011) offer evidence that the perception of poverty is reference-based, with people in higher income countries attaching more relevance to relative income. Such comparisons can result as an important driving force of human behavior to the extent to which they guide relevant economic decisions, as for instance migration decisions: according to Stark and Taylor (1991), relative income within the village is an important

driver of migrations. Within societies, social status is relevant in terms of allocation of resources and economic growth to the extent to which status-seeking activities divert resources from productive usage, resulting in welfare-reducing behaviors (Ball et al., 2001).

Social status can accrue not only utility *per se*, but also material and (further) non-material benefits. Individuals may care about showing social status because it could entail a higher consideration from the people with whom one interacts: Charles et al. (2009) find Blacks and Hispanics in the US to have a higher tendency to spend in visible goods, as this entails showing off of their social status, although at the expense of investing less in more important issues such as health or education. As indicated in an experimental study conducted by Ball and Eckel (1996), status affects human interactions positively (high-status individuals receive higher offers in ultimatum games), leading thus subjects to seek status in order to be more fairly treated in future interactions.² Moreover, social status could serve as a signal of important non-observable abilities (Rege, 2008). By investing in social status (i.e., by purchasing visible consumption goods), one could increase her chances of interacting with high-ability individuals. Therefore, status is desirable not only in itself, but also for the pursuit of other secondary goals, such as the social advantages and consideration it entails (Huberman et al., 2004). High social status also attracts imitative behavior from lower social-status subjects, as shown by Kumru and Vesterlund's (2010) experimental study on charitable giving.

Putting aside the relevance of social status for many real-life situations, the specific focus of this paper is on how the *social dimension* of an individual can affect her social status, with special regard to her perceived social status. Individual sociability has attracted increasing attention from economists in the last decades. Empirical research documents that variables capturing social capital in a broad sense (for instance social gathering, helping out friends, volunteer work) are very important predictors of subjective well-being (Boyce and Wood, 2011; Bartolini et al., 2013). Social relationships and social contact have a even higher effect on subjective well-being than income (Powdthavee, 2008). However, as pointed out by Dolan et al. (2008), it is difficult to ascertain the direction of causality. Battaglini et al.

² Individuals' caring about their social status and status-seeking behavior have been recently incorporated also in models of economic growth (Corneo and Jeanne, 2001).

(2017) provide evidence that students belonging to social groups have more self-control than students who are alone, with self-control increasing as the size of the social group increases.

Regarding the link between perceived social status and individual social dimension, the economic and psychological literature provide some contributions with respect to both directions. As for the channel from social status to sociability, by experimentally manipulating subjects' relative status, Davis and Reyna (2015) detect a causal effect of perceived social status on a set of social variables, mainly represented by reactive aggression and hostility in reaction to provocation. The connection is mediated by threatened social worth, which leads those with lower social status to be more vigilant and less trustful towards others.³ Therefore, social status is important inasmuch subjects interpret and react to social environments. Along this direction, Fabiansson (2015) reports, from a sample of Australian high-school students, that a lower perceived social status is associated with lower trust in others and less self-confidence, for instance in achieving the preferred educational level. On the contrary, the higher the perceived social status, the more optimism is experienced by students and the higher also their sense of belonging to a community. Although these results do not lend themselves to a causal interpretation, they are indicative of a strong relationship between social status identification and social belonging.

However, it is plausible that it is also the case that sociability and social ties exert (either direct or indirect) effects on individuals' (objective) social status. De Giorgi et al. (2010) analyze peer effects in the choice of college major and provide evidence that students are more likely to opt for a given major when many of their peers do the same. They also find that peers can divert individuals from majors in which they have a relative ability advantage. Bandiera et al. (2010) show that workers' productivity is significantly higher (respectively, lower) when they work alongside friends who are more (respectively, less) able than them. Next, a growing empirical literature investigates the effects of trust in others on individual performances. Using World Values Surveys data, Slemrod and Katuščák (2005) document that exhibiting trust is positively associated with higher income, whereas being trustworthy has on average a negative effect. The latter result is explained in terms of observability of past individual behavior, that shapes reputation in future interactions. Along these lines,

³ See on this also Henry (2009) and Kraus et al. (2011).

based on data from the European Social Survey and enriched with experimental data, Butler et al. (2016) identify a hump-shaped relationship between individual trust and individual economic performance. Their results suggest the existence of an optimal (and intermediate) amount of trust, indicating a trade-off between trusting too much (and having a high probability of being cheated) and trusting too little (and foregoing interesting opportunities). Trust and sociability are also positively linked to other economic dimensions, such as investing in the stock market, even after controlling for wealth, race and education (Hong et al., 2004; Guiso et al., 2008).

In general, trusting someone, which is at the basis of any social interaction, involves different types of vulnerability: the monetary risk of incurring losses driven by the act of trusting, the risk of being worse-off than the trusted party and the mere risk of being betrayed by trusting. According to Hong and Bohnet (2007), each of these reasons for distrusting could be related to a person's social status, identified in their experimental study by sex, race, age and religion (with the underlying assumption being that high-status groups in the US consist of men, Caucasians, middle-aged people and Protestants). Results show that individuals who differ in terms of social status also differ in terms of reason for distrusting: more specifically, low-status groups are averse to disadvantageous inequality, while high-status groups attach more importance to being betrayed when they socially interact.

Finally, Almlund et al. (2011), as well as Becker et al. (2012), advocate the relevance of personality traits in predicting economic outcomes of the individuals, locating them at the same level of innate cognitive abilities, and even controlling for family background. A few recent studies shed light on important correlations between the economic sphere of the individual and the "Big Five" personality traits more closely related to the individual social dimension. For instance, Extraversion is found to be significantly connected with higher income (Proto and Rustichini, 2015). The same positive relationship is found between Openness and social status (with regard to both objective and subjective status), whereas the opposite applies to Agreeableness (Buccioli et al., 2015).

3. Data

Our data come from the US *Health and Retirement Study* (HRS). HRS is a multi-disciplinary representative survey on Americans aged 50 or more, with data collected every two years since 1992 on behalf of the University of Michigan. As its name suggests, the survey is primarily focused on the health and retirement conditions of the respondents. However, it is made of a number of sections covering specific topics, such as demographics, employment, and finances. In particular, a psycho-social section called “Participant Lifestyle”, introduced in 2004, asks questions about personality, past events, social interactions, and self-perceptions of the respondents. Our key variables originate from this section.

Our dataset includes four waves (years 2006-2012) of HRS; the first available wave (2004) is excluded from the dataset because it did not incorporate information on the social dimension. The final sample is made of 14,348 observations on 9,145 households, as a result of the following restrictions: we consider only the household heads answering to all the questions relevant for our analysis, and in the age range 50-80. We exclude the sub-sample of individuals aged more than 80 as they are over-represented in HRS. This limited age range was used also in Bucciol and Zarri (2015) and Bucciol et al. (2015) in analyses based on the same data source.

We have more than one observation per individual because HRS is a panel study; however, the Participants’ Lifestyle section we focus on is asked every time to a rotating 50% sample, which means that those interviewed in 2006 are subsequently interviewed in 2010, and those interviewed in 2008 are then interviewed in 2012. Since the panel dimension is so small, in our analysis we treat the dataset as a pure cross-section and use individual-clustered standard errors to control for within-individual correlation.

Table 1 displays summary statistics on the variables used in the analysis, that we split in four categories: classic socio-economic variables (education, income, wealth), control variables (basic demographics, health status, life satisfaction, year dummies), social variables (with friends, positive and negative support, contacts, loneliness, hostility, cohesion, discrimination, reciprocity), “Big Five” personality variables (Openness to experience, Conscientiousness, Extraversion, Agreeableness, Neuroticism) and socio-economic status

indicators (subjective and objectively measured status of the respondent and the peers). As we anticipated in the introductory section, the nine social variables that we incorporate in the analysis allow us to assess individuals' degree of sociability as well as the strength of their social ties.

The Subjective Socio-Economic Status (SSES) indicator originates from the self-reported answer to the following HRS question, also known as MacArthur scale of subjective social status:

“Think of this ladder as representing where people stand in our society. At the top of the ladder are the people who are the best off – those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off – who have the least money, least education, and the worst jobs or no jobs. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the people at the very bottom.”

It is worth noting that the answer must be provided on a 1-10 scale in a picture of a ladder.

The Objectively measured Socio-Economic Status (OSES) indicator was built with a factor analysis based on key socio-economic variables (education, income and wealth); we considered those three variables because the question behind SSES explicitly mentions education and money as dimensions to be taken into account.⁴ We also distinguish between the OSES of the respondent and that of the peers to consider the possibility that a subjective

⁴ Even though the social ladder question that we use to construct SSES also mentions jobs, we decided to ignore the occupation dimension in constructing our OSES indicator as many of our respondents are retired, and for the others we cannot distinguish between more and less prestigious jobs. Since several of the variables used are discrete, we implement a factor analysis using a polychoric correlation matrix. The resulting OSES indicator was rescaled to have the same average as the SSES. A similar methodology was applied in Buccioli et al. (2015).

evaluation of social status is also affected by the social status of similar individuals.⁵ Details on the key variables are reported in the Appendix.

In Table 1 it is interesting, among other things, to look at the correlation between the variables and the SSES/OSES indicators. Both indicators are more highly correlated with the socio-economic variables. While this happens by construction for OSES, which is built exactly from such variables, the finding for SSES suggests that respondents indeed took into account their education, income and wealth when providing an answer. Other control variables showing some correlation with the indicators are connected with race, marital status and health. Among the social variables, we see that loneliness, cynical hostility and social cohesion show large (negative) correlations with both indicators.

TABLE 1 ABOUT HERE

Figure 1 displays the distribution in the sample of the SSES (panel a) and OSES (panel b) indicators. We learn that both distributions are skewed, with more individuals associated with higher status. This concentration toward a higher status is mainly due to the wealth situation: according to the life-cycle framework, individuals in the age range of our sample are those with more wealth accumulated for retirement. In fact, the distribution of income in the sample (depicted in panel b of Figure 1), where income frequently comes from pensions, is more highly concentrated toward low values.

FIGURE 1 ABOUT HERE

⁵ The OSES of the peers is derived as the average OSES in the sub-sample of individuals that the prevailing literature considers as peers, that is individuals in a 10-year age bracket (up to 5 years younger or older), with the same education (college, high school, or lower), living in the same region (nine divisions, as defined by the Census Bureau), in a similar metropolitan area (with 1 million inhabitants or more, between 250 thousand and 1 million, or less) and observed in the same wave (see on this Bartolini et al., 2013; Daly et al., 2013; Ferrer-i-Carbonell, 2005; McBride, 2001; Persky and Tam, 1990; Van de Stadt, 1985; Vendrick and Woltjer, 2007). Whereas the reference group is usually exogenously treated, Falk and Knell (2004) present a theoretical model with endogenous reference groups. The correlation between the resulting measure and OSES is 0.42.

Figure 2 compares the values of SSES and OSES. Each data point indicates the average OSES conditional on each of the ten possible values of SSES. Although a positive relation is evident (the linear correlation is 0.40; see Table 1), much of the variability in SSES is explained by OSES. The purpose of our analysis is to see whether part of this variability can be explained also by the social dimension of the respondents.

FIGURE 2 ABOUT HERE

4. Empirical Analysis

The aim of our analysis is twofold. First, we test whether objective social status is correlated with the social dimension of an individual. Second, we check whether perceived social status is also correlated with the social dimension of an individual, even after controlling for objective social status. In particular, we test the idea that positive (respectively, negative) components of one's social dimension, in terms of social ties and/or sociability, are associated with a better (respectively, worse) perception of her own position on the social ladder.

Therefore, our key model studies the correlation of the SSES indicator with a set of social variables (S) after controlling for the OSES of the respondent and the peers (\overline{OSES}) as well as for psychological variables assessing individuals' personality traits (P) and standard control variables (C) including demographics, health status and life satisfaction. Our key regression equation is then the following,

$$SSES = \beta_0 + \beta_1 S + \beta_2 OSES + \beta_3 \overline{OSES} + \beta_4 P + \beta_5 C + \varepsilon \quad (1)$$

with β the parameters to be estimated and ε the error term.

We run OLS and IV regressions with standard errors clustered at the individual level, to account for potential correlation between observations coming from the same individual. We employ IV regressions to account for the potential endogeneity arising in some

explanatory variables. Specifically, we expect simultaneity in $OSES$, \overline{OSES} and S , as all these variables could actually be influenced by $SSES$.⁶ If so, OLS estimates would be inconsistent. In this context, it is extremely difficult to find instruments, that is, variables that correlate with $OSES$ (of the respondent and the peers) and with S , but not with $SSES$. We therefore follow Bucciol et al. (2015) and apply an IV technique where the instruments are artificially created with the existing data. The approach was developed in Lewbel (2012) and derives new instruments as the product between mean-centered exogenous explanatory variables and residuals from the regression of the eleven endogenous variables (the two $OSES$ indicators plus the nine S variables) on the exogenous ones. Under mild assumptions on the variance of the residuals, the estimator is inefficient but consistent.

In what follows we use the convention to comment only on coefficients that are significant at the 5% or lower level.

4.1. Objective Social Status

We first identify the factors correlating with individuals' objective social status. Column (1) of Table 2 shows the output from a regression of $OSES$ over the control and personality variables. Objectively measured status is correlated with all the control variables, positively with age, being married, employed (either employee or self-employed) and in good health, and negatively with being a female, non-white, immigrant, and suffering from a chronic disease or a trauma. In addition, the index is significantly lower in the latest two waves, possibly because the economic crisis cut income and wealth of many households. We also add to the specification five personality variables coming from the well-known "Big Five" personality taxonomy, because previous work (Bucciol et al., 2015) finds them to be highly significant explanatory variables for $OSES$. As predicted, all the five new variables are significant (Openness to experience and Conscientiousness positively; Extraversion, Agreeableness and Neuroticism negatively).

⁶ This concern appears to be far less important with regard to personality traits, since individuals in the age group of our dataset (50-80) have been shown to be characterized by stable personality traits (Cobb-Clark and Schurer, 2012; Terracciano et al., 2006).

Column (2) adds to the specification the set of social variables that are central for our analysis. All the previous correlations are preserved. In addition, we now find significant correlation for some indicators of the social dimension. Specifically, objectively measured status correlates positively with social contact and social cohesion, and negatively with support (either positive or negative), cynical hostility and reciprocity. These findings overall suggest that social status is higher when the person feels integrated and actively involved in human relations, and is lower when the person has a cynical view of others. Regarding social support, which is negatively correlated with status disregarding the direction of support, our interpretation is the following: social support is self-assessed; it is plausible that individuals paying more attention to the support they could receive from others are also less able to advance in the social ladder.

In Column (3) we report the analysis from an IV regression *à la* Lewbel (2012) where the endogenous variables are the nine social variables. This way we lose some of the significant effects found in Column (2), also because of the inefficiency of the IV estimator. However, we preserve the positive effects for social contact and social cohesion, and the negative effects for positive support and cynical hostility.

TABLE 2 ABOUT HERE

4.2. Subjective Social Status

We now turn to the main model specification, i.e., the one focusing on individuals' perception of their social status. Column (1) of Table 3 displays the output from an OLS regression of SSES on our benchmark specification. Subjective status is correlated positively with the OSES of the respondent and of her peers, life satisfaction, age, being married, self-employed and in good health, and negatively with being a female and suffering from traumas early in life. The SSES index also turns out to be significantly higher in the first wave, relative to year 2006, possibly because the economic crisis cut income and wealth of many households.

Regarding the social variables, we find subjective status to correlate positively with social contact, social cohesion and reciprocity, and negatively with cynical hostility and

discrimination. All the five personality variables are significant (Openness to experience, Conscientiousness and Extraversion positively; Agreeableness and Neuroticism negatively). The sign of the effects is in line with what we had already found in Table 2 for OSES, with the only exception of Extraversion: while Extraversion has a negative effect on actual social status, it makes people overstate their social status. This evidence was already found in Bucciol et al. (2015).

Results from an IV regression based on the approach of Lewbel are reported in Column (2) of Table 3. In this case, we treat as endogenous the two OSES indicators as well as the nine social variables. The purpose of running this regression is to account for the potential endogeneity in these variables, that might give rise to inconsistent OLS estimates.

The coefficients of the control variables are similar to those of Column (1), in terms of sign and size. However, among the social variables, we preserve significant effects only on reciprocity (+0.353) and discrimination (-0.686), which are about twice as large as in Column (1). The coefficient on the OSES of the respondent, while remaining largely significant, is now more than one-half lower than before. This suggests that our results in Column (1), not accounting for the potential endogeneity in the specification, were possibly over-estimating the effect of OSES.

Interestingly, the size of the OSES coefficient is around 0.1, which means that a 1-point increase in OSES is associated with a 0.1-point increase in SSES. Since the two dimensions are in the same scale (OSES was rescaled to have the same average as SSES), this implies that variations in subjective status only partly reflect variations in objective status. Hence, there is room for other explanatory channels and the one we focus on in this paper (i.e., individuals' social dimension, covering both their degree of sociality and the strength of their social ties) seems to find support in the data.

TABLE 3 ABOUT HERE

4.3. Life Satisfaction

Individuals who are more satisfied with their life could report a higher position in the social ladder because they attribute more value to their achievements. Indeed, the coefficient

on life satisfaction is significantly positive in Columns (1)-(2) of Table 3. However, there could be a structural break, potentially causing estimation bias, because individuals with “high” and “low” levels of life satisfaction may also differ in objective social status, as well as in social dimension, personality and control variables.

To account for this, in Columns (3) and (4) of Table 3 we repeat the benchmark IV analysis of Column (2) separately in two sub-samples of observations, differing in their level of life satisfaction: Low – Column (3) – or High – Column (4). We define as “Highly life satisfied” all individuals reporting an answer above the median, in order to have two groups of similar size.

It is useful to first shed light on the descriptive statistics of the two sub-samples in terms of life satisfaction, and to check whether they are significantly different (Table 4). We learn that “Low” individuals report a subjective social status that is about 0.2 points lower than their objective status, whereas “High” individuals report a subjective status about 0.2 points higher than their objective status. Therefore, a lower (respectively, higher) life satisfaction entails a deflation (respectively, inflation) of the subjective social status. Moreover, the “High” group is composed of individuals who are associated both objectively and subjectively with higher social status. The higher social status of the “High” individuals is coupled with being, to a larger extent, married, self-employed, in good (self-assessed health), with fewer traumas or chronic diseases. “High” individuals also present higher levels of the Big Five personality traits, except for Neuroticism. As for the social variables, the “High” individuals have significantly more friends, social contact, pro-social behavior, they receive higher positive support and lower negative support from people surrounding them, and feel less lonely and discriminated by others. Interestingly, no significant differences between the “High” and “Low” groups are encountered along the gender and immigration dimensions.

TABLE 4 ABOUT HERE

When analyzing regression results of Table 3, Columns (3) and (4), only among “Low” individuals there seems to be correlation between subjective and objective indicators.

In contrast, the subjective evaluation of social status among “High” individuals is apparently disconnected from objective elements. Regarding the social dimension variables, we learn that both groups show positive correlations between SSES and reciprocity. SSES also correlates with cynical hostility (negatively) among “Low” individuals, and with social contact and social cohesion (positively) among “High” individuals.

5. Concluding Remarks

This paper presented an empirical test of whether individuals’ sociability and social ties are linked with their social status. We found that several social variables correlate with both objectively measured and subjective social status. In particular, we showed that the relationships with self-perceived social status are preserved also when controlling for objectively measured social status.

Individuals’ objective social status (assessed in terms of wealth, income and education) turns out to be positively correlated with positive components of an individual’s social dimension, such as having friends, social contact and social cohesion, and negatively correlated with cynical hostility. Our findings are broadly consistent with previous research that documents a positive link between trust and income-related variables, in both aggregate and individual data (Butler et al., 2016; Slemrod and Katuščák, 2005; Zak and Knack, 2001). Differently from previous studies (Hong et al., 2004), we are able to disentangle the relevance of the quality of friendships (“social contact” in our analysis) from a mere measure of quantity (“with friends”). Whereas both social ties variables result positive and significant when regressed against objective status, the variable indicating the quantity of friendships loses significance in the regression of subjective status, corroborating the broad idea that looking at the quality of social interactions may provide interesting insights on a series of relevant socio-economic variables. This result parallels previous literature contributions in the health and labor economics domains, according to which it is the quality rather than the quantity of relationships with friends that is the best predictor of self-reported health (Fiorillo and Sabatini, 2011) and job satisfaction (Winstead et al., 1995).

The positive/negative effect of the individual social dimension is mirrored in the perception of the social status by the individual. On the one hand, reciprocity exerts a positive effect on the self-perception of the individual regarding her social status (what seems to matter, also in this case, is the quality of friendships rather than just having friends). On the other hand, discrimination contributes to lowering individuals' self-perception of their social status.

Our evidence also suggests that subjects, when evaluating their social status, compare themselves with their peers. In particular, the objective social status of the peers is positively correlated with individual subjective status: in other words, it positively reinforces the self-perception of the individual. In this regard, recent work highlights the importance of social context and social interactions when perceiving and evaluating one's own social status (Fabiansson, 2015; Davis and Reyna, 2015).

Next, we wondered what is the role played by life satisfaction in shaping individual self-perception of social status, suspecting that individuals who are more satisfied with their life could report a higher position in the social ladder because they attribute more value to their achievements. On the whole, life satisfaction exerts a positive role in the self-perception of individuals regarding their status. This conclusion follows also from finding that the least satisfied individuals are characterized by a positive wedge when comparing their objective and subjective social status, whereas the most satisfied individuals present a negative wedge, thus having a higher perception of themselves, compared to their actual condition.

In terms of perceptions and life satisfaction, another channel which seems to be at work, but only for the least satisfied individuals, is the objective social status of the individual. Therefore, highly-satisfied individuals do not rely on their objective conditions when evaluating their social status. This finding could be due to the higher level of objective social status among individuals who report a higher life satisfaction.

Gender does not impact life satisfaction levels, but does exert a significant effect in the perception of social status. The first result corroborates previous studies, which especially since the 1990s reported a negative trend in the life satisfaction of women, leading to only marginal differences in life satisfaction across genders. However, in all the model specifications of this study, being a female negatively affects individual subjective social

status. This may be due to the typical lower self-confidence and self-esteem of women, which would make perceive themselves as less fulfilled than they actually are (McLeod and Owens, 2004; Eisenkopf et al., 2014; Kock et al., 2014). It is plausible that this result is driven to a large extent by gender stereotypes, relegating women (and Blacks) to lower social status groups since early adolescence (Rowley et al., 2007).

This study presents two main limitations. First, it is important to read our major results mainly as correlations rather than as causal effects. Even though we mitigate endogeneity concerns through the methodology adopted by Lewbel (2012), some issues may still due to a possible reverse causality of the social dimension variables and the income variable, captured in both OSES and SSES indicators. Second, it focuses on a specific age range (50-80). Further research should be devoted to investigating whether our results hold also when other age ranges are taken into account. More specifically, it would be interesting to compare the effects of the social dimension of young individuals, for whom social networks and new communication systems are quite widespread, versus the one of 50-80 years old individuals, who are less familiar with new technologies and hence new socialization opportunities.

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Appendix. Key Variables

A.1. Variables on Social Dimension

The variables are constructed following the indication in Smith et al. (2013), based on the psychological literature. Within squared parentheses we report the name of the variables in HRS, wave 2012.

WITH FRIENDS [lb018]

“How many of your friends would you say you have a close relationship with?”

We create the dummy variable “many friends” equal to 1 if the answer is 3 or more (i.e., the median in the dataset).

SOCIAL SUPPORT [lb016]

“Please check the answer which best shows how you feel about each statement.

- a) How much do they really understand the way you feel about things?
- b) How much can you rely on them if you have a serious problem?
- c) How much can you open up to them if you need to talk about your worries?
- d) How often do they make too many demands on you?
- e) How much do they criticize you?
- f) How much do they let you down when you are counting on them?
- g) How much do they get on your nerves?”

Possible answers: 1=A lot; 2=Some; 3=A little; 4=Not at all.

Questions refer to friends. We reverse code all items and create an index of “positive support” by averaging the scores of items a-c and an index of “negative support” by averaging the scores of items d-g.

SOCIAL CONTACT [lb017]

“On average, how often do you do each of the following? Please check the answer which shows how you feel about each statement.

- a) Meet up (include both arranged and chance meetings)

b) Speak on the phone

c) Write or email.”

Possible answers: 1=Three or more times a week; 2=Once or twice a week; 3=Once or twice a month; 4=Every few months; 5=Once or twice a year; 6=Less than once a year or never.

Questions refer to friends. We reverse code all items and create an index of “social contact” equal to their average.

CYNICAL HOSTILITY [lb019]

“Please say how much you agree or disagree with the following statements:

a) Most people dislike putting themselves out to help other people

b) Most people will use somewhat unfair means to gain profit or an advantage rather than lose it

c) No one cares much what happens to you

d) I think most people would lie in order to get ahead

e) I commonly wonder what hidden reasons another person may have for doing something nice for me.”

Possible answers: 1=Strongly disagree; 2=Somewhat disagree; 3=Slightly disagree; 4=Slightly agree; 5=Somewhat agree; 6=Strongly agree.

We create an index of “cynical hostility” by averaging the scores of all the items.

LONELINESS [lb020]

“The next questions are about how you feel about different aspects of your life. How much of the time do you feel...

a) You lack companionship?

b) Left out?

c) Isolated from others?”

Possible answers: 1=Often; 2=Some of the time; 3=Hardly ever or never.

We reverse code all items and create an index of “loneliness” equal to their average.

SOCIAL COHESION [Ib021]

“These questions ask how you feel about your local area, that is everywhere within a 20 minute walk or about a mile of your home. Please mark one box on each line. The closer your mark is to a statement the more strongly you agree with it.

- a) I really feel part of this area / I feel that I don't belong in this area
- b) Most people in this area can be trusted / Most people in this area can't be trusted
- c) Most people in this area are friendly / Most people in this area are unfriendly
- d) If you were in trouble, there are lots of people in this area who would help you / If you were in trouble, there is nobody in this area who would help you.”

Possible answers: each of a 7-point scale, denoting the respondent's preference for either pole.

We reverse code all items and create an index of “social cohesion” equal to their average.

DISCRIMINATION [Ib030]

“In your day-to-day life how often have any of the following things happened to you?

- a) You are treated with less courtesy or respect than other people.
- b) You receive poorer service than other people at restaurants or stores.
- c) People act as if they think you are not smart.
- d) People act as if they are afraid of you.
- e) You are threatened or harassed.
- f) You receive poorer service or treatment than other people from doctors or hospitals.

Possible answers: 1=Almost every day, 2=At least once a week, 3=A few times a month, 4=A few times a year, 5=Less than once a year, 6=Never.

We reverse code all items and create an index of “discrimination” equal to their average.

RECIPROCITY [Ib032]

“The following statements are about people's expectations of each other. Please tell us how much you agree or disagree with each statement for you personally.

- a) I have always been satisfied with the balance between what I have given my partner and what I have received in return

- b) I have always received adequate appreciation for providing help in my family
- c) In my current major activity (job, looking after home, voluntary work) I have always been satisfied with the rewards I received for my efforts.”

Possible answers: 1=Strongly disagree, 2=Disagree, 3=Neither agree nor disagree, 4=Agree, 5=Strongly agree, 6=Does not apply.

We create an index of “reciprocity” by averaging responses across all the items, coding the “does not apply” responses as missing.

A.2. Variable on Life Satisfaction [lb003]

“Please say how much you agree or disagree with the following statements.

- a) In most ways my life is close to ideal.
- b) The conditions of my life are excellent.
- c) I am satisfied with my life.
- d) So far, I have gotten the important things I want in life.
- e) If I could live my life again, I would change almost nothing”

Possible answers: 1=Strongly disagree, 2=Somewhat disagree, 3=Slightly disagree, 4=Neither agree nor disagree, 5=Slightly agree, 6=Somewhat agree, 7=Strongly agree. In wave 2006 option 4=Neither agree nor disagree was absent.

We create an index of “life satisfaction” by averaging responses across all the items.

A.3. Variable on Social Status [lb043]

“Think of this ladder as representing where people stand in our society. At the top of the ladder are the people who are the best off - those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off - who have the least money, least education, and the worst jobs or no jobs. The higher up you are on this ladder, the closer you are to the people at the very top and the lower you are, the closer you are to the people at the very bottom.”

Possible answer: any of the 10 rungs in a picture of a ladder.

Table 1. Summary Statistics (14,348 observations)

Variable	Mean	Std. Dev.	Min.	Max.	Correlation	
					with OSES	with SSES
<i>Socio-economic variables</i>						
High school	0.198	0.399	0	1	0.189	0.145
College	0.112	0.316	0	1	0.269	0.214
Ln(income)	10.720	1.177	0	15.540	0.555	0.280
Ln(financial wealth)	8.372	4.492	0.668	17.308	0.892	0.332
Ln(real wealth)	11.154	2.960	0.668	18.295	0.746	0.270
Home owner	0.868	0.339	0	1	0.488	0.181
<i>Control variables</i>						
Age/10	6.670	0.757	5	8	0.062	0.063
Female	0.594	0.491	0	1	-0.080	-0.076
Non-white	0.147	0.355	0	1	-0.316	-0.119
Immigrate	0.073	0.261	0	1	-0.087	-0.029
Married	0.704	0.456	0	1	0.300	0.152
Employee	0.307	0.461	0	1	0.001	0.005
Self-employed	0.096	0.294	0	1	0.102	0.084
Self-ass. good health	0.473	0.499	0	1	0.271	0.237
Chronic diseases	0.632	0.482	0	1	-0.138	-0.112
Life-threatening trauma	0.170	0.168	0	1	-0.101	-0.084
Trauma early in life	0.128	0.212	0	1	-0.115	-0.128
Life satisfaction	0.650	0.225	0	1	0.276	0.368
Year 2008	0.259	0.438	0	1	0.021	-0.017
Year 2010	0.251	0.434	0	1	-0.017	0.005
Year 2012	0.202	0.401	0	1	-0.046	-0.035
<i>Personality variables</i>						
Openness to experience	0.660	0.178	0	1	0.113	0.269
Conscientiousness	0.695	0.128	0	1	0.137	0.187
Extraversion	0.744	0.180	0	1	0.051	0.226
Agreeableness	0.852	0.152	0	1	-0.009	0.080
Neuroticism	0.442	0.154	0	1	-0.120	-0.171
<i>Social variables</i>						
With friends	0.601	0.490	0	1	0.092	0.116
Positive support	0.687	0.245	0	1	0.025	0.093
Negative support	0.139	0.160	0	1	-0.127	-0.104
Social contact	0.573	0.210	0	1	0.172	0.170
Cynical hostility	0.369	0.216	0	1	-0.232	-0.223
Loneliness	0.214	0.256	0	1	-0.199	-0.245
Social cohesion	0.769	0.213	0	1	0.216	0.207
Discrimination	0.118	0.141	0	1	-0.130	-0.169
Reciprocity	0.743	0.221	0	1	0.108	0.202
<i>Status indicators</i>						
Objective (OSES)	6.586	1.514	0.285	10.465	1	0.395
Objective (OSES) of the peers	6.586	0.636	5.139	8.765	0.420	0.282
Subjective (SSES)	6.586	1.664	1	10	0.395	1

Note. Polychoric or polyserial correlation in the last column. All correlations are significantly different from zero at the 1% significance level, except for those involving year 2008 and year 2010 that are not significant at standard significance levels.

Table 2. Objective Social Status

Method	(1) OLS	(2) OLS	(3) IV
Age/10	0.193*** (0.020)	0.186*** (0.020)	0.210*** (0.028)
Female	-0.006 (0.028)	-0.097*** (0.028)	-0.210*** (0.048)
Non-white	-0.990*** (0.043)	-0.854*** (0.043)	-0.666*** (0.055)
Immigrate	-0.252*** (0.062)	-0.195*** (0.059)	-0.143** (0.063)
Married	0.737*** (0.032)	0.736*** (0.031)	0.742*** (0.039)
Employee	0.090*** (0.031)	0.086*** (0.030)	0.094*** (0.032)
Self-employed	0.309*** (0.044)	0.280*** (0.044)	0.238*** (0.050)
Self-ass. good health	0.418*** (0.027)	0.352*** (0.026)	0.251*** (0.034)
Chronic diseases	-0.120*** (0.028)	-0.111*** (0.027)	-0.093*** (0.029)
Life-threatening trauma	-0.344*** (0.077)	-0.373*** (0.076)	-0.417*** (0.085)
Trauma early in life	-0.472*** (0.061)	-0.387*** (0.059)	-0.288*** (0.066)
Life satisfaction	0.844*** (0.062)	0.739*** (0.065)	0.660*** (0.097)
Year 2008	0.042 (0.028)	0.038 (0.027)	0.023 (0.030)
Year 2010	-0.109*** (0.023)	-0.130*** (0.023)	-0.178*** (0.027)
Year 2012	-0.144*** (0.033)	-0.170*** (0.033)	-0.226*** (0.036)

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Table 2. (Continued)

Method	(1) OLS	(2) OLS	(3) IV
Openness to experience	0.751*** (0.087)	0.570*** (0.085)	0.267** (0.113)
Conscientiousness	0.816*** (0.117)	0.847*** (0.115)	0.866*** (0.122)
Extraversion	-0.515*** (0.091)	-0.612*** (0.091)	-0.638*** (0.141)
Agreeableness	-0.532*** (0.105)	-0.721*** (0.105)	-0.847*** (0.145)
Neuroticism	-0.505*** (0.086)	-0.273*** (0.087)	0.084 (0.120)
With friends		0.064** (0.025)	-0.309* (0.188)
Positive support		-0.232*** (0.056)	-0.880** (0.370)
Negative support		-0.203** (0.084)	-0.468* (0.264)
Social contact		0.873*** (0.066)	3.016*** (0.505)
Cynical hostility		-0.710*** (0.064)	-1.524*** (0.384)
Loneliness		0.058 (0.060)	0.116 (0.159)
Social cohesion		0.442*** (0.063)	0.705*** (0.227)
Discrimination		-0.002 (0.106)	-0.243 (0.255)
Reciprocity		-0.179*** (0.062)	-0.292 (0.221)
Constant	4.387*** (0.171)	4.484*** (0.185)	4.296*** (0.458)
Observations	14,348	14,348	14,348
R-squared	0.270	0.301	0.210

Note: Columns (1)-(2) report OLS estimates, while Column (3) report estimates from an IV model as proposed by Lewbel (2012). Individual-clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 3. Subjective Social Status

Method	(1)	(2)	(3)	(4)
Sample	OLS	IV	IV	IV
	All	All	Low	High
OSES	0.238*** (0.011)	0.098*** (0.031)	0.143*** (0.046)	0.006 (0.041)
OSES of the peers	0.264*** (0.022)	0.383*** (0.068)	0.394*** (0.092)	0.428*** (0.089)
Age/10	0.097*** (0.021)	0.142*** (0.029)	0.155*** (0.042)	0.085*** (0.032)
Female	-0.138*** (0.030)	-0.142*** (0.049)	-0.158** (0.063)	-0.107* (0.057)
Non-white	0.032 (0.044)	-0.073 (0.055)	-0.003 (0.077)	-0.149** (0.074)
Immigrate	0.000 (0.053)	-0.049 (0.056)	-0.051 (0.080)	-0.043 (0.075)
Married	0.100*** (0.032)	0.213*** (0.045)	0.192*** (0.066)	0.213*** (0.056)
Employee	0.058* (0.031)	0.073** (0.033)	0.045 (0.050)	0.070 (0.044)
Self-employed	0.110*** (0.042)	0.137*** (0.045)	0.140* (0.073)	0.115** (0.053)
Self-ass. good health	0.100*** (0.028)	0.135*** (0.033)	0.157*** (0.047)	0.113*** (0.043)
Chronic diseases	-0.004 (0.029)	-0.017 (0.030)	-0.001 (0.046)	-0.040 (0.037)
Life-threatening trauma	-0.213*** (0.082)	-0.244*** (0.090)	-0.305** (0.127)	-0.229* (0.117)
Trauma early in life	-0.277*** (0.065)	-0.299*** (0.071)	-0.291*** (0.094)	-0.232** (0.104)
Life satisfaction	1.314*** (0.073)	1.310*** (0.109)	1.148*** (0.175)	1.157*** (0.221)
Year 2008	-0.095*** (0.032)	-0.103*** (0.033)	-0.058 (0.051)	-0.114*** (0.044)
Year 2010	-0.006 (0.028)	-0.031 (0.032)	0.005 (0.050)	-0.044 (0.041)
Year 2012	-0.065* (0.036)	-0.084** (0.040)	-0.027 (0.060)	-0.107** (0.051)

(Continues in the next page)

Table 3. (Continued)

Method	(1)	(2)	(3)	(4)
Sample	OLS	IV	IV	IV
	All	All	Low	High
Openness to experience	1.342*** (0.093)	1.323*** (0.115)	1.065*** (0.157)	1.508*** (0.147)
Conscientiousness	0.167 (0.120)	0.215* (0.128)	0.310* (0.171)	0.132 (0.185)
Extraversion	0.709*** (0.098)	0.562*** (0.152)	0.733*** (0.191)	0.330* (0.182)
Agreeableness	-0.672*** (0.108)	-0.764*** (0.146)	-0.796*** (0.189)	-0.612*** (0.192)
Neuroticism	-0.504*** (0.096)	-0.479*** (0.121)	-0.399** (0.185)	-0.499*** (0.153)
With friends	0.026 (0.027)	-0.143 (0.181)	0.076 (0.221)	0.101 (0.175)
Positive support	0.041 (0.060)	0.241 (0.343)	-0.160 (0.399)	-0.249 (0.369)
Negative support	0.121 (0.093)	0.168 (0.275)	0.182 (0.371)	0.358 (0.387)
Social contact	0.272*** (0.070)	0.942* (0.509)	0.671 (0.543)	1.300*** (0.483)
Cynical hostility	-0.373*** (0.072)	0.045 (0.386)	-0.914** (0.432)	0.220 (0.411)
Loneliness	0.034 (0.065)	-0.014 (0.166)	-0.085 (0.290)	-0.070 (0.205)
Social cohesion	0.233*** (0.070)	0.337 (0.240)	0.081 (0.329)	0.669** (0.330)
Discrimination	-0.319*** (0.112)	-0.686** (0.274)	-0.018 (0.382)	-0.545 (0.411)
Reciprocity	0.353*** (0.066)	0.587** (0.235)	0.771** (0.313)	0.578** (0.295)
Constant	0.601** (0.237)	-0.238 (0.651)	0.010 (0.810)	0.253 (0.796)
Avg. SSES	6.586	6.586	6.078	7.095
Avg. OSES	6.586	6.586	6.234	6.939
Avg. OSES of the peers	6.586	6.586	6.513	6.660
Avg. Life satisfaction	0.650	0.650	0.471	0.829
Observations	14,348	14,348	7,179	7,169
R-squared	0.302			

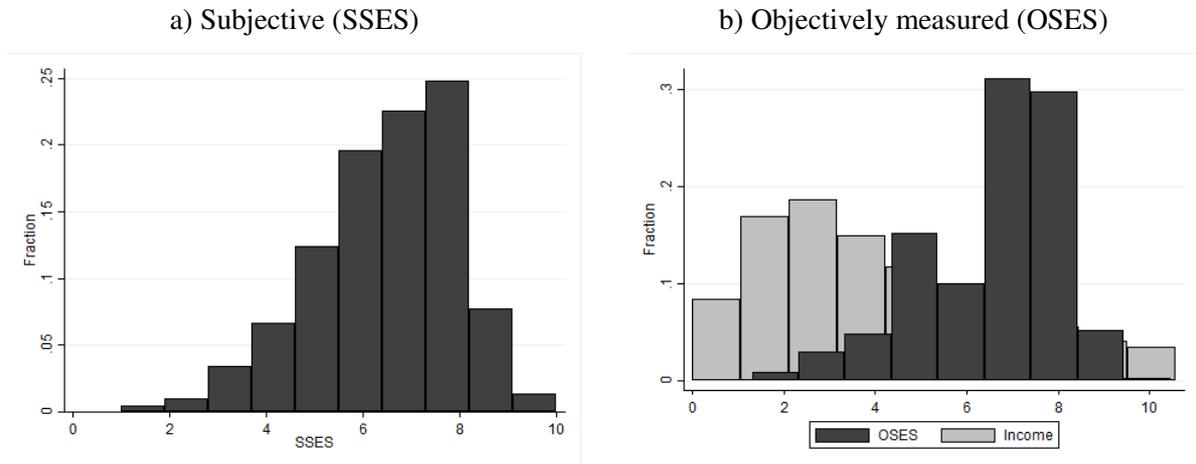
Note: Column (1) reports OLS estimates, while Columns (2)-(4) report estimates from an IV model as proposed by Lewbel (2012). The sample in Columns (3)-(4) is split in two parts based on the answer to the questions on Life Satisfaction. Individual-clustered standard errors in parentheses; *** p<0.01, ** p<0.05, * p<0.1

Table 4. Summary Statistics by Life Satisfaction

Life satisfaction	All	Low	High	Test
<i>Socio-economic variables</i>				
High school	0.198	0.187	0.209	3.290***
College	0.112	0.082	0.142	11.538***
Ln(income)	10.720	10.559	10.881	16.570***
Ln(financial wealth)	8.372	7.457	9.288	24.937***
Ln(real wealth)	11.154	10.634	11.675	21.405***
Home owner	0.868	0.824	0.912	15.629***
<i>Control variables</i>				
Age/10	6.670	6.626	6.713	6.930***
Female	0.594	0.599	0.590	-1.072
Non-white	0.147	0.184	0.111	-12.272***
Immigrate	0.073	0.073	0.074	0.120
Married	0.704	0.629	0.780	20.051***
Employee	0.307	0.317	0.300	-2.588***
Self-employed	0.096	0.086	0.106	4.144***
Self-ass. good health	0.473	0.343	0.602	32.219***
Chronic diseases	0.632	0.691	0.572	-14.908***
Life-threatening trauma	0.170	0.187	0.154	-11.760***
Trauma early in life	0.128	0.149	0.107	-12.044***
Life satisfaction	0.650	0.471	0.829	157.615***
Year 2008	0.259	0.271	0.248	-3.114***
Year 2010	0.251	0.256	0.246	-1.357
Year 2012	0.202	0.224	0.180	-6.498***
<i>Personality variables</i>				
Openness to experience	0.660	0.632	0.688	18.937***
Conscientiousness	0.695	0.671	0.719	22.826***
Extraversion	0.744	0.702	0.786	28.979***
Agreeableness	0.852	0.829	0.874	17.909***
Neuroticism	0.442	0.465	0.419	-18.240***
<i>Social variables</i>				
With friends	0.601	0.547	0.654	13.204***
Positive support	0.687	0.661	0.714	13.060***
Negative support	0.139	0.161	0.117	-16.391***
Social contact	0.573	0.553	0.594	11.679***
Cynical hostility	0.369	0.407	0.330	-21.475***
Loneliness	0.214	0.301	0.127	-43.159***
Social cohesion	0.769	0.722	0.816	27.049***
Discrimination	0.118	0.148	0.089	-25.351***
Reciprocity	0.743	0.674	0.811	38.986***
<i>Status indicators</i>				
Objective (OSES)	6.586	6.234	6.939	28.647***
Objective (OSES) of the peers	6.586	6.513	6.660	13.923***
Subjective (SSES)	6.586	6.078	7.095	38.467***
Observations	14,348	7,179	7,169	

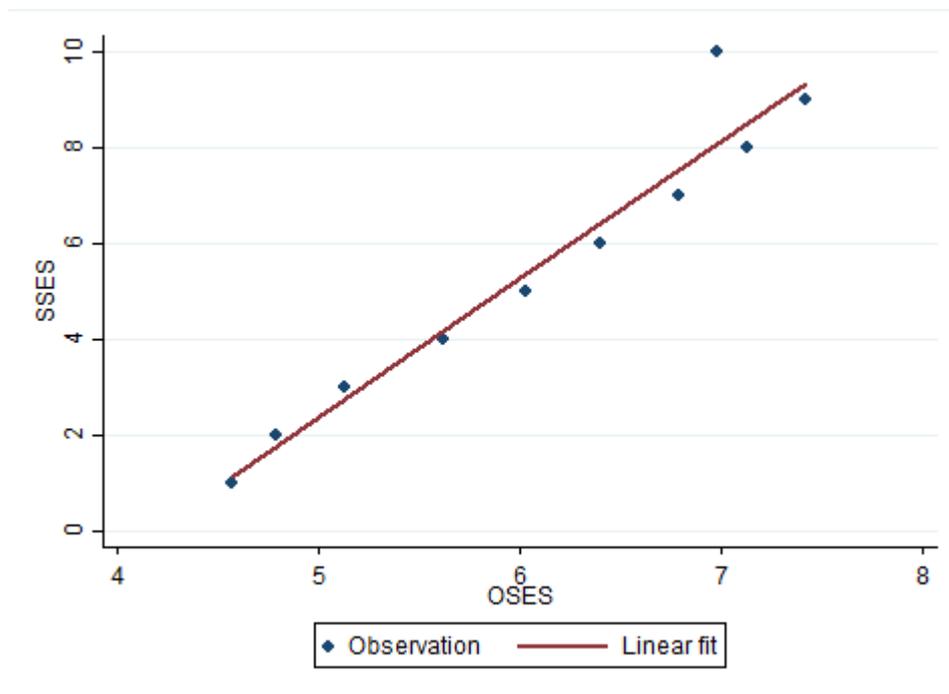
Note. The last column reports the result of a t-test on the equality of the mean in the two groups of individuals with High and Low life satisfaction; *** p<0.01, ** p<0.05, * p<0.1

Figure 1. Status distribution



Note: In panel b), income is rescaled to have the same average as SSES and OSES. For the sake of readability, the figure excludes observations with income above the highest OSES (10.465).

Figure 2. Subjective and objectively measured status



Note: the figure reports the average SSES conditional on OSES.