Does social capital matter more when health status is poor? Labour market attachment among long-term recipients of social assistance in Norway

Kristian Heggebø[a*]

Kjetil van der Wel[b]

& Espen Dahl[b]

[a]*NOVA, OsloMet – Oslo Metropolitan University*

[b]*Department of Social Work, Child Welfare and Social Policy, OsloMet – Oslo Metropolitan University*

*Corresponding author

Address: PB 4 St. Olavs Plass, N-0130 Oslo, Norway

E-mail: kristian.heggebo@oslomet.no

Mobile: +47 928 92 449. ORCID: 0000-0003-1899-8676

Abstract

Long-term social assistance recipients are a disadvantaged group with loose labour market attachment, and they are therefore in dire need of an 'alternative route' into employment. Differing types of social capital (bonding, bridging, and trust) could improve job opportunities, and perhaps especially so for social assistance recipients with poor health. The current paper uses a linked survey-register data material on a cohort of Norwegian long-term social assistance recipients, which holds rich information on both health status and social capital at baseline (2005). Linear probability models are estimated, with differing operationalizations of wage income (2005-2013) as the outcome. Three main empirical findings appear. First, both mental and somatic health status is highly consequential for labour market attachment among social assistance recipients in Norway. Second, rather few social capital indicators are associated with employment probability, with three noticeable exceptions: loneliness, active organizational membership, and social trust all show a statistical relationship with employment. Third, there is some indication that people with ill health profit less from both bridging social capital and social trust, compared to people with good health status. In conclusion, health status matters a lot and social capital matters a little for labour market attachment among long-term social assistance recipients.

Keywords: Social assistance, employment, social ties, health selection; Norway

Introduction

Gaining a firm and stable foothold in the labour market is one of the safest ways to break ongoing processes of cumulative disadvantage (Merton, 1968; DiPrete & Eirich, 2006), and thereby prevent further marginalization and social exclusion among 'vulnerable groups'. Labour market inclusion of individuals who are outside or on the fringes of the labour force is thus an important social policy goal, with implications for both welfare and societal expenses. While public efforts such as active labour market programs may help vulnerable groups find employment (Heinesen, Husted, & Rosholm, 2013; Ravn & Nielsen, 2019), we know less about the role of individuals' own social networks. Social networks may provide vulnerable citizens with access to various forms of social capital that might be instrumental to their employment prospects. As vulnerable groups typically lack resources like education and work experience, they are in need of an 'alternative route' into employment. To know someone who knows someone could be one such path.

Long-term social assistance recipients are characterized by an accumulation of health-related and social disadvantages (van der Wel et al., 2006), and the current paper investigates to what extent *social capital* can improve the employment prospects for this vulnerable group. Using linked survey-register data, we are able to distinguish between *bonding* social capital, *bridging* social capital, and *social trust*. These three social capital domains could be beneficial for employment outcomes among long-term social assistance recipients, but this topic has not received much attention in previous research (see Hyggen, 2006 for an exception). There is also a lack of knowledge on the role played by *health status* for social assistance recipients' employment outcomes. A large body of evidence has shown that poor health is associated with weak labour market attachment (see e.g., García-Gómez, Jones & Rice, 2010; Heggebø & Dahl, 2015), and long-term social assistance recipients in Norway have a high prevalence of both psychiatric distress (Løyland et al., 2011) and chronic pain (Løyland et al., 2010).

Accordingly, this study investigates the importance of both *social capital* and *health status* for employment probability among a cohort of long-term social assistance recipients in Norway. Moreover, we will examine the potential *interplay* between social capital and health status. We ask the following overarching research question:

Does social capital matter more for employment prospects among long-term social assistance recipients if their health status is poor?

Theoretical background

Social capital: bonding, bridging and trust

The literature on social capital emphasizes the potential resources social networks and relationships can represent for individuals (Granovetter, 1995; Coleman, 1988; Putnam, 2000). Social capital includes one structural and one cognitive dimension (Subramanian et al., 2003; De Silva et al., 2005), where an important distinction is drawn between *bonding* and *bridging* social capital within the structural component. Bonding social capital is viewed as a crucial source of social support, which may be of importance for people's mental health and wellbeing (Berg & Huebner, 2011). Bridging social capital, on the other hand, is assumed to play a key role in the generation of societal solidarity and participation (Lin, 2001; Szreter and Woolcock, 2004).

Bonding social capital emphasizes closeness: the strong attachments formed when people who already know each other well spend time together, as exemplified by close contacts with family, relatives and friends (Almedom, 2005). Close relationships with family and friends may provide marginalized individuals with the social, emotional and practical support they need to take important steps towards employment. While such relationships are usually 'strong' (Granovetter, 1995), they are also often characterized by homogeneity, i.e. they tend to strengthen within-group reciprocity and identity. *Bridging social capital* alludes to weaker ties that bring together different groups in society that did not previously interact, i.e., resources that – at least potentially – cross ethnic, socioeconomic and cultural borders and thereby strengthen between-group solidarity. Such 'weak' ties are based on acquaintance and resources in heterogeneous networks, such as in voluntary organizations and professional life. Examples include neighbourhood networks or membership and active participation in voluntary, civic and political organizations (Sundqvist & Yang, 2007).

The cognitive dimension of social capital includes generalized norms of mutual trust and reciprocity in a society (Svendsen & Svendsen, 2006). Although there is disagreement in the existing literature (Nannestad, 2008), this type of generalized *social trust* in one's fellow citizens is considered a precondition for cooperation and collective action (Hooghe et al., 2009). Social trust is, most likely, highly influenced by both the quality and quantity of relationships in a person's network, but still represent a distinct element rooted in the cognitive dimension. Based on the literature, we may distinguish between three social capital domains, all of which of potential importance for labour market attachment:

(1) Bonding social capital (e.g., family/friends),

(2) Bridging social capital (e.g., neighbours/organizations), and

(3) Social trust (e.g., improved cooperation).

Theoretically, the impact of *bonding social capital* on labour market attachment is ambiguous. On the one hand, closely knitted social relationships can provide economic and emotional support that may influence social assistance recipients' wellbeing and self-esteem. In turn, this might increase economic activity. On the other hand, such dense and homogenous social networks may promote 'cultures of dependency' that undermine labour force participation. The association between employment outcomes and *bridging social capital* is probably more straightforward: access to a more heterogeneous social network should ease the flow of information between social assistance recipients and prospective employers, and thereby improve job opportunities. Finally, higher levels of *social trust* is most likely beneficial for employment prospects as well. People who express more trust in others are probably easier to collaborate with for caseworkers at the Employment Office, and could also be better equipped to make use of his/her existing network while searching for a job. Further, not believing that most people will take advantage of you clearly makes relationships with employers, customers and colleagues run smoother, increasing the likelihood of being able to keep one's job.

Interplay between social capital and health status

The key question of our paper is whether there exists an *interplay* between social capital and health status. The three social capital domains – bonding, bridging, and trust – might interact with individual level resources, such as human capital or disability (Lin, 1999). In fact, social capital may prove to be especially important for vulnerable groups with low employability (Hyggen, 2006). For instance, Berg and Huebner (2011) found that previous criminal offenders with high quality ties to their relatives were more likely to get a job. However, bonding social capital is not uniformly found to be beneficial for the employment prospects of disadvantaged groups (Henly et al., 2005; Langford et al., 2013; Malmberg-Heimonen & Johansen, 2014). We might hypothesise that people with poor health use their social capital more efficiently, compared to healthy individuals, as a way to 'compensate' for the disadvantages imposed by the health problems. As health limitations may significantly hamper one's employment outlook, social capital as an alternative resource may become more

prominent. In other words, the three types of social capital – bonding, bridging and trust – might 'buffer' some of the disadvantages associated with having poor health.

On the other hand, social capital may not work as favourably for social assistance recipients in poor health in providing information and facilitating the necessary connections. A qualitative study found that family and friends (*bonding*) often had limited expectations as to whether people with mental illness would be able to find work, by focusing more on the illness than on abilities and talents (Killeen & O'Day, 2004). Furthermore, because of specific health limitations (anxiety, pain, physical discomfort, etc.), people with health problems may not be able to participate with the same frequency and intensity in social networks (*bridging*), compared to those without health limitations, and could therefore be less able to make use of these 'weak ties'. Similarly, the beneficial effects of *social trust* may be overshadowed by the strain of health limitations, making even trusting individuals less patient, and thereby less able to collaborate and communicate effectively with employers, customers, colleagues or employment officers. Thus, potential 'alternative routes' into employment via the three social capital domains could be harder in the presence of chronic pain or mental illness.

The Norwegian context

The economic conditions have been favourable in Norway throughout the observational period (2005—2013) of our study, with unemployment rates of roughly 2.0-3.0 percent of the population aged 25 to 74 (Eurostat, 2019). The continuously booming state of the Norwegian labour market implies that the job prospects should be comparatively good for this sample of long-term social assistance recipients. On the other hand, employers might be particularly concerned with hiring someone currently out of a job when "everyone else" is employed.

Social assistance is a financial support that covers basic subsistence costs for those who are unable to provide for themselves, and is often considered as the last safety net in the welfare state. This means-tested benefit is supposed to be temporary, but for some individuals the benefit becomes quite permanent: In Norway, 13 743 people received social assistance for 12 months straight in 2013 (Statistics Norway, 2019a). The number of people receiving any economic support via social assistance has been relatively stable in Norway during 2005-2013: roughly 120 000 recipients, varying from a low of 109 349 in 2008 to a high of 128 964 in 2005 (Statistics Norway, 2019b). In 2013, 120 775 people – approximately 2.4 % of the population – received social assistance in total, and less than 20 percent (N=23 945) of these

were recipient for more than 9 months that year (Statistics Norway, 2019a). This corresponds to a study by Königs (2018) showing that long-term social assistance receipt is a relatively rare event in Norway and Sweden, compared with Luxembourg and the Netherlands.

Roughly 40 percent of all recipients in 2013 (N=49 152) had social assistance as their main source of income (Statistics Norway, 2019c). It is therefore quite common to receive social assistance as a supplement to other income sources in Norway. The legislation clearly states that social assistance is supposed to be a temporary financial relief (NAV, 2019), which is the case for the majority of recipients in Norway. Still, non-negligible amounts of people are long-term recipients of social assistance as well. Summing up, the empirical findings from the current study might not generalize to countries with noticeably lower demand for labour and/or where the patterns of social assistance recipiency differs markedly from that in Norway. With these caveats, we proceed to a description of the data and methods.

Materials and methods

Most previous research on social assistance recipiency has used either cross-sectional survey data (e.g., van der Wel et al., 2006; Malmberg-Heimonen, 2010; Løyland et al., 2011) or longitudinal register data (e.g., Bäckman & Bergmark, 2011; Lorentzen, Dahl & Harsløf, 2012; Mood, 2013). Although both certainly provide valuable insights on their own, the advantages of linking survey and register data are equally obvious. Self-reported information on social capital and health can be collected in surveys, whereas valid information on employment histories can be assembled from administrative registers. The current paper use such a linked survey—register dataset, consisting of a cohort of long-term social assistance recipients in Norway. 'Long-term' is defined as having social assistance as the most important income source for minimum 6/12 months in 2004.

Although the current data material is of high quality, there is one main disadvantage, namely the relatively low number of observations. Rather few people responded to the initial survey back in 2005 (N=562), and register data for the years 2005—2013 could be linked for fewer still (N=456). The upside, however, is that the 2005 survey respondents in the 14 participating municipalities (response rate = 52.7) were not significantly different from the non-respondents on important background characteristics (available on request). Thus, the empirical findings will most likely be representative for the 2005 cohort of long-term social assistance recipients in Norway as a whole. However, the low number of observations implies

a lack of statistical power, and the coefficient(s) of interest might not reach conventional levels of statistical significance.

Operationalization

Wage income is our preferred measure of employment, by using the Norwegian National Insurance scheme basic amount (henceforth denoted as G). G is adjusted annually for wage developments and (increasing) costs of living, and is therefore well suited for analyses of income data over time. We distinguish between two income thresholds. First, we use a lower threshold of *1.5G*, which is equivalent to roughly 12 500 € in 2013, and second, a higher threshold of *3G*, i.e., 25 000 €. Furthermore, we distinguish between earning (a) 1.5G/3G in *2013*, (b) 1.5G/3G *ever*, i.e., in any of the years 2005—2013, and (c) 1.5G/3G *always*, i.e., in every consecutive year 2009—2013. These six outcome measures are used because we want to ensure that the empirical findings are not driven solely by the specific choice of outcome operationalization. To save space, we will mostly show the coefficients for the 3G threshold, which roughly corresponds to what a full-time, but low paid, unskilled worker earns yearly. Employment is relatively common in the current sample: 20.86 (28.30) percent earned at least 3G (1.5G) wage income during 2013.

For *bonding social capital*, six indicators are used. People stating to never, rarely, or sometimes a year get visits or visits others are coded 1 (daily, weekly and monthly = 0) on *seldom visits/visited. Often lonely* is coded 1 for those who feel lonely often (sometimes, seldom and never = 0). People who state that they have *no close friends around* are coded 1 (else=0). Respondents who meet friends yearly or less often than yearly are coded 1 on *seldom meets friends* (monthly, weekly and daily = 0). Similarly, respondents who meet siblings and parents on a (less than) yearly basis are coded 1 (monthly, weekly and daily = 0) on *seldom meets siblings* and *seldom meets parents.* The three former bonding social capital indicators (*seldom visited/visits*, and *often lonely*) are 'general' in the sense that they do not refer to any particular relationship. The three latter refer to specific ties (i.e., friends, siblings, and parents) and are therefore more 'specific' indicators.

Five indicators measure *bridging social capital*, and the following question is used for three of them: 'Are you, or have you been, member of a union or an organization?' Answer categories include (a) active membership, (b) trust position, and (c) passive membership. For each set, respondents can choose between 'yes, currently', 'not now, but previously', and 'no

never'. Dichotomous indicators are computed for people who answer that they are *active members currently* (yes=1, else=0), and for those who have been *active member previously* (yes=1, else=0). Similar coding applies to those who hold a *trust position currently* (=1, else=0) or held a *trust position previously* (=1, else=0)*, and for *passive member currently* (=1, else=0) and *passive member previously* (=1, else=0). We include the 'currently' and 'previously' indicators simultaneously in the regressions ('no, never' = the reference group). *Neighbourhood ties* is measured by: 'How many families/households in the neighbourhood do you know so well that you visit each other every now and then?', with '0', '1', '2', '3-4', and '5 or more' as the answer categories. A continuous measure is computed, ranging from 0—4. We also include *neighbourhood ties squared* to adjust for a potential curvilinear relationship. Finally, people who state that they would receive help from a neighbour in the case of acute illness or some other difficulty are coded 1 (else=0) on *help from neighbours*.

For *social trust*, we compute an index (0—10) consisting of the average response on three items that all range from 0—10 (higher scores for 'positive' answers). The first question is *generalized trust*: 'Would you say that most people can be trusted, or that you can't be too careful in dealing with people?' The second is *honesty*: 'Do you believe that most people would try to take advantage of you if they got the chance, or would they try to be fair?' *Helpfulness* is the third and final item: 'Would you say that most of the time people try to be helpful or that they are mostly looking out for themselves?' Cronbach's alpha for the *social trust index* is 0.835 in the current sample. The analyses is run with the index and for the three items separately.

Seven *health status* indicators is used. The 10-item version of Hopkins Symptom Checklist (*HSCL-10*) measures symptoms of anxiety and depression (Derogatis et al., 1974). HSCL-10 varies from 1—4, with a Cronbach's alpha of 0.910. The average of three questions on calmness, energy, and feeling blue make up *psychological wellbeing* (varying from 1—6, Cronbach's alpha=0.733). People who experience *pain often* are coded 1 (else=0). Respondents who answer 'yes, a lot' or 'yes, a little' on whether their health is limiting for moderate activities (e.g., vacuuming) are coded 1 (else=0) on *limiting illness*. People who state that they have accomplished less than they wanted (during the last four weeks) because of their physical health are coded 1 on *physical health issue* (else=0). Those with excellent or very good self-rated health are coded 1 on *excellent/very good SRH* (else=0). Lastly, *life satisfaction* is measured on a five-point scale (1—5), where higher scores equal higher satisfaction with life. Although the distinction is far from flawless, *HSCL-10* and

psychological wellbeing are our mental health measures, whereas *pain often*, *limiting illness* and *physical health issue* are indicators of somatic health.

The regression analysis is stratified by somatic and mental health in order to examine whether social capital matters more if health status is poor. We have pragmatically opted for indicators where the presence of 'bad' and 'good' health is roughly similar. For somatic health, *pain often* (yes=48.43 percent) is well suited. For mental health, we use a dichotomous version of HSCL-10 where people scoring above the clinical value of 1.85 (Strand et al. 2003) – 59.36 percent of the sample – are coded 1 (else=0).

A basic set of sociodemographic covariates is included in all regressions: *Age* (in years) and *age squared*, *gender* (1=female;0=male), *married/cohabiting* (1=yes;0=no), completion of upper secondary or higher *education* (1=yes;0=no), and *country background* (1=born abroad;0=born in Norway). The correlation between these covariates is quite weak, and it is therefore safe to include them in the same model. The highest Pearson's correlation coefficient (r) between the covariates is for *married/cohabiting—born abroad* (r=0.208).

Analysis

Linear probability models (OLS) are estimated throughout because of difficulties in comparing coefficients across different samples and model specification in non-linear models such as logit/probit (Allison, 1999; Mood, 2010). However, we run logistic regression as well to examine whether the breach of functional form assumptions is consequential or not. Parsimonious model specifications are preferred because of potential problems with collinearity (Winship & Western, 2016). The aforementioned explanatory variables are therefore included separately, alongside the sociodemographic covariates. Thus, six different model specifications are estimated for *bonding* social capital, five for *bridging* social capital, four for *social trust*, and seven for *health status*.

The regressions proceed in three steps. First, we investigate the importance of three types of *social capital*: bonding, bridging and social trust. Second, the association between *health status* (mental and somatic) and employment probability is examined. Third, the analysis is split according to *pain often* and *HSCL-10 (>1.85)* to see whether social capital matters more if health status is poor. Note that we only include social capital variables that show a reasonably strong association with employment likelihood in the first step. Low statistical power is a potential problem in this study, and especially so in the final third step

when the analysis is split by health status. We circumvent this challenge, at least to some extent, by mainly focusing on *effect sizes*, i.e., comparing the size of the coefficient between people reporting bad and good health status.

Descriptive statistics

Register information is lacking for roughly 20 percent of the initial survey sample. Thus, it is important to inspect whether these individuals differ non-trivially from the respondents included in the linked survey-register sample. Luckily, this is not the case (table A1, appendix). In fact, the two groups are strikingly similar on both sociodemographic covariates and on several health measures.

Table A2 (appendix) shows descriptive statistics on sociodemographic covariates, split by health status (pain in panel A; HSCL-10 in panel B). Respondents who report *pain often* are more often female and somewhat older (36 vs. 32 years, roughly), but the differences are negligible otherwise. People scoring above *HSCL-10 cut-off* are less often married/cohabiting, have lower educational level, and they are less likely to be born abroad. However, the differences between people with good and bad health status are quite small overall. We now continue with the regression results.

Empirical results

Social capital, health and employment likelihood

Only the coefficients of prime interest is shown in the tables, i.e., the indicators for social capital and health status. Note that very few of the sociodemographic covariates are significantly associated with employment likelihood in the current sample (table A3, appendix). For instance, the education variable is only significant (95 percent level) for one out of six outcome measures. This highlights, first, that long-term recipients of social assistance in Norway is a selected group, and second, that the low number of observations in the sample implies a loss of statistical power.

Panel A, table 1 shows the results from a series of regressions with six different indicators of *bonding social capital* included as the main explanatory variable. Very few of these 'strong ties' are significantly associated with likelihood of wage income, with one major

exception: *often lonely*, where the coefficient is significant, and quite large, for all three outcome measures. The same pattern emerges for the 1.5G threshold as well (table A4, panel A). It is worth noting that the 'general' measures (*often lonely*, and to a lesser extent *seldom visits/visited*) apparently are more powerful predictors than the 'specific' ones (e.g., *seldom meets friends*).

-- Table 1 --

Empirical findings for the five *bridging social capital* indicators are shown in panel B, Table 1. Again, rather few significant coefficients appear, with three notable exceptions. First, those who report being *active member currently* have better employment outcomes, and the effect size is very large for *3G ever* with a 25 percentage point higher probability. The coefficient is also sizeable for the two remaining outcome measures (0.063 and 0.099), although not significant on the 95 percent level. Second, people holding a *trust position currently* have a much higher employment likelihood for 3G ever (24.6 percentage point increase). The other two coefficients are negative (-0.008, and -0.062), but not significantly so. Third, the number of *neighbourhood ties* is apparently positive for employment as well, and the relationship is indeed curvilinear, i.e., the association is less strong on higher values. The strength of the association differs considerably, however. For the two remaining 'weak ties', there is no consistent statistical association with employment: the coefficient for *help from neighbours* varies e.g., from quite large and negative (-0.092) to small and positive (0.018). Table A4, panel B confirms these empirical findings for the 1.5G income threshold.

Panel C in table 1 reports empirical findings for the *social trust index*. The coefficient is significant for all three outcome measures and varies from 0.017—0.022, indicating that employment prospects tends to be better for those with higher levels of trust. The *social trust index* varies from 0—10, so the effect size is quite large (e.g., 4*1.9=7.6 percentage points increase for *3G in 2013*). Yet, even though social trust can vary theoretically from 0—10, the clear majority of respondents (74.72 percent) score between 3 and 8. Thus, an increase of more than 5 is not very realistic empirically. The results are quite similar for the three separate items too, with the exception of *helpfulness* where the coefficient tends to be smaller and not statistically significant. Regressions with quadratic terms included showed that the relationship was not curvilinear (available on request). The results are similar for 1.5G (table A4, panel C), with one exception: there is no significant association between any of the social trust variables and *1.5G in 2013*.

-- Table 2 --

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The findings thus far indicates that the three indicators *often lonely*, *active member currently*, and *social trust index* are associated with employment probability in a consistent manner, and the effect size is often quite large. The results for *health status* are shown in table 2 (1.5G in panel A; 3G in panel B). As expected, the health indicators are powerful predictors of wage income, and most of them are significant in all or most of the model specifications. A couple of exceptions appear, however: the coefficients for *physical health issue* and *life satisfaction* are significant (including 90 percent level) for merely two and three out of six outcome measures, respectively. Note that the (potential) breach of functional form assumptions is not decisive for the empirical patterns shown thus far, as average marginal effects (AME) derived from logistic regressions are almost identical both for point estimates and significance levels (tables A5 and A6, appendix).

Interplay between health status and social capital

Table 3 switches focus to our prime interest, namely whether social capital matters more for employment prospects when health status is poor. Here we include *often lonely, active member currently* and *social trust index* (separately) as explanatory variables, alongside the sociodemographic covariates. The regressions are now split by *pain often* (panel A) and *HSCL-10 cut-off* (panel B), which implies a loss of statistical power. Thus, we expect that most coefficients will not reach conventional levels of statistical significance. However, we are mainly interested in comparing the effect size between people reporting good and bad health status. We only present results for the 3G threshold (corresponding results for 1.5G in table A7, appendix).

-- Table 3 --

Starting with *often lonely,* a measure of *bonding* social capital*,* it is difficult to distinguish clearly between people who experience *pain often* (-0.039/-0.065/-0.157) and those who do not (-0.058/-0.076/-0.083). In two out of three models, the point estimate for *often lonely* is very similar for people above and below the *HSCL-10 cut-off*. Yet, for *3G ever*, the coefficient is smaller for those reporting bad (-0.048) vs. good (-0.087) mental health. Nevertheless, the differences across health status are minor overall for *often lonely*.

Proceeding with *bridging* social capital as indicated by *active member currently*, the health inequalities are more pronounced. The coefficient is considerably smaller for people who experience *pain often* (0.109/0.006) for two outcome measures, compared to those

without pain (0.300/0.127). The coefficients are almost identical (0.042/0.048) for the third outcome (*3G in 2013*), however. For mental health, i.e., scoring above vs. below the *HSCL-10 cut-off*, the positive impact of active membership is much greater for people with good (0.093/0.377/0.158) than bad (0.044/0.104/0.001) mental health for all three outcomes.

Finally, there is a non-negligible health component for *social trust* as well. People reporting *pain often* (0.002—0.011) seem to profit less from the *social trust index* than those with better somatic health (0.019—0.027). This is also the case for people exceeding the *HSCL-10 cut-off*: the *social trust index* coefficient is clearly smaller for those with psychiatric distress (b=0.001—0.012), compared to those with lower HSCL-10 scores (b=0.020—0.037). In summary, long-term recipients of social assistance with bad (mental/somatic) health status apparently profit less from both *active membership* (*bridging* social capital) and *social trust*, compared to people without health problems. However, the negative impact of *loneliness* (*bonding* social capital) on employment probability is similar irrespective of health status.

-- Figure 1 --

As a robustness check, we have changed the somatic health indicator to *limiting illness* (table A8). The empirical pattern is similar, with one noticeable exception: people with a *limiting illness* seem to profit more from social trust, compared to those who report *pain often*. We have also pooled the data and included interaction terms between mental/somatic health and the social capital variables (tables A9 and A10). As expected, few of the interactions are significant on conventional levels due to low statistical power, but a clear majority of the coefficients (i.e., 32/36) are *negative*. Figure 1 shows some descriptive results without adjusting for covariates, where we split the sample into four groups: (1) bad health and low social capital, (2) good health and low social capital, (3) bad health and high social capital, and (4) good health and high social capital. The 'raw differences' in employment shares are especially striking between group 1 and group 4. For example, 25.88 percent of recipients who report pain often that are not active members currently earned *3G Ever*, compared to 70.83 percent among those without pain who are active members currently. Similarly, the differences are often noticeable, although not as striking, for group 1 (i.e., both low social capital and bad health), compared to group 2 (i.e., low social capital only) and group 3 (i.e., bad health only). We now proceed to a discussion of the presented results.

Discussion

Three main empirical findings appeared in this study. First, long-term recipients of social assistance have a lower probability of earning wage income if their mental/somatic health status is poor. Second, few social capital indicators are associated with employment likelihood, with three exceptions: (a) those who are not *often lonely*, (b) people who are *active members* in an organization, and (c) individuals with higher levels of *social trust* are all more likely to hold a job. Third, social capital does *not* matter more for employment prospects if health status is poor. In fact, the positive impact of both active membership (i.e., *bridging* social capital) and *social trust* is evidently larger for people with good health status. For *bonding* social capital (*often lonely*), the point estimates are similar irrespective of health status. Yet, there is some indication that loneliness is more damaging for employment prospects among people experiencing psychological distress (measured by HSCL-10), but only for the 1.5G income threshold (table A7, appendix).

There are some important caveats to take into consideration while discussing these empirical findings. First, the survey data, collected in January 2005, is somewhat dated, and both the amount and quality of social capital could change considerably during the investigated time window. Second, the survey information is self-reported, and therefore prone to measurement error such as justification bias. Third, the low number of observations implies a loss of statistical power, and especially so in the analysis split by health status. Fourth, it is not possible to establish causality in the current study. Fifth, the statistical associations established in the current sample might not hold neither for other cohorts of social assistance recipient in Norway, nor for other 'vulnerable groups', for example long-term unemployed. Sixth and finally, Norway and the Nordic countries have comparatively high levels of trust, limiting the generalizability of the empirical results.

Our findings highlights the importance of *health-related social mobility* established in previous research (see e.g., García-Gómez, Jones & Rice, 2010; Heggebø & Dahl, 2015). Thus, bad somatic/mental health remains an important barrier for labour market attachment among long-term social assistance recipients. Some social assistance recipients probably have such a poor health status that it is incompatible with holding employment, and disability benefit is therefore the only viable option. For those who do have the capacity to join the labour force, however, it seems as if their poor health status is an important obstacle. This could e.g. be due to employer's scepticism about (expected) productivity level, implying

fewer job offers for those with poor health. Unfortunately, our data do not hold information on the recipients' work capacity. However, it seems safe to conclude that labour market inclusion of people with bad somatic/mental health should remain a prioritized policy area.

Although few of the *bonding* social capital variables proved to be significant predictors of wage income, there is some indication that loneliness is damaging. Close social relationships can provide economic and emotional support of potential importance for wellbeing and self-esteem, which in turn could be advantageous for economic self-sufficiency. Conversely, the lack of such 'strong ties' may be damaging for employment prospects among social assistance recipients. Interestingly, only the 'general' bonding variables (*often lonely* and *seldom visits/visited*) were associated with employment probability. For the more 'specific' measures (e.g., seldom meeting parents/friends), no such link is apparent. This could indicate that it is primarily feelings and experiences of loneliness and isolation that represents a challenge from a labour market point of view, as opposed to a lack of any particular 'strong' tie.

For *bridging* social capital, it was current active membership, and to some extent holding a trust positions, that appeared as a significant predictor of employment. Having access to a more heterogeneous social network should, in theory, ease the flow of information between social assistance recipients and prospective employers, and thereby improve job opportunities. The empirical findings support such an interpretation, and some of the statistical associations were quite strong as well (e.g., *active member currently* for *3G Ever*). To have been involved in an organization *previously* was not associated with labour market attachment, however. This highlights that 'weak' social ties are quite fragile and probably needs to be maintained continuously – through active participation – in order to be an efficient alternative route into employment.

High *social trust* is associated with improved labour market attachment among long-term recipients of social assistance in Norway. The current study is unable to examine the exact reason(s) why this cognitive dimension of social capital matters, but it could be due to improved collaboration skills and/or a more positive outlook in general, which makes the transition from social assistance via Employment Offices to employment more streamlined. Furthermore, social assistance recipients with higher levels of social trust might be better equipped to make use of his/her existing network while searching for a job.

The current study is especially novel in examining *the interplay* between social capital and health status. Long-term recipients of social assistance with bad health status apparently

profit less from both active membership (*bridging* social capital) and *social trust*, compared to people with good health. Then again, the negative impact of loneliness (*bonding* social capital) on employment probability is apparently similar regardless of health status. Thus, it seems as though people with health problems – because of anxiety, pain, physical discomfort, etc. – are less able to participate with the same frequency and intensity in social networks (*bridging*), compared to those without health limitations. Moreover, the potentially beneficial effects of *social trust* seems to be overshadowed by the strain associated with health limitations, perhaps making it more difficult to collaborate and communicate effectively with employers, customers, colleagues and/or employment officers.

Future research should try to dig deeper into these statistical associations, for example by studying a larger and more heterogeneous sample including both long- and short-term recipients of social assistance. It would be especially interesting to link longitudinal register data to repeated survey waves, enabling analyses of *changes* in health and social capital over time on recipients' employment and benefit histories. There is also need for more qualitative research in order to pin down the most important explanatory mechanisms involved.

Finally, there might be some lessons from this study for practitioners in social work and social policy. Practitioners should in particular take note of the strong association between poor health and non-employment for long-term social assistance recipients. This is most likely the result of both labour market discrimination of those with bad health status who would like to join the labour force (Ameri et al. 2018), and because health status is incompatible with employment for many long-term recipients of social assistance. A more permanent health-related benefit could therefore be a better option for quite a few long-term social assistance recipients. In addition, the finding that those with ill health apparently profits less from *bridging* social capital and *social trust* indicates that more resources at Employment Offices should be devoted to people with health disadvantages, since they are less able to make use of 'informal' channels while trying to gain access to the labour market.

In conclusion, health status (mental and somatic) matters a lot and social capital (bonding, bridging, and trust) matters a little for labour market attachment among long-term social assistance recipients. Furthermore, recipients with health problems appear to profit less from *bridging* social capital and *social trust*, compared to people with good health. This is a small, but perhaps important cog in the explanatory wheel for why people with ill health are disadvantaged on the labour market.

Acknowledgments

Funding

Disclosure of interest

The authors declare no conflict of interest.

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Tables

Table 1. Linear probability model (OLS) of 3G wage income, by *bonding* social capital (panel A), *bridging* social capital (panel B), or *social trust* (panel C) and covariates.

Panel A: Bonding social capital	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
Seldom visits/visited	-0.035 (0.050)	-0.038 (0.056)	-0.023 (0.036)
Often lonely	-0.088** (0.044)	-0.150*** (0.049)	-0.067** (0.032)
No close friends around	0.032 (0.048)	-0.027 (0.053)	-0.001 (0.034)
Seldom meets friends	0.044 (0.053)	0.048 (0.060)	0.043 (0.038)
Seldom meets siblings	-0.008 (0.045)	-0.033 (0.051)	-0.016 (0.032)
Seldom meets parents	0.024 (0.050)	0.024 (0.057)	-0.007 (0.036)
Panel B: Bridging social capital	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
Active member currently	0.063 (0.072)	0.250*** (0.081)	0.099* (0.053)
Active member previously	0.000 (0.048)	-0.005 (0.054)	0.010 (0.035)
Trust position currently	-0.062 (0.108)	0.246** (0.115)	-0.008 (0.075)
Trust position previously	0.052 (0.060)	0.103 (0.066)	-0.041 (0.043)
Passive member currently	-0.016 (0.073)	0.037 (0.080)	-0.034 (0.052)
Passive member previously	-0.058 (0.056)	-0.062 (0.062)	-0.054 (0.040)
Neighbourhood ties	0.060 (0.051)	0.109* (0.058)	0.011 (0.037)
Neighbourhood ties squared	-0.023 (0.015)	-0.032* (0.017)	-0.007 (0.011)
Help from neighbours	-0.022 (0.063)	-0.092 (0.069)	0.018 (0.044)
Panel C: Social trust	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
Social trust index	0.019** (0.010)	0.022** (0.011)	0.017** (0.007)
Generalized trust	0.015* (0.008)	0.019** (0.009)	0.012** (0.006)
Honesty	0.019** (0.008)	0.022** (0.009)	0.018*** (0.006)
Helpfulness	0.009 (0.008)	0.008 (0.009)	0.008 (0.006)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1		
	Standard errors in parentheses.		
	Only the coefficient for the explanatory variable(s) shown (full models available on request).		
	The explanatory variables are included separately.		
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.		

Table 2. Linear probability model (OLS) of wage income (1.5G in panel A; 3G in panel B), by health status and covariates.

	Outcome: wage income		
Panel A	1.5G in 2013	1.5G Ever (2005—2013)	1.5G Always (2009—2013)
HSCL-10	-0.099*** (0.032)	-0.140*** (0.034)	-0.091*** (0.025)
Psych. wellbeing	0.052*** (0.020)	0.068*** (0.021)	0.049*** (0.015)
Pain often	-0.119** (0.047)	-0.198*** (0.049)	-0.078** (0.037)
Limiting illness	-0.190*** (0.046)	-0.273*** (0.048)	-0.096*** (0.036)
Physical health issue	-0.055 (0.047)	-0.157*** (0.050)	-0.046 (0.037)
Excellent/very good SRH	0.133** (0.054)	0.235*** (0.058)	0.115*** (0.043)
Life satisfaction	0.037* (0.021)	0.063*** (0.022)	0.024 (0.016)
Panel B	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
HSCL-10	-0.072** (0.029)	-0.145*** (0.032)	-0.057*** (0.021)
Psych. wellbeing	0.039** (0.018)	0.077*** (0.020)	0.026** (0.013)
Pain often	-0.060 (0.043)	-0.147*** (0.048)	-0.079** (0.031)
Limiting illness	-0.135*** (0.042)	-0.196*** (0.047)	-0.075** (0.031)
Physical health issue	-0.008 (0.043)	-0.094* (0.048)	-0.008 (0.031)
Excellent/very good SRH	0.092* (0.050)	0.183*** (0.056)	0.081** (0.036)
Life satisfaction	0.023 (0.019)	0.060*** (0.021)	0.013 (0.013)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1		
	Standard errors in parentheses.		
	Only the coefficient for the explanatory variable(s) shown (full models available on request).		
	The explanatory variables are included separately.		
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.		

Table 3. Linear probability model (OLS) of wage income (3G), by social capital and covariates – split by pain often (panel A) and HSCL-10 cut-off (panel B).

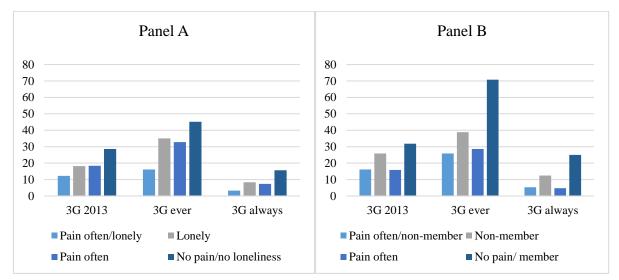| Panel A	3G in 2013		3G Ever (2005—2013)		3G Always (2009—2013)	
Pain often?	Yes	No	Yes	No	Yes	No
Often lonely	-0.065	-0.083	-0.157**	-0.076	-0.039	-0.058
	(0.057)	(0.072)	(0.064)	(0.081)	(0.034)	(0.057)
Active member	0.042	0.048	0.109	0.300***	0.006	0.127
currently	(0.099)	(0.102)	(0.116)	(0.109)	(0.060)	(0.079)
Social trust	0.004	0.027*	0.011	0.019	0.002	0.022*
index	(0.013)	(0.015)	(0.015)	(0.016)	(0.007)	(0.011)
Panel B	3G in 2013		3G Ever (2005—2013)		3G Always (2009—2013)	
Above HSCL-10 cut-off?	Yes	No	Yes	No	Yes	No
Often lonely	-0.062	-0.062	-0.048	-0.087	-0.027	-0.036
	(0.054)	(0.125)	(0.061)	(0.144)	(0.035)	(0.104)
Active member	0.044	0.093	0.104	0.377***	0.001	0.158*
currently	(0.097)	(0.111)	(0.107)	(0.122)	(0.062)	(0.091)
Social trust	0.012	0.037**	0.001	0.027	0.012	0.020
index	(0.013)	(0.018)	(0.015)	(0.020)	(0.008)	(0.014)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1					
	Standard errors in parentheses.					
	Only the coefficient for the explanatory variable(s) shown (full models available on request).					
	The explanatory variables are included separately.					
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.					

Figures

Figure 1. Descriptive statistics on 3G wage income, by health status and social capital. Pain often and loneliness in panel A; Pain often and active member currently in panel B; HSCL-10 cut-off and loneliness in panel C; and HSCL-10 cut-off and active member currently in panel D.

Appendix

Table A1. Descriptive statistics for selected covariates – split by register information (present/missing).

	Register sample	Missing register information
Age	33.66 (N=450)	34.96 (N=89)
Female	42.27 (N=459)	42.11 (N=95)
Married/cohabiting	21.35 (N=459)	24.47 (N=94)
Upper secondary/higher education	17.87 (N=442)	17.39 (N=92)
Ethnic minority	19.02 (N=347)	22.67 (N=75)
Excellent/ very good self-rated health	21.51 (N=451)	21.51 (N=93)
Limiting illness	42.38 (N=446)	48.31 (N=89)
Pain often	48.43 (N=446)	37.63* (N=93)
HSCL-10 cut-off	59.36 (N=406)	50.00 (N=80)

T-test on the differences in means.

Significance level: *** = 0.01 ** = 0.05 * = 0.1

Table A2. Descriptive statistics on sociodemographic covariates – split by pain often (panel A) and HSCL-10 cut-off (panel B).

Panel A:		
Pain often?	Yes	No
Age	35.94 (N=211)	31.62*** (N=226)
Female	48.61 (N=216)	35.22*** (N=230)
Married/cohabiting	23.15 (N=216)	19.57 (N=230)
Upper secondary/higher education	16.83 (N=208)	18.92 (N=222)
Born abroad	20.48 (N=210)	15.04 (N=226)
Panel B:		
Above HSCL-10 cut-off?	Yes	No
Age	33.33 (N=240)	33.38 (N=159)
Female	39.00 (N=241)	46.67 (N=165)
Married/cohabiting	17.84 (N=241)	26.06** (N=165)
Upper secondary/higher education	14.96 (N=234)	21.88* (N=160)
Born abroad	11.16 (N=233)	21.95*** (N=164)

T-test on the differences in means.

Significance level: *** = 0.01 ** = 0.05 * = 0.1

Table A3. Linear probability model (OLS) of wage income (1.5G in panel A; 3G in panel B), by age, gender, marital status, education, and country background.

	Outcome: wage income		
Panel A	1.5G in 2013	1.5G Ever (2005—2013)	1.5G Always (2009—2013)
Constant	0.518** (0.251)	0.875*** (0.268)	0.306 (0.198)
Age	-0.007 (0.015)	-0.020 (0.016)	-0.006 (0.012)
Age^2	-0.000 (0.000)	0.000 (0.000)	0.000 (0.000)
Female	-0.027 (0.046)	-0.028 (0.049)	0.009 (0.036)
Married/cohab.	0.065 (0.056)	0.126** (0.061)	0.080* (0.045)
VGS/higher educ.	0.144** (0.061)	0.089 (0.065)	0.082* (0.048)
Born abroad	0.059 (0.064)	0.087 (0.066)	0.011 (0.049)
N	391	423	423
Panel B	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
Constant	0.502** (0.229)	0.473* (0.259)	0.210 (0.166)
Age	-0.011 (0.013)	-0.002 (0.015)	-0.005 (0.10)
Age^2	0.000 (0.000)	-0.000 (0.000)	0.000 (0.000)
Female	-0.023 (0.042)	-0.063 (0.047)	0.032 (0.030)
Married/cohab.	0.059 (0.051)	0.095 (0.058)	0.051 (0.038)
VGS/higher educ.	0.108* (0.055)	0.059 (0.062)	0.048 (0.040)
Born abroad	0.045 (0.058)	0.069 (0.064)	0.027 (0.041)
N	391	423	423
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1		
	Standard errors in parentheses.		

Table A4. Linear probability model (OLS) of 1.5G wage income, by *bonding* social capital (panel A), *bridging* social capital (panel B), or *social trust* (panel C) and covariates.

	Outcome: wage income		
Panel A: Bonding social capital	1.5G in 2013	1.5G Ever (2005—2013)	1.5G Always (2009—2013)
Seldom visits/visited	-0.026 (0.055)	-0.100* (0.058)	-0.060 (0.043)
Often lonely	-0.071 (0.048)	-0.121** (0.051)	-0.094** (0.038)
No close friends around	-0.001 (0.052)	-0.056 (0.055)	-0.042 (0.041)
Seldom meets friends	0.061 (0.058)	0.018 (0.062)	0.047 (0.046)
Seldom meets siblings	-0.048 (0.050)	-0.049 (0.052)	-0.017 (0.038)
Seldom meets parents	0.011 (0.055)	0.036 (0.059)	0.014 (0.044)
Panel B: Bridging social capital			
Active member currently	0.110 (0.079)	0.274*** (0.083)	0.050 (0.063)
Active member previously	-0.028 (0.053)	-0.030 (0.055)	-0.039 (0.042)
Trust position currently	0.116 (0.118)	0.241** (0.118)	-0.019 (0.090)
Trust position previously	0.024 (0.066)	0.081 (0.070)	-0.050 (0.052)
Passive member currently	-0.016 (0.079)	-0.002 (0.083)	-0.061 (0.062)
Passive member previously	-0.069 (0.061)	-0.054 (0.064)	-0.061 (0.048)
Neighbourhood ties	0.051 (0.057)	0.021 (0.060)	0.082* (0.044)
Neighbourhood ties squared	-0.013 (0.017)	-0.005 (0.018)	-0.027** (0.013)
Help from neighbours	-0.030 (0.070)	-0.083 (0.071)	0.003 (0.053)
Panel C: Social trust			
Social trust index	0.010 (0.011)	0.026** (0.011)	0.015* (0.008)
Generalized trust	0.007 (0.009)	0.025** (0.010)	0.014* (0.007)
Honesty	0.010 (0.009)	0.024** (0.010)	0.012* (0.007)
Helpfulness	0.004 (0.009)	0.009 (0.010)	0.008 (0.007)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1		
	Standard errors in parentheses.		
	Only the coefficient for the explanatory variable(s) shown (full models available on request).		
	The explanatory variables are included separately.		
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.		

Table A5. Logistic regression analysis of wage income (1.5G in panel A; 3G in panel B), by *bonding* social capital and covariates. Average marginal effects (AME) shown.

	Outcome: wage income		
Panel A	1.5G in 2013	1.5G Ever (2005—2013)	1.5G Always (2009—2013)
Seldom visits/visited	-0.023 (0.056)	-0.101* (0.057)	-0.068 (0.048)
Often lonely	-0.071 (0.048)	-0.120** (0.050)	-0.104** (0.042)
No close friends around	0.000 (0.051)	-0.057 (0.055)	-0.043 (0.042)
Seldom meets friends	0.064 (0.056)	0.018 (0.062)	0.045 (0.043)
Seldom meets siblings	-0.046 (0.050)	-0.049 (0.052)	-0.016 (0.038)
Seldom meets parents	0.013 (0.055)	0.036 (0.058)	0.015 (0.043)
Panel B	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
Seldom visits/visited	-0.035 (0.053)	-0.038 (0.056)	-0.025 (0.039)
Often lonely	-0.091** (0.045)	-0.153*** (0.049)	-0.078** (0.037)
No close friends around	0.032 (0.046)	-0.026 (0.053)	-0.001 (0.034)
Seldom meets friends	0.047 (0.051)	0.047 (0.058)	0.038 (0.035)
Seldom meets siblings	-0.006 (0.045)	-0.032 (0.050)	-0.015 (0.032)
Seldom meets parents	0.027 (0.049)	0.024 (0.056)	-0.006 (0.036)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1		
	Standard errors in parentheses.		
	Only the coefficient for the explanatory variable(s) shown (full models available on request).		
	The explanatory variables are included separately.		
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.		

Table A6. Logistic regression analysis of wage income (1.5G in panel A; 3G in panel B), by health status and covariates. Average marginal effects (AME) shown.

	Outcome: wage income		
Panel A	1.5G in 2013	1.5G Ever (2005—2013)	1.5G Always (2009—2013)
HSCL-10	-0.103*** (0.032)	-0.139*** (0.032)	-0.099*** (0.027)
Psych. wellbeing	0.051*** (0.019)	0.067*** (0.020)	0.048*** (0.015)
Pain often	-0.118** (0.046)	-0.192*** (0.045)	-0.080** (0.037)
Limiting illness	-0.191*** (0.045)	-0.260*** (0.041)	-0.099** (0.039)
Physical health issue	-0.053 (0.046)	-0.152*** (0.046)	-0.044 (0.037)
Excellent/very good SRH	0.115** (0.049)	0.227*** (0.054)	0.094** (0.037)
Life satisfaction	0.036* (0.020)	0.063*** (0.021)	0.024 (0.016)
Panel B	3G in 2013	3G Ever (2005—2013)	3G Always (2009—2013)
HSCL-10	-0.077** (0.030)	-0.149*** (0.031)	-0.065*** (0.024)
Psych. wellbeing	0.038** (0.018)	0.076*** (0.019)	0.026** (0.013)
Pain often	-0.060 (0.043)	-0.145*** (0.046)	-0.084** (0.033)
Limiting illness	-0.138*** (0.044)	-0.195*** (0.045)	-0.079** (0.035)
Physical health issue	-0.006 (0.042)	-0.091* (0.047)	-0.007 (0.030)
Excellent/very good SRH	0.077* (0.045)	0.167*** (0.051)	0.067** (0.031)
Life satisfaction	0.022 (0.018)	0.059*** (0.020)	0.013 (0.013)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1		
	Standard errors in parentheses.		
	Only the coefficient for the explanatory variable(s) shown (full models available on request).		
	The explanatory variables are included separately.		
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.		

Table A7. Linear probability model (OLS) of wage income (1.5G), by social capital and covariates – split by pain often (panel A) and HSCL-10 cut-off (panel B).

Panel A	(1)		(2)		(3)	
	1.5G in 2013		1.5G Ever (2005—2013)		1.5G Always (2009—2013)	
Pain often?	Yes	No	Yes	No	Yes	No
Often lonely	-0.038	-0.035	-0.077	-0.045	-0.066	-0.087
	(0.061)	(0.079)	(0.070)	(0.080)	(0.046)	(0.066)
Active member	-0.011	0.202*	0.208*	0.291***	-0.049	0.115
currently	(0.107)	(0.110)	(0.123)	(0.109)	(0.081)	(0.091)
Social trust	-0.006	0.016	0.023	0.013	0.006	0.016
index	(0.014)	(0.016)	(0.016)	(0.016)	(0.010)	(0.013)
Panel B	(1)		(2)		(3)	
	1.5G in 2013		1.5G Ever (2005—2013)		1.5G Always (2009—2013)	
Above HSCL-10 cut-off?	Yes	No	Yes	No	Yes	No
Often lonely	-0.034	-0.000	-0.026	0.034	-0.072	0.056
	(0.061)	(0.133)	(0.067)	(0.137)	(0.044)	(0.120)
Active member	0.026	0.226*	0.229*	0.286**	-0.038	0.139
currently	(0.111)	(0.117)	(0.119)	(0.118)	(0.078)	(0.105)
Social trust	-0.000	0.025	0.015	0.022	0.011	0.014
index	(0.015)	(0.019)	(0.016)	(0.019)	(0.011)	(0.017)

Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1
	Standard errors in parentheses.
	Only the coefficient for the explanatory variable(s) shown (full models available on request).
	The explanatory variables are included separately.
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.

Table A8. Linear probability model (OLS) of wage income (3G in panel A; 1.5G in panel B), by social capital and covariates – split by limiting illness.

Panel A	(1)		(2)		(3)	
	3G in 2013		3G Ever (2005—2013)		3G Always (2009—2013)	
Limiting illness?	Yes	No	Yes	No	Yes	No
Often lonely	-0.094*	-0.036	-0.194***	-0.078	-0.052	-0.064
	(0.053)	(0.066)	(0.066)	(0.072)	(0.036)	(0.050)
Active member	-0.009	0.099	0.190*	0.290***	0.073	0.110
currently	(0.090)	(0.097)	(0.112)	(0.105)	(0.060)	(0.075)
Social trust	0.021*	0.009	0.021	0.013	0.014	0.011
index	(0.012)	(0.015)	(0.015)	(0.016)	(0.008)	(0.011)
Panel B	(1)		(2)		(3)	
	1.5G in 2013		1.5G Ever (2005—2013)		1.5G Always (2009—2013)	
Limiting illness?	Yes	No	Yes	No	Yes	No
Often lonely	-0.091	-0.000	-0.157**	-0.034	-0.067	-0.092
	(0.059)	(0.071)	(0.071)	(0.071)	(0.045)	(0.058)
Active member	0.061	0.136	0.280**	0.267**	0.022	0.094
currently	(0.098)	(0.105)	(0.118)	(0.104)	(0.076)	(0.086)
Social trust	0.014	-0.000	0.032**	0.008	0.012	0.016
index	(0.013)	(0.016)	(0.016)	(0.016)	(0.010)	(0.013)
Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1					
	Standard errors in parentheses.					
	Only the coefficient for the explanatory variable(s) shown (full models available on request).					
	The explanatory variables are included separately.					
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.					

Table A9. Linear probability model (OLS) of wage income (1.5G;3G), by social capital, pain often, social capital X pain often, and covariates.

Panel A:	2013		Ever		Always	
Bonding			(2005—2013)		(2009—2013)	
	1.5G	3G	1.5G	3G	1.5G	3G
Pain often	-0.099*	-0.042	-0.169***	-0.092	-0.068	-0.077**
	(0.059)	(0.054)	(0.062)	(0.060)	(0.047)	(0.039)
Often lonely	-0.019	-0.071	-0.041	-0.077	-0.083	-0.056
	(0.072)	(0.066)	(0.077)	(0.075)	(0.058)	(0.048)
Often lonely X	-0.035	-0.006	-0.049	-0.085	0.009	0.014
pain often	(0.098)	(0.089)	(0.103)	(0.100)	(0.077)	(0.065)
Panel B:	2013		Ever		Always	
Bridging			(2005—2013)		(2009—2013)	
	1.5G	3G	1.5G	3G	1.5G	3G
Pain often	-0.081	-0.055	-0.159***	-0.116**	-0.068	-0.069**
	(0.053)	(0.049)	(0.055)	(0.053)	(0.041)	(0.034)
Active member	0.222**	0.064	0.305***	0.298***	0.113	0.129*
currently	(0.103)	(0.095)	(0.107)	(0.104)	(0.081)	(0.067)
Active member	-0.262*	-0.050	-0.105	-0.192	-0.167	-0.133
currently X pain	(0.154)	(0.142)	(0.163)	(0.158)	(0.123)	(0.102)
often						
Panel C:	2013		Ever		Always	
Social trust			(2005—2013)		(2009—2013)	
	1.5G	3G	1.5G	3G	1.5G	3G
Pain often	-0.035	0.044	-0.246**	-0.115	-0.039	0.004
	(0.111)	(0.101)	(0.115)	(0.112)	(0.086)	(0.070)
Social trust index	0.016	0.028**	0.014	0.019	0.016	0.022**
	(0.015)	(0.014)	(0.016)	(0.015)	(0.012)	(0.010)
Social trust index	-0.018	-0.021	0.013	-0.007	-0.008	-0.018
X pain often	(0.021)	(0.019)	(0.022)	(0.022)	(0.016)	(0.014)

Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1
	Standard errors in parentheses.
	Only the coefficients for health, social capital, and interplay between health and social capital shown (full models available on request).
	The explanatory variables are included separately.
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.

Table A10. Linear probability model (OLS) of wage income (1.5G;3G), by social capital, HSCL-10 cut-off, social capital X HSCL-10 cut-off, and covariates.

Panel A: **Bonding**	2013		Ever (2005—2013)		Always (2009—2013)	
	1.5G	3G	1.5G	3G	1.5G	3G
HSCL-10 cut-off	-0.059	-0.042	-0.144**	-0.178***	-0.051	-0.065
	(0.061)	(0.055)	(0.063)	(0.061)	(0.047)	(0.040)
Often lonely	0.039	-0.023	0.070	-0.046	0.085	-0.009
	(0.126)	(0.114)	(0.137)	(0.131)	(0.103)	(0.086)
Often lonely X	-0.081	-0.037	-0.108	-0.004	-0.162	-0.019
HSCL-10 cut-off	(0.141)	(0.127)	(0.152)	(0.146)	(0.114)	(0.095)

Panel B: **Bridging**	2013		Ever (2005—2013)		Always (2009—2013)	
	1.5G	3G	1.5G	3G	1.5G	3G
HSCL-10 cut-off	-0.052	-0.069	-0.170***	-0.177***	-0.084*	-0.061*
	(0.055)	(0.050)	(0.057)	(0.054)	(0.043)	(0.036)
Active member	0.212*	0.081	0.294**	0.357***	0.129	0.155**
currently	(0.110)	(0.100)	(0.117)	(0.112)	(0.089)	(0.075)
Active member	-0.209	-0.061	-0.065	-0.265*	-0.178	-0.163
currently X	(0.159)	(0.144)	(0.165)	(0.158)	(0.126)	(0.105)
HSCL-10 cut-off						

Panel C: **Social trust**	2013		Ever (2005—2013)		Always (2009—2013)	
	1.5G	3G	1.5G	3G	1.5G	3G
HSCL-10 cut-off	-0.006	0.039	-0.190	-0.083	-0.081	-0.032
	(0.128)	(0.115)	(0.135)	(0.130)	(0.101)	(0.083)
Social trust index	0.014	0.029*	0.013	0.022	0.011	0.017
	(0.018)	(0.016)	(0.019)	(0.018)	(0.014)	(0.012)
Social trust index	-0.013	-0.016	0.008	-0.019	-0.001	-0.005
X HSCL-10 cut-off	(0.023)	(0.021)	(0.025)	(0.024)	(0.018)	(0.015)

Notes	Significance level: *** = 0.01 ** = 0.05 * = 0.1
	Standard errors in parentheses.
	Only the coefficients for health, social capital, and interplay between health and social capital shown (full models available on request).
	The explanatory variables are included separately.
	All models controls for age (and age^2), female, married/cohab., VGS/higher educ., and born abroad.