Wu, Fengyu; Sarracino, Francesco

Working Paper

Social Capital Shapes the Relationship Between Well-being and Spending

GLO Discussion Paper, No. 1647

Provided in Cooperation with:
Global Labor Organization (GLO)

Suggested Citation: Wu, Fengyu; Sarracino, Francesco (2025) : Social Capital Shapes the Relationship Between Well-being and Spending, GLO Discussion Paper, No. 1647, Global Labor Organization (GLO), Essen

This Version is available at:
https://hdl.handle.net/10419/323523

Social Capital Shapes the Relationship Between Well-being and Spending

Fengyu Wu

STATEC Research, National Institute of Statistics and Economic Studies of Luxembourg, and GLO

Francesco Sarracino*

STATEC Research, National Institute of Statistics and Economic Studies of Luxembourg

Abstract

This study examines how subjective well-being (SWB), specifically life satisfaction, influences household consumption expenditures, and the moderating role of social capital. While previous research has largely focused on how consumption affects well-being, we explore the reverse direction, motivated by the hypothesis that higher well-being may reduce consumption needs, particularly among individuals with strong social relations. Using fixed-effects panel regressions on data from the 2006–2010 waves of the Household, Income and Labour Dynamics in Australia (HILDA) Survey, we examine two types of consumption—conspicuous and basic—and three indicators of social capital: social support, low loneliness, and active group membership. Results indicate that the relationship between life satisfaction and consumption expenditures changes significantly with individuals' social capital. Among those with low social support or high loneliness, greater life satisfaction is linked to increased spending on both conspicuous and basic goods and services. However, this positive association weakens or reverses among individuals with strong social ties or low levels of loneliness. These findings suggest that social capital can buffer the link between well-being and consumption, implying that policies fostering social ties and reducing loneliness may help decouple well-being from consumption growth and promote more sustainable lifestyles.

Keywords: Consumption Expenditures; Subjective Well-being; Life Satisfaction; Social Capital; Loneliness

JEL classification: D12; I31; Z13; A13

Acknowledgements: The authors gratefully acknowledge the funding from the European Union's Horizon 2022 research and innovation program under grant agreement No 101094546. Views and opinions expressed are those of the authors only and do not necessarily reflect those of the European Union. Neither the European Union nor the granting authority can be held responsible from them. The authors also gratefully acknowledge the support of the Observatoire de la Compétitivité, Ministère de l'Economie, DG Compétitivité, Luxembourg, and STATEC, the National Statistical Office of Luxembourg. Views and opinions expressed in this article are those of the authors and do not reflect those of STATEC and funding partners.

* Corresponding author: STATEC Research, National Institute of Statistics and Economic Studies of the Grand Duchy of Luxembourg. Email address: Francesco.Sarracino@ext.statec.etat.lu.

1. Introduction

Is there a trade-off between achieving good lives and protecting the environment? This question is central to modern economic organization. So far, increasing the production and consumption of goods and services has been the main approach to improving lives, but it has come at a significant environmental cost. For example, the 2024 United Nations report on progress toward the Sustainable Development Goals (SDGs) showed that countries around the world made little or no progress—and in some cases even moved backward—on the three goals related to environmental quality.[1]

The scientific community has been sounding alarms about the environmental consequences of modern economic systems since the 1970s. At present, two main strategies are prevailing: green growth and degrowth. The supporters of green growth maintain that technological innovation will help separate economic growth from resource consumption and environmental impact. Degrowth proponents argue that limiting production and consumption is necessary to preserve resources for future generations. However, both approaches have limitations. A third strategy has emerged more recently: neo-humanism (Sarracino and O'Connor, 2023). This approach suggests that placing well-being at the center of public decision-making can foster both social and environmental sustainability in creativity-driven economies, with a particular focus on the role of social relationships, or social capital. For instance, when trust in others and institutions is high, people are more inclined to cooperate on shared goals, such as environmental protection, and attach less importance to social comparisons (Bartolini et al., 2023), a driver of conspicuous consumption. Moreover, happier individuals may increase consumption when their social relations are scarce (Huang & Li, 2023; Mead et al., 2011); however, as social resources grow, the need to consume diminishes. Strengthening social bonds can therefore contribute to fostering socially and environmentally sustainable societies.

To date, however, the link between well-being and consumption—especially the moderating role of social relationships—has received relatively limited attention. In this paper, we examine how SWB, specifically life satisfaction, influences household consumption expenditures. While most existing studies explore how consumption affects well-being, we

[1] https://unstats.un.org/sdgs/report/2024/The-Sustainable-Development-Goals-Report-2024.pdf

focus on the reverse relationship, with particular attention to how social capital shapes this association. Specifically, we test the following two hypotheses:

1. SWB is positively associated with consumption expenditures among individuals with scarce social relationships.
2. As social capital increases, this positive relationship between SWB and consumption expenditures weakens or may even reverse.

One key concern is that unobserved individual characteristics—such as personality traits or long-standing preferences—may simultaneously influence social capital, SWB, and consumption expenditures. To address this issue, we apply fixed effects panel regressions to data from the 2006–2010 waves of the Household, Income, and Labour Dynamics in Australia (HILDA) survey. This is an individual level panel dataset that provides a rich battery of information on household spending, social relations and SWB. We consider total household consumption expenditures, as well as basic and conspicuous consumption expenditures, and three indicators of social capital: social support, low loneliness, and active group membership. We find that, in general, there is no significant association between life satisfaction and consumption expenditures. However, an increase in life satisfaction is associated with an increase in consumption expenditures for individuals with poor social lives. As social support increases and loneliness decreases, the relationship between life satisfaction and consumption expenditures turns negative. This result lends support to the view that well-being and consumption are associated when social relations are scarce; when social resources increase, higher well-being does not necessarily lead to greater consumption. In other words, there is no trade-off between thriving lives and environmental protection.

The remainder of the paper is structured as follows. Section 2 reviews the relevant literature. Section 3 describes the data and outlines the methodology used in the analysis. Section 4 presents the main results, including robustness checks and heterogeneity analyses. Section 5 concludes with a discussion of the key findings and their policy implications.

2. Literature Review

There has been extensive discussion on how material living conditions affect subjective well-being (SWB), with most research focusing on the role of income. Although country-level studies have not reached a consensus on the relationship between income and SWB (e.g., Easterlin, 1974; Easterlin, 1995; Easterlin et al., 2010; Easterlin & O'Connor, 2022; Hagerty

& Veenhoven, 2003; Stevenson & Wolfers, 2008), within-country studies generally find a positive, albeit moderate, effect of income (e.g., Blanchflower & Oswald, 2004; Jebb et al., 2018; Kingdon & Knight, 2007; Luttmer, 2005). More recently, there has been a growing body of literature examining how consumption expenditures influence SWB. Studies suggest that total household spending has a positive, though moderate, impact on life satisfaction (Headey et al., 2008; Guillen-Royo, 2008; Noll & Weick, 2015). Some research also indicates that life satisfaction increases with conspicuous spending but not with spending on basic goods or services (Perez-Truglia, 2013; Zimmermann, 2014; Wu, 2020).

However, relatively little is known about the reverse relationship—how SWB influences material living conditions. Some studies have shown that individuals with higher levels of SWB tend to earn higher incomes later in life (De Neve & Oswald, 2012; Graham et al., 2004; Marks & Fleming, 1999). The evidence on how SWB influences consumption expenditures, however, is mixed. Guven (2012) found that happier individuals in the Netherlands tend to save more and exhibit greater control over their spending. In contrast, Zhu et al. (2020) reported that higher levels of happiness are associated with increased spending, particularly on basic necessities, education, and gifts in rural China. Dominko and Verbic (2022) found that life satisfaction positively affects spending on dining out and leisure activities among older adults in England, suggesting that those more satisfied with their lives are also more engaged in social and leisure activities.

It is not surprising that existing studies report mixed findings, given the variety of potential pathways through which SWB may influence consumption expenditures. On the one hand, higher SWB may lead to reduced consumption expenditures through several mechanisms: enhanced self-control (Fredrickson, 2004), increased expectations of longevity and greater concern for future health (Diener & Chan, 2011; Steptoe, 2019), and a more risk-averse approach to financial decisions (Deaton, 2005). On the other hand, higher SWB may also increase spending through alternative channels, such as greater productivity (Oswald et al., 2015), a higher likelihood of employment (Krause, 2013), and improved earnings (De Neve & Oswald, 2012).

One factor that has received relatively less attention in the relationship between SWB and consumption expenditures is the potential confounding role of social relations or social capital. Higher SWB is linked to more cooperation, prosocial behavior, social participation, and trust (Bartolini & Sarracino, 2015; Meier & Stutzer, 2008; Lyubomisky et al., 2005). There have also been some discussions on how social capital is associated with household spending.

Prior research has shown that social capital can reduce poverty—measured by household per capita expenditures or income—by enhancing access to resources and opportunities (Aker, 2007; Grootaert, 1999; Narayan & Pritchett, 1999). It can also help individuals smooth consumption by providing informal financial support during shocks (De Weerdt & Dercon, 2006) and improving access to credit (Karlan et al., 2009). Moreover, social capital facilitates the sharing of food, knowledge, and other resources within communities, potentially reducing household spending on basic goods and services (Martin et al., 2004; Nosratabadi et al., 2020). Conversely, higher levels of social participation or denser social networks may also encourage social comparisons and stimulate spending on visible or conspicuous goods and services (Charles et al., 2009; Bertrand & Morse, 2016). One study that explicitly examines the role of social capital in the relationship between SWB and material living conditions is Bartolini et al. (2023), who found that the associations of income and social comparisons with SWB weaken when social capital is higher.

3. Data and Methodology

3.1 Data

We use data from the Household, Income and Labour Dynamics in Australia (HILDA) survey, which began in 2001 and currently includes 23 waves of data.[2] The HILDA survey is funded by the Australian government and conducted by the Melbourne Institute of Applied Economic and Social Research. As a nationwide panel survey, it collects a broad range of social, demographic, and socioeconomic data. Its design is heavily influenced by other household panel studies, such as the German Socio-Economic Panel (GSOEP) and the British Household Panel Survey (BHPS) (Frick et al., 2007; Watson & Wooden, 2012). An advantage of the HILDA survey is its relatively detailed household spending data, which makes this study possible. Information on household expenditures for a wide range of nondurable goods and services was first collected through the Self-Completion Questionnaire (SCQ) in Wave 5. The scope of expenditure items was expanded in Wave 6 to include consumer durables, although some items were later dropped in Wave 11. In addition, detailed information on housing and childcare expenditures is collected regularly through the Household Questionnaire. This study utilizes data from Waves 6 to 10 (2006–2010), which contain the most comprehensive set of consumption items. Excluding those without household expenditures, life satisfaction, social

[2] The interviews were mostly conducted from August to November each year.

capital indicators, and other individual characteristics used in this study, we are left with 11,750 individuals and 45,693 observations.

3.2 Variables

3.2.1 Consumption Expenditures

Waves 6-10 of the HILDA contain 28 consumption categories, based on the existing literatures, we sort these categories into 18 broader consumption categories: vehicle purchases, clothing and footwear, furniture and household appliances, recreational devices and equipment, meals eaten out, alcohol, holidays, education, tobacco, groceries, housing, public transportation, motor vehicle repairs and maintenance, motor vehicle fuels and engine oil, phone rent and calls, and internet charges, health care (health insurance included) and child care, home utilities, and other insurance. Detailed definition of the categories can be found in Appendix Table 1. Total consumption expenditures refer to the sum of household spending across all the consumption categories listed above. The baseline classification of conspicuous versus basic consumption follows Wu (2020), drawing heavily on prior literature on conspicuous consumption, particularly Charles et al. (2009) and Friehe and Mechtel (2014). As shown in Table 1, we classify vehicle purchases, clothing and footwear, furniture and household appliances, recreational devices and equipment, meals eaten out, alcohol, and holidays as conspicuous consumption, while all remaining items are categorized as basic. This baseline classification appears plausible based on the visibility index developed by Heffetz (2011), which measures the visibility or conspicuousness of consumption by assessing how quickly members of society notice household spending across different categories, with index values ranging from 0 to 1 and higher values indicating greater visibility. As robustness checks, we will explore different classifications for conspicuous and basic consumption. Consumption expenditure variables are deflated to constant 2006 prices using the Consumer Price Index (CPI) data from the Australian Bureau of Statistics.[3] To approximate individual-level spending, household expenditures are divided by household size to obtain per capita values. All expenditure measures are then log-transformed[4] to account for expected nonlinear relationships and to normalize the typically skewed distribution of consumption data.

[3] To minimize the influence of outliers, we exclude observations with household expenditures or income falling in the top and bottom 0.1% of their respective distributions.

[4] We approximate the logarithmic transformation using the inverse hyperbolic sine (IHS) function to account for a small number of observations with zero conspicuous expenditures.

[Insert Table 1 here]

3.2.2 Life Satisfaction

The life satisfaction variable is based on the question, "*All things considered, how satisfied are you with your life?*" Responses are measured on an 11-point scale (0–10), with higher values indicating greater life satisfaction. To partially address the issue of reverse causality, we used lagged measures of life satisfaction from waves 5 to 9. The mean level of life satisfaction is 7.90, and the median is 8. The distribution is left-skewed. For better interpretability of coefficients and to account for the skewness, we performed within-person standardization.

3.2.3 Social Capital

We use three indicators of social capital: a social support index, a measure of low loneliness, and another measure of active membership. Our social support index is derived from the answers to the question *"The following statements have been used by many people to describe how much support they get from other people. How much do you agree or disagree with each?*

- *I don't have anyone that I can confide in.*
- *There is someone who can always cheer me up when I'm down.*
- *I seem to have a lot of friends.*
- *I have no one to lean on in times of trouble.*
- *I often need help from other people but can't get it.*
- *I enjoy the time I spend with the people who are important to me.*
- *People don't come to visit me as often as I would like.*
- *When I need someone to help me out, I can usually find someone.*
- *When somethings on my mind, just talking with the people I know can make me feel better.*
- *I often feel very lonely."*

The response scale ranges from 1 to 7, with higher values indicating stronger agreement with the statement. Principal component analysis of the ten items identified two components with eigenvalues greater than 1, although these components primarily reflected the distinction between positively and negatively worded items. After reverse-coding the negatively worded items, the ten items demonstrated relatively high internal consistency, with a Cronbach's alpha of 0.826. Therefore, for each individual, we constructed a social support index by counting the number of responses with a score greater than or equal to the sample median. The index ranges from 0 to 10, with higher values indicating greater perceived support. The measure of loneliness is based on how much one agrees or disagrees with the statement "*I often feel very lonely."* We reverse the scale so that higher values indicate stronger disagreement with the statement (i.e., higher values correspond to lower loneliness). Using the reversed scale, we create a binary variable coded as 1 if the score is greater than or equal to 6 (the median), and 0 otherwise. It is worth noting that this item appears last among the series of ten statements about perceived support in the questionnaire, and as such, responses may be influenced by answers to the preceding items. The third measure of social capital is a binary indicator of active membership, derived from responses to the question: "*Are you currently an active member of a sporting, hobby, or community-based club or association?*" The variable is coded as 1 for "*Yes*" and 0 for "*No*." Active membership is commonly regarded as a form of civic engagement—an important supply-side component of social capital that fosters trust and cooperation within communities.

3.2.4 Control Variables

Consistent with the existing literature, a wide variety of demographic and socioeconomic variables are included in the econometric analysis, including age categories—25–34, 35–44, 45–54, 55–64, 65–74, and 75 or above, with below 25 omitted; highest level of educational—high school, vocational degree, and bachelor's degree or above, with below high school omitted; marital status—separated, divorced, or widowed, and never married, with married or de facto omitted; labor market status—part-time employed, unemployed, and not in the labor force, with full-time employment omitted; household composition—children (age <=14) in the household and older adults (age>=65) in the household; household financial resources, as indicated by natural log of household disposable income per capita; and finally, health status, represented by a dummy on whether the respondent has any long-term health condition. In addition, we control for wave, month of interview and region dummies to account for temporal

and geographic variations. Table 2 presents the summary statistics of all the variables used in the empirical analysis.

[Insert Table 2 here]

3.3 Estimation Model

Consider the following regression model with individual fixed effects.

$$E_{it} = \beta LS_{i,t-1} + \rho^k SC_{it}^k \times LS_{i,t-1} + \delta^k SC_{it}^k + \gamma' X_{it} + \alpha_i + \varepsilon_{it} \quad (1)$$

where i, t, and k index for individual, time, and social capital, respectively. E represents a measure of household expenditures per capita (total, conspicuous, or basic consumption), LS represents standardized life satisfaction, SC is an indicator of social capital, X represents a number of time-variant individual characteristics (i.e., household disposable income per capita; age; education; marital status; employment status; children (age<=14) in the household; older adults (age>=65) in the household; long-term health condition, month, year, and region dummies), α indicates individual fixed effects, and ε is an error term. Our key estimator of interest is $\hat{\beta} + \widehat{\rho^k} \times SC^k$, which denotes the effect of life satisfaction as it varies with social capital k. $\widehat{\delta^k}$ represents the direct effect of social capital k (for an individual with average life satisfaction).

4. Results

4.1 Baseline Results

We first examine the relationship between life satisfaction and household expenditures, without including any social capital variables. As shown in Table 3, household expenditures per capita are not significantly associated with lagged life satisfaction, except for conspicuous expenditures per capita, which show a positive and marginally significant coefficient. This suggests that the direct relationship between spending and life satisfaction may not be obvious.

[Insert Table 3 here]

What about the potential moderating role of social capital? We try to answer this question by adding the interaction between each social capital indicator and lagged life satisfaction into the regressions (and its associated main effects), and the corresponding results are shown in Table 4. To provide a bettering interpretation of the results, we show the estimates with confidence interval on the effects of lagged life satisfaction on various types of expenditures by the level of each social capital indicator in Figure 1. In Panel A.1, it shows that when social support is the lowest level (social support index = 0), the relationship between lagged life satisfaction and total household spending per capita is significantly positive. However, as social support index increases, the effect size diminishes and becomes insignificant (even with a negative sign). This implies that the positive association between household spending and life satisfaction can be fully mitigated with higher levels of social support. Similarly, if an individual is highly lonely, household spending per capita is positively associated with lagged life satisfaction (Panel A.2). However, if the loneliness level is low, the association becomes negative and statistically significant. For active membership, household spending per capita is not significantly associated with lagged life satisfaction regardless of membership status (Panel A.3).

[Insert Table 4 here]

[Insert Figure 1 here]

The results for the social support index and low loneliness are generally consistent across models using conspicuous and basic expenditures as outcome variables. However, when the social support index is at its maximum or loneliness is low, the association between lagged life satisfaction and basic spending becomes negative and significant (Panels B.1 and B.2); in comparison, the association between lagged life satisfaction and conspicuous spending becomes negative in magnitude but remains statistically insignificant when social capital is high (Panels C.1 and C.2). Regarding active membership, we find that if an individual is not an active member of a club or association, a higher level of lagged life satisfaction is associated with a higher level of conspicuous spending, but the association is insignificant if one is an active member (Panel B.3). On the other hand, lagged life satisfaction is not associated with basic spending regardless of membership status.

We also conducted separate analyses for 18 spending categories, with the results presented in Appendix Table 2. The moderating role of social support appears significant in spending on recreational devices and equipment, education, health care (including health insurance) and childcare, utilities, and other types of insurance (such as home, contents, and motor vehicle insurance). In comparison, the moderating role of low loneliness is only significant for spending on recreational devices and equipment, housing, and utilities. The moderating effect of active membership does not appear significant for any category of spending, independently.

Besides, we also explore the direct association between social capital and spending. In Table 4, interestingly, we observe contrasting results for low loneliness and active membership: while low loneliness is associated with lower total household expenditures per capita, active membership is associated with higher expenditures. Meanwhile, the relationship between overall social support and household expenditures per capita is not statistically significant (columns (1)–(3)). A closer look at expenditure types helps explain this contrasting pattern. Higher social support and active membership are both associated with higher conspicuous spending (columns (4)–(6)). In contrast, higher social support and low loneliness are associated with lower basic spending (columns (7)–(9)). These findings suggest that the relationship between household spending and social capital varies depending on the type of consumption. In Appendix Table 3, it can also be observed that adding social capital variables has little effect on the coefficients of lagged life satisfaction, suggesting that social capital may not serve as an important mediator in the relationship between life satisfaction and spending.[5]

4.2 Robustness Checks

We conduct several robustness checks using conspicuous and basic spending as outcome variables, based on different categorizations of consumption. First, we considered the definition of conspicuous consumption from Friehe and Mechtel (2014), which excludes alcohol as conspicuous. In addition, there have been discussions on whether education and tobacco should be categorized as conspicuous. Spending on education may be relatively visible

[5] As for the direct associations between social capital and 18 spending categories, we find that greater social support is generally linked to higher spending on furniture and household appliances, recreational devices and equipment, and holidays—all of which are relatively conspicuous forms of consumption—as well as on other types of insurance. Lower loneliness is associated with more spending on furniture and household appliances, holidays, and education, but with less spending on alcohol and tobacco. Finally, active membership is associated with greater spending on recreational devices and equipment, meals eaten out, holidays, education, motor vehicle repairs and maintenance, health care and childcare, utilities, and other insurance.

due to school uniforms, while spending on tobacco products is also highly visible according Heffiz's visibility index. However, tobacco may not meet the second criterion of conspicuous consumption—that the good is positional (Friehe & Mechtel, 2014; Wu, 2020).[6] The results for conspicuous and basic expenditures based on these three alternative definitions remain robust compared to the baseline results (Appendix Figures 1 & 2; Appendix Table 4).

4.3 Heterogeneous Analysis

We perform heterogeneity analyses by gender and age to better understand the main results. For brevity, we present the findings for total spending in the main text and report those for conspicuous and basic spending in the Appendices. Overall, the moderating effects of social capital appear more pronounced among females than males. Specifically, among females, the positive association between lagged life satisfaction and total spending becomes statistically insignificant and even turns negative when social support is high or when individuals report low levels of loneliness (Panels A and B of Figure 2). In contrast, for males, the association between lagged life satisfaction and total spending remains statistically insignificant regardless of social support or loneliness levels. When using conspicuous spending as the outcome variable, we find that the association between lagged life satisfaction and conspicuous spending is positive and statistically significant among individuals who are not active members of clubs or associations but becomes insignificant among those who are active members (Panel C of Appendix Figure 3). For males, however, the associations remain statistically insignificant regardless of membership status. The results for basic spending as the outcome variable are generally consistent with those observed for total spending (Appendix Figure 4).

[Insert Figure 2 here]

To categorize age meaningfully, we define four age groups: 15–24 (younger individuals), 25–49 (lower middle-aged or prime-aged adults), 50–66 (upper middle-aged), and 67 and above (those who have reached retirement age). While no clear patterns emerge across age groups for the three spending outcomes, there are some interesting findings for each

[6] Our results are not robust to the alternative operationalization of conspicuous consumption as proposed by Charles et al. (2009), who consider only vehicle purchases and clothing and footwear as conspicuous consumption.

outcome individually. For instance, we observe, for total spending, both the youngest and the oldest groups enjoy significant moderating effects of social support and low loneliness (Panels A.1 & 4 and Panels B.1 & 4 of Figure 3). Among prime-age individuals, low loneliness also significantly moderates the positive association between lagged life satisfaction and total spending (Panel B.2). For upper middle-aged individuals, the association between lagged life satisfaction and total spending is not significant among individuals with low social support or high loneliness, but the relationships are negative and statistically significant among individuals with high social support or low loneliness (Panel A.3 & B.3). Regarding the role of active membership, we also observe the moderating effect of active membership is significant among people in the oldest age group (Panel C.1). Interestingly, in the youngest age group, the relationship between lagged life satisfaction and total spending is statistically insignificant for individuals who are not active members but, for those who are active members, it is positive and statistically significant (Panel C.4).

[Insert Figure 3 here]

For conspicuous spending, we find that the moderating effects of social support and low loneliness are statistically significant only among the oldest age group (those who have reached retirement age), while the moderating effect of active membership is significant only for individuals in the prime-age group (Appendix Figure 5). For basic spending, the moderating effect of social support is significant for both the youngest group (15–24) and the upper middle-aged group (Panel A of Appendix Figure 6). Low loneliness, on the other hand, significantly moderates the relationship between lagged life satisfaction and basic spending across all age groups, although the strength of the effect varies (Panel B). Interestingly, with respect to active membership, the relationship between lagged life satisfaction and basic spending is positive and statistically significant among active members in the youngest age group but remains insignificant for their non-active counterparts (Panel C.1).

5. Conclusions

This study investigated how subjective well-being (SWB), specifically life satisfaction, is associated with consumption expenditures, and, more importantly, the moderating role of social capital. Using panel data from the HILDA Survey in Australia and fixed effects

regressions, we focused on both conspicuous and basic forms of spending. Our analysis reveals that the association between life satisfaction and consumption expenditures is not uniform but depends significantly on individuals' social capital. Among those with low social support or high loneliness, higher life satisfaction is associated with greater spending of different forms. However, this positive association weakens or even reverses among individuals with strong social ties or low levels of loneliness. We also document a direct relationship between social capital and consumption expenditures, although the sign varies by consumption type. In general, higher social capital is associated with more conspicuous spending but less basic spending.

These results suggest that social capital plays a buffering role in the link between well-being and consumption. Individuals embedded in supportive social networks may be less inclined to pursue material consumption as a source of satisfaction, as their emotional and psychological needs are met through social interaction. Our findings challenge the preconception that consumer spending is inherently linked to well-being. Instead, the study highlights how consumption may be driven by a scarcity of social relationships, suggesting that fostering social connections could enhance well-being without necessarily increasing consumption. This is encouraging news for the sustainability of modern societies because it indicates that promoting people's well-being and protecting the environment need not be in conflict.

These insights carry important policy implications. Strengthening social connections may help decouple well-being from consumption growth, thereby supporting more sustainable patterns of living without compromising people's well-being—a goal that has remained elusive for other approaches to environmental protection, such as degrowth. Efforts to enhance both well-being and environmental sustainability could benefit from greater investment in social infrastructure—such as community centers, inclusive public spaces, and programs that foster civic engagement and reduce loneliness. Integrating social capital considerations into sustainability and well-being policy agendas could be a promising pathway toward more inclusive and environmentally responsible growth models.

References

Aker, J. C. (2007). Social networks and household welfare in Tanzania: Working together to get out of poverty. *Available at SSRN* 995941.

Bartolini, S., & Sarracino, F. (2015). The dark side of Chinese growth: Declining social capital and well-being in times of economic boom. *World Development, 74*, 333-351

Bartolini, S., Piekalkiewicz, M., Sarracino, F., & Slater, G. (2023). The moderation effect of social capital in the relationship between own income, social comparisons and subjective well-being: Evidence from four international datasets. *PLOS ONE, 18*(12), e0288455.

Bertrand, M., & Morse, A. (2016). Trickle-down consumption. *Review of Economics and Statistics, 98*(5), 863–879.

Blanchflower, D. G., & Oswald, A. J. (2004). Well-being over time in Britain and the USA. *Journal of Public Economics, 88*(7–8), 1359–1386.

Charles, K. K., Hurst, E., & Roussanov, N. (2009). Conspicuous consumption and race. *The Quarterly Journal of Economics, 124*(2), 425–467.

De Neve, J. E., & Oswald, A. J. (2012). Estimating the influence of life satisfaction and positive affect on later income using sibling fixed effects. *Proceedings of the National Academy of Sciences, 109*(49), 19953–19958.

De Weerdt, J., & Dercon, S. (2006). Risk-sharing networks and insurance against illness. *Journal of Development Economics, 81*(2), 337–356.

Deaton, A. (2005). Franco Modigliani and the life cycle theory of consumption. *BNL Quarterly Review, 58*(233–234), 91–107.

Diener, E., & Chan, M. Y. (2011). Happy people live longer: Subjective well-being contributes to health and longevity. *Applied Psychology: Health and Well-Being, 3*(1), 1–43.

Dominko, M., & Verbič, M. (2022). The effect of subjective well-being on consumption behavior. *Journal of Consumer Affairs, 56*(2), 876–898.

Easterlin, R. A. (1974). Does economic growth improve the human lot? Some empirical evidence. In *Nations and Households in Economic Growth* (pp. 89–125). Academic Press.

Easterlin, R. A. (1995). Will raising the incomes of all increase the happiness of all? *Journal of Economic Behavior & Organization, 27*(1), 35–47.

Easterlin, R. A., & O'Connor, K. J. (2022). Explaining happiness trends in Europe. *Proceedings of the National Academy of Sciences, 119*(37), e2210639119.

Easterlin, R. A., McVey, L. A., Switek, M., Sawangfa, O., & Zweig, J. S. (2010). The happiness–income paradox revisited. *Proceedings of the National Academy of Sciences, 107*(52), 22463–22468.

Fredrickson, B. L. (2004). The broaden-and-build theory of positive emotions. *Philosophical Transactions of the Royal Society B: Biological Sciences, 359*(1449), 1367–1377.

Frick, J. R., Jenkins, S. P., Lillard, D. R., Lipps, O., & Wooden, M. (2007). The Cross-National Equivalent File (CNEF) and its member country household panel studies. *Journal of Contextual Economics–Schmollers Jahrbuch*, (4), 627-654.

Graham, C., Eggers, A., & Sukhtankar, S. (2004). Does happiness pay?: An exploration based on panel data from Russia. *Journal of Economic Behavior & Organization, 55*(3), 319–342.

Grootaert, C. (1999). Social capital, household welfare and poverty in Indonesia (No. 6). *World Bank Publications*.

Guillen-Royo, M. (2008). Consumption and subjective wellbeing: Exploring basic needs, social comparison, social integration and hedonism in Peru. *Social Indicators Research, 89*, 535–555.

Guven, C. (2012). Reversing the question: Does happiness affect consumption and savings behavior? *Journal of Economic Psychology, 33*(4), 701–717.

Hagerty, M. R., & Veenhoven, R. (2003). Wealth and happiness revisited–growing national income does go with greater happiness. *Social Indicators Research, 64*, 1–27.

Headey, B., Muffels, R., & Wooden, M. (2008). Money does not buy happiness: Or does it? A reassessment based on the combined effects of wealth, income and consumption. *Social Indicators Research, 87*, 65–82.

Huang, S., & Li, M. (2023). Consumer loneliness: A systematic review and research agenda. *Frontiers in Psychology*, *14*, 1071341.

Jebb, A. T., Tay, L., Diener, E., & Oishi, S. (2018). Happiness, income satiation and turning points around the world. *Nature Human Behaviour, 2*(1), 33–38.

Karlan, D., Mobius, M., Rosenblat, T., & Szeidl, A. (2009). Trust and social collateral. *The Quarterly Journal of Economics, 124*(3), 1307–1361.

Kingdon, G. G., & Knight, J. (2007). Community, comparisons and subjective well-being in a divided society. *Journal of Economic Behavior & Organization, 64*(1), 69–90.

Krause, A. (2013). Don't worry, be happy? Happiness and reemployment. *Journal of Economic Behavior & Organization, 96*, 1–20.

Luttmer, E. F. (2005). Neighbors as negatives: Relative earnings and well-being. *The Quarterly Journal of Economics, 120*(3), 963–1002.

Lyubomirsky, S., King, L., & Diener, E. (2005). The benefits of frequent positive affect: Does happiness lead to success?. *Psychological bulletin*, *131*(6), 803.

Marks, G. N., & Fleming, N. (1999). Influences and consequences of well-being among Australian young people: 1980–1995. *Social Indicators Research, 46*, 301–323.

Martin, K. S., Rogers, B. L., Cook, J. T., & Joseph, H. M. (2004). Social capital is associated with decreased risk of hunger. *Social Science & Medicine, 58*(12), 2645–2654.

Mead, N. L., Baumeister, R. F., Stillman, T. F., Rawn, C. D., & Vohs, K. D. (2011). Social exclusion causes people to spend and consume strategically in the service of affiliation. *Journal of consumer research*, *37*(5), 902-919.

Meier, S., & Stutzer, A. (2008). Is volunteering rewarding in itself?. *Economica*, *75*(297), 39-59.

Narayan, D., & Pritchett, L. (1999). Cents and sociability: Household income and social capital in rural Tanzania. *Economic Development and Cultural Change, 47*(4), 871–897.

Noll, H. H., & Weick, S. (2015). Consumption expenditures and subjective well-being: Empirical evidence from Germany. *International Review of Economics, 62*, 101–119.

Nosratabadi, S., Khazami, N., Abdallah, M. B., Lackner, Z., S. Band, S., Mosavi, A., & Mako, C. (2020). Social capital contributions to food security: A comprehensive literature review. *Foods, 9*(11), 1650.

Oswald, A. J., Proto, E., & Sgroi, D. (2015). Happiness and productivity. *Journal of Labor Economics, 33*(4), 789–822.

Perez-Truglia, R. (2013). A test of the conspicuous–consumption model using subjective well-being data. *The Journal of Socio-Economics, 45*, 146–154.

Sarracino, F., & O'Connor, K. J. (2023). Neo-humanism and COVID-19: Opportunities for a socially and environmentally sustainable world. *Applied Research in Quality of Life, 18*(1), 9-41.

Steptoe, A. (2019). Happiness and health. *Annual Review of Public Health, 40*, 339–359.

Stevenson, B., & Wolfers, J. (2008). Economic growth and subjective well-being: Reassessing the Easterlin paradox (No. w14282). *National Bureau of Economic Research*.

Watson, N., & Wooden, M. P. (2012). The HILDA survey: a case study in the design and development of a successful household panel survey. *Longitudinal and life course studies*, *3*(3), 369-381.

Wu, F. (2020). An examination of the effects of consumption expenditures on life satisfaction in Australia. *Journal of Happiness Studies, 21*(8), 2735–2771.

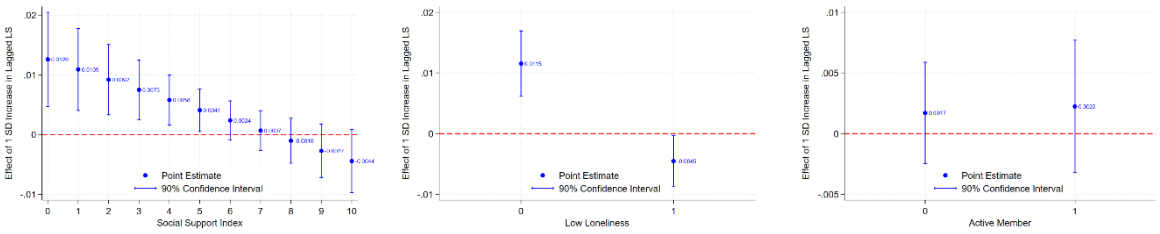
Zimmermann, S. (2014). The pursuit of subjective well-being through specific consumption choice. *Available at SSRN* 2484660.

Zhu, Z., Ma, W., Leng, C., & Nie, P. (2021). The relationship between happiness and consumption expenditure: Evidence from rural China. *Applied Research in Quality of Life, 16,* 1587–1611.

Figures and Tables

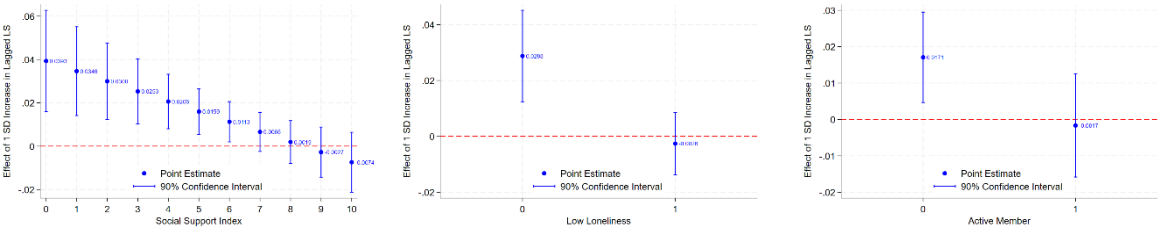
Figures

Figure 1 The Effects of Lagged Life Satisfaction on Expenditures by the Level of Social Capital (Social Support Index, Low Loneliness & Active Membership)



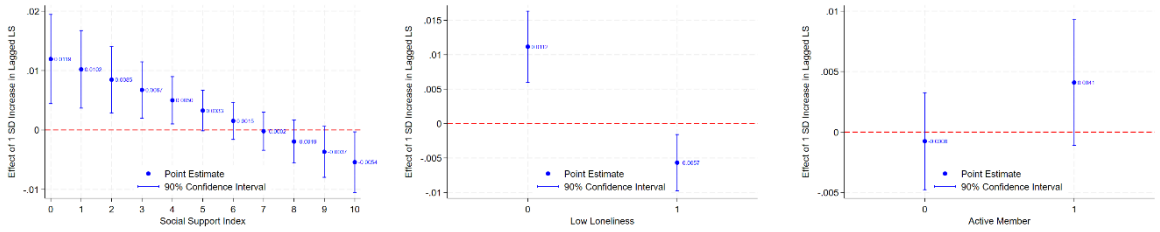
Panel A.1 Panel A.2 Panel A.3

Panel A Outcome variable: total expenditures



Panel B.1 Panel B.2 Panel B.3

Panel B Outcome variable: conspicuous expenditures

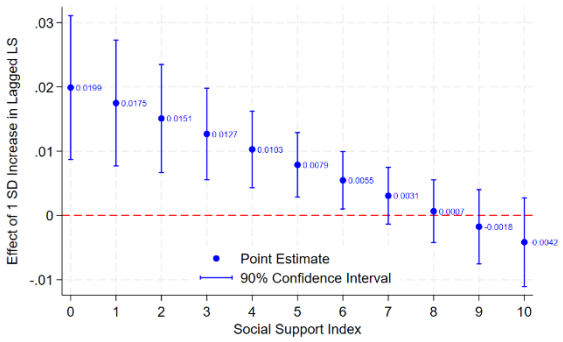


Panel C.1 Panel C.2 Panel C.3

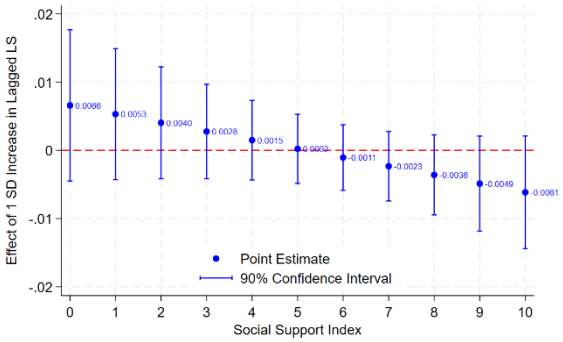
Panel C Outcome variable: basic expenditures

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

Figure 2 Heterogeneous Analysis by Gender (Outcome Variable: Total Expenditures)

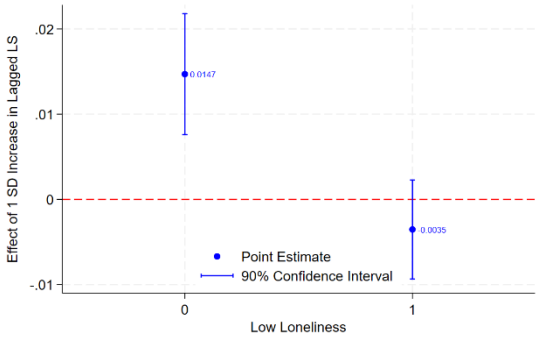


Panel A.1 Female

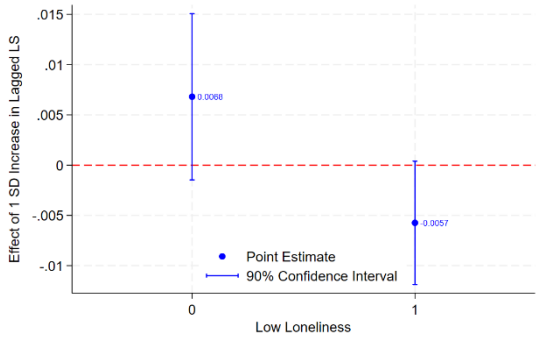


Panel A.2 Male

Panel A The role of social support

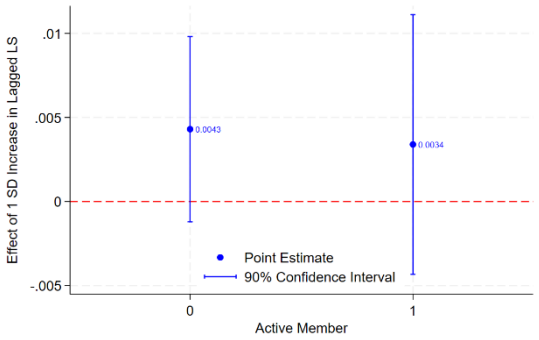


Panel B.1 Female

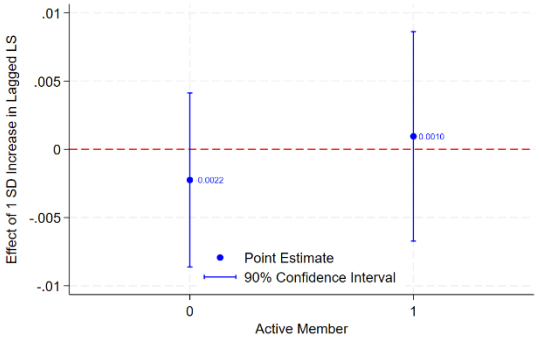


Panel B.2 Male

Panel B The role of low loneliness



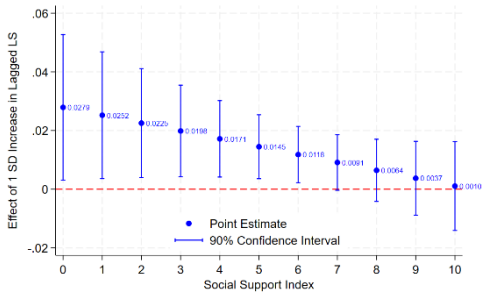
Panel C.1 Female



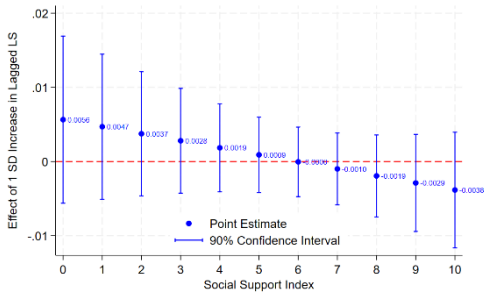
Panel C.2 Male

Panel C The role of active membership

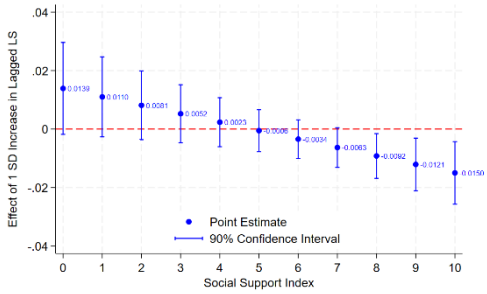
Figure 3 Heterogeneous Analysis by Age (Outcome Variable: Total Expenditures)



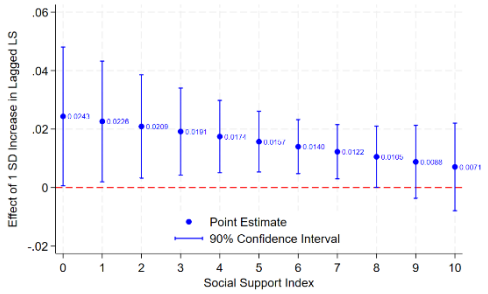
Panel A.1 Age 15-24



Panel A.2 Age 25-49

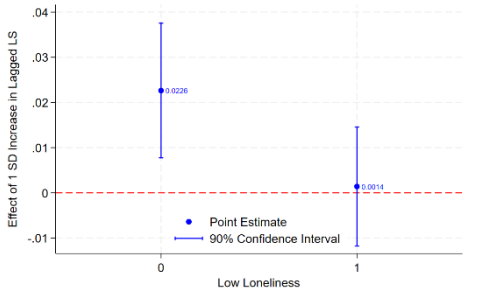


Panel A.3 Age 50-66

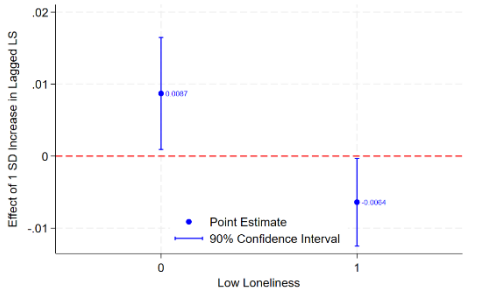


Panel A.4 Age 67+

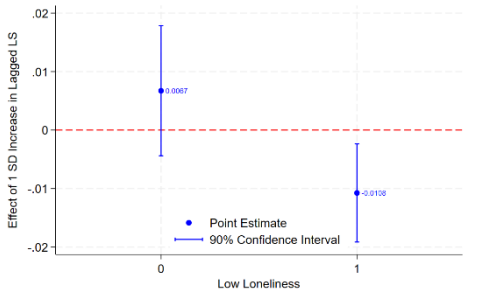
Panel A The role of social support



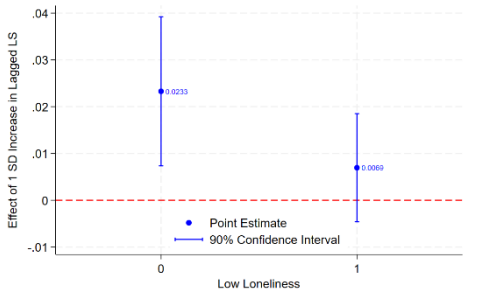
Panel B.1 Age 15-24



Panel B.2 Age 25-49

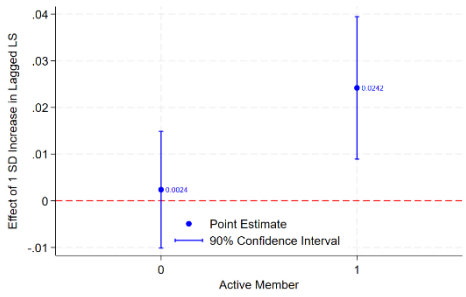


Panel B.3 Age 50-66

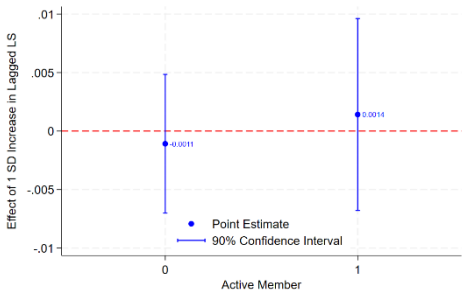


Panel B.4 Age 67+

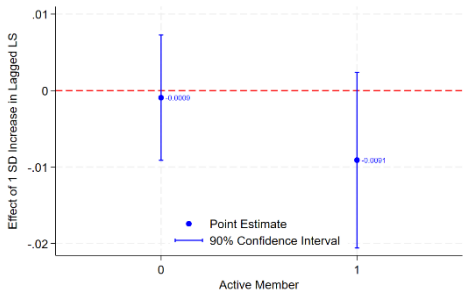
Panel B The role of low loneliness



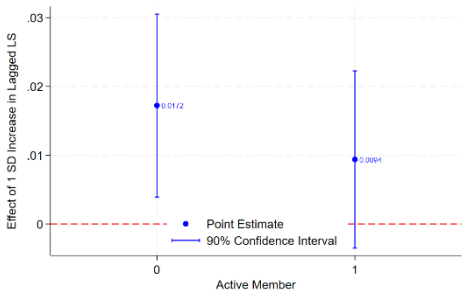
Panel C.1 Age 15-24



Panel C.2 Age 25-49



Panel C.3 Age 50-66



Panel C.4 Age 67+

Panel C The role of active membership

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

Tables

Table 1. Definitions of Conspicuous vs. Basic Goods or Services

Category	Baseline: Wu (2020)	Heffetz (2011)'s Visibility Index
Vehicle purchases	C	0.73
Clothing and footwear	C	0.71
Furniture and household appliances	C	0.68
Recreational devices and equipment	C	0.66
Meals out	C	0.62
Alcohol	C	0.6
Holidays	C	0.58
Education	B	0.56
Tobacco	B	0.76
Groceries	B	0.5
Housing	B	0.5
Public transportation	B	0.45
Motor vehicle repairs and maintenance	B	0.42
Motor vehicle fuels and engine oil	B	0.39
Phone rent and calls, and internet charges	B	0.38
Health care (health insurance included) and child care	B	0.36
Home utilities	B	0.31
Other Insurance	B	0.21

Table 2 Summary Statistics, Pooled over All Waves, HILDA 2006-2010

	Mean	SD
Total household expenditures per capita	22552.583	15734.828
Total household conspicuous expenditures per capita	6596.143	8006.403
Total household basic expenditures per capita	15956.44	10927.481
Lagged standardized life satisfaction	7.859	1.425
Social support index	6.231	2.919
Low loneliness	0.59	0.492
Active member	0.381	0.486
Total household income per capita	32887.346	23904.886
Reference group: age 15–24		
Age2534	0.15	0.357
Age3544	0.19	0.392
Age4554	0.192	0.394
Age5564	0.146	0.353
Age6574	0.099	0.298
Age75	0.07	0.256
Reference group: below high school		
High school	0.154	0.361
Vocational degree	0.291	0.454
Bachelor's degree or above	0.223	0.417
Reference group: married or de facto		
Separated, divorced, or widowed	0.146	0.354
Never married	0.21	0.408
Reference group: full-time employed		
Part-time employed	0.211	0.408
Unemployed	0.028	0.165
Not in the labour force	0.321	0.467
Children (age<=14) in the household	0.32	0.467
Older adults (age>=65) in the household	0.209	0.406
Long-term health condition	0.283	0.45

Number of observations: 45,693
Variables not reported: year, month of interview, and region dummies

Table 3 Consumption Expenditures and Life Satisfaction

VARIABLES	(1) Ln (total household expenditures per capita)	(2) Ln (total household conspicuous expenditures per capita)	(3) Ln (total household basic expenditures per capita)
Lagged standardized life satisfaction	0.00195	0.0101*	0.00111
	(0.00197)	(0.00555)	(0.00189)
Individual Characteristics	YES	YES	YES
Individual Fixed Effects	YES	YES	YES
Region Fixed Effects	YES	YES	YES
Wave Fixed Effects	YES	YES	YES
Observations	45,693	45,693	45,693
R-squared	0.048	0.010	0.050
Number of Individuals	11,750	11,750	11,750

Robust standard errors clustered at the individual level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 4 Consumption Expenditures and Life Satisfaction: The Moderating Role of Social Capital

VARIABLES	Ln (total household expenditures per capita)			Ln (total household conspicuous expenditures per capita)			Ln (total household basic expenditures per capita)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lagged standardized life satisfaction	0.0126***	0.0115***	0.00170	0.0393***	0.0288***	0.0171**	0.0119***	0.0112***	-0.000763
	(0.00479)	(0.00328)	(0.00254)	(0.0142)	(0.00997)	(0.00755)	(0.00456)	(0.00314)	(0.00244)
Social support index	-0.000659			0.00717**			-0.00224**		
	(0.00115)			(0.00330)			(0.00110)		
Lagged standardized life satisfaction*Social support index	-0.00170**			-0.00467**			-0.00174***		
	(0.000693)			(0.00195)			(0.000661)		
Low loneliness		-0.00907*			0.00407			-0.00898*	
		(0.00536)			(0.0158)			(0.00517)	
Lagged standardized life satisfaction*Low loneliness		-0.0161***			-0.0314**			-0.0168***	
		(0.00429)			(0.0124)			(0.00412)	
Active member			0.0127**			0.0363**			0.00607
			(0.00620)			(0.0167)			(0.00594)
Lagged standardized life satisfaction*Active member			0.000538			-0.0187			0.00486
			(0.00428)			(0.0118)			(0.00407)
Observations	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693
R-squared	0.048	0.048	0.048	0.010	0.010	0.010	0.050	0.051	0.050
Number of Individuals	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750

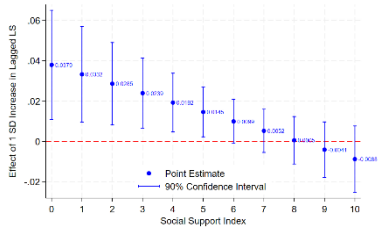
Robust standard errors clustered at the individual level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

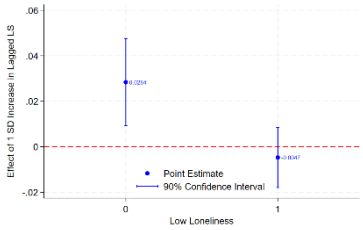
Appendices

Appendix Figures

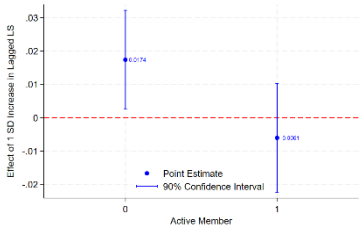
Appendix Figure 1 Robustness Checks (Outcome Variable: Conspicuous Expenditures)



Panel A.1

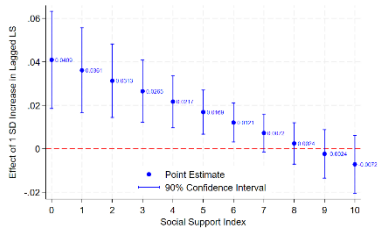


Panel A.2

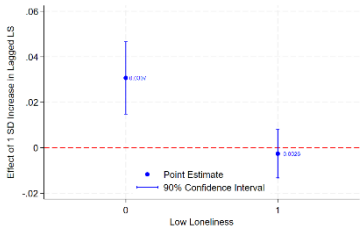


Panel A.3

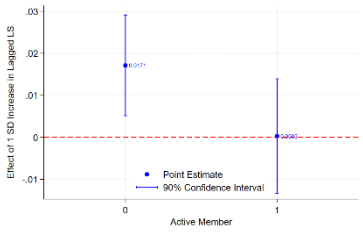
Panel A Definition by Friehe & Mechtel (2014)



Panel B.1

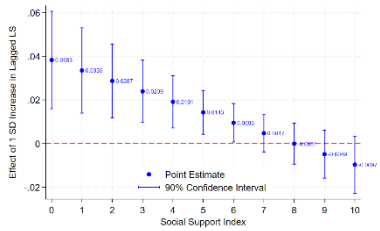


Panel B.2

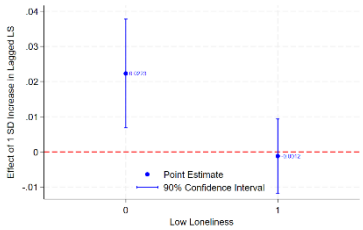


Panel B.3

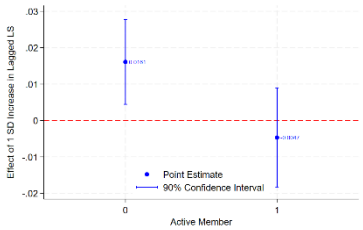
Panel B Education as conspicuous consumption



Panel C.1



Panel C.2

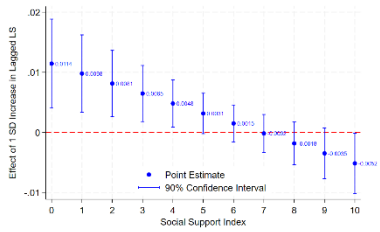


Panel C.3

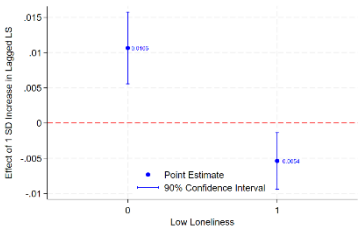
Panel C Tobacco as conspicuous consumption

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

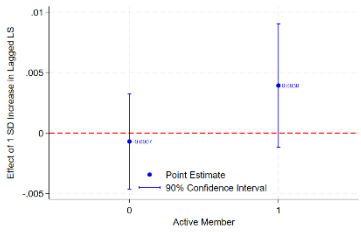
Appendix Figure 2 Robustness Checks (Outcome Variable: Basic Expenditures)



Panel A.1

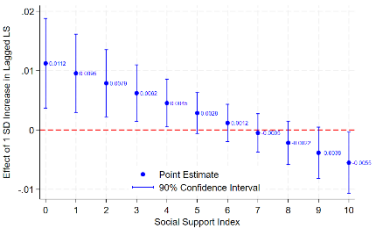


Panel A.2

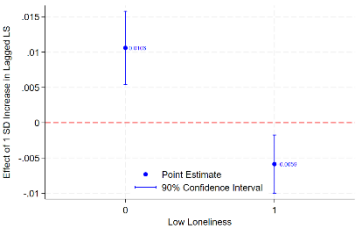


Panel A.3

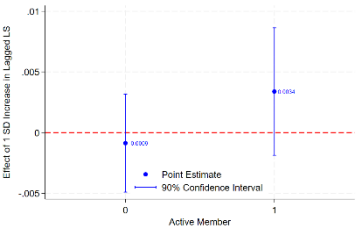
Panel A Definition by Friehe & Mechtel (2014)



Panel B.1

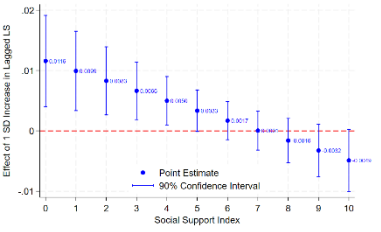


Panel B.2

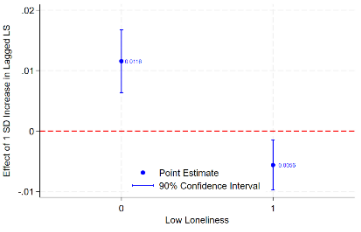


Panel B.3

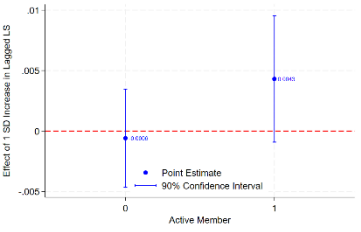
Panel B Education as conspicuous consumption



Panel C.1



Panel C.2

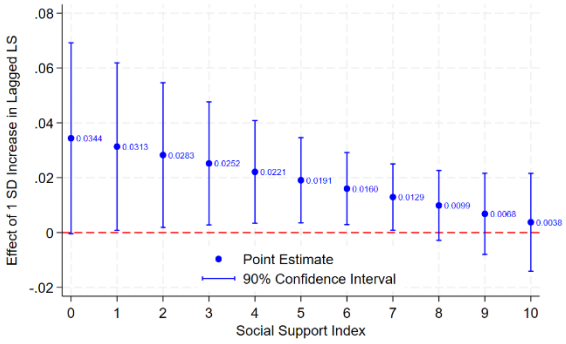


Panel C.3

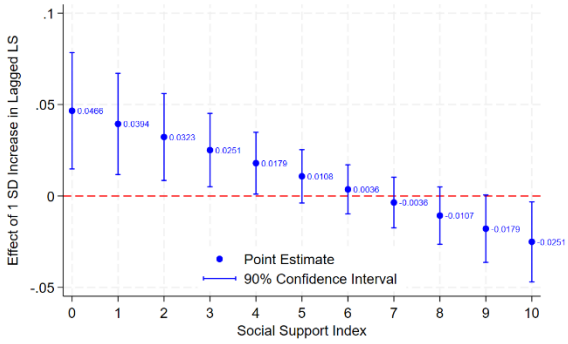
Panel C Tobacco as conspicuous consumption

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

Appendix Figure 3 Heterogeneous Analysis by Gender (Outcome Variable: Conspicuous Expenditures)

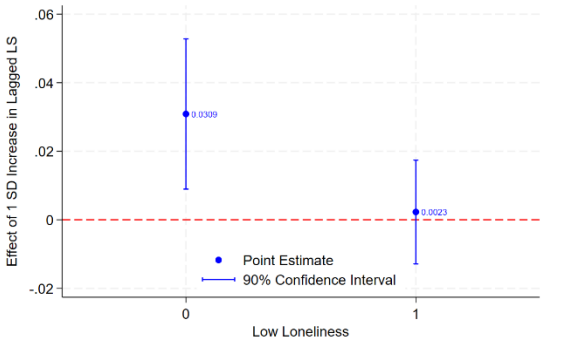


Panel A.1 Female

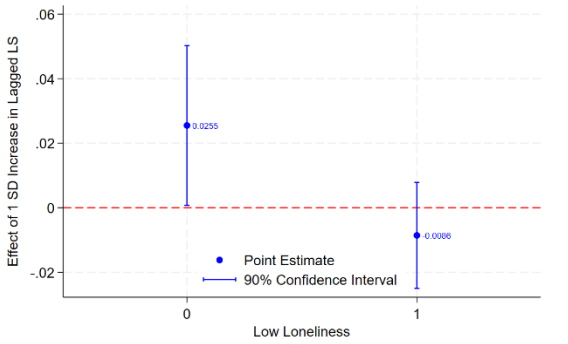


Panel A.2 Male

Panel A The role of social support

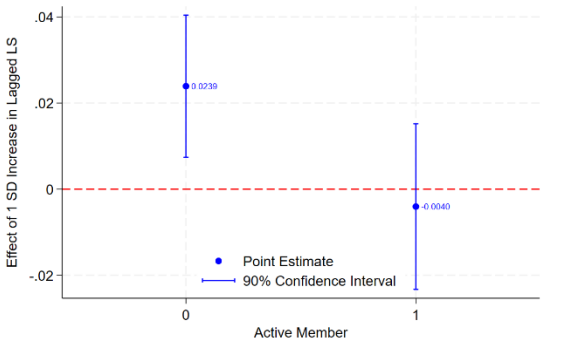


Panel B.1 Female

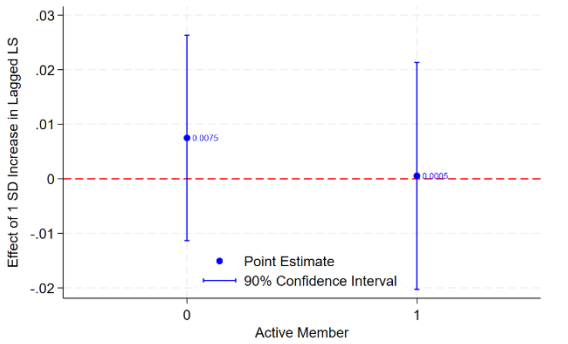


Panel B.2 Male

Panel B The role of low loneliness



Panel C.1 Female

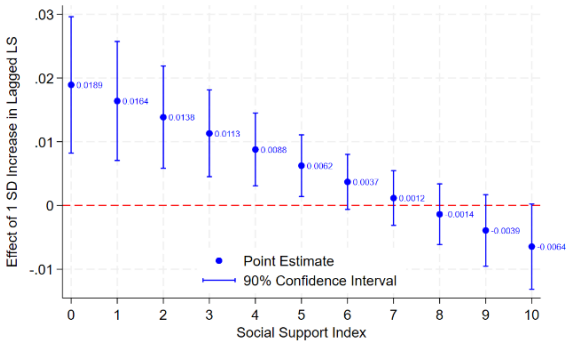


Panel C.2 Male

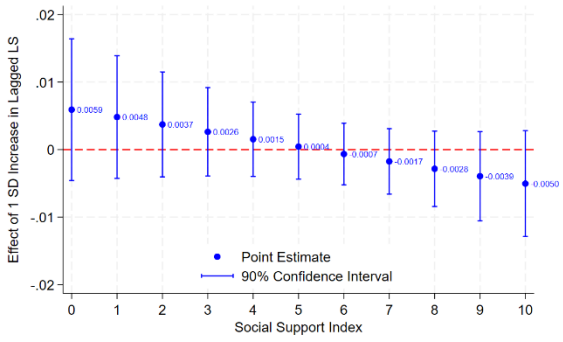
Panel C The role of active membership

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

Appendix Figure 4 Heterogeneous Analysis by Gender (Outcome Variable: Basic Expenditures)

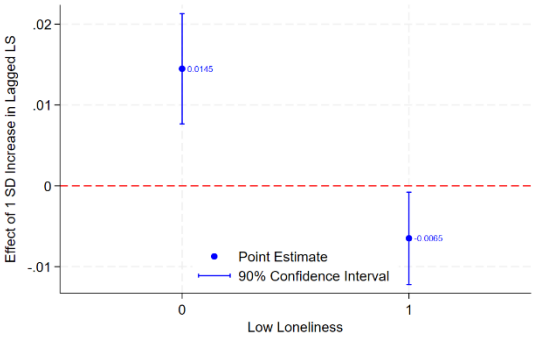


Panel A.1 Female

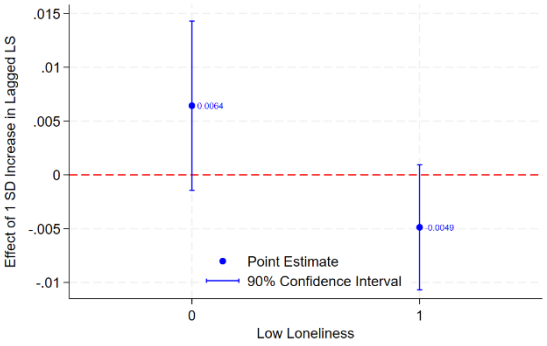


Panel A.2 Male

Panel A The role of social support

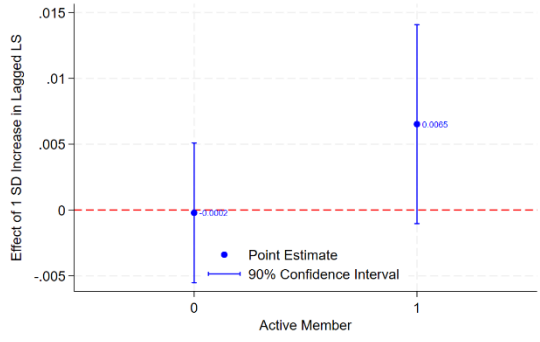


Panel B.1 Female

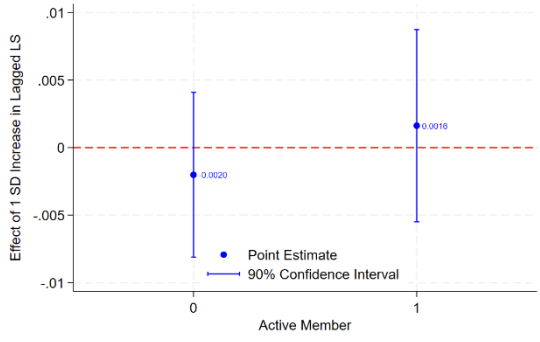


Panel B.2 Male

Panel B The role of low loneliness



Panel C.1 Female

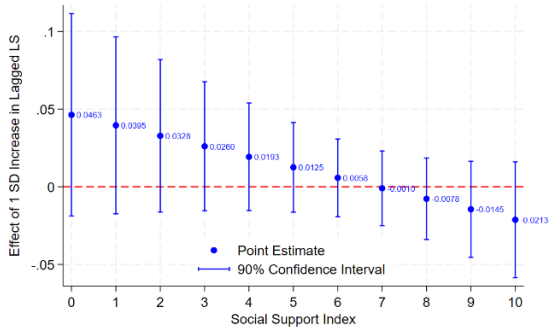


Panel C.2 Male

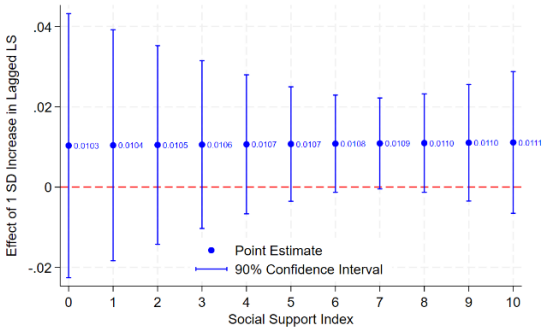
Panel C The role of active membership

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

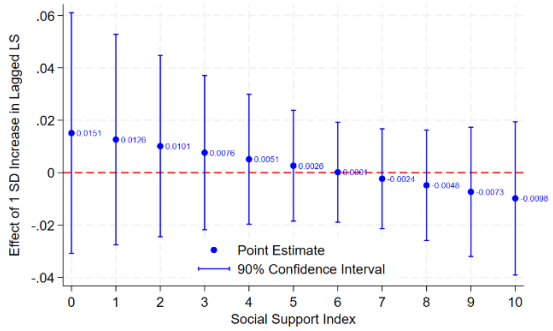
Appendix Figure 5 Heterogeneous Analysis by Age (Outcome Variable: Conspicuous Expenditures)



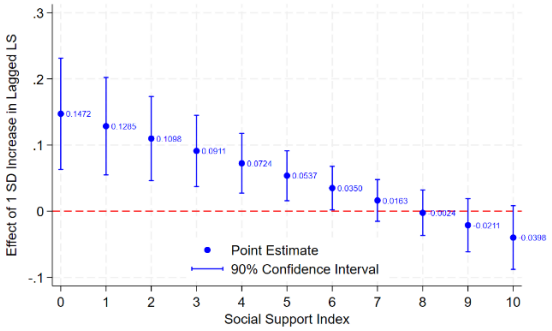
Panel A.1 Age 15-24



Panel A.2 Age 25-49

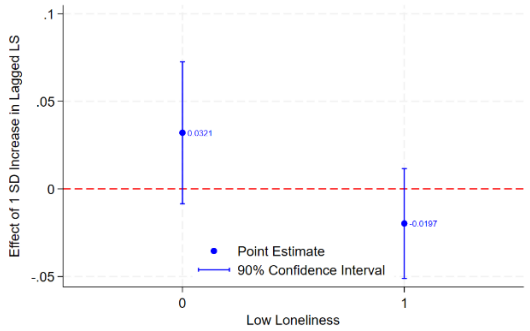


Panel A.3 Age 50-66

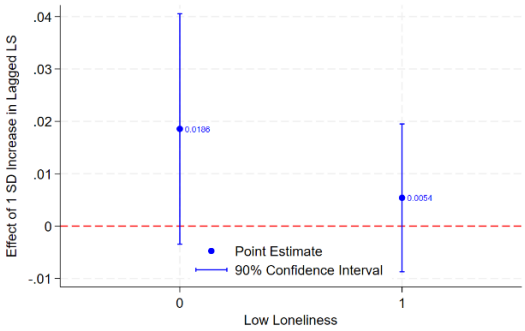


Panel A.4 Age 67+

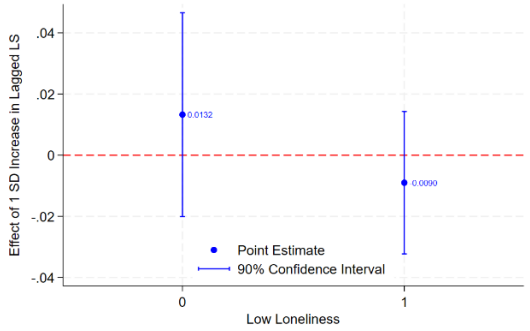
Panel A The role of social support



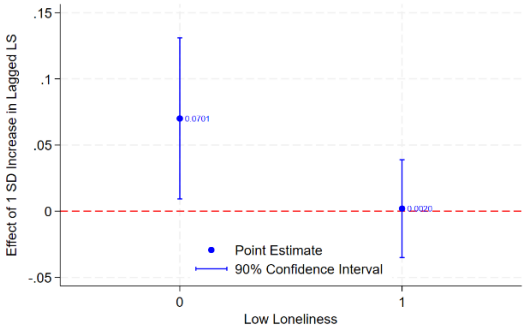
Panel B.1 Age 15-24



Panel B.2 Age 25-49

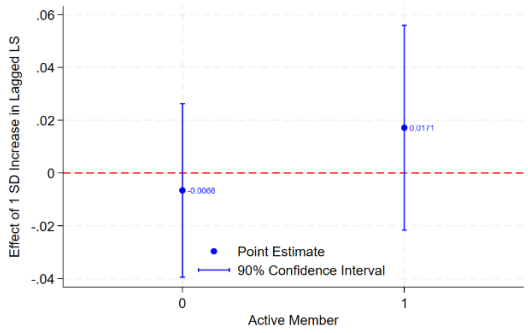


Panel B.3 Age 50-66

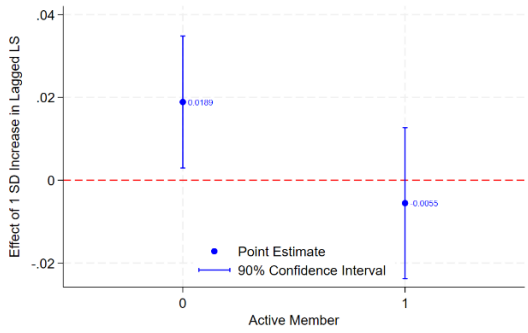


Panel B.4 Age 67+

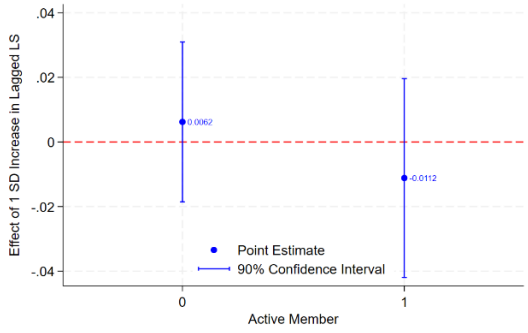
Panel B The role of low loneliness



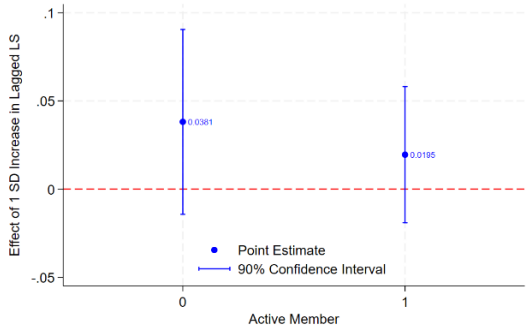
Panel C.1 Age 15-24



Panel C.2 Age 25-49



Panel C.3 Age 50-66

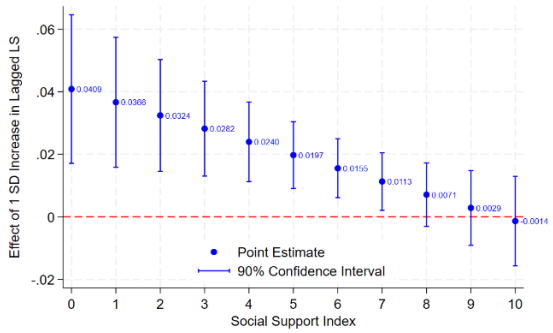


Panel C.4 Age 67+

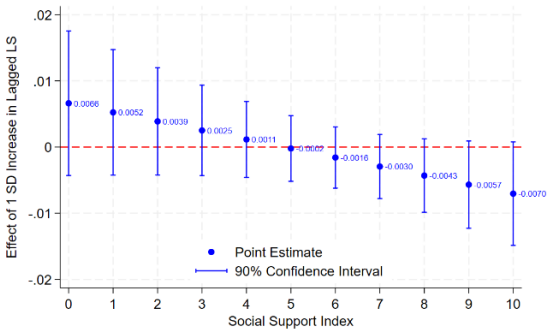
Panel C The role of active membership

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

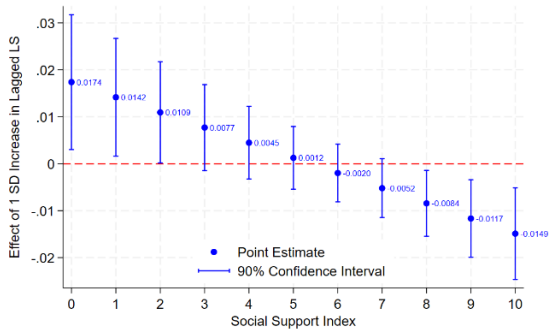
Appendix Figure 6 Heterogeneous Analysis by Age (Outcome Variable: Basic Expenditures)



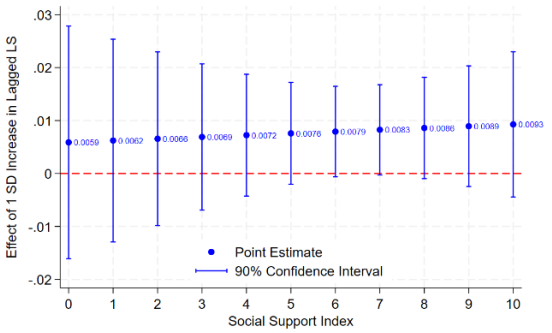
Panel A.1 Age 15-24



Panel A.2 Age 25-49

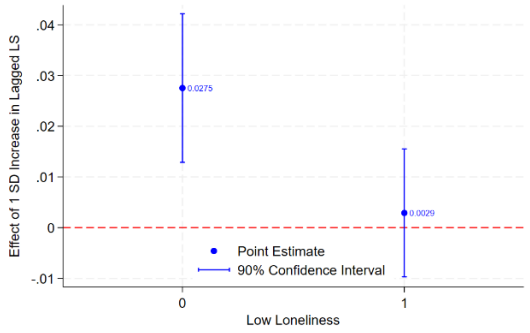


Panel A.3 Age 50-66

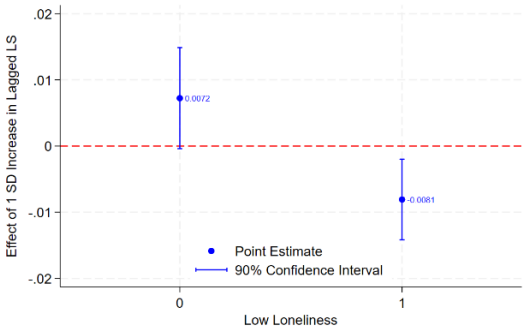


Panel A.4 Age 67+

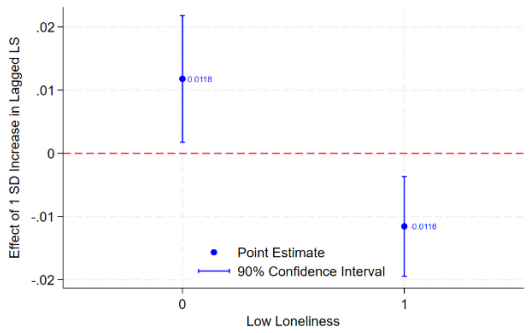
Panel A The role of social support



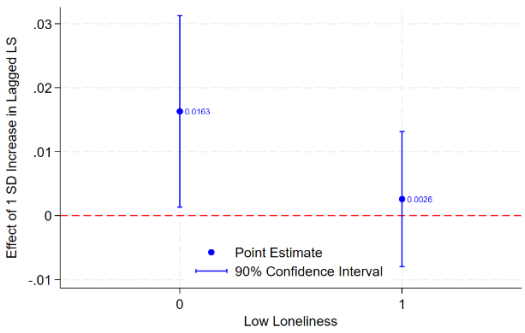
Panel B.1 Age 15-24



Panel B.2 Age 25-49

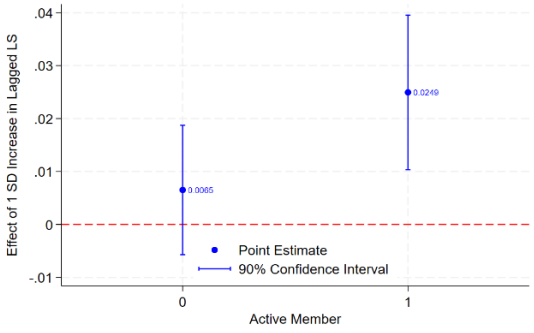


Panel B.3 Age 50-66

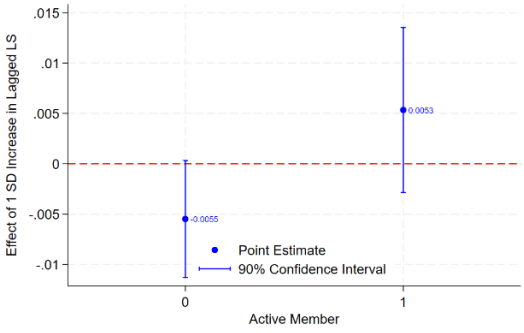


Panel B.4 Age 67+

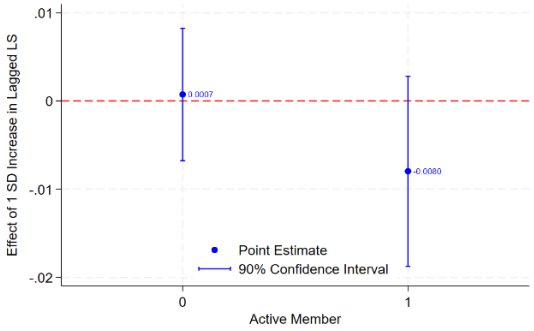
Panel B The role of low loneliness



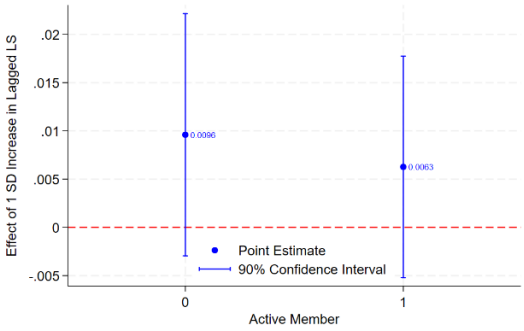
Panel C.1 Age 15-24



Panel C.2 Age 25-49



Panel C.3 Age 50-66



Panel C.4 Age 67+

Panel C The role of active membership

Notes: The figure displays the estimates of $\beta + \rho^k \times SC_{it}^k$, along with 90% confidence intervals.

Appendix Tables

Appendix Table 1 Consumption Categories

Category	Definition
Vehicle purchases	Buying brand new or used motor vehicles, motorbikes, or other
Clothing and footwear	Men's, women's and children's clothing and footwear
Furniture and household appliances	Any bedroom and outdoor furniture (do not include floor coverings), household appliances, such as ovens, fridges, washing machines, and air conditioners
Recreational devices and equipment	Computers and related devices (such as printers, digital cameras, iPods, MP3 players, electronic organizers and game consoles), televisions, home entertainment systems, and other audio visual equipment (such as DVD players and video cameras)
Meals eaten out	Restaurants, take-away food, and bought lunches and snacks. Do not include alcohol
Alcohol	Alcohol consumed at home or with meals eaten out
Holidays	Holidays and holiday travel costs (include short & long holidays)
Education	Education fees paid to schools, universities, and other education providers (include private tuition fees)
Tobacco	Cigarettes and other tobacco products
Groceries	Food, cleaning products, pet food, and personal care products, excluding alcohol or tobacco
Housing	Rent, mortgage and repairs, and renovations and maintenance to your home
Public transportation	Public transport and taxis
Motor vehicle repairs and maintenance	Motor vehicle repairs and maintenance (include regular servicing)
Motor vehicle fuels and engine oil	Motor vehicle fuel (petrol, diesel, LPG) and engine oil
Phone rent and calls, and internet charges	Telephone rent and calls (include rent and charges on mobile phones), and internet charges
Health care (health insurance included) and child care	Health care spending includes fees paid to doctors, dentists, opticians, physiotherapists, chiropractors and any other health practitioner, medicines, prescriptions and pharmaceuticals (include alternative medicines.), and private health insurance; child care spending includes child care costs for children while parents work, during school holidays, and non-employment related childcare, for school-aged and not yet at school children. Assumes 12 weeks school holidays a year for school aged children
Home utilities	Electricity bills, gas bills, and other heating fuel (such as firewood and heating oil)
Other Insurance	Home and contents, and motor vehicle insurance

Appendix Table 2 18 Specific Categories of Consumption Expenditures and Life Satisfaction: The Role of Social Capital

Panel A The Role of Social Support

		Lagged standardized life satisfaction		Social support index		Lagged standardized life satisfaction*Social support index		Observations	R-squared	Number of individuals
(1)	Ln (expenditures on vehicle purchases per capita)	0.004	(0.047)	0.003	(0.011)	-0.001	(0.007)	45,693	0.005	11,750
(2)	Ln (expenditures on clothing and footwear per capita)	-0.004	(0.022)	0.006	(0.005)	0.002	(0.003)	45,693	0.005	11,750
(3)	Ln (expenditures on furniture and household appliances per capita)	-0.004	(0.042)	0.029***	(0.010)	0.001	(0.006)	45,693	0.009	11,750
(4)	Ln (expenditures on recreational devices and equipment per capita)	0.090**	(0.036)	0.018**	(0.009)	-0.015***	(0.005)	45,693	0.006	11,750
(5)	Ln (expenditures on meals out per capita)	-0.002	(0.028)	0.003	(0.006)	0.001	(0.004)	45,693	0.007	11,750
(6)	Ln (expenditures on alcohol per capita)	-0.001	(0.026)	-0.007	(0.006)	0.001	(0.004)	45,693	0.008	11,750
(7)	Ln (expenditures on holidays per capita)	0.077**	(0.033)	0.025***	(0.008)	-0.005	(0.005)	45,693	0.007	11,750
(8)	Ln (expenditures on education per capita)	0.049*	(0.026)	0.005	(0.006)	-0.007*	(0.004)	45,693	0.022	11,750
(9)	Ln (expenditures on tobacco per capita)	-0.009	(0.025)	-0.007	(0.006)	0.001	(0.003)	45,693	0.005	11,750
(10)	Ln (expenditures on groceries per capita)	0.003	(0.010)	-0.000	(0.002)	0.000	(0.001)	45,693	0.007	11,750
(11)	Ln (expenditures on housing per capita)	0.019	(0.025)	-0.006	(0.006)	-0.002	(0.004)	45,693	0.007	11,750
(12)	Ln (expenditures on public transportation per capita)	-0.017	(0.028)	-0.005	(0.006)	0.001	(0.004)	45,693	0.014	11,750
(13)	Ln (expenditures on motor vehicle repairs and maintenance per capita)	0.033	(0.023)	0.004	(0.005)	-0.001	(0.003)	45,693	0.006	11,750
(14)	Ln (expenditures on motor vehicle fuels and engine oil per capita)	0.008	(0.018)	0.005	(0.004)	0.000	(0.003)	45,693	0.009	11,750
(15)	Ln (expenditures on phone rent and calls, and internet charges per capita)	-0.003	(0.014)	-0.003	(0.003)	0.000	(0.002)	45,693	0.007	11,750
(16)	Ln (expenditures on health care (health insurance included) and childcare per	0.038**	(0.018)	-0.005	(0.004)	-0.005*	(0.002)	45,693	0.011	11,750
(17)	Ln (expenditures on home utilities per capita)	0.056***	(0.015)	-0.002	(0.004)	-0.007***	(0.002)	45,693	0.008	11,750
(18)	Ln (expenditures on other insurance per capita)	0.040**	(0.020)	0.010**	(0.005)	-0.005*	(0.003)	45,693	0.008	11,750

Panel B The Role of Low Loneliness

		Lagged standardized life satisfaction		Low loneliness		Lagged standardized life satisfaction*Low loneliness		Observations	R-squared	Number of individuals
(1)	Ln (expenditures on vehicle purchases per capita)	0.021	(0.031)	-0.056	(0.053)	-0.037	(0.042)	45,693	0.005	11,750
(2)	Ln (expenditures on clothing and footwear per capita)	-0.005	(0.015)	-0.003	(0.024)	0.023	(0.019)	45,693	0.005	11,750

(3)	Ln (expenditures on furniture and household appliances per capita)	-0.016	(0.028)	0.097**	(0.047)	0.033	(0.037)	45,693	0.009	11,750
(4)	Ln (expenditures on recreational devices and equipment per capita)	0.045*	(0.024)	0.057	(0.040)	-0.076**	(0.032)	45,693	0.006	11,750
(5)	Ln (expenditures on meals out per capita)	-0.012	(0.018)	0.024	(0.030)	0.024	(0.023)	45,693	0.007	11,750
(6)	Ln (expenditures on alcohol per capita)	-0.020	(0.018)	-0.050*	(0.029)	0.042*	(0.022)	45,693	0.008	11,750
(7)	Ln (expenditures on holidays per capita)	0.065***	(0.023)	0.096***	(0.037)	-0.028	(0.029)	45,693	0.007	11,750
(8)	Ln (expenditures on education per capita)	0.025	(0.018)	0.057**	(0.029)	-0.035	(0.023)	45,693	0.022	11,750
(9)	Ln (expenditures on tobacco per capita)	-0.017	(0.017)	-0.061**	(0.025)	0.025	(0.021)	45,693	0.006	11,750
(10)	Ln (expenditures on groceries per capita)	0.009	(0.007)	0.011	(0.011)	-0.006	(0.008)	45,693	0.007	11,750
(11)	Ln (expenditures on housing per capita)	0.042**	(0.017)	0.008	(0.028)	-0.057**	(0.023)	45,693	0.007	11,750
(12)	Ln (expenditures on public transportation per capita)	-0.026	(0.018)	-0.037	(0.029)	0.029	(0.024)	45,693	0.014	11,750
(13)	Ln (expenditures on motor vehicle repairs and maintenance per capita)	0.037**	(0.016)	0.026	(0.025)	-0.017	(0.020)	45,693	0.006	11,750
(14)	Ln (expenditures on motor vehicle fuels and engine oil per capita)	0.019	(0.012)	0.012	(0.020)	-0.017	(0.016)	45,693	0.009	11,750
(15)	Ln (expenditures on phone rent and calls, and internet charges per capita)	-0.005	(0.009)	-0.025	(0.016)	0.005	(0.012)	45,693	0.007	11,750
(16)	Ln (expenditures on health care (health insurance included) and childcare per	0.006	(0.012)	-0.027	(0.018)	0.003	(0.015)	45,693	0.011	11,750
(17)	Ln (expenditures on home utilities per capita)	0.037***	(0.009)	-0.008	(0.016)	-0.041***	(0.012)	45,693	0.008	11,750
(18)	Ln (expenditures on other insurance per capita)	0.017	(0.014)	0.031	(0.021)	-0.013	(0.017)	45,693	0.008	11,750

Panel C The Role of Active Membership

		Lagged standardized life satisfaction		Active member		Lagged standardized life satisfaction*Active member		Observations	R-squared	Number of individuals
(1)	Ln (expenditures on vehicle purchases per capita)	0.006	(0.026)	0.074	(0.063)	-0.021	(0.043)	45,693	0.005	11,750
(2)	Ln (expenditures on clothing and footwear per capita)	0.018	(0.012)	0.113***	(0.027)	-0.025	(0.018)	45,693	0.005	11,750
(3)	Ln (expenditures on furniture and household appliances per capita)	-0.009	(0.022)	0.016	(0.052)	0.032	(0.038)	45,693	0.009	11,750
(4)	Ln (expenditures on recreational devices and equipment per capita)	-0.012	(0.019)	0.120***	(0.045)	0.029	(0.032)	45,693	0.006	11,750
(5)	Ln (expenditures on meals out per capita)	-0.008	(0.014)	0.083***	(0.032)	0.024	(0.023)	45,693	0.007	11,750
(6)	Ln (expenditures on alcohol per capita)	0.012	(0.014)	0.010	(0.032)	-0.018	(0.021)	45,693	0.008	11,750
(7)	Ln (expenditures on holidays per capita)	0.043**	(0.018)	0.135***	(0.042)	0.011	(0.028)	45,693	0.007	11,750
(8)	Ln (expenditures on education per capita)	0.007	(0.014)	0.060*	(0.036)	-0.007	(0.023)	45,693	0.022	11,750

(9)	Ln (expenditures on tobacco per capita)	-0.007	(0.013)	-0.023	(0.029)	0.012	(0.019)	45,693	0.005	11,750
(10)	Ln (expenditures on groceries per capita)	0.003	(0.005)	0.005	(0.012)	0.006	(0.009)	45,693	0.007	11,750
(11)	Ln (expenditures on housing per capita)	-0.001	(0.013)	-0.032	(0.032)	0.025	(0.023)	45,693	0.007	11,750
(12)	Ln (expenditures on public transportation per capita)	-0.022	(0.014)	-0.002	(0.034)	0.036	(0.023)	45,693	0.014	11,750
(13)	Ln (expenditures on motor vehicle repairs and maintenance per capita)	0.034***	(0.012)	FALSE	(0.029)	-0.021	(0.019)	45,693	0.006	11,750
(14)	Ln (expenditures on motor vehicle fuels and engine oil per capita)	0.007	(0.010)	0.025	(0.023)	0.006	(0.015)	45,693	0.009	11,750
(15)	Ln (expenditures on phone rent and calls, and internet charges per capita)	-0.011	(0.008)	0.017	(0.017)	0.023**	(0.011)	45,693	0.007	11,750
(16)	Ln (expenditures on health care (health insurance included) and childcare per	0.008	(0.009)	0.042**	(0.020)	-0.001	(0.014)	45,693	0.011	11,750
(17)	Ln (expenditures on home utilities per capita)	0.014*	(0.007)	0.046**	(0.018)	-0.003	(0.012)	45,693	0.008	11,750
(18)	Ln (expenditures on other insurance per capita)	0.010	(0.010)	0.048**	(0.024)	-0.002	(0.016)	45,693	0.008	11,750

Robust standard errors clustered at the individual level in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 3 Consumption Expenditures, Life Satisfaction, and Social Capital

VARIABLES	Ln (total household expenditures per capita)			Ln (total household conspicuous expenditures per capita)			Ln (total household basic expenditures per capita)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Lagged standardized life satisfaction	0.00194	0.00195	0.00190	0.0101*	0.0101*	0.00993*	0.00110	0.00111	0.00109
	(0.00197)	(0.00197)	(0.00197)	(0.00555)	(0.00555)	(0.00554)	(0.00189)	(0.00189)	(0.00189)
Social support index	-0.000690			0.00708**			-0.00227**		
	(0.00115)			(0.00330)			(0.00110)		
Low loneliness		-0.00907*			0.00406			-0.00899*	
		(0.00536)			(0.0158)			(0.00517)	
Active member			0.0127**			0.0361**			0.00614
			(0.00620)			(0.0167)			(0.00594)
Individual Characteristics	YES	YES	YES	YES	YES	YES	YES	YES	YES
Individual Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Region Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Wave Fixed Effects	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693
R-squared	0.048	0.048	0.048	0.010	0.010	0.010	0.050	0.050	0.050
Number of Individuals	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750

Robust standard errors clustered at the individual level in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Appendix Table 4 Robustness Checks: Different Categorizations of Consumption Expenditures

	Friehe & Mechtel (2014)						Education as Conspicuous						Tobacco as Conspicuous					
VARIABLES	Ln (total household conspicuous expenditures per capita)			Ln (total household basic expenditures per capita)			Ln (total household conspicuous expenditures per capita)			Ln (total household basic expenditures per capita)			Ln (total household conspicuous expenditures per capita)			Ln (total household basic expenditures per capita)		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)
Lagged standardized life satisfaction	0.0222**	0.0284**	0.0174*	0.00580**	0.0106***	-0.000704	0.0235***	0.0307***	0.0171**	0.00586**	0.0106***	-0.000868	0.0230***	0.0223**	0.0161**	0.00580**	0.0116***	-0.000593
	(0.0108)	(0.0117)	(0.00902)	(0.00286)	(0.00309)	(0.00240)	(0.00900)	(0.00967)	(0.00728)	(0.00293)	(0.00316)	(0.00246)	(0.00886)	(0.00940)	(0.00708)	(0.00292)	(0.00316)	(0.00246)
Social support index	0.0284			-0.00332			0.00787			-0.00320			0.0120			-0.00438		
	(0.0189)			(0.00537)			(0.0152)			(0.00548)			(0.0147)			(0.00552)		
Lagged standardized life satisfaction*Social support index	-0.0252*			-0.00877**			-0.0235**			-0.00947**			-0.0274**			-0.00837**		
	(0.0139)			(0.00393)			(0.0116)			(0.00403)			(0.0114)			(0.00402)		
Low loneliness		0.0271			-0.00967*			0.00506			-0.00846			-0.00337			-0.00830	
		(0.0181)			(0.00509)			(0.0153)			(0.00520)			(0.0146)			(0.00521)	
Lagged standardized life satisfaction*Low loneliness		-0.0331**			-0.0160***			-0.0333***			-0.0165***			-0.0235**			-0.0172***	
		(0.0145)			(0.00405)			(0.0119)			(0.00414)			(0.0117)			(0.00415)	
Active member			0.0545***			0.00640			0.0333**			0.00529			0.0341**			0.00686
			(0.0188)			(0.00585)			(0.0162)			(0.00597)			(0.0155)			(0.00601)
Lagged standardized life satisfaction*Active member			-0.0234*			0.00463			-0.0168			0.00425			-0.0208*			0.00490
			(0.0139)			(0.00400)			(0.0113)			(0.00411)			(0.0112)			(0.00410)
Observations	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693	45,693
R-squared	0.008	0.008	0.008	0.054	0.054	0.053	0.009	0.009	0.009	0.050	0.050	0.050	0.011	0.011	0.011	0.049	0.050	0.049
Number of Individuals	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750	11,750

Robust standard errors clustered at the individual level in parentheses
*** p<0.01, ** p<0.05, * p<0.1