The effect of adverse employment circumstances on physical pain: Evidence from Australian panel data

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ABSTRACT

Physical pain is a common health problem with great public health implications. Yet evidence on whether adverse employment circumstances shape physical pain is limited. Using longitudinal data from 20 waves (2001-2020) from the Household, Income and Labour Dynamics of Australia Survey (HILDA; N= 23,748), a lagged design, Ordinary Least Squares (OLS) regressions as well as multilevel mixed effect linear regressions, we investigated the association between past accumulated unemployment and recent employment circumstances with physical pain. We found that adults who spent more years unemployed and looking for work subsequently reported greater physical (*b* = 0.034, 95% *CI*= 0.023, 0.044) and pain interference (*b* = 0.031, 95% *CI*= 0.022, 0.038) than those who spent fewer years unemployed. We also found that those experiencing overemployment (working full-time while wanting to work fewer hours) and underemployment (working part-time while wanting to work more hours) reported greater subsequent physical pain (overemployment: *b* = 0.024, 95% *CI*= 0.009, 0.039; underemployment: *b* = 0.036, 95% *CI*= 0.014, 0.057) and pain interference (overemployment: *b* = 0.017, 95% *CI*= 0.005, 0.028; underemployment: *b* = 0.026, 95% *CI*= 0.009, 0.043) than those content with their working hours. These results held after controlling for socio-demographic characteristics, occupation, and other health-related factors. These findings are consistent with recent work that suggested that psychological distress can influence physical pain. Understanding how adverse employment circumstances impact physical pain is crucial to the design of health promotion policies.

Keywords: Physical pain, unemployment, overemployment, underemployment, work preference, adverse employment.

INTRODUCTION

Physical pain is a health problem with important consequences for people's quality of life. For instance, physical pain has a detrimental impact on people's mental wellbeing and risk of mortality, [1,2] drug and alcohol misuse [3,4], and suicide [5,6]. Pain is common: In 2021, 32% of people were in pain all over the world [7]. In 2020, 3.37 million of Australian citizens were experiencing chronic pain and 68% of these individuals were of working age [8]. Due to its relevant implications, physical pain is a major public health issue that demands urgent consideration. In the present study, we use data from 20 waves of the Household, Income, and Labour Dynamics in Australia survey (HILDA) to assess the longitudinal association of past accumulated unemployment, recent experiences of underemployment and overemployment, with physical pain.

Pain is an unpleasant sensation people feel in the body. In some cases, physical pain can be associated with physical damage whereas, in other occasions, pain can be linked to social factors that lead to poor mental states [see 9,10]. Indeed, prior research has shown a strong link between physical pain and negative emotions like psychological distress by documenting that negative emotions and pain can share the same neural mechanism [see 11 for a review]. This body of research supports the possibility that adverse employment circumstances which have been found to be linked to poor wellbeing could also lead to greater pain.

Prior work has examined the link between unemployment and mental wellbeing. For instance, existing research suggests that those who have become unemployed are at elevated risk of psychological distress [12–14] even years later when they have returned to work, a phenomenon known as unemployment scarring [15]. Using German panel data, Clark et al [16] found that the negative effect of current unemployment on psychological wellbeing was greater for those with high levels of past unemployment. In a follow up study using data from a British cohort study with 6,253 adults, Daly and Delaney [15] found that people who spent a

greater number of years unemployed in adulthood had higher levels of psychological distress at age 50 after controlling for childhood or early-life wellbeing.

Using cross-sectional data, some studies have explored the link between unemployment and pain. For example, Blanchflower and Bryson [17] showed that, in the US and other OECD countries, the unemployed reported greater incidence of pain than the employed. In a recent study exploring unemployment at the country level and using a worldwide sample of more than a million respondents, Macchia and Oswald [18] showed that when the unemployment rate was high (vs low) people reported greater physical pain regardless of their employment status.

Previous research has also examined the association between deviations from desired hours of work and wellbeing. For instance, Mousteri et al., [19] used data from a British cohort study and showed that people who were underemployed (those who were working part-time and wanted to work more hours) reported greater psychological distress than those who were employed full-time and were working their preferred number of hours. Using data from 5,113 respondents from the National Longitudinal Survey of Youth, Dooley et al., [20] have shown that the underemployed exhibited more depressive symptoms and poorer mental and physical health than the employed after controlling for past depression and health. Milner and LaMontagne [21] used 13 waves of HILDA, and found that an increase in hours underemployed was linked to poorer mental health in the Australian population. Using cross-sectional data from the European Social Survey, Başlevent and Kirmanoğlu [22] found that greater deviations from desired hours of work reduced life satisfaction in Europe.

Evidence on the association between working hours and physical pain is limited. For example, Gerdle et al., [23] conducted a cross-sectional survey with 9,952 individuals in Sweden and found that severe pain was linked to reduced working hours. Recently, Amiri [24] investigated the link between working hours and musculoskeletal pain in a meta-analysis and

found that longer working hours have been associated with greater risk of musculoskeletal pain.

Despite this work, no study has explored the longitudinal association of past accumulated unemployment, recent experiences of underemployment and overemployment, with physical pain. This enquiry is motivated by a number of theories. For instance, conservation of resources theory [25] suggests that employees may accept work arrangements that do not match their preferences to avoid losing current resources, for example, their job. In this case, workers who are underemployed or overemployed just to keep their job could feel some discomfort that can be manifested by greater psychological distress and physical pain. Relative deprivation theory [26] can also help to explain why accumulated unemployment, underemployment and overemployment can be translated into greater pain. People with these work arrangements might see themselves as inferior compared to those who work full time and are content with their working hours. This situation can be linked to poorer wellbeing and greater pain.

METHODS

Data

This study used 20 waves (2001-2020) from the Household, Income and Labour Dynamics of Australia Survey (HILDA). HILDA is a representative household-based longitudinal study of Australian residents. It follows up the same individuals annually and collects detailed representative data on the health, wellbeing, economic circumstances, and labour market characteristics of the Australian population. HILDA commenced in 2001 with a large national probability sample of 13,969 individuals from 7,682 Australian households (initial household response rate was 66%) and typically has high response rates of over 90% for individual survey waves [27]. The sample for the current study includes 168,094

observations on 23,748 individuals (51% Male, Age range=15-89 years old, Mean age = 39.88, SD = 13.98) assessed between 2001 and 2020. The key variables examined in this study were available across all annual waves of HILDA. As this study used publicly available anonymized data, institutional ethical approval was not necessary.

Measures

Outcome variables

Each wave of HILDA contains two questions about pain:

Level of physical pain. First, participants were asked about the level of physical pain they have recently experienced: "How much bodily pain have you had during the past 4 weeks?". Responses are gauged on a six-point scale ranging from 1 = "No bodily pain" to 6 = "Very severe".

Pain interference. The second question was in relation to functionality and the potential limiting nature of pain in impacting the ability to perform usual activities. Participants were asked "During the past 4 weeks, how much did pain interfere with your normal work (including both work outside the home and housework)?". Responses were provided on a five-point scale ranging from 1 = "Not at all" to 5 = "Extremely". Both pain items were treated as continuous in our analyses.

Independent variables and covariates

Years unemployed and looking for work: In each wave, participants were asked to estimate the total time they have spent unemployed and looking for work: *"*Since you left full-time education for the first time, how many years / months in total have you spent unemployed and looking for work?"

Work preference: Work preference was assessed using responses to two survey

questions examining respondents' main economic activity and hours of work preferences. Current labour force status was categorised as either employed full-time (FT) or employed part-time (PT). Employed participants were then asked whether they would "Prefer to work more, less or same hours" and selected "prefer fewer hours", "prefer more hours" or "prefer same hours." By combining these two variables, we obtained the following categories: (i) FT - work same: People who worked full-time and wanted to work the same number of hours. This group was used as the reference category in the regression models. (ii) FT - work more: People who worked full-time and wanted to work more hours. (iii) FT - work less (overemployed): People who worked full-time and wanted to work less hours. (iv) PT - work same: People who worked part-time and wanted to work the same number of hours. (v) PT - work more (underemployed): People who worked part-time and wanted to work more hours. (vi) PT - work less: People who worked part-time and wanted to work less hours. (vi) Employed undefined hours: People who were employed but usual hours worked were undefined. The work preference variable was lagged by one wave in the regression models.

Covariates: We adjusted for demographic characteristics that may influence labour market outcomes and physical pain: age (linear and squared), gender, marital status (single, married, cohabiting, separated, divorced, widowed), level of education (Year 11 or below, Year 12/completion of high school, Certificate level I/II, Certificate level III/IV, Diploma or Advanced Diploma, Bachelor degree, Graduate Certificate or Diploma, Postgraduate degree), personal income, occupation (50 occupations that can be grouped into the following eight categories: Managers, Professionals, Technicians and Trades Workers, Community and Personal Service Workers, Clerical and Administrative Workers, Sales Workers, Machinery Operators and Drivers, Labourers. This variable was coded by the Australian and New Zealand Standard Classification of Occupations, see https://www.abs.gov.au/statistics/classifications/anzsco-australian-and-new-zealand-standard-

classification-occupations/2021for more information), and state and survey year fixed effects. In the models in which we tested years of unemployment we also controlled for current employment status.

In addition, we considered health-related factors that may influence physical pain: (i) Long-term health condition: People were asked "Do you have any long-term health condition, impairment or disability that restricts you in your everyday activities, and has lasted or is likely to last, for 6 months or more?" and could answer yes or no. (ii) General health: Respondents were asked "In general, would you say your health is?" answer categories ranged from Poor (1) to Excellent (5). (iii) Mental health: This measure was created from 9 items that aimed to rate people's mental health from the SF-36 questionnaire. This measure ranged from 0-100 and represented better mental health with a higher number. In the models exploring work preference, we lagged the health-related variables by one wave. The goal was to match the time in which the work preference variable was measured and, thus, to account for potential confounding effects and self-selection into underemployment or overemployment as a function of poor physical or mental health. Including health factors in the unemployment models served to account for potential ways in which past unemployment could influence current pain.

Statistical analysis

To explore respondents' physical pain in response to years of unemployment and work preference, we used Ordinary Least Squares (OLS) regressions. To account for the panel structure of the data, we clustered the standard errors at the individual level. We created separate regressions for years of unemployment and work preference to preserve the full sample in each variable. As mentioned earlier, we lagged work preference by one wave to reduce the possibility of reverse causality (for instance, overemployment and

underemployment at time *t-1* were used to predict pain at time *t*). In the work preference models, health-related factors were also lagged by one wave to account for the role of health in influencing work preference. In all models, we included occupation, state, and wave fixed effects to account for unobserved work sector-, state-, and time-specific factors that could influence individuals' physical pain and labour market status. Multilevel mixed effects linear models were also conducted.

RESULTS

Descriptive statistics for all the variables included in the analyses can be found in Tables S.1 and S.2 in the Supplemental Material (SM). On average participants were unemployed for 0.53 years in the past (SD = 1.41) and the prevalence of underemployment was 9% and overemployment 22%. Pain levels were low on average in both the unemployment and work preference samples, as indicated by mean scores of 2.23 and 2.24 respectively (six-point pain rating scale ranging from 1 = no bodily pain to 6 = very severe). The mean of physical pain in each year from 2001 to 2020 can be found in Table S.3 in the SM. The level of physical pain was 2.15 in 2001 and 2.3 in 2020 whereas pain interference was 1.53 in 2001 and 1.52 in 2020.

Past accumulated unemployment and physical pain

Figure 1 shows the unadjusted association between years spent unemployed looking for work and physical pain. Respondents who spent more (vs fewer) years unemployed and looking for work reported greater physical pain and greater pain interference.

Pain level. Models 1 to 4 in table 1 present formal regression equations that show that people who spent more (vs fewer) years unemployed and looking for work reported greater physical pain after controlling for demographic characteristics including current employment status and income ($b = 0.034$, $p < .001$, 95% *CI* [0.023, 0.044]). Further adjustment for a

detailed measure of occupation did not attenuate this association markedly (b = 0.030, p < .001, 95% *CI* [0.020, 0.040]). The association between years of unemployment and pain levels became statistically insignificant when we controlled for respondent's current general health (b = 0.002, p = 0.509, 95% *CI* [-0.004, 0.009]), and mental health (b = -0.001, p = 0.779, 95% *CI* [-0.008, 0.006]).

Pain interference. Models 1 to 4 in table 2 show that respondents who spent more (vs fewer) years unemployed and looking for work reported greater pain interference after controlling for demographic characteristics (b = 0.031, p < .001, 95% *CI* [0.022, 0.038]) and occupation (b = 0.027, p < .001, 95% *CI* [0.019, 0.035]). This effect was diminished substantially after adjustment for current general health (b = 0.008, p = .007, 95% *CI* [0.002, 0.013]) and mental health (b = 0.004, p = 0.115, 95% *CI* [-0.001, 0.009]).

Work preference and physical pain

Figure 2 presents the unadjusted link between work preference and physical pain: the underemployed and the overemployed reported greater level of pain (Panel A) and pain interference (Panel B) than the full-time employed. Whereas the level of pain of the underemployed vs the overemployed did not differ significantly (Panel A), the underemployed reported greater pain interference than the overemployed (Panel B).

Pain level. Models 5 to 8 in Table 1 show that people who were overemployed were in greater pain than those who worked full-time and wanted to work the same number of hours after controlling for demographic characteristics (b = 0.024, p = .001, 95% *CI* [0.009, 0.039]), occupation (b = 0.026, p < .001 , 95% *CI* [0.011, 0.004]), general health (b = 0.023, p = .002 , 95% *CI* [0.008, 0.037]), and mental health (b = 0.015, p = .035, 95% *CI* [0.001, 0.029]). We also found that the underemployed reported greater physical pain than those who worked full-time and wanted to work the same number of hours. This finding held after

controlling for demographic characteristics (*b* = 0.036, *p* = .001 , 95% *CI* [0.014, 0.057]), occupation (*b* = 0.033, *p* = .003, 95% *CI* [0.011, 0.054]), and general health (*b* = 0.029, *p* = .009, 95% *CI* [0.007, 0.050]). This result became insignificant after controlling for mental health (*b* = 0.021, *p* = .052, 95% *CI* [-0.001, 0.042]).

Pain interference. Models 5 to 8 in Table 2 show that for the overemployed pain interfered with work to a greater extent than for the full-time employed after adjusting for demographic characteristics (*b* = 0.017, *p* = .003, 95% *CI* [0.005, 0.028]), occupation (*b* = 0.018, *p* = .002, 95% *CI* [0.006, 0.029]), and general health (*b* = 0.016, *p* = .005, 95% *CI* [0.004, 0.026]). This finding also became insignificant after accounting for mental health (*b* = 0.008, *p* = .141, 95% *CI* [-0.002, 0.019]). The models in Table 2 also show that the underemployed reported greater pain interference than the full-time employed after adjusting for demographic characteristics (*b* = 0.026, *p* = .003, 95% *CI* [0.009, 0.043]), occupation (*b* = 0.022, *p* = .011, 95% *CI* [0.005, 0.039]), and general health (*b* = 0.019, *p* = .030, 95% *CI* [0.001, 0.035]). This finding was insignificant after controlling for mental health (*b* = 0.012, *p* = .180, 95% *CI* [-0.005, 0.028]).

Multilevel mixed effects linear models confirmed the results of both pain levels and pain interference (Table S.7).

DISCUSSION

This study provides new evidence that adverse employment circumstances are linked to physical pain. We used data from 20 waves (2001-2020) of a nationally representative Australian panel survey. Specifically, we explored the longitudinal association of past unemployment, and recent experiences with overemployment and underemployment, with physical pain. We found that respondents who spent more (vs fewer) years unemployed and looking for work reported greater physical pain and pain interference. Moreover, individuals

who were overemployed and those who were underemployed reported greater physical pain and pain interference than those who worked full-time and wanted to work the same number of hours.

Our results are consistent with previous literature linking unemployment and underemployment to subsequent psychological distress [15,16,19]. This suggests that the unfavourable outcomes associated with adverse employment circumstances may extend beyond emotional distress to physical pain. Prior research has also shown that working more hours is more painful than working fewer hours as working longer hours may hurt the human body [24,28]. Here, we found that the effects of overemployment and underemployment on level of physical pain and pain interference were similar in magnitude (insignificant difference between coefficients in all models). This suggests that working hours mismatch may have a psychological effect beyond the physical impact that working long hours might have. In line with this idea, our analysis also shows that working part-time while wanting to work the same number of hours was not linked to pain level and pain interference. This finding suggests that working hours preferences may matter more than the actual number of hours worked.

What can explain the link between adverse employment circumstances and physical pain? The health-related factors that we adjusted for in our analyses may shed some light on this question. The link between past unemployment and pain became statistically insignificant when controlling for general health and mental health. As such, the scarring effect of unemployment on mental wellbeing [12,15,16,29] and the contribution of unemployment to a deterioration in general health [30] may go some way towards explaining increased pain levels among those with a history of unemployment.

Similarly, the effect of overemployment and underemployment on pain level and pain interference was diminished substantially after adjusting for mental health. This suggests that

mental health may partially mediate the link of overemployment and underemployment with physical pain. Indeed, prior research documented the link between underemployment and psychological distress [19] and the association between negative emotions and physical pain [3,11]. Long periods of unemployment and experiences with overemployment and underemployment may be associated with poor mental health which may trigger physical pain. Further research is needed to fully understand these mechanisms.

A first concern of this study is the possibility of reverse causality: It may be the case that physical pain leads to adverse employment circumstances. However, here we used a longitudinal and lagged design that allowed us to reduce the risk of reverse causality. Specifically, we used repeated assessments of pain in each of the 20 years of data available, a measure of past unemployment that captured respondent's unemployment situation before pain assessments, and lagged measures of underemployment and overemployment that captured past adverse employment circumstances. A second concern is that the measures of pain, general health, and mental health were self-reported and that pain, physical and mental health have been found to be related in multi-directional ways [3]. A third concern is that the link between adverse employment circumstances and physical pain might be driven by other health-related factors like accident or injury history, satisfaction with working environment, and area of work. A fourth concern is that the reasons for being unemployed since people finished full-time education might have different effects on pain. Future research should test these possibilities.

This study provides critical evidence that adverse employment circumstances may affect physical pain. Given that pain is an important indicator of societal wellbeing [31], this work has implications for health promotion and public health policymaking. In particular, policies that aim to improve individuals' labour market outcomes, working conditions, health screenings, and health education deserve special attention. By reducing people's pain, these

policies will improve individuals' health outcomes as well as ease the burden on the healthcare system. In light of these circumstances, future research should continue exploring the harmful and protective factors of pain to ultimately enhance individual, societal, and workplace wellbeing.

TABLES AND FIGURES

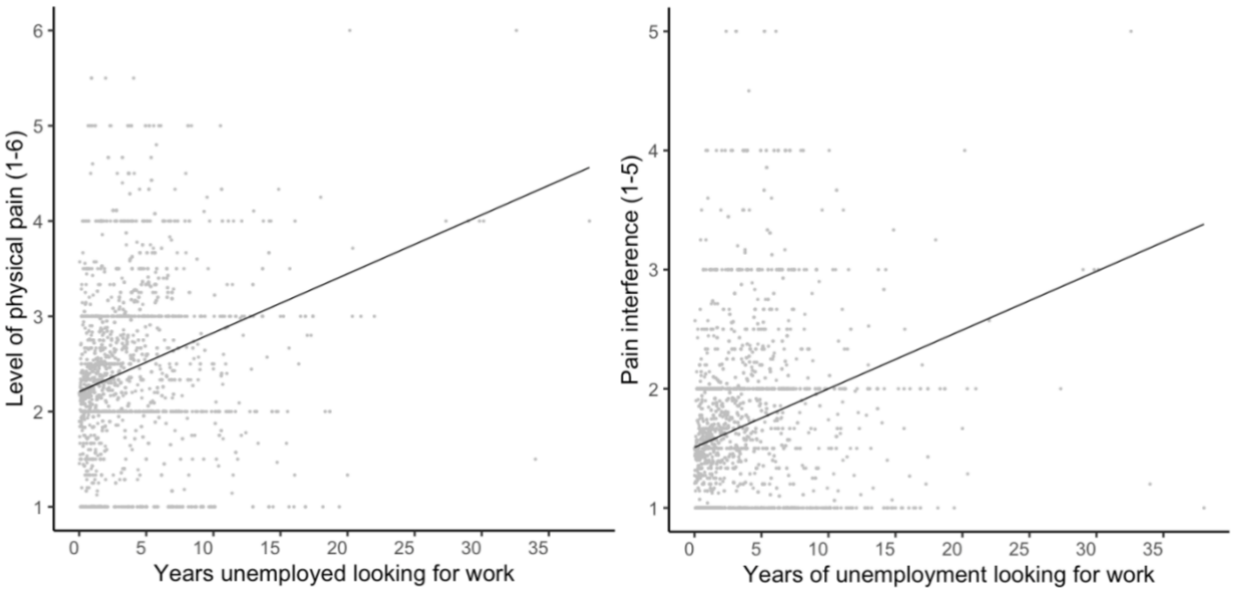

Figure 1: Unadjusted association between physical pain and years unemployed looking for work.
Level of physical pain: $b = 0.06$; $t = 9.98$; $p < .001$. Intercept = 2.21; $t = 293.64$; $p < .001$.
Pain interference: $b = 0.05$; $t = 10.43$; $p < .001$. Intercept = 1.51; $t = 293.29$; $p < .001$.

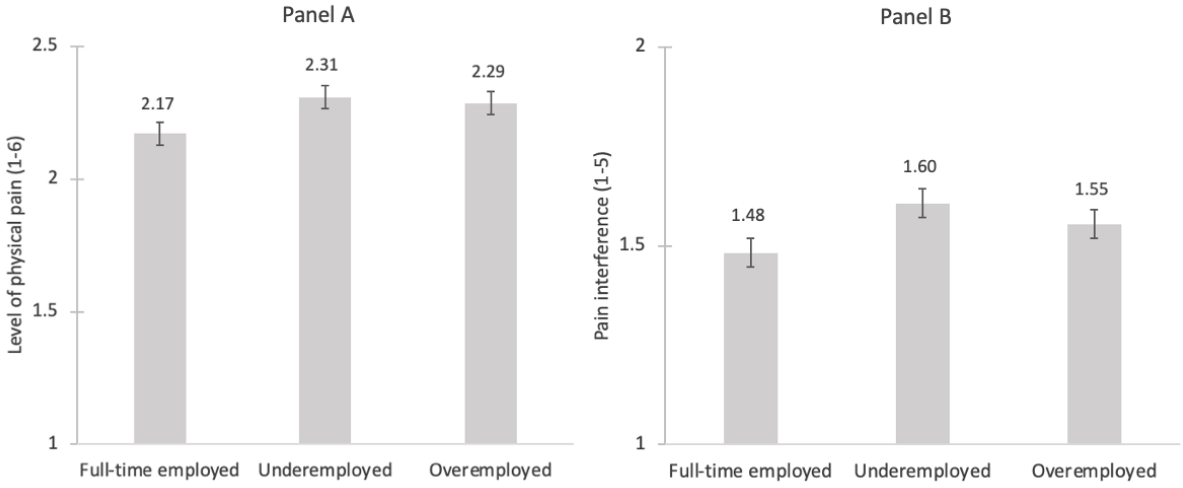

Figure 2: Unadjusted link between work preference and physical pain. Numbers above the bars are means. Error bars represent standard errors. *Panel A.* Underemployed vs full-time employed $t(18{,}532) = -12.144$, $p < .001$. Overemployed vs full-time employed $t(63{,}060) = -14.671$, $p < .001$. Underemployed vs overemployed $t(22{,}957) = -1.8707$, $p = .061$. *Panel B.* Underemployed vs full-time employed $t(18{,}126) = -14.643$, $p < .001$. Overemployed vs full-time employed $t(61{,}963) = -12.502$, $p < .001$. Underemployed vs overemployed $t(22{,}678) = -5.733$, $p < .001$.

Table 1: Level of physical pain, years unemployed, and work preference, 2000-2020. Linear Probability Models.

	Dependent variable: Level of physical pain (1-6)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years unemployed looking for work	0.034***	0.030***	0.002	-0.001	-	-	-	-
	(0.005)	(0.005)	(0.004)	(0.004)				
Work preference t-1 *(Ref.: FT - same hs)*								
FT - work more	-	-	-	-	0.019	0.015	0.015	0.011
					(0.014)	(0.014)	(0.014)	(0.014)
FT - work less -overemployed-	-	-	-	-	0.024**	0.026***	0.023**	0.015*
					(0.007)	(0.007)	(0.007)	(0.007)
PT - work same	-	-	-	-	0.012	0.010	0.009	0.006
					(0.009)	(0.009)	(0.009)	(0.009)
PT - work more -underemployed-	-	-	-	-	0.036**	0.033**	0.029**	0.021
					(0.011)	(0.011)	(0.011)	(0.011)
PT - work less	-	-	-	-	0.024	0.022	0.016	0.009
					(0.018)	(0.018)	(0.018)	(0.018)
Employed undefined hours	-	-	-	-	0.037**	0.033**	0.023*	0.011
					(0.011)	(0.011)	(0.011)	(0.011)
Long-term health condition -*Yes*	-	-	0.606***	0.570***	-	-	0.253***	0.245***
			(0.012)	(0.012)			(0.009)	(0.009)
General health	-	-	-0.453***	-0.387***	-	-	-0.157***	-0.137***
			(0.005)	(0.005)			(0.004)	(0.004)
Mental health	-	-	-	-0.010***	-	-	-	-0.005***
				(0.000)				(0.000)
Occupation fixed effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constant	1.528***	1.517***	3.392***	3.910***	1.615***	1.625***	2.220***	2.519***
	(0.049)	(0.155)	(0.131)	(0.133)	(0.043)	(0.143)	(0.139)	(0.139)
N	168,094	168,094	168,094	168,094	141,931	141,931	141,931	141,931
R^2	0.047	0.051	0.247	0.265	0.047	0.050	0.147	0.163

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Models show unstandardized OLS coefficients with standard errors clustered at the individual level in parentheses. All models include demographic characteristics as covariates (age, age squared, gender, marital status, level of education, personal income), and state and wave fixed effects. Model 1 to 4 also control for current employment status. Long-term health condition, General health, and Mental health were lagged by one wave in models 5 to 8. Full regressions with all covariates can be found in Table S.5 and S.6.

Table 2: Pain interference, years unemployed, and work preference, 2000-2020. Linear Probability Models.

	Dependent variable: Pain interference (1-5)							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Years unemployed looking for work	0.031***	0.027***	0.008**	0.004	-	-	-	-
	(0.004)	(0.004)	(0.003)	(0.003)				
Work preference t-1*(Ref.: FT - same hs)*								
FT - work more	-	-	-	-	0.002	-0.001	0.000	-0.003
					(0.011)	(0.011)	(0.011)	(0.011)
FT - work less -overemployed-	-	-	-	-	0.017**	0.018**	0.016**	0.008
					(0.006)	(0.006)	(0.006)	(0.006)
PT - work same	-	-	-	-	0.004	0.002	-0.001	-0.003
					(0.007)	(0.007)	(0.007)	(0.007)
PT - work more -underemployed-	-	-	-	-	0.026**	0.022*	0.019*	0.012
					(0.009)	(0.009)	(0.009)	(0.009)
PT - work less	-	-	-	-	0.014	0.013	0.007	-0.000
					(0.015)	(0.015)	(0.015)	(0.015)
Employed undefined hours	-	-	-	-	0.024**	0.020*	0.012	0.002
					(0.009)	(0.009)	(0.009)	(0.009)
Long-term health condition -*Yes*	-	-	0.482***	0.447***	-	-	0.212***	0.206***
			(0.010)	(0.010)			(0.008)	(0.008)
General health	-	-	-0.308***	-0.244***	-	-	-0.119***	-0.101***
			(0.004)	(0.004)			(0.003)	(0.003)
Mental health	-	-	-	-0.010***	-	-	-	-0.005***
								(0.000)
Occupation fixed effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Constant	1.255***	1.221***	2.489***	2.991***	1.303***	1.207***	1.666***	1.952***
	(0.035)	(0.122)	(0.103)	(0.106)	(0.031)	(0.106)	(0.107)	(0.106)
N	168,094	168,094	168,094	168,094	141,931	141,931	141,931	141,931
R^2	0.036	0.041	0.226	0.257	0.034	0.038	0.136	0.157

Note: * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$. Models show unstandardized OLS coefficients with standard errors clustered at the individual level in parentheses. All models include demographic characteristics as covariates (age, age squared, gender, marital status, level of education, personal income), and state and wave fixed effects. Model 1 to 4 also control for current employment status. Long-term health condition, General health, and Mental health were lagged by one wave in models 5 to 8. Full regressions with all covariates can be found in Table S.5 and S.6.

Authors declare no conflict of interest.

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Data and materials availability:

- Dataset and code for replication can be found at the Open Science Framework (OSF) https://osf.io/6k45v/?view_only=d067f09bb69041fb921da794135cb083
- Link to the HILDA database https://melbourneinstitute.unimelb.edu.au/hilda