Retirement, social support and mental wellbeing: A couple-level analysis*

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ABSTRACT

Social support is increasingly acknowledged as an important resource for promoting wellbeing. We test whether social support changes around retirement. We also examine whether social support moderates dynamics in mental wellbeing around retirement and consider both own and spouse's retirement drawing on a unique longitudinal, couple-level dataset from Australia. We observe descriptively no effect of own or spouse's retirement on social support. However, those with high social support do experience a small but statistically significant improvement in mental wellbeing post retirement. Using pension eligibility as an instrument, we find that own retirement causally improves mental wellbeing for women and by a similar degree for those with low/high social support. We also estimate responses to life satisfaction and find evidence that spill-over benefits from spousal retirement are larger for individuals with low social support.

***KEYWORDS**: Retirement; social support; Australia; couples; mental wellbeing*

***JEL**: I10; H55; J14; J26*

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1. INTRODUCTION

Social capital is an important resource for individuals and has been linked with a variety of positive health outcomes (d'Hombres, Rocco, Suhrcke & McKee 2010; Ho 2016; Ronconi, Brown and Scheffler 2012). Lancee and Radl (2012) show that Germans with higher levels of social connectedness opt for earlier retirement. This highlights social support as a factor that matters for prompting individuals' transition from work. Social support in retirement may be equally important. For example, one study finds higher levels of social support and social reciprocity as related to higher retirement satisfaction (Wang and Matz-Costa 2019). To date, however, few studies have examined how social support changes across the retirement transition and interacts with mental wellbeing. Further, there has been little attention to how this might operate within couples, even as social support may be conceived as a couple-level resource. Our paper aims to fill this gap in the literature.

How might social support evolve after retirement? On the one hand, social support may decrease across the retirement transition if this results in the severance or disruption of existing ties and relationships. On the other hand, social support may increase if retirement provides new opportunities to strengthen existing ties or to develop new relationships. Retirement involves a significant change in time available for non-work activities – we conjecture that the ability to convert this time into activities that would improve wellbeing may depend on one's level of social support.

The limited existing research on retirement and social engagement is equivocal. Sabbath et al (2015) find that individuals report increased activity engagement and number of friends after retirement. However, they also point out that individuals from lower socioeconomic status backgrounds and those with poorer health are more likely to report decreased engagement compared to their counterparts. van den Bogaard, Henkens and Kalmijn

(2014) report that Dutch retirees engage in more support to their children and volunteering upon retirement, arguing that people seek continuity in social activities to replace interactions lost through leaving the workplace. Eibich (2015) exploits age pension thresholds to identify the mechanisms through which retirement affects health in Germany. He finds no effect of retirement on number of close friends. Fletcher (2014) uses a similar estimation strategy for a sample of European countries and obtains comparable results. Studies exploiting age pension thresholds in Australia have found evidence that retirement increases some identifiers that may be linked to social capital, such as group membership and volunteering (Nguyen et al, 2020). Atalay and Zhu (2018) provide similar evidence for men's response to their wife's retirement.

Our study is also concerned with the effect of retirement on mental wellbeing. Most studies point to positive effects of own retirement (e.g. Atalay & Barret, 2014; Gorry et al. 2018; Jokela et al. 2010; Manty et al. 2018; Mein et al. 2003; Oksanen et al. 2011; Zhu, 2016). However, some studies find no effect (Fé & Hollingsworth 2016; Leinonen et al. 2013) and negative (Dave, Rashad & Spasojevic 2008; Vo et al. 2015) or mixed effects (Piccio & van Ours, 2019). Few studies consider the effect of spouse's retirement on own wellbeing. Quantifying these spill-over effects is important for understanding the overall role of retirement on people's wellbeing. Existing research suggests partner's retirement (induced by age pension eligibility) may be good for the mental health of men in Australia (Atalay and Zhu 2018) but bad for women in Japan (Bertonni & Brunello 2017). Piccio & van Ours (2019) use a regression discontinuity design and find divergent responses to own and spouse's retirements between male and female partners in the Netherlands. Overall, their estimates generally point to sharp improvements in mental health when male partners retire but not female partners.

In this paper, we focus on the retirement transition and document the relationship between retirement and social support, and subsequently examine how social support may shape mental wellbeing across the retirement transition. We extend existing work in three main

ways. First, we investigate descriptively how social support and mental wellbeing evolve before and after retirement for a large representative sample of partnered individuals. Other studies generally do not consider the temporal effects of retirement, or do so in a highly parametric way. Also, we focus on social support, whereas previous studies generally focus on social engagement behaviors and equate this with social capital. We measure social support through a 10-item questionnaire that focuses on feelings of loneliness and social support. While social capital has been operationalized differently across studies, such as membership in organisations, trust, and social isolation (d'Hombres et al. 2010), measures of social engagement and religious participation and provision of support to others (Gannon and Roberts 2020), or informal social interactions (Ronconi, Brown and Scheffler 2012), our measure is arguably more comprehensive, and focuses on the subjective aspects of the effectiveness of social capital. Second, we estimate the causal effect of retirement considering social support as both an outcome, and a potential moderator for mental wellbeing. Third, we estimate responses in social support and mental wellbeing to both own and spouse's retirement. We also consider differences in outcomes by gender. We utilize Australian panel data to estimate descriptive event-study models around the retirement transition (focusing on couples), before estimating the causal effect of retirement by using Age Pension eligibility as an instrumental variable.

We begin our analysis by documenting the dynamic effects of retirement by estimating individual fixed effects models within an event study design. Although this analysis cannot be interpreted as causal, due to the possibility of time varying confounders or reverse causality, we argue that inherently descriptive estimates like these provide important evidence that quasi-experimental studies typical of the retirement literature do not. These results characterise how mental wellbeing and social support are distributed across the retirement transition for the general population of retirees (not just 'compliers'). Such evidence is useful for resource targeting, for example whether to deploy mental health services and the timing of these

services. They also provide a useful contrast to causal estimates exploiting policy reforms. If the estimates differ markedly, this indicates either strong selection into retirement, or strongly heterogeneous effects, which may then become a topic for further research.

We then utilize conditionally exogenous variation in Age Pension eligibility in Australia to estimate causal effects. Specifically, we estimate fixed effects instrumental variables (FE-IV) models using Age Pension eligibility as an instrument. Our FE-IV approach follows several recent Australian studies methodologically (e.g. Zhu 2016; Atalay & Zhu 2018; Atalay et al. 2019; 2020; Nguyen et al. 2020); however we extend on these studies in various dimensions, such as the outcomes used and consideration of response to spouse's retirement.

2. DATA AND METHODS

2.1 Data

Our study uses data from the Household, Income and Labour Dynamics in Australia Survey (HILDA), a representative, annual household panel of Australian households. We use data from all 18 currently available waves (2001-2018). Since our study is interested in transitions within couples, for our main analysis we limit the sample to an unbalanced panel of those who are partnered (married or defacto), with both partners responding to the survey in the particular year.[1]

The key variables for our study are retirement status, social support and mental wellbeing, which are described below.

Retirement status – we identify retirement from self-reported retirement variables (whether retired, age of retirement) and confirmed with labour force status. A person is deemed

[1] We include the small number of older same-sex couples (<0.002% of observations in our analysis sample).

retired if they self-report as retired in the years this question is asked and also are not in the labour force, or self-reported as retired in a previous wave and are not currently in the labour force during survey waves where retirement is not specifically captured.[2]

Social support – we follow Flood (2005) in constructing a social support index based on responses to 10 questions about social support answered on a 7-point scale. These questions are:

1. People don't come to visit me as often as I'd like.
2. I often need help from other people but can't get it.
3. I seem to have a lot of friends.
4. I don't have anyone I can confide in.
5. I have no one to lean on in times of trouble.
6. There is someone who can always cheer me up when I'm down.
7. I often feel very lonely.
8. I enjoy the time I spend with the people who are important to me.
9. When something's on my mind, just talking with the people I know can make me feel better.
10. When I need someone to help me out, I can usually find someone.

We convert each question into a variable taking on values -3,-2,…,2,3, with higher values indicating higher support, and then take the mean of the 10 items as our index. This index has mean = 15.3 (sd = 9.5, n = 1,686) in the year before retirement, and its distribution is left skewed (see Figure 1). Only a small fraction (3.5%) of people are right censored and no one is left censored. Berry and Welsh (2010) show that the index predicts better general and mental health, levels of tangible support, trust, and sense of reciprocity. Milner et al. (2016)

[2] Retirement status is not specifically asked about in 2003, 2004, 2007 and 2011.

find that those with higher scores experience less severe mental health effects from unemployment. Their findings are closely related to our focus on social support as a potential moderator for mental wellbeing in retirement.

Mental wellbeing – we measure mental wellbeing through the Mental Component Summary (MCS) (see Ware, 2000). The MCS is derived from a subset of questions about psychological distress and positive/negative affect contained in the SF-36 – one of the world's most widely used self-completion health questionnaires. MCS values range from 0-100, with higher values corresponding to better mental wellbeing. Figure 1 shows its distribution for our sample in the year before retirement (mean = 75.7, sd = 17.5, n = 1,733).[3]

Life satisfaction – We focused on the MCS score as our measure of mental wellbeing because it captures symptoms of mental distress and emotions and is therefore closely related to notions of good mental health, which is important from the perspective of service provision. However, as an extension, we also consider stated life satisfaction as an outcome variable, which is tied more closely to cognitive self-evaluation. Kettlewell et al. (2020) show that for a variety of life events, responses to affective wellbeing and life satisfaction differ and some economists argue that promoting life satisfaction should be a central objective of government (Frijters et al. 2020). Life satisfaction is captured by responses to "All things considered, how satisfied are you with your life?" answered on a 0-10 scale (mean = 8.2, sd = 1.5, n = 1,828 for the year before retirement).

2.2 Methodology

Linear fixed effects regression

[3] Since mental wellbeing and social support are likely to be correlated, we examined the extent to which these variables capture independent resources. In our estimation sample, the pooled correlation is moderate (0.44). However, the within correlation is relatively low (0.19), indicating substantial independent time-varying variation.

We estimate event-study type linear fixed effects models to quantify dynamics in social support and mental wellbeing around retirement. To determine whether social support moderates the effect of own and spouse's retirement on mental wellbeing, we estimate separate models for those with low/high social support. The threshold for high social support is determined by the median level of social support based on the within-means for all people aged 55-75 years. People with social support above this threshold (14.8) are classified as high social support for that period. Our most general specification is:

$$Y_{it} = \alpha_i + \sum_{p=-4}^{4} \beta_p Retire_{it,p} + \sum_{p=-4}^{4} \delta_p SpouseRetire_{it,p} + t_t + \epsilon_{it}. \quad (1)$$

Y_{it} is either social support or mental wellbeing (standardized using the mean and standard deviation in the year before retirement) for person i in year t. α_i is an individual specific fixed effect. $Retire_{it,p=-4}$, ... $Retire_{it,p=4}$ are dummies for if i will retire in 3-4 years' time, … up to if they retired 3-4 years ago. We omit $Retire_{it,p=-1}$ from the estimation equation so that this forms the baseline. $SpouseRetire_{it,p=-4}$,... $SpouseRetire_{it,p=4}$ is equivalently defined for dates to/from the spouse's retirement. The coefficients β_{-4}, ... β_4 (δ_{-4}, ... δ_4) map out the time path of anticipation and adaptation around retirement over a four-year window. We decided on four years because this broadly matches the transition periods considered in related studies (e.g. Nielsen 2019; Westerlund et al. 2009) and captures the period by which most people adapt to life events in Australia (Kettlewell et al. 2020). t_t is a vector of year fixed effects. ϵ_{it} is a stochastic error term.

When we estimate Eq. (1), we restrict the sample only to those people for whom we observe a retirement event (own or spouse's, depending on our focus), and the retirement occurred within ± 4 years. In this context, individual fixed effects are helpful because they reduce any selection bias stemming from the unbalanced nature of the panel. To see this, note

that the coefficients $\hat{\beta}_{-4}, \hat{\beta}_{-3}$ (and so on) will be identified by strongly overlapping, but distinct, subsets of people in our dataset. Individual fixed effects make it more reasonable to treat our estimates as if we are following a balanced group of individuals.

Our approach mitigates bias due to time invariant factors, linear ageing and collective sentiment (t_t). However, estimates from Eq. (1) can only be considered causal if there is no selection into retirement based on time variant factors, and no reverse causality. In practice, retirement may be induced by unobserved events that may directly affect mental wellbeing and social support. We therefore interpret our estimates within a descriptive paradigm. Importantly, our results are informative in mapping out how people's mental wellbeing evolves around retirement – information that can inform policy making and clinical advice regardless of underlying causal channels.

Fixed effects instrumental variables (IV) regression

There is also value in understanding whether there are causal retirement effects. We therefore follow other papers that exploit Age Pension reforms and utilize the discrete changes in Age Pension eligibility for men and women. For women, there has been a gradual increase in Age Pension eligibility for cohorts born after 1 July 1935, as shown in Table 1. For men, the eligibility age is 65 years but will increase to 67 years by 2023. Under the assumption that, conditional on a polynomial in age, individual fixed effects, and other time varying controls, these eligibility cut-offs have no direct effect on social support or mental wellbeing, they can be used as IVs by estimating the following first stage equation:

$$Retire_{it} = \alpha_i + E_{it} + \boldsymbol{X}'_{\boldsymbol{it}}\widetilde{\boldsymbol{\Omega}} + \tau_t + e_{it} \quad (2)$$

In Eq. (2), E_{it} (the instrumental variable) is an indicator for Age Pension eligibility. α_i and τ_t are again individual and time fixed effects. The second stage equation is given by:

$$Y_{it} = \alpha_i + \widehat{Retire}_{it} + \boldsymbol{X}'_{\boldsymbol{it}}\boldsymbol{\Omega} + \tau_t + \epsilon_{it} \quad (3)$$

$\widehat{Retire}$ are the fitted values from Eq. (2). Eq. (3) is estimated via two-staged least squares fixed effects regression (FE-IV). This model is similar in spirit to a regression discontinuity design using a global control function. It is not feasible to adopt the event study framework outlined above for the FE-IV model so instead we focus on the level effect of retirement after following related studies and restricting our sample to those aged 55-75 years (or whose spouse is aged 55-75 years, depending on our focus).[4] Because we are now interested in causal effects, we include additional controls in $\boldsymbol{X}$ typical of related studies. These include a quadratic in age, indicator for having a long-term health condition, state fixed effects, marital status, and controls for dependent children of various ages. We also include a quadratic for spouse's age when we focus on spousal retirement. We do not control for income and instead allow for this as a potential mechanism (in Appendix C we show that controlling for household income has little effect on the estimates).

Our estimates are local to those induced to retire due to the Age Pension rules. The Age Pension is widely accessed in Australia. According to population weighted estimates from HILDA, in 2018 52% of retirees were receiving some income from the Age Pension (67% for those above Age Pension Age). In the 2019-20 financial year, the maximum pension amount for a single person (including supplements) was $944.30 (AUD) per fortnight. By way of comparison, the national minimum wage was $1,481.60 for a 38-hour work week. Pensioners are also eligible for various State-level concessions for services like public transport and utilities. Atalay and Barrett (2015) show that increased eligibility age reforms lowered the

[4] Our IV approach requires that we include non-retirees to estimate the first stage. However, we do not know whether non-retirees will retire in the future, which introduces non-random measurement error in the anticipation indicators (our lag retirement terms suffer from the same issue for retirees we do not observe entering retirement). Further, we would require as many instruments as event-time indicators; in preliminary work we found that lags and leads of the eligibility indicator were sometimes weak instruments for the event-time indicators. This would have made the coefficients difficult to interpret within an event study framework.

probability of retirement for women by 12-19 percentage points. Against this, the Age Pension can be seen as an important incentive for a non-trivial share of Australians.

3. RESULTS

Own retirement on social support (Figure 2)

To begin we estimate Eq. (1) on social support.[5] We present results in event-study style graphs using the year before retirement as the baseline period and relegate detailed tables to Appendix A. Estimates without conditioning on partner's retirement indicate no significant effect of retirement on social support.[6] If anything, social support slightly improves in anticipation of retirement and is flat thereafter, with effect sizes less than 0.02 standard deviations (SD). Conditioning on partner's retirement has virtually no impact on the estimates, suggesting this is not an important confounder of own retirement. Finally, none of the gender differences are statistically different, and neither men nor women experience any significant deviations in social support. Post-retirement changes are always estimated to be less than 0.05 SD for both genders.

Own retirement on mental wellbeing (Figure 3)

Next we turn to mental wellbeing and stratify by low/high social support. There are notable differences in the trajectories for these groups; the low social support group experiences a drop in mental wellbeing in the year before retirement (0.11 SD) and then a modest improvement post-retirement (peaking at 0.08 SD after 2-3 years). In contrast, high social support types experience a statistically significant improvement in mental wellbeing following the retirement

[5] For people who retire more than once, we use their first observed retirement as the event date.
[6] We remain agnostic about the employment state before retirement, which means that differences by subgroup (i.e. sex, social support level) may reflect heterogeneity by transition state. However, this does not seem to be the case. In Appendix Table A6 we report the proportions of people in each employment state in the year before retirement. Across all our subgroups, most people (at least 51%) transition from a state of employment. Moreover, our event study figures are similar if we restrict the sample to those transitioning from employment (Figures B1-B4).

transition (between 0.07-0.10 SD). This pattern is robust to conditioning on partner's retirement and is similar for men and women. Nevertheless, none of the point estimates are significantly different between the two groups, despite the fact our estimates are relatively precise. This largely stems from the small effect sizes. Overall, while statistically significant, fluctuations in mental wellbeing may not be economically large.

Spouse's retirement on social support (Figure 4)

We now focus on own responses to spouse's retirement. Overall, social support is improving fairly linearly post-retirement. By 3-4 years post-retirement, social support is statistically significantly greater than in the year before retirement with an effect size of 0.06 SD. Results are robust to conditioning on own retirement. If anything, women experience a slight dip in social support in anticipation of retirement; however, the estimates are not significant, nor are the differences between genders.

Spouse's retirement on mental wellbeing (Figure 5)

Mental wellbeing follows a similar trajectory around spouse's retirement as own retirement for the low social support group – it declines in anticipation of retirement by 0.12 SD and somewhat improves post-retirement, especially for men. For high social support types, there is a fairly level trend when we pool genders. However, when we separate by gender we see that for high-support men, mental wellbeing is significantly higher than the year before retirement after 1-2 years (by between 0.09-0.11 SD) As with the results for own retirement, our estimates are generally not precise enough to rule out the same trajectories for low/high social support. Again, our estimates are fairly precise, and this is driven more by economically small effect sizes.

FE-IV results

Our IV estimates are reported in Tables 2 and 3. In all models, Age Pension eligibility is a highly significant predictor of retirement. Our main models suggest that eligibility raises the probability of retirement by approximately 8 percentage points (ppts) for women and 13 ppts for men. Appendix Figure B7 also shows clear evidence for an age discontinuity, supporting our identification strategy.

We do not find evidence that own retirement or spouse's retirement causally affects social support for either men or women. We do however find that own retirement improves mental wellbeing for women ($\hat{\beta}$ = 0.95, SE = 0.32). When we split the sample by social support type, the effect size is much larger for low social support types ($\hat{\beta}$ = 2.63 versus 0.44). However, the instrument is weak for this group (F = 6.2) so we are hesitant to read too strongly into this difference.

For men, our FE-IV estimates indicate no improvement in mental wellbeing upon retirement. The point estimates are positive but economically small and not significant ($\hat{\beta}$ = 0.22, SE = 0.14). Overall, retirement seems to have a larger positive effect on women's mental wellbeing than men's.

Our pooled estimates suggest no effect of spouse's retirement on mental wellbeing for women. When we split the sample by social support group, we find evidence that women with low levels of social support experience improved mental wellbeing ($\hat{\beta}$ = 0.70, SE = 0.31), while those with high social support do not, and a test on the equality of coefficients for low/high social support types is significant (p = 0.049). None of our FE-IV estimates for men's mental wellbeing following spouse's retirement are significant.

Finally, note that our estimates are not sensitive to using non-labour force participation only to determine retirement status (see Tables C1 and C2, panel B) or using a linear or cubic

(instead of quadratic) control function for own and spouse's age (Tables C1 and C2, panels C and D)

Life satisfaction

We replace the MCS score with stated life satisfaction and re-estimate our FE and FE-IV models.[7] For brevity we report the estimates in Appendix Tables C1 and C2 (panel F). As with the MCS score, women's life satisfaction responds positively to retirement ($\hat{\beta}$ = 0.69, SE = 0.33). We estimate similar effects for low/high social support types, and now the effect is marginally significant for the latter. Compared to our MCS results, there is much stronger evidence for a positive effect of own retirement for men ($\hat{\beta}$ = 0.49, SE = 0.15). This effect is similar by social support type. Further, there is a large improvement in life satisfaction for men following spouse's retirement ($\hat{\beta}$ = 0.83, SE = 0.34), whereas we find no effect for mental wellbeing. The effect is much larger for low social support types and we cannot rule out nil effects for high social capital types, however the difference between the two groups is not significant (P = 0.401).

4. DISCUSSION

In setting retirement policy and managing population wellbeing during the retirement transition, public health officials are interested in the social and psychological resources of people entering retirement and who are retired. Quantifying the total effect of any policy also requires understanding the spill-over effects of retirement from one spouse to another.

Our results show interesting patterns in how social support and mental wellbeing evolve around retirement. Social support does not change much over the retirement transition – in our

[7] For completeness, we also repeated our event study analysis using life satisfaction as the dependent variable and report figures in Appendix B (Figures B5-B6). The results show life satisfaction improving over the transition for own retirement, particularly for high support men and low support women. Responses to spouse's retirement are positive in the short-term, particularly for high support types. The magnitudes of these effects are much smaller than the IV estimates.

baseline event study estimations we can rule out any post-retirement effects greater than 0.06 standard deviations in each year. It seems that social support, on average, is stable during the retirement transition, consistent with research that finds retirement plays a limited role in shaping individuals' social network and composition (Fletcher 2014). We also find little evidence in our IV analysis that social support responds to retirement. This contrasts with Nguyen et al (2020), who use the same IV strategy and find improvements in some measures of social capital (e.g., group membership and volunteering). This indicates that the distinction between *social capital* and *social support* in retirement is important.

Our results point to the potential efficacy of social support as a flag for disparate trajectories in mental wellbeing around retirement, although in our application the effect sizes for both groups are economically small such that they cannot be statistically distinguished. Low social support types in couples experience worsening mental wellbeing as they approach retirement, but improvements in wellbeing after retirement, on average. High social support types experience stable levels of wellbeing in anticipation of retirement and modest improvements post retirement. The trajectories for mental wellbeing are broadly similar following spouse's retirement as own retirement, but with more noise.

Our IV results suggest that retirement causally improves mental wellbeing for women induced to retire by pension eligibility. This result is in line with previous research exploiting the Australian Age Pension reforms (Atalay & Barret 2014; Zhu 2016), and more generally, positive effects of retirement on mental wellbeing have been widely observed (see Section 1). The effect sizes are much larger for low social support women, but because pension eligibility is a weak instrument for this group we caution against putting much weight on this result. For men, there is less evidence that retirement improves mental wellbeing.

We find evidence for spill-over effects from spouse's retirement on own mental wellbeing only for low social support women. Although our estimates are imprecise, we are able to reject equal effects for low and high support women. We do not find any spill-over effects for men, like Piccio & van Ours (2019). However, this contrasts with Atalay and Zhu (2018), who use a similar specification to us and the same dataset and conclude that spouse's retirement does improve men's mental wellbeing. Our results may differ in part because we adopt a different definition of retirement and impose different sample restrictions. Social support does not appear to have a moderating effect for men either.

When we use life satisfaction as a dependent variable we find stronger evidence that own retirement is beneficial for both women and men. These results are consistent with a recent Australian study adopting the same methodology but with a sample that included singles (Nguyen et al 2020). We extend that work by considering spouse's retirement and the interaction with social support. We find that spouse's retirement improves life satisfaction of both men and women with low social support. Altogether, our results support the idea that spousal retirement can improve wellbeing for people lacking social support, at least for retirements induced by Age Pension eligibility.

Finally, it is worth commenting on the disparities between the event study and IV results. We find it intriguing that our IV estimates suggest much stronger effects on mental wellbeing than our event study estimates. Our FE estimates that use the same sample as our FE-IV analysis are also generally close to zero and insignificant, with relatively small confidence intervals. To take one example, the FE estimate for women's mental wellbeing is 0.03 SD whereas it is 0.95 SD for FE-IV. If the LATE estimates for Age Pension induced retirees are indicative of the general causal effects of retirement, this seems to suggest very strong negative selection into retirement based on mental wellbeing. Alternatively, our results may indicate substantial heterogeneity in the effects of retirement. In countries like Australia,

and across Europe (where much of the literature on retirement exploiting age pension rules is based), people who retire because of age pensions are likely to be lower income and may experience little change, or even an improvement, in financial security after retirement. It is not clear that this narrow group reflect the average retirement experience. Arguably, they could benefit more from retirement than the typical retiree. We believe our results should therefore serve to motivate efforts to identify the causal effects of retirement from alternative sources, in order to better understand heterogeneity in the retirement experience.

5. CONCLUSION

Retirement is a significant life event, and a rich body of literature has emerged around antecedents and consequences of retirement. While a range of outcomes have been examined, there has been little research on whether and how social support may evolve around retirement. This is despite the fact that social support has been linked with various wellbeing outcomes and is an important outcome in its own right. Given scholars have been concerned with whether retirement is a critical point at which disparities in social engagement may occur (Sabbath et al. 2015), this underscores the potential value of research in examining changes in social support as perceived by individuals around retirement. The value of research in this area is further underpinned by the population ageing occurring in most developed countries.

Our study provides new insights into the important role of social support in shaping mental wellbeing across the retirement transition. Strengths of our study include the comparison of descriptive and causal estimates obtained within the same analytical sample, and consideration of responses to both own and spouse's retirement. This is facilitated through the utilisation of rich household panel data.

Though our paper has advanced existing knowledge on the associations between retirement, social support and mental wellbeing, we acknowledge a few limitations. First, as

our analytic sample is restricted to individuals who are partnered, it is unclear whether our findings would be generalizable to a broader range of respondents. Second, while our FE-IV analysis addresses the endogeneity of retirement, we do not address the potential endogeneity of social support (although the fact that social support does not appear to change systematically in anticipation of retirement provides some reassurance against this concern). Third, we acknowledge that, like other related studies, our modelling approach simplifies the experience of retirement. Retirement, and the counterfactual to retirement, will be different for different people and the 'average' experience may hide important heterogeneity.

Notwithstanding the limitations of the study, our paper provides novel evidence on the evolution of social support during own and spouse's retirement, and its moderating effect on mental wellbeing. Future research using different dimensions of social engagement, social support and social integration, and across different institutional settings, would be highly worthwhile.

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Figure 1: Distributions – social support and mental wellbeing in the year before retirement (coupled retirees 55-70 years)

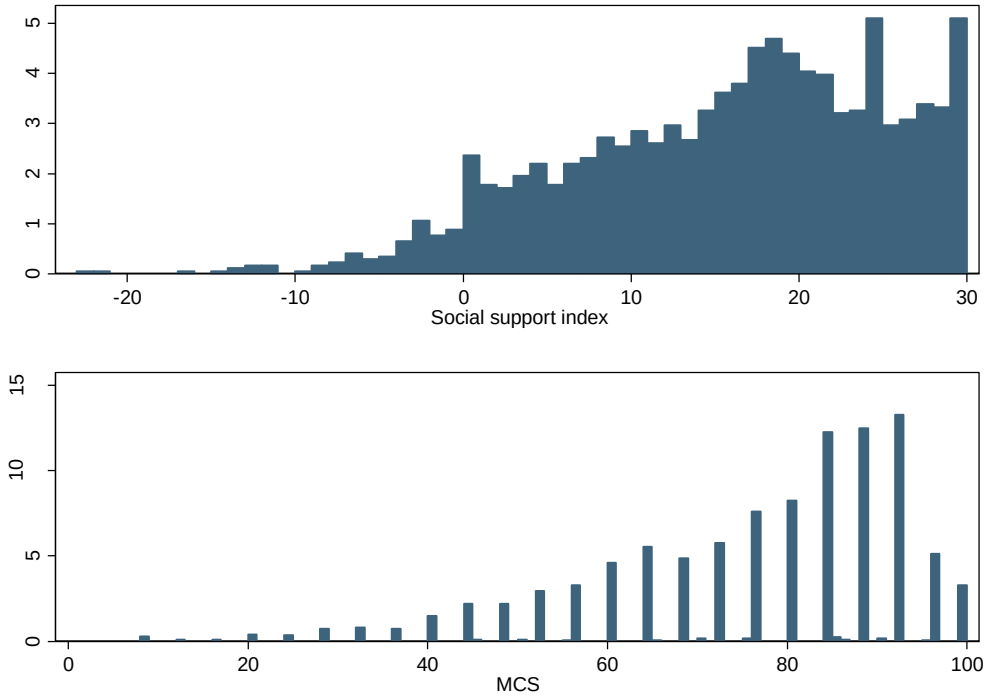
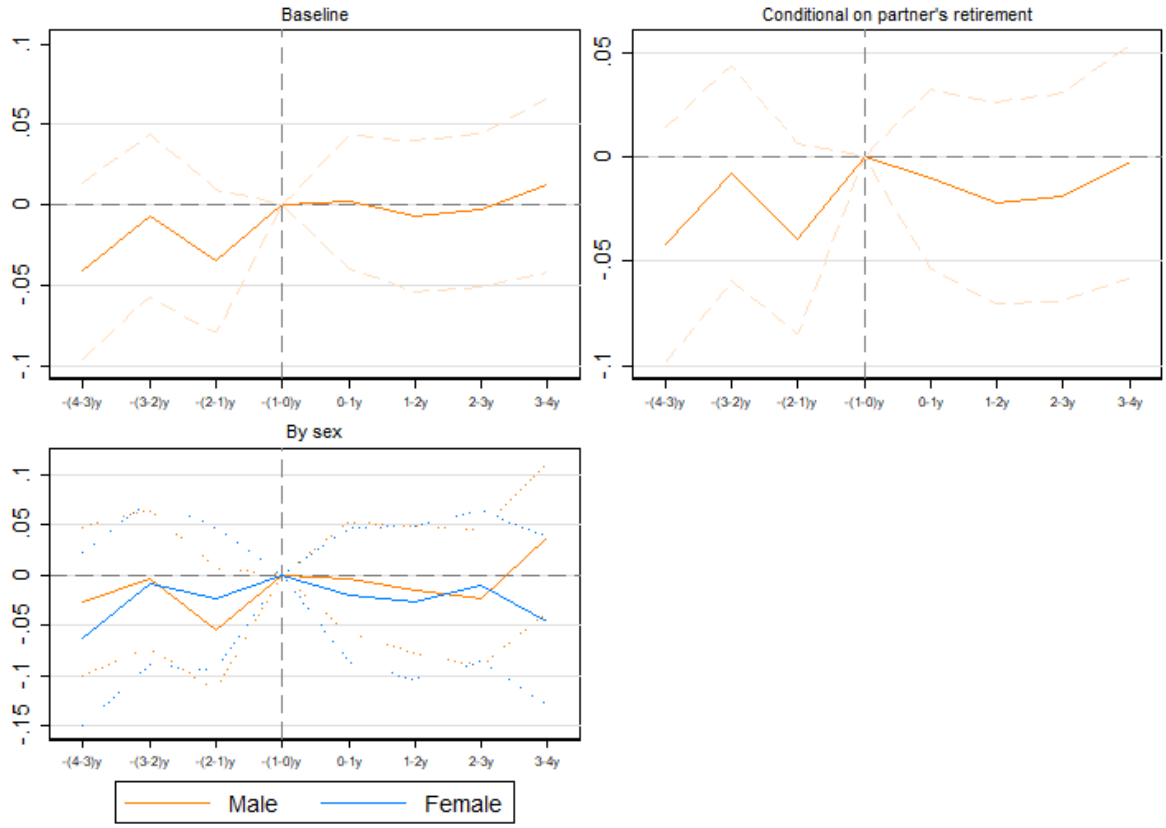
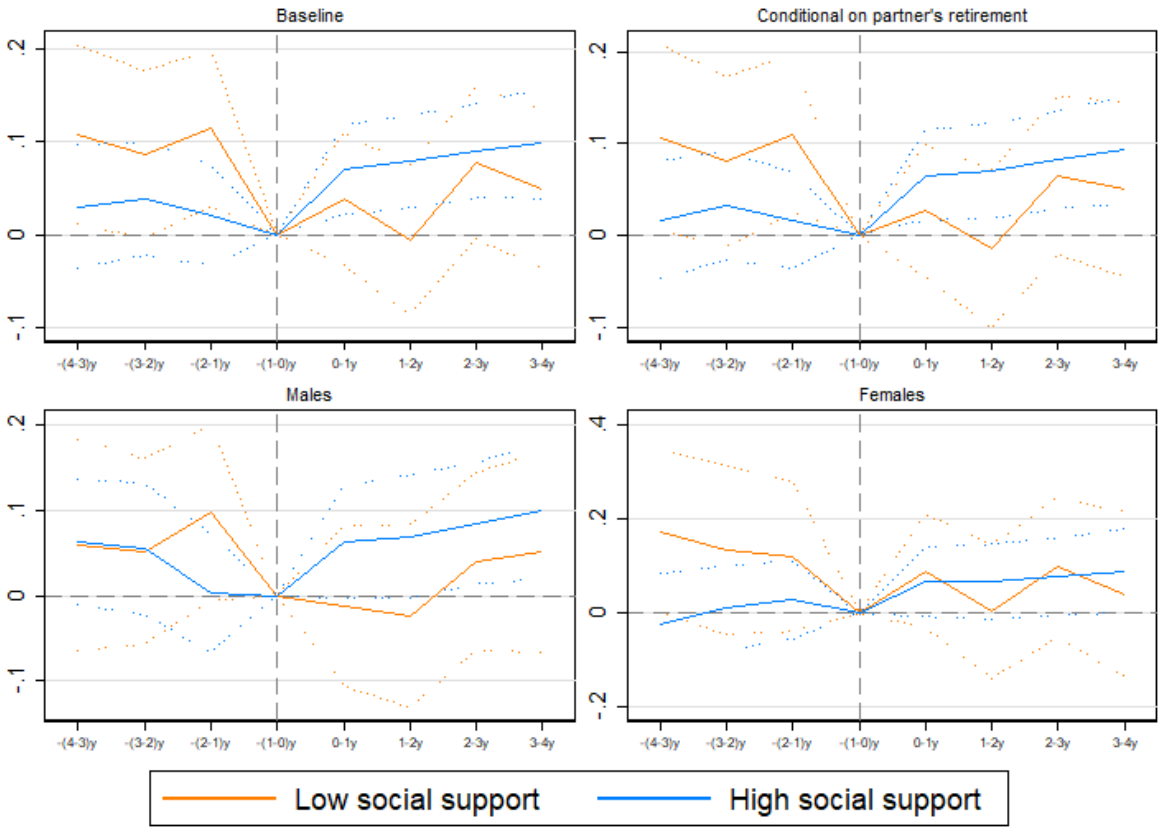


Figure 2: Fixed effects estimates – time since retirement on social support for coupled retirees



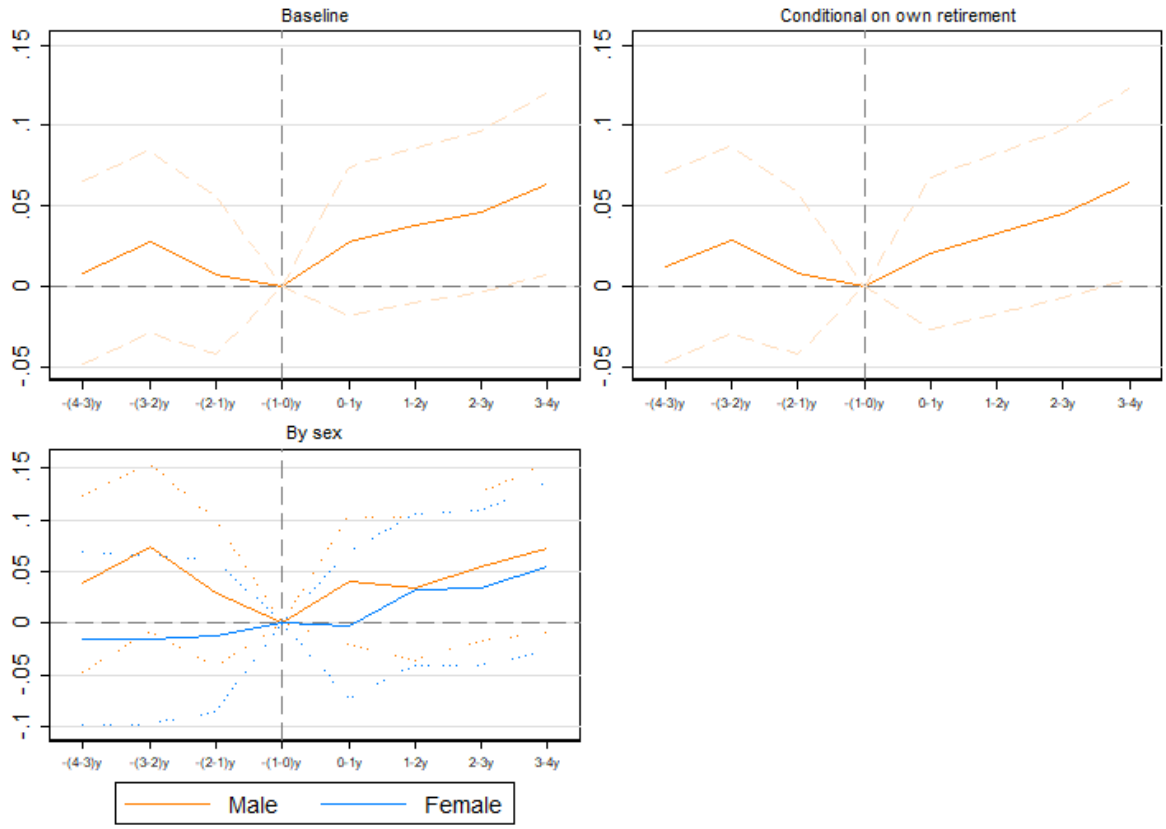
Notes: Estimates are from linear fixed effects regressions. The dependent variable is the social support index score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. 95% confidence intervals are constructed using standard errors are clustered at the couple level. Details on the number of retirees identifying each coefficient, and point estimates, are in Appendix Tables A1 and A5.

Figure 3: Fixed effects estimates – time since retirement on mental wellbeing for coupled retirees



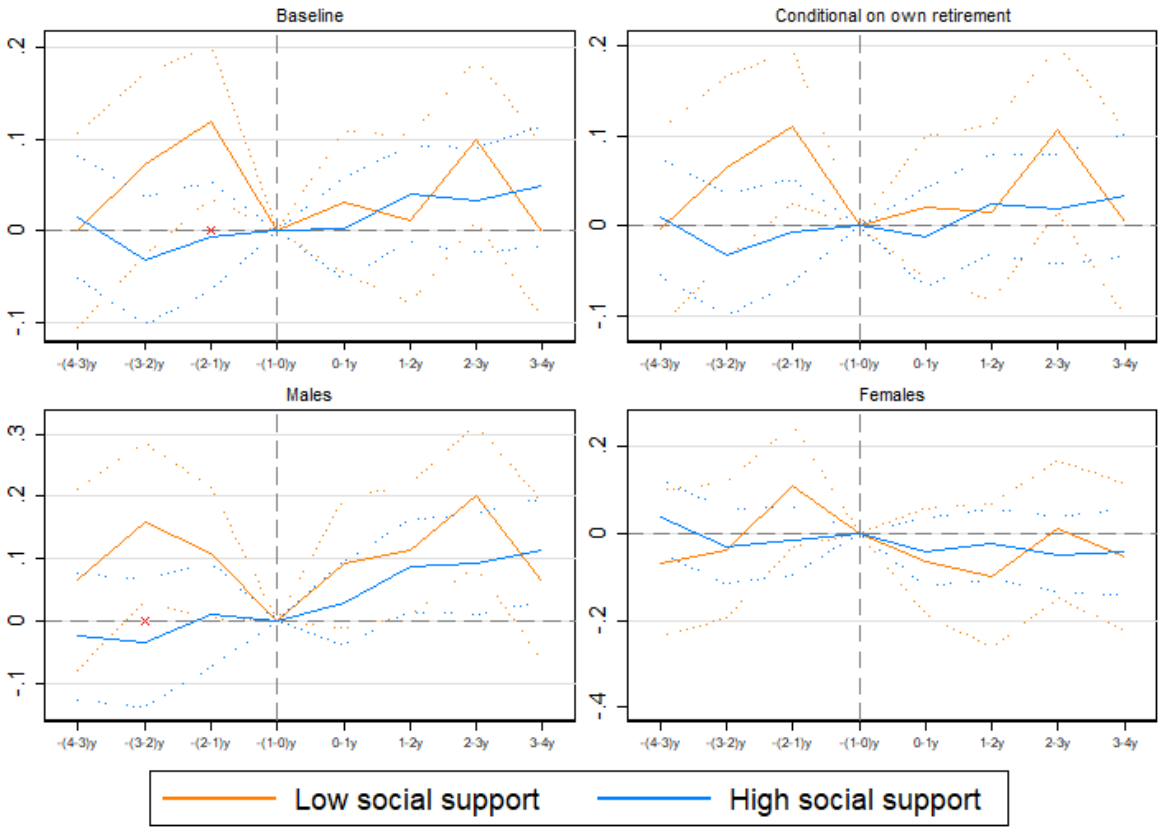
Notes: Estimates are from linear fixed effects regressions. The dependent variable is the MCS score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. 95% confidence intervals are constructed using standard errors are clustered at the couple level. Details on the number of retirees identifying each coefficient, and point estimates, are in Appendix Tables A2 and A5.

Figure 4: Fixed effects estimates – time since spouse's retirement on social support for coupled retirees



Notes: Estimates are from linear fixed effects regressions. The dependent variable is the social support index score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. 95% confidence intervals are constructed using standard errors are clustered at the couple level. Details on the number of retirees identifying each coefficient, and point estimates, are in Appendix Tables A3 and A5.

Figure 5: Fixed effects estimates – time since spouse's retirement on mental wellbeing for coupled retirees



Notes: Estimates are from linear fixed effects regressions. The dependent variable is the MCS score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. 95% confidence intervals are constructed using standard errors are clustered at the couple level. * indicates that the coefficients for the different groups are significant at the 5% level. Details on the number of retirees identifying each coefficient, and point estimates, are in Appendix Tables A4 and A5.

Table 1: Age Pension age thresholds in Australia

	Pension age	
Date	Women	Men
1/07/1995	60.0	65.0
1/07/1997	60.5	65.0
1/07/1999	61.0	65.0
1/07/2001	61.5	65.0
1/07/2003	62.0	65.0
1/07/2005	62.5	65.0
1/07/2007	63.0	65.0
1/07/2009	63.5	65.0
1/07/2011	64.0	65.0
1/07/2013	64.5	65.0
1/07/2015	65.0	65.0
1/07/2017	65.5	65.5
1/07/2019	66.0	66.0
1/07/2021	66.5	66.5
1/07/2023	67.0	67.0

Table 2: IV regression results – women

					Low social support		High social support	
	FE	FE-IV	FE	FE-IV	FE	FE-IV	FE	FE-IV
	Social support	Social support	MCS	MCS	MCS	MCS	MCS	MCS
				Own retirement				
Retired	0.012	0.313	0.032*	0.946***	0.031	2.628**	0.031	0.437
	(0.020)	(0.281)	(0.018)	(0.315)	(0.037)	(1.243)	(0.020)	(0.286)
Eligibility (first stage)		0.076***		0.076***		0.056**		0.084***
		(0.014)		(0.014)		(0.023)		(0.018)
F-stat		28.07		28.67		6.20		22.69
N	19757	19757	20324	20324	7442	7442	12228	12228
Groups	2942	2942	2967	2967	1971	1971	2302	2302
				Spouse's retirement				
Spouse retired	0.027	0.094	0.012	0.177	0.024	0.699**	-0.019	0.001
	(0.019)	(0.154)	(0.019)	(0.144)	(0.039)	(0.308)	(0.021)	(0.174)
Eligibility (first stage)		0.133***		0.134***		0.134***		0.128***
		(0.014)		(0.014)		(0.022)		(0.017)
F-stat		85.93		87.75		35.93		54.70
N	19895	19895	20420	20420	7612	7612	12204	12204
Groups	2932	2932	2961	2961	1956	1956	2291	2291

Note: FE estimates are based on linear fixed effects regression. FE-IV are fixed effects instrumental variables regression results using Age Pension eligibility as an instrument. Dependent variables are standardized based on the mean and standard deviation of retirees in the year before retirement. Additional controls are a dummy for having a long-term health condition, a quadratic in age (measured in years-months), state dummies, separate controls for number of dependent children aged: 0-4 years; 5-9 years; 10-14 years; and 15-24 years, dummies for marital status (married, defacto, single, widowed, divorced, separated) and year fixed effects. Results for spouse's retirement also include a quadratic in spouse's age as additional controls. Standard errors (in parentheses) are clustered at the couple level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 3: IV regression results – men

					Low social support		High social support	
	FE	FE-IV	FE	FE-IV	FE	FE-IV	FE	FE-IV
	Social support	Social support	MCS	MCS	MCS	MCS	MCS	MCS
				Own retirement				
Retired	-0.001	0.030	-0.020	0.220	-0.057*	0.103	0.018	0.114
	(0.018)	(0.143)	(0.017)	(0.135)	(0.029)	(0.200)	(0.020)	(0.167)
Eligibility (first stage)		0.132***		0.132***		0.144***		0.123***
		(0.014)		(0.014)		(0.020)		(0.018)
F-stat		89.37		91.58		52.24		46.45
N	20889	20889	21364	21364	9944	9944	10854	10854
Groups	3126	3126	3149	3149	2343	2343	2233	2233
				Spouse's retirement				
Spouse retired	0.014	0.107	0.032*	0.205	0.043	0.065	0.032	0.028
	(0.020)	(0.288)	(0.019)	(0.284)	(0.034)	(0.374)	(0.022)	(0.366)
Eligibility (first stage)		0.089***		0.063***		0.089***		0.063***
		(0.021)		(0.020)		(0.021)		(0.020)
F-stat		25.85		24.46		17.34		10.41
N	18114	18114	18551	18551	8384	8384	9640	9640
Groups	2653	2653	2667	2667	1953	1953	1959	1959

Notes: See Table 2.

***Online Appendix**

APPENDIX A – MAIN RESULTS TABLES

Table A1: Fixed effects estimates – time since retirement on social support for coupled retirees

	(1)	(2)	(3)	(4)
-(4-3)y	-0.041	-0.042	-0.026	-0.063
	(0.028)	(0.029)	(0.038)	(0.044)
-(3-2)y	-0.007	-0.008	-0.004	-0.008
	(0.026)	(0.026)	(0.035)	(0.042)
-(2-1)y	-0.035	-0.039*	-0.054*	-0.024
	(0.023)	(0.023)	(0.031)	(0.036)
0-1y	0.002	-0.010	-0.003	-0.020
	(0.021)	(0.022)	(0.028)	(0.034)
1-2y	-0.007	-0.022	-0.015	-0.027
	(0.024)	(0.025)	(0.032)	(0.039)
2-3y	-0.003	-0.019	-0.023	-0.011
	(0.024)	(0.025)	(0.034)	(0.038)
3-4y	0.012	-0.002	0.037	-0.046
	(0.027)	(0.029)	(0.038)	(0.043)
Spouse's retirement?	No	Yes	Yes	Yes
Sample	All	All	Men	Women
N	10300	10300	5514	4786
R^2 (within)	0.003	0.004	0.008	0.007
Couples	1745	1745	925	820

Notes: Estimates are from linear fixed effects regressions. The dependent variable is the social support index score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. Standard errors (in parentheses) are clustered at the couple level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A2: Fixed effects estimates – time since retirement on mental wellbeing for coupled retirees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
-(4-3)y	0.108**	0.030	0.107**	0.017	0.060	0.063*	0.173**	-0.025
	(0.049)	(0.034)	(0.051)	(0.033)	(0.063)	(0.037)	(0.088)	(0.055)
-(3-2)y	0.086*	0.039	0.080*	0.032	0.052	0.055	0.133	0.011
	(0.046)	(0.031)	(0.047)	(0.030)	(0.055)	(0.039)	(0.091)	(0.046)
-(2-1)y	0.114***	0.021	0.110**	0.016	0.097*	0.003	0.120	0.028
	(0.043)	(0.027)	(0.044)	(0.027)	(0.053)	(0.035)	(0.081)	(0.042)
0-1y	0.038	0.070***	0.027	0.066***	-0.013	0.063*	0.089	0.066*
	(0.036)	(0.025)	(0.037)	(0.025)	(0.048)	(0.034)	(0.061)	(0.037)
1-2y	-0.005	0.079***	-0.015	0.071***	-0.024	0.069*	0.003	0.066
	(0.041)	(0.025)	(0.044)	(0.027)	(0.054)	(0.037)	(0.072)	(0.041)
2-3y	0.077*	0.091***	0.065	0.082***	0.040	0.085**	0.097	0.078*
	(0.042)	(0.026)	(0.044)	(0.027)	(0.053)	(0.036)	(0.076)	(0.041)
3-4y	0.049	0.098***	0.050	0.093***	0.051	0.099**	0.039	0.090**
	(0.043)	(0.030)	(0.049)	(0.030)	(0.060)	(0.040)	(0.089)	(0.046)
Spouse's retirement?	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	Men	Men	Women	Women
Social support	Low	High	Low	High	Low	High	Low	High
N	4232	6027	4232	6027	2531	2960	1701	3067
R^2 (within)	0.013	0.009	0.014	0.012	0.020	0.016	0.021	0.021
Couples	1251	1419	1251	1419	707	726	544	693

Notes: Estimates are from linear fixed effects regressions. The dependent variable is the MCS score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. Standard errors (in parentheses) are clustered at the couple level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A3: Fixed effects estimates – time since spouse's retirement on social support for coupled retirees

	(1)	(2)	(3)	(4)
-(4-3)y	0.009	0.012	0.038	-0.015
	(0.029)	(0.030)	(0.043)	(0.043)
-(3-2)y	0.028	0.029	0.073*	-0.016
	(0.029)	(0.030)	(0.041)	(0.042)
-(2-1)y	0.007	0.008	0.029	-0.012
	(0.025)	(0.026)	(0.036)	(0.037)
0-1y	0.028	0.020	0.041	-0.002
	(0.023)	(0.024)	(0.032)	(0.036)
1-2y	0.038	0.033	0.033	0.032
	(0.025)	(0.025)	(0.035)	(0.037)
2-3y	0.046*	0.045*	0.055	0.034
	(0.026)	(0.027)	(0.037)	(0.038)
3-4y	0.064**	0.064**	0.073*	0.055
	(0.029)	(0.030)	(0.042)	(0.041)
Own retirement?	No	Yes	Yes	Yes
Sample	All	All	Men	Women
N	8642	8642	4056	4586
R^2 (within)	0.005	0.006	0.008	0.012
Couples	1447	1447	687	760

Notes: Estimates are from linear fixed effects regressions. The dependent variable is the social support index score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. Standard errors (in parentheses) are clustered at the couple level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A4: Fixed effects estimates – time since spouse's retirement on mental wellbeing for coupled retirees

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
-(4-3)y	0.001	0.016	-0.003	0.011	0.067	-0.025	-0.069	0.038
	(0.054)	(0.034)	(0.056)	(0.033)	(0.074)	(0.052)	(0.086)	(0.043)
-(3-2)y	0.072	-0.032	0.065	-0.032	0.158**	-0.036	-0.039	-0.030
	(0.050)	(0.036)	(0.051)	(0.034)	(0.065)	(0.052)	(0.079)	(0.044)
-(2-1)y	0.119***	-0.006	0.110**	-0.005	0.109**	0.009	0.109	-0.018
	(0.043)	(0.030)	(0.043)	(0.029)	(0.054)	(0.043)	(0.072)	(0.040)
0-1y	0.032	0.003	0.021	-0.013	0.092*	0.027	-0.064	-0.043
	(0.039)	(0.028)	(0.040)	(0.028)	(0.053)	(0.034)	(0.062)	(0.040)
1-2y	0.012	0.041	0.015	0.024	0.114**	0.088**	-0.098	-0.025
	(0.046)	(0.027)	(0.049)	(0.028)	(0.053)	(0.038)	(0.084)	(0.041)
2-3y	0.099**	0.034	0.107**	0.018	0.201***	0.091**	0.009	-0.048
	(0.045)	(0.029)	(0.047)	(0.031)	(0.058)	(0.041)	(0.081)	(0.043)
3-4y	-0.001	0.049	0.004	0.034	0.062	0.114***	-0.054	-0.044
	(0.048)	(0.033)	(0.053)	(0.035)	(0.065)	(0.042)	(0.086)	(0.051)
Own retirement?	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Sample	All	All	All	All	Men	Men	Women	Women
Social support	Low	High	Low	High	Low	High	Low	High
N	3508	5098	3508	5098	1820	2222	1688	2876
R^2 (within)	0.013	0.004	0.015	0.006	0.029	0.021	0.021	0.010
Couples	1027	1176	1027	1176	508	540	519	636

Notes: Estimates are from linear fixed effects regressions. The dependent variable is the MCS score (standardized based on the mean and standard deviation of coupled retirees in the year before retirement). All models control for time (year) fixed effects. Standard errors (in parentheses) are clustered at the couple level. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table A5: Observations per event date dummy for each main results table

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
				Table A1				
-(4-3)y	979	979	539	440				
-(3-2)y	1,010	1,010	563	447				
-(2-1)y	1,143	1,143	622	521				
-(1-0)y	1,627	1,627	860	767				
0-1y	1,629	1,629	873	756				
1-2y	1,428	1,428	751	677				
2-3y	1,303	1,303	684	619				
3-4y	1,181	1,181	622	559				
				Table A2				
-(4-3)y	387	588	387	588	238	299	149	289
-(3-2)y	405	601	405	601	258	302	147	299
-(2-1)y	465	675	465	675	302	319	163	356
-(1-0)y	673	948	673	948	394	464	279	484
0-1y	684	938	684	938	406	464	278	474
1-2y	589	833	589	833	343	403	246	430
2-3y	551	745	551	745	313	367	238	378
3-4y	478	699	478	699	277	342	201	357
				Table A3				
-(4-3)y	830	830	383	447				
-(3-2)y	865	865	392	473				
-(2-1)y	979	979	455	524				
-(1-0)y	1,359	1,359	640	719				
0-1y	1,343	1,343	628	715				
1-2y	1,200	1,200	575	625				
2-3y	1,082	1,082	518	564				
3-4y	984	984	465	519				
				Table A4				
-(4-3)y	318	507	318	507	167	216	151	291
-(3-2)y	340	521	340	521	173	219	167	302
-(2-1)y	403	572	403	572	202	249	201	323
-(1-0)y	598	758	598	758	314	325	284	433
0-1y	558	782	558	782	288	340	270	442
1-2y	471	723	471	723	253	320	218	403
2-3y	433	643	433	643	224	291	209	352
3-4y	387	592	387	592	199	262	188	330

Table A6: Proportion of people in each employment state in year before retirement for estimation subsamples

	Employed	Unemployed	Not in labor force
All	0.58	0.03	0.39
Men	0.61	0.03	0.36
Women	0.56	0.02	0.42
Low social support	0.53	0.03	0.44
High social support	0.65	0.03	0.32
Low social support men	0.54	0.04	0.42
Low social support women	0.51	0.02	0.47
High social support men	0.68	0.03	0.29
High social support women	0.63	0.02	0.35

APPENDIX B – ADDITIONAL EVENT STUDY RESULTS

Figure B1: Fixed effects estimates – time since retirement on social support for coupled retirees (only people employed in year before retirement)

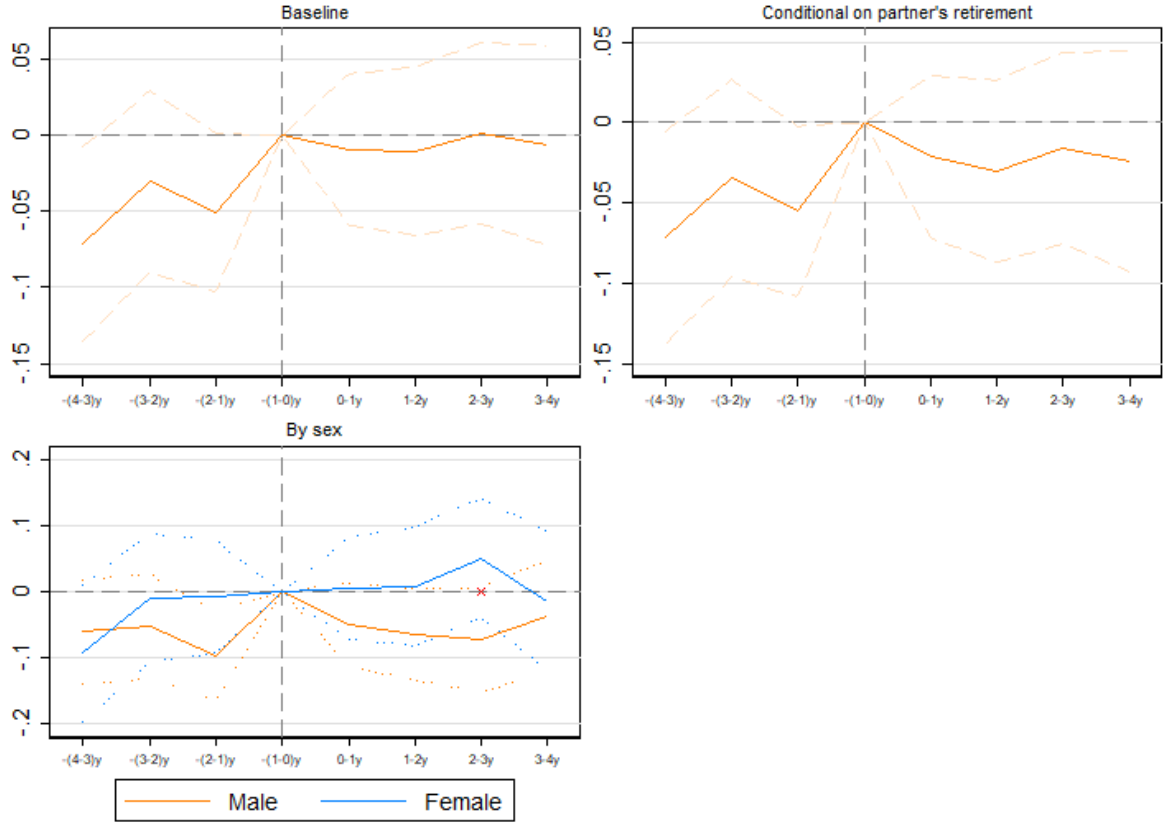


Figure B2: Fixed effects estimates – time since retirement on mental wellbeing for coupled retirees (only people employed in year before retirement)

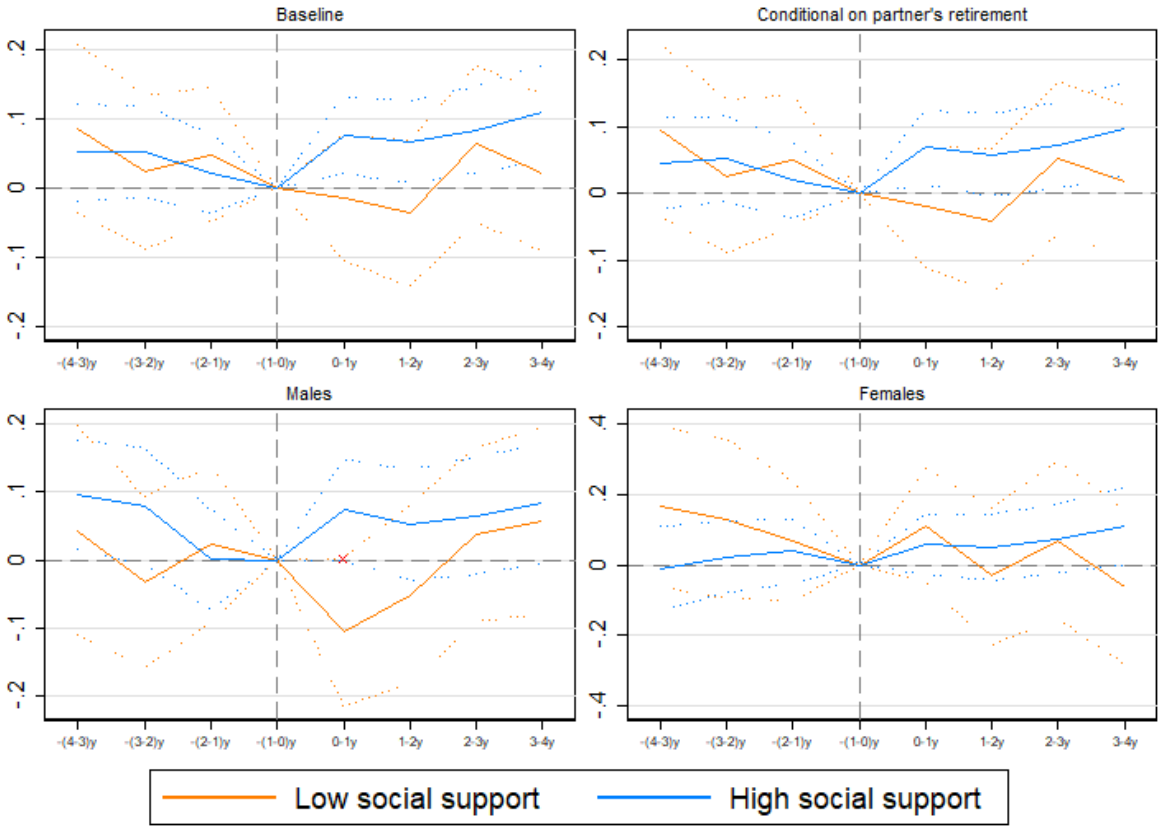


Figure B3: Fixed effects estimates – time since spouse's retirement on social support for coupled retirees (only people employed in year before retirement)

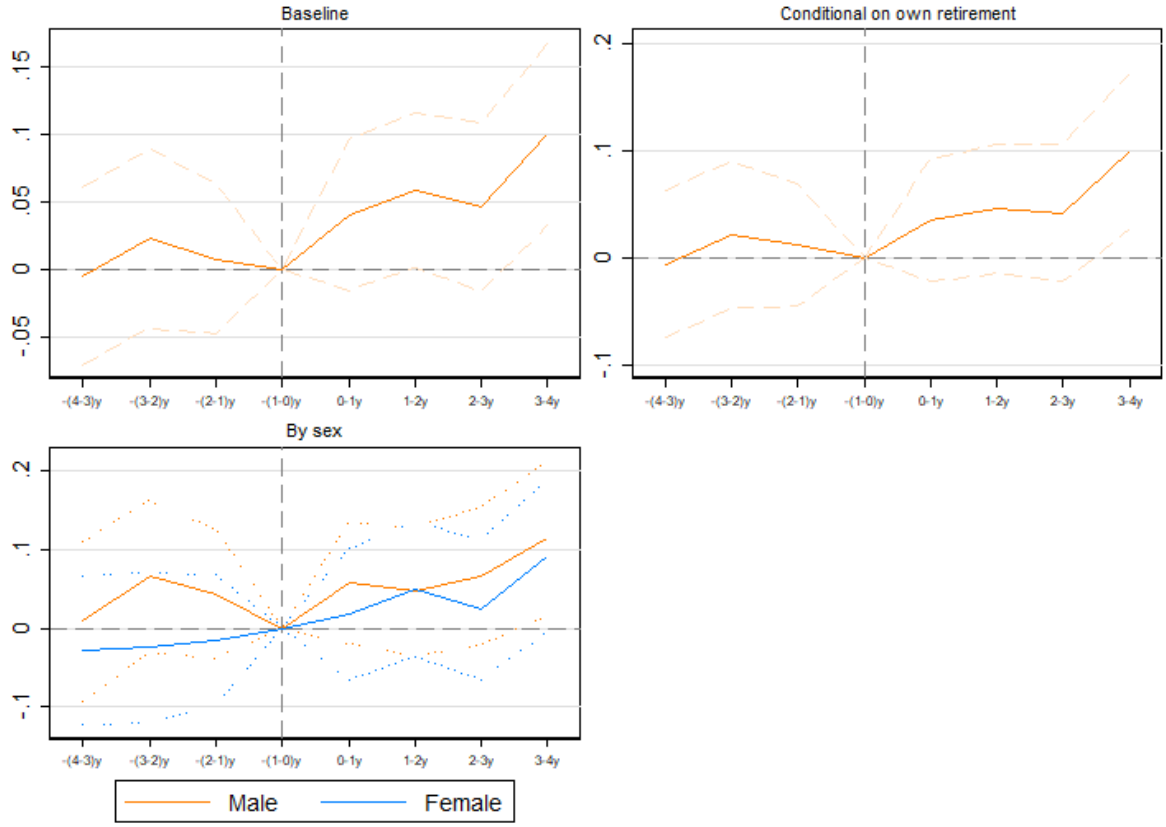


Figure B4: Fixed effects estimates – time since spouse's retirement on mental wellbeing for coupled retirees (only people employed in year before retirement)

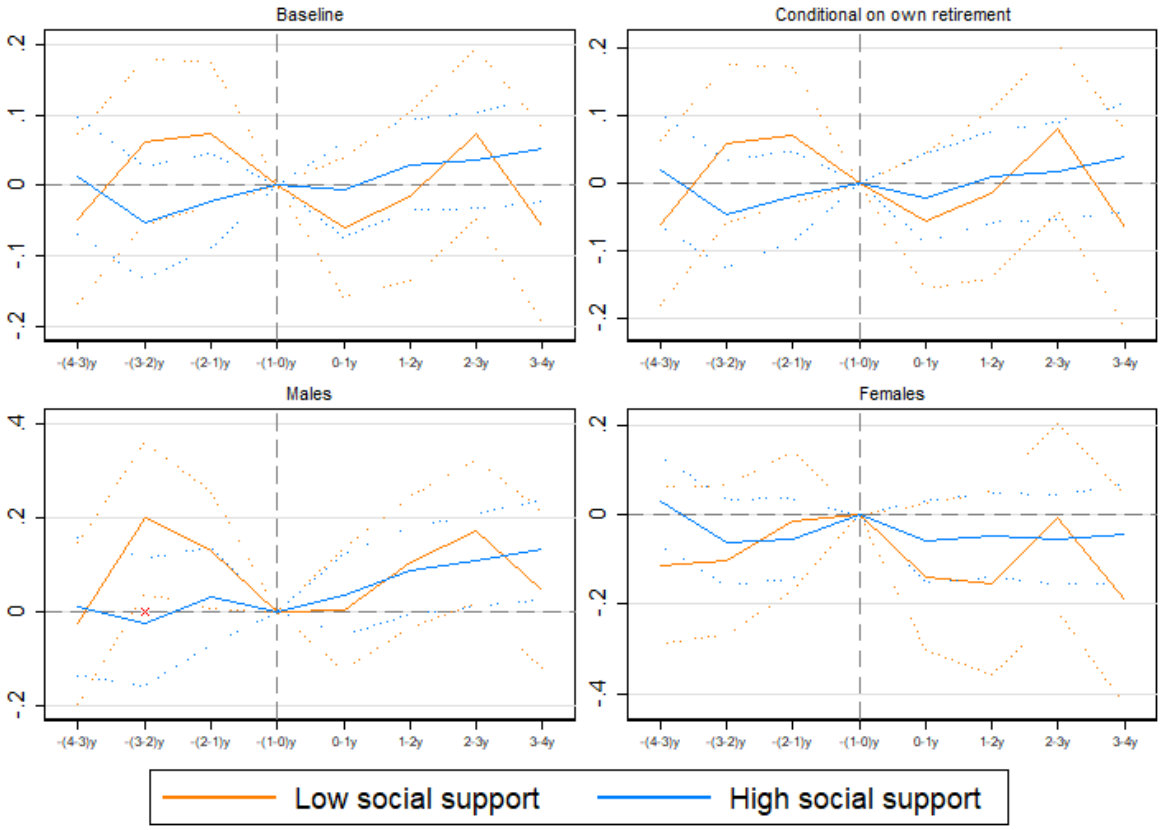


Figure B5: Fixed effects estimates – time since retirement on life satisfaction for coupled retirees

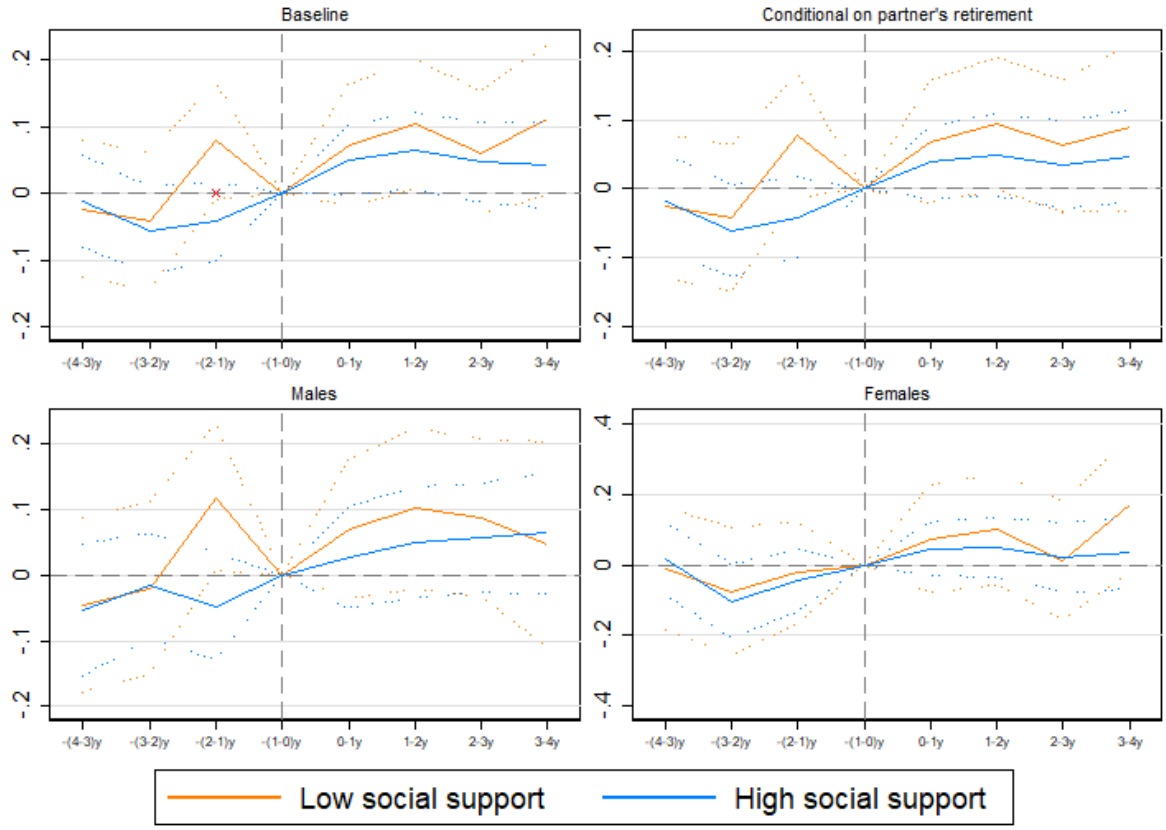


Figure B6: Fixed effects estimates – time since spouse's retirement on life satisfaction for coupled retirees

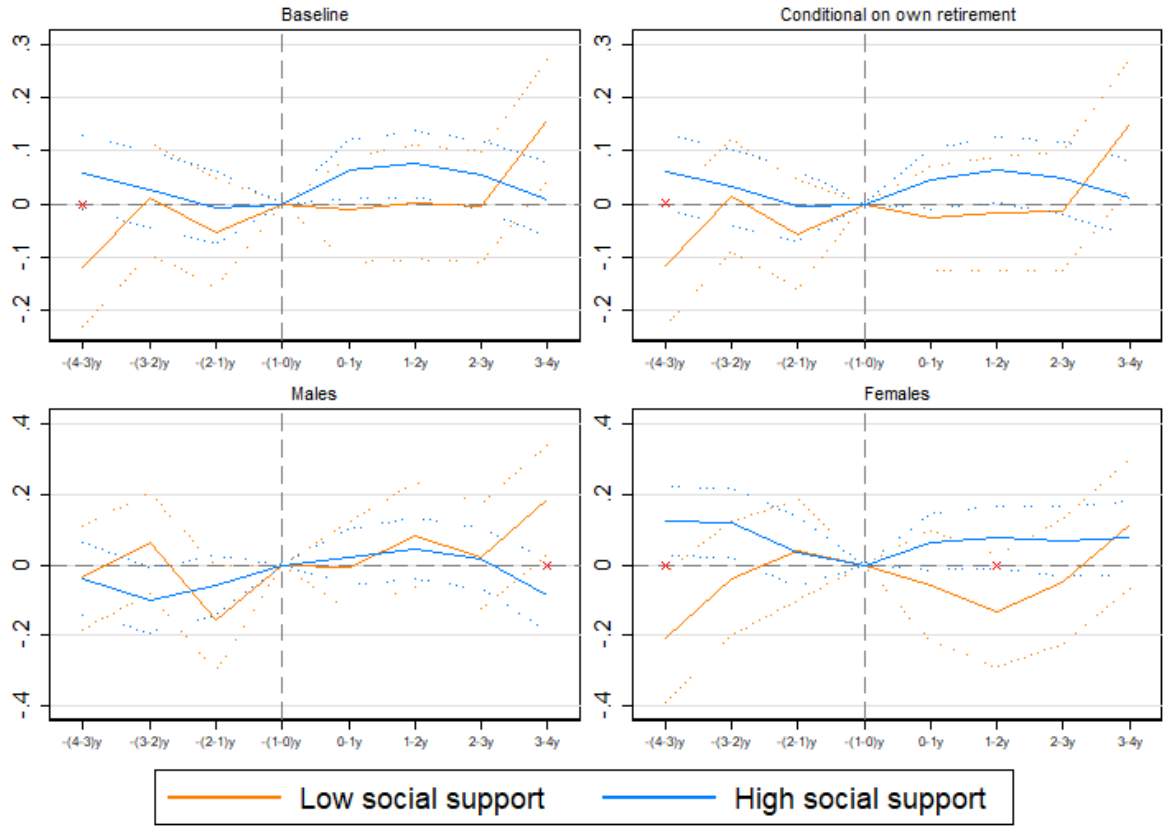
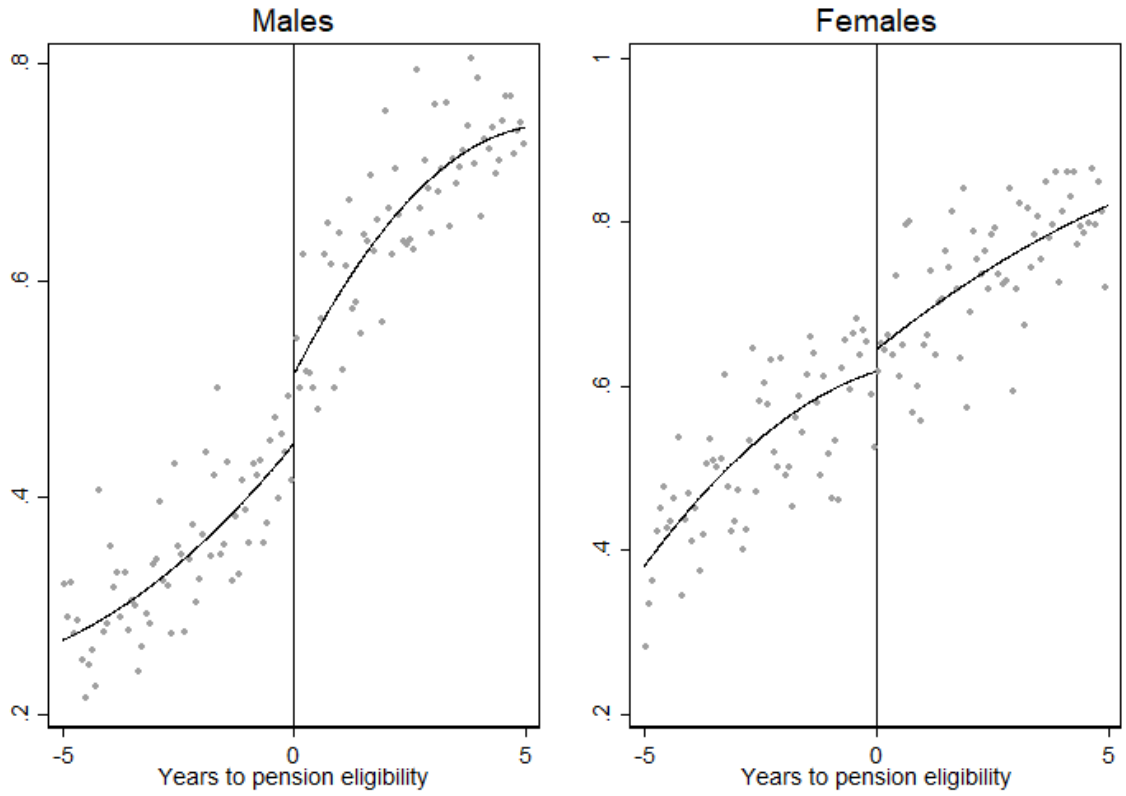


Figure B7: Proportion of people retired by age to pension eligibility



Notes: Y-axis is the proportion of people in the estimation sample who are retired. Bins are month-level and fit lines are estimated using local quadratic regression.

APPENDIX C – ADDITIONAL IV ESTIMATES

Table C1: Additional IV estimates for women

					Low social support		High social support	
	FE	FE-IV	FE	FE-IV	FE	FE-IV	FE	FE-IV
	Social support	Social support	MCS	MCS	MCS	MCS	MCS	MCS
				A. Baseline				
Retired	0.012	0.313	0.032*	0.946***	0.031	2.628**	0.031	0.437
	(0.020)	(0.281)	(0.018)	(0.315)	(0.037)	(1.243)	(0.020)	(0.286)
Spouse retired	0.027	0.094	0.012	0.177	0.024	0.699**	-0.019	0.001
	(0.019)	(0.154)	(0.019)	(0.144)	(0.039)	(0.308)	(0.021)	(0.174)
				B. Retirement defined as non-labor for participation				
Retired	0.038*	0.324	-0.008	0.969***	-0.011	3.513*	-0.004	0.423
	(0.020)	(0.285)	(0.019)	(0.320)	(0.036)	(1.919)	(0.021)	(0.276)
Spouse retired	0.013	0.089	-0.018	0.081	-0.003	0.853**	-0.036*	0.007
	(0.019)	(0.159)	(0.019)	(0.152)	(0.038)	(0.378)	(0.021)	(0.172)
				C. Linear age control function				
Retired	0.016	0.346	0.035*	0.914***	0.032	2.321**	0.035*	0.463*
	(0.020)	(0.259)	(0.018)	(0.283)	(0.036)	(1.006)	(0.020)	(0.266)
Spouse retired	0.027	0.083	0.012	0.177	0.023	0.742**	-0.020	0.003
	(0.019)	(0.152)	(0.019)	(0.144)	(0.039)	(0.319)	(0.021)	(0.173)
				D. Cubic age control function				
Retired	0.009	0.269	0.027	1.320	0.025	3.054	0.028	0.620
	(0.020)	(0.654)	(0.018)	(0.809)	(0.037)	(2.223)	(0.020)	(0.732)
Spouse retired	0.026	0.025	0.009	0.090	0.014	0.699	-0.018	-0.085
	(0.020)	(0.279)	(0.019)	(0.259)	(0.040)	(0.489)	(0.021)	(0.361)

	E. Controlling for total disposable annual household income (cubic, equivalized, inclusive imputed values)							
Retired	0.011	0.315	0.032*	0.944***	0.033	2.696**	0.032	0.432
	(0.020)	(0.281)	(0.018)	(0.315)	(0.037)	(1.298)	(0.020)	(0.283)
Spouse retired	0.027	0.096	0.012	0.178	0.024	0.704**	-0.018	0.000
	(0.020)	(0.157)	(0.019)	(0.147)	(0.039)	(0.310)	(0.021)	(0.177)
	F. Replace MCS with life satisfaction (standardized in same way)							
Retired			0.044**	0.685**	0.092**	0.773	0.065***	0.585*
			(0.022)	(0.326)	(0.042)	(0.872)	(0.024)	(0.317)
Spouse retired			0.012	0.414**	-0.058	0.919**	0.043**	0.191
			(0.021)	(0.168)	(0.045)	(0.370)	(0.021)	(0.189)

Notes: See Table 2.

Table C2: Additional IV estimates for men

					Low social support		High social support	
	FE	FE-IV	FE	FE-IV	FE	FE-IV	FE	FE-IV
	Social support	Social support	MCS	MCS	MCS	MCS	MCS	MCS
				A. Baseline				
Retired	-0.001	0.030	-0.020	0.220	-0.057*	0.103	0.018	0.114
	(0.018)	(0.143)	(0.017)	(0.135)	(0.029)	(0.200)	(0.020)	(0.167)
Spouse retired	0.014	0.107	0.032*	0.205	0.043	0.065	0.032	0.028
	(0.020)	(0.288)	(0.019)	(0.284)	(0.034)	(0.374)	(0.022)	(0.366)
				B. Retirement defined as non-labor for participation				
Retired	-0.016	0.030	-0.042**	0.238*	-0.079***	0.135	0.007	0.106
	(0.017)	(0.151)	(0.017)	(0.141)	(0.029)	(0.232)	(0.019)	(0.166)
Spouse retired	0.031	0.094	0.031*	0.196	0.039	0.031	0.029	0.222
	(0.020)	(0.290)	(0.018)	(0.290)	(0.031)	(0.381)	(0.021)	(0.435)
				C. Linear age control function				
Retired	-0.002	0.003	-0.021	0.184	-0.057*	0.061	0.016	0.079
	(0.018)	(0.141)	(0.017)	(0.132)	(0.029)	(0.201)	(0.020)	(0.160)
Spouse retired	0.017	0.130	0.040**	0.316	0.050	0.116	0.042*	0.190
	(0.020)	(0.259)	(0.019)	(0.256)	(0.034)	(0.344)	(0.022)	(0.328)
				D. Cubic age control function				
Retired	-0.005	-0.296	-0.024	0.125	-0.063**	-0.198	0.017	0.149
	(0.018)	(0.261)	(0.017)	(0.236)	(0.030)	(0.323)	(0.020)	(0.339)
Spouse retired	0.013	0.066	0.026	-0.582	0.036	-0.722	0.029	-0.712
	(0.020)	(0.631)	(0.019)	(0.688)	(0.034)	(0.759)	(0.022)	(0.912)
				E. Controlling for total disposable annual household income (cubic, equivalized, inclusive imputed values)				
Retired	-0.002	0.029	-0.019	0.226*	-0.053*	0.109	0.017	0.113
	(0.018)	(0.145)	(0.017)	(0.137)	(0.029)	(0.203)	(0.020)	(0.168)

Spouse retired	0.015	0.107	0.032*	0.207	0.045	0.078	0.030	0.024
	(0.020)	(0.289)	(0.019)	(0.285)	(0.034)	(0.374)	(0.022)	(0.369)
	F. Replace MCS with life satisfaction (standardized in same way)							
Retired			0.016	0.488***	0.004	0.439*	0.032	0.414**
			(0.020)	(0.154)	(0.035)	(0.240)	(0.024)	(0.201)
Spouse retired			0.058***	0.831**	0.089**	1.202**	0.035	0.642
			(0.021)	(0.344)	(0.037)	(0.500)	(0.025)	(0.442)

Notes: See Table 2.