Why are union members unhappy? Evidence from Australia

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There is substantial international evidence indicating that union members report lower job satisfaction compared to their non-member counterparts. Using a novel Australian dataset with a comprehensive set of outcome measures, we provide new insights into union member satisfaction with management and work conditions. Notably, we can identify individuals who are not union members but wish to join a union. Our analysis reveals that dissatisfaction is partly linked to personal or job-specific factors. Nevertheless,, union members' dissatisfaction is primarily directed towards management rather than work conditions. This pattern of dissatisfaction can be explained by union voice considerations, where unions amplify worker discontent and justify the need for union membership.

Keywords: trade union membership, job satisfaction, attitudes to management, satisfaction with work conditions, panel data, sorting, union membership desire, union voice

JEL codes: J28, J50, J51

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1. Introduction

The industrial relations landscape in Australia has changed markedly over the past three decades. Historically Australia was characterised by a highly centralised wage setting regime that imposed rigid wage relativities across occupations. For most workers, wages were determined by 'awards' set through a quasi-judicial system of conciliation and arbitration operating through industrial tribunals (Organisation for Economic Cooperation and Development (OECD) 2004). Since the mid-1980s there has been a substantial departure from this approach. Initially conceived as a move to collective bargaining at an enterprise level in the 1990s, a series of legislative changes throughout the 2000s sought to encourage greater bargaining between individual employers and employees (Gahan and Pekarek 2012).

These changes have coincided with a marked decline in union membership. After peaking at around 65 percent in the middle of the twentieth century, membership had declined to around 51 percent of the workforce by the early 1980s. The period since has seen a more precipitous decline. In 2024, just 13 percent of workers reported being union members in their main job (Australian Bureau of Statistics (ABS) 2024). Despite the decline, unions continue to play an important role setting pay and conditions for a large proportion of the workforce either through the remnants of the award structure or collective bargaining that applies to all workers in an enterprise. Indeed, while the decline in union *membership* in Australia between 2000 and 2016 was highest among OECD countries, the decline in union *coverage* was the lowest among all OECD countries except France (Bishop and Chan 2019).

A common finding in the literature, across countries and over time, is that union members report lower job satisfaction compared to non-members. Freeman and Medoff (1984) note that this is somewhat counterintuitive because union members generally experience higher wages along with better benefits, grievance procedures, and job security. Booth (1995) reports similar findings in a comprehensive study of unions in the United States and the United Kingdom.

Several explanations have been offered for the association between union membership and worker dissatisfaction. These include worker heterogeneity, in which innately more dissatisfied individuals join unions, or job heterogeneity, in which union organization efforts are concentrated on workplaces with challenging conditions. Another explanation is the 'exit-voice' hypothesis (Freeman 1980) combined with union advocacy. In an environment where union members are empowered to voice dissatisfaction as an alternative to quitting, unions may highlight workplace issues to rally support for change, thereby amplifying members' awareness of dissatisfaction (Booth 1995, Green and Heywood 2015).

This paper enhances our understanding of the dissatisfaction reported by union workers in several ways. Firstly, it offers the first comprehensive analysis of Australian workers' attitudes, an area previously lacking substantial evidence (Laroche 2016) given that most research on union membership and job satisfaction focuses on the UK and the US. Indeed, features of the Australian industrial relations system offer the potential for unique insight into the search for an explanation of the relationship. In Australia, non-union members benefit

from union-negotiated pay and conditions through collective bargaining and the award system. Yet, unlike many other countries, there are no bargaining fees for non-union members. Thus, workers may enjoy the advantages of higher wages, better working conditions, and other benefits secured by union efforts without joining the union or contributing to its costs. The possibility of 'free riding' implies that workers who decide to join a union in Australia seek benefits of membership beyond wages, benefits, and conditions, suggesting a setting where the exit-voice hypothesis may be especially relevant. Further, in Australia, an individual's choice to join a union is driven by a deliberate evaluation of the advantages of membership, as opposed to being influenced solely by the characteristics of their current job (Laroche 2016).

A second major contribution of our analysis is the use of the unique longitudinal dataset Australia at Work (A@W), which spans the years 2007 to 2011. The breadth and depth of the A@W survey questions provide richer insights into worker satisfaction than previous studies. Notably, the survey goes beyond general measures of job satisfaction to explore working conditions, perceptions of management, levels of staff consultation, and trust in leadership. Thus, our analysis presents new evidence on the potential source of dissatisfaction among union workers. A further advantage of the A@W data is its inclusion of individual-level information on both actual and desired union membership. This allows us to identify workers who are not currently union members but wish to join, a group of 'marginal' members often overlooked in other studies. As a result, we gain a more nuanced understanding of the differences in attitudes among union members, non-members, and those considering membership. Lastly, the longitudinal design of the A@W dataset enables us to track workers as they change union status and jobs over time. This allows us to account for both worker-specific and job-specific factors, offering deeper insight into the effects of individual and workplace heterogeneity.

From the A@W data, we extract measures of worker satisfaction with management and work conditions, which strongly correlate with overall job satisfaction. A strong negative association between union membership and these satisfaction measures is found, as in the existing literature. Our empirical analysis exploits panel data methods and reveals that the relative dissatisfaction reported by union members is not due to worker heterogeneity or unions organizing in less desirable jobs. In other words, sorting is not the main cause of the dissatisfaction among union members. By leveraging the longitudinal nature of the data, the analysis shows that both union membership and the desire for union membership are linked to lower worker satisfaction, though in different aspects of employment. Union members tend to express more dissatisfaction with management, while marginal members are less satisfied with subjective aspects of their employment.

The structure of this paper is as follows. Section 2 reviews the existing literature on the phenomenon of dissatisfied union members. We argue that Australia's unique institutional arrangements offer a valuable opportunity to gain broader insights into why union workers tend to be less satisfied than their non-union counterparts. Section 3 introduces the A@W data and section 4 describes the methodological approach used in the analysis. Section 5 presents the results, and the conclusions are outlined in Section 6.

2. Literature review

Beginning with Freeman (1978), a substantial body of research has consistently found that union members report higher levels of job dissatisfaction relative to non-members. Yet the underlying cause of this empirical regularity remains ambiguous. Notably, Borjas (1979) and Freeman and Medoff (1984) find no evidence that the dissatisfaction arises from reductions in non-pecuniary job attributes intended to offset the higher wages typically associated with union membership. Subsequent literature has explored alternative explanations, particularly those centred on sorting or selection mechanisms. One hypothesis is that workers who are inherently more dissatisfied with their jobs are disproportionately likely to seek union representation. Under this scenario, the observed association between union status and job dissatisfaction reflects a self-selection process among workers (Green and Heywood, 2015). A competing hypothesis is that unions organize in, or strategically target, workplaces characterized by poor working conditions during their organizing efforts. If the adverse attributes of these jobs outweigh the pecuniary and non-pecuniary benefits conferred by unionization, then employees in such environments may be both more likely to be unionized and more likely to express dissatisfaction. In this case, the observed relationship reflects a sorting process initiated by unions. Regardless of whether the sorting mechanism originates with workers or unions, the positive correlation between job dissatisfaction and union membership should not be interpreted as evidence, either directly or indirectly, of a causal effect of unionization.

An alternative explanation is that the job dissatisfaction reported by union members is the result of union activity. -Instead, expressions of dissatisfaction may serve as a strategic mechanism through which unions articulate collective grievances to management. This perspective aligns closely with the concept of union ‘voice’. Borjas (1979) contends that unions operate by drawing attention to suboptimal working conditions and fostering awareness among workers about deficiencies in their jobs. In doing so, unions offer an institutionalized channel for expressing dissatisfaction and encouraging change, one that serves as an alternative to quitting (Freeman, 1980). In a more critical view, unions may even actively cultivate discontent among workers (Bryson, Cappellari, and Lucifora, 2004). As Green and Heywood (2015: 581) observe, “unions provide a collective voice alternative to quitting . . . and must encourage discontent as a prerequisite for successfully making demands of the firm.” This interpretation suggests that reported dissatisfaction may be instrumental rather than intrinsic, functioning as a necessary component of union strategy rather than a direct reflection of individual sentiment.

A substantial body of empirical research has investigated both the existence and underlying causes of the negative association between union membership and job satisfaction. While early studies relied primarily on cross-sectional data, concerns soon emerged about the endogenous nature of union status, which could bias estimates of its effect. To address this issue, several studies have employed instrumental variable techniques. Borjas (1979), examining data from the United States, found a persistent and robust negative relationship

between union membership and job satisfaction. In contrast, studies conducted in the United Kingdom by Bender and Sloane (1998) and Bryson, Cappellari, and Lucifora (2004), as well as more recent work by Goerke and Huang (2022) in Germany, report more mixed findings. These latter studies suggest that once endogeneity is accounted for, the negative effect of union status is either substantially reduced or eliminated altogether (Bessa et al., 2021). Similarly, Pfeffer and Davis-Blake (1990), Lillydahl and Singell (1993), and Gius (2012) find no evidence of a causal effect of union membership on job satisfaction.

More recently, longitudinal data has yielded greater insight into the sorting or selection hypotheses. Green and Heywood (2015) use observations on individuals who transition between union and non-union jobs and show that the dissatisfaction expressed by union members persists over time and across jobs. Notably, their analysis controls for unobserved (non-time-varying) fixed effects across both workers and jobs, suggesting that it is neither inherently dissatisfied individuals choosing union jobs, nor is it union organization of worse jobs that is the source of the observed association between union status and dissatisfaction.

Other studies have considered the dynamic relationship between workers, jobs, union status and dissatisfaction. For example, Artz (2010; 2012) argues that union status is an experience good, and that worker satisfaction varies depending on exposure to (and time since exposure to) a union job. This characterisation of the relationship between union status and worker satisfaction is intricately related to 'voice' and a union's role in nurturing a culture of discontent. Artz (2012) argues that given union workplaces are often male dominated, union voice may not be gender neutral, leading to differences in job satisfaction expressed by men and women. While highlighting the importance of considering the dynamic nature of job satisfaction, both studies suffer from a lack of consistency in measuring union status and distinguishing union coverage from union membership (Goerke and Huang 2022). Bryson, Cappellari and Lucifora (2010) note that this distinction may not be important in settings where coverage and membership are coincident, but it is likely to matter when it is not, as is the case in Australia. Bryson, Cappellari and Lucifora (2010) presents evidence that it is uncovered members who report lower levels of job satisfaction relative to covered members, a finding consistent with the voice model whereby union members express dissatisfaction to achieve union goals. Powdthavee (2011) also emphasises the importance of distinguishing between coverage and membership, along with changes in satisfaction reported as individuals enter and experience trade union membership over time. Characterising these as anticipation and adaption effects, Powdthavee (2011) identifies evidence of a decline in worker satisfaction prior to becoming covered which may reflect the organisers of a prospective union fomenting discontent, possibly to elicit support for bargaining. In contrast, Powdthavee (2011) finds a significant positive impact on satisfaction in the period a worker is first covered, though satisfaction levels remain below those who are uncovered.

More recent studies use longitudinal data and quasi-experimental methods to identify whether the observed correlation between union membership and job satisfaction is causal. Bessa, Charlwood and Valizade (2021) exploit an exogenous change in work conditions for UK public sector workers and find no evidence of a causal impact of membership on job satisfaction. The paper reports a similar decrease in satisfaction for both affected union

members and affected non-union members, suggesting it is the deterioration in work conditions that impacts job satisfaction, resulting in higher reported levels of dissatisfaction in workplaces that employ more union members. Goerke and Huang (2022) similarly find no evidence that an individual's membership has a causal impact on job satisfaction among German workers using a time-varying instrumental variable. Specifically, they use union density of *other workers* defined by reference to industry, region and year as an instrument for the individual's union membership. To the extent that a negative relationship between union status and job dissatisfaction is identified, fixed effects estimates indicate that it is for those entering union membership. The analysis in Goerke and Huang (2022) is noteworthy because union coverage of workers in Germany is, like Australia, significantly greater than union membership.

Other studies have challenged the consensus of a negative relationship between union membership and job satisfaction or questioned whether the relationship has changed over time. Drawing on data that spanned approximately 50 years, Artz, Blanchflower and Bryson (2022) find evidence of a *positive* relationship between union status and job satisfaction for American workers following the Great Recession. While cross-sectional in nature, they conjecture that the change in observed correlation over time, from negative to positive, may reflect changes in the perception of job security. Specifically, relative to non-members, union members may no longer view their jobs as less secure, raising their job satisfaction (relative to non-members). Similar patterns are identified for other countries and to measures of life satisfaction beyond those relating specifically to work. Blanchflower, Bryson and Green (2022) use a series of general social surveys and find evidence of a positive correlation between union membership and job satisfaction across Europe, including the United Kingdom, after incorporating worker fixed effects and individual controls. The positive correlation extends beyond job satisfaction to general life satisfaction, happiness and attitudes to societal outcomes such as democracy. Together, these papers provide some evidence that the relationship between union status and job satisfaction has changed over time. Blanchflower and Bryson (2022) consider the evolution of the relationship between union status and job satisfaction over the life course for a cohort of individuals born in 1958. Examining job satisfaction and union status at six points between the ages of 23 and 55 years, like a number of early studies, they identify a negative relationship between job satisfaction and contemporaneous union status over the life course.

Australian evidence on the relationship between satisfaction and union membership is limited. Where estimates are reported, they have generally not been the primary focus of the empirical analysis or are limited by constraints such as cross-sectional data or samples that are not representative of the population. For example, the Wooden and Warren (2004) study of satisfaction on employment arrangements for women reports a negative relationship between job satisfaction and union membership. Focussing on differences in job satisfaction by sex, Long (2009) finds a negative relationship between overall job satisfaction and union membership for both men and women. Results from other studies is mixed: there are studies finding no evidence of an association between union membership and job satisfaction (Holland et al. 2011; Drago, Estrin and Wooden 1993), a negative relationship (Miller 1990), and a positive relationship (Fleming and Kler 2008).

This discussion serves to highlight that the existing literature leaves several questions on the relationship between union status and job satisfaction unresolved. While some studies have identified a negative relationship between union membership and job satisfaction, the finding is not unanimous. More recent analysis points to a potential change in this relationship over time or that there may be other factors in play. The analysis of satisfaction around job transitions highlights that dynamic considerations may also be important. In a different vein, Bessa, Charlwood and Valizade (2021: 275) argue that the perceived effectiveness of unions and the nature of employee-employer disputes might matter for the observed relationship and whether employees 'engage with voice induced campaigning'.

This paper draws on novel and detailed measures of job satisfaction and union status yielding additional insight into the findings from earlier studies. For example, Heywood (2002) notes a negative association between some aspects of employment, specifically 'relationships with the boss', and union status. Similarly, Powdathvee (2011:1000) cites evidence that members report high satisfaction with their union despite reporting low job satisfaction. Further, because our data contains detailed information on coverage and union membership, we can explore the dynamic nature of job satisfaction by observing individuals that move between jobs and union membership. In particular, our data allow us to identify a group of 'marginal union members' – individuals who express a desire for union membership yet are not currently members. Pyman et al. (2009) study union membership desire in the Australian context. Drawing on data from the 2004 Australian Worker Representation and Participation Survey (AWRPS), they found a substantial unmet demand for union membership among workers in non-unionized workplaces, as well as in unionized ones – albeit to a lesser extent in the latter. Together these aspects of the analysis provide further insight than that available from existing analyses.

3. Data

Our analysis uses the Australia at Work (A@W) data collected by the Workplace Research Centre at the University of Sydney (van Wanrooy *et al*., 2007). A@W is a longitudinal survey of individuals that collected workforce, demographic, and socioeconomic information over the period 2007–2011. This was a relatively benign period in Australian industrial relations as union density decreased by a mere 0.6 percentage points over 2007–2011 with a slight increase between 2008 and 2009.

A@W surveyed a sample of individuals who were either employed or looking for work in March 2006. The original sample of 8,341 individuals was initially interviewed in March 2007. Additional interviews conducted annually, typically between February and June of each year. At the time of the first survey, individuals were aged between 15 and 59 years. A unique feature of the A@W data is that it includes a wide range of information on the labour contract, formal pay-setting instruments, working conditions and the workplace relations of respondents. The data has several other advantages including detailed information on union membership, which allows us to separately identify union members and workers covered by a union-negotiated agreement. Previous studies have noted the importance of distinguishing

between union membership and union coverage when analysing job satisfaction (Powdathvee 2011; Green and Heywood 2015). Further, information is available on a worker sub-group of particular interest – non-union members who want to join a union or what we term 'marginal' union-members.

3.1 Union members, marginal members and other non-members

The A@Work survey asks workers a variety of questions about their current labour contract. This module includes the question whether they are currently a member of a trade union, and if not, whether they would like to be a member. This allows us to distinguish between 3 groups of workers depending on their union membership status: union members, non-union members with a desire to join a union ('marginal' union members) and non-union members without a desire to join (other non-members). Across the five A@W survey waves there are 22,314 respondents of whom 7,455 (33 percent) are union members and 14,859 are non-union members. Among the non-union members, 1,879 (12.6 percent) express a desire to join a union and 12,982 (78.4 percent) do not express such a desire. Table A.1 (Appendix I) presents descriptive statistics for a range of personal, job and employer characteristics by extended union membership status. Marginal union members are paid a lower hourly wage than both union member and other non-members: they are paid $5.46 per hour less than union members and $2.89 per hour less than other non-members. These marginal union members are on average younger (by roughly 5 years); have shorter job tenure; and lower levels of education than union members. Their age and tenure are similar to other non-members, but they are somewhat more educated. They are less likely to be in full-time and permanent employment and are slightly more likely to be women compared to the other groups. These characteristics align with the findings of Pyman et al. (2009).

Reflecting the pattern of unionization in Australia, 56 percent of union members work in the public sector compared with 34 percent of marginal union members and just 20 percent of other non-members. Union members are often working as professionals, in medium to large workplaces, and especially in education, healthcare, and public administration. Non-members instead are more often found in small to medium size workplaces, especially in manufacturing and business services. Marginal union members tend to be spread across workplace sizes and industries in a manner somewhat in-between members and other non-members.

3.2 Union presence and types of workplace agreements by union status

Table 1 summarises data on union membership and the types of agreement by which wages and conditions were determined. This is particularly important in the Australian context where wages and conditions are determined by a mix of statutory awards, collectively negotiated agreements and individual employee-employer agreements. Unsurprisingly, union members are much more likely to be in a workplace with a union present (82 percent) compared to non-union members (39 percent). Interestingly, marginal members are roughly equally spread across workplaces with and without a union present, while other non-members

predominantly do not have a union in their workplace. If a union is present in the workplace, a stated 'desire' to join might be a precursor to union membership while the absence of a union may make this less likely. It is also likely that marginal union members in a workplace without a union are less exposed to union activity – and might thus to a lesser extent be subject to the 'union voice' argument.

TABLE 1: Union presence and types of workplace agreement by union status

	(1) Union member	(2) Non-union member	(3) Non-member, *with* desire to join	(4) Non-member, *no* desire to join
Union in workplace	0.820	0.385	0.471	0.372
Workplace agreement				
Award-only	0.110	0.202	0.207	0.202
Union collective agreement	0.730	0.206	0.329	0.188
Non-union collective agreement	0.021	0.058	0.058	0.058
Individual agreement	0.132	0.489	0.362	0.507
Other agreement	0.001	0.002	0.002	0.003
No agreement	0.006	0.038	0.038	0.038
Observations	*7,455*	*14,859*	*1,879*	*12,980*

In terms of workplace agreements, a majority of union members (73 percent) are covered by a union-negotiated collective bargaining agreement; 13 percent are covered by individual agreements; and 11 percent are covered by an industry award. By contrast, almost half of non-union members are covered by an individual agreement, with award-only and union collective agreements covering another 40 percent. Non-union members who desire to join a union are in between: they are less likely than union members to be covered by a union-negotiated collective bargaining agreement (33 percent vs. 73 percent) and more likely to be covered than non-union members without a desire to join a union (33 percent vs. 19 percent). Non-union members are also much more likely to work under an individual agreement compared to union members (36 percent vs. 13 percent) and much less likely than non-members without a desire a union (36 percent vs. 51 percent).

3.3 Attitude variables and union status

Central to our study, A@W includes a series of questions on worker attitudes to various aspects of their employment and workplace. Focusing on the six questions that were common across all five waves, respondents were asked to rate their agreement with the following statements.

1. *Managers at my workplace consult employees about issues affecting staff.*
2. *Managers at my workplace can be trusted to tell things the way they are.*
3. *I feel that employees are treated fairly at my workplace.*

4. *There's a good chance I will lose my job or be retrenched within the next 12 months.*
5. *I am confident that I'm not going to get injured or sick as a result of my work.*
6. *More and more is expected of me for the same amount of pay.*

Three other questions are included only in waves 2-5:

7. *As far as I can tell, managers at my workplace oppose unions.*
8. *I have control over the number of hours I work.*
9. *I have control over when I work my hours.*

Workers respond to each statement on a Likert scale from 1 (strong disagreement) to 5 (strong agreement). We interpret questions 1-3 as capturing a worker's perception of management and questions 4-6 as capturing a worker's perception of work conditions. The level of detail provided by the questions allows us to examine worker attitudes to various aspects of management, their workplace and jobs in a way that has not been possible in earlier studies. Further, given the longitudinal nature of A@W it is possible to consider how attitudes change over time and as union membership or union coverage varies at the same times as controlling for individual heterogeneity. Specifically, as in Green and Heywood (2015), it is possible to investigate whether satisfaction is related to worker or worker-job specific characteristics.

Panel A of table 2 presents mean responses to the above nine questions by union status. For each question, a higher score indicates greater agreement, signifying a more positive perception, and thus higher satisfaction. In the top panel of Table 2, the highest values per row are shown in bold text. Union members have lower scores compared to non-members for all attitudes except 'unlikely to lose my job' and 'managers do not oppose unions'. Among non-members, the highest scores are for non-union members with no desire to join a union.

Overall, non-union members with a desire to join a union have scores that are more like union members, albeit slightly above those of union members. Nevertheless, this group reports the lowest scores for 'Employees are treated fairly', 'Unlikely to lose my job', and 'Managers do not oppose unions'.

Our analysis focuses on the six attitude questions that are available across all waves of the A@W. We aggregate responses for the six questions into two measures: 'perceptions of management' and 'perceptions of work conditions'. Perceptions of management is the sum of the attitude variables *Managers consult employees, Managers trusted to be honest* and *Employees are treated fairly*. Similarly, perceptions of work conditions combine *Unlikely to lose my job, Confident I will not get injured* and *No more expected for same pay.* This aggregation is supported by principal components analysis presented in Appendix II. Each of the aggregated measures take values between 3-15, with 15 reflecting strong agreement across all 3 subcomponents. Means of these two aggregate measures are shown in panel B. We then transform these ordinal variables into cardinal variables using a probit-adapted

ordinary least squares (POLS)-transformation.[1] Panel C of table 2 present means of these POLS-transformed aggregated attitude measures, by union status. These measures have mean zero and standard deviation equal to one and are used in the analysis below.

TABLE 2: Attitude variables by union status (higher score = stronger agreement)

	(1) Union member	(2) Non-union member	(3) Non-member, *with* desire to join	(4) Non-member, *no* desire to join
A. Attitude variables				
1. Managers consult employees	3.481	3.765	3.514	**3.801**
2. Managers trusted to be honest	3.259	3.726	3.360	**3.779**
3. Employees are treated fairly	3.614	3.902	3.514	**3.958**
4. Unlikely to lose my job	**4.270**	4.182	3.897	4.223
5. Confident I will not get injured	3.497	3.934	3.561	**3.988**
6. No more expected for same pay	2.248	2.767	2.369	**2.825**
Observations	*7,454*	*14,861*	*1,879*	*12,982*
7. I have control over when work	2.797	3.271	2.942	**3.316**
8. I have control over number of hrs	2.946	3.148	2.822	**3.192**
9. Managers do not oppose unions	**3.486**	3.279	3.217	3.288
Observations	*5,791*	*11,216*	*1,336*	*9,880*
B. Aggregated attitude variables				
Perceptions of management (1-3)	10.355	10.355	10.355	10.355
Perceptions of work conditions (4-6)	10.017	10.017	10.017	10.017
Observations	*7,450*	*14,834*	*1,876*	*12,958*
C. POLS-transformed attitude variables				
Perceptions of management (1-3)	-0.249	0.130	-0.212	0.180
Perceptions of work conditions (4-6)	-0.274	0.130	-0.343	0.199
Observations	*7,450*	*14,834*	*1,876*	*12,958*

Notes: Top panel shows highest values per row in bold. Bottom panel: Attitude variables are aggregated and then normalized (mean = 0, standard deviation = 1).

Overall, table 2 shows that union members and non-union members with a desire to join have similar perceptions of management and differ only slightly in their perceptions of work conditions. Union members differ strongly from other non-members with no desire for union membership. Specifically, union members report significantly lower scores regarding perceptions of both management and work conditions.

3.3 Do attitude variables measure relevant aspects of job satisfaction?

[1] Given the ordinal nature of the dependent variable (reported satisfaction) and the attitude variables, we employ probit-adapted ordinary least squares (POLS) regression (see more detail in section 4). POLS rests on the transformation of an ordinal dependent variable into a cardinal variable, i.e., an unbounded, normally distributed variable (Ferrer-i-Carbonell and Frijters 2004; Green and Heywood 2015). By construction, the transformed attitude variables have a mean of 0 and standard deviation of 1.

Previous studies have generally relied on questions that ask about 'overall job satisfaction' or satisfaction around pay or hours of work. The questions asked in the A@W survey are more detailed and investigate attitudes to specific aspects of management and work conditions. We consider how the questions in the A@W survey relate to 'job satisfaction' as it is commonly analysed in the literature. To do this, we use a survey question in the final wave of A@W that explicitly asks about 'overall job satisfaction'.[2] Responses are based on the same Lickert scale as the other survey questions. Hence, for wave 5 we can assess the association between the overall job satisfaction response and responses to the other attitude questions.

Table 3 contains the results from regressions with overall job satisfaction as the dependent variable. Column (1) presents results when job satisfaction is regressed on a set of control variables. Subsequent columns add responses to the attitude questions present in the survey. The regressions reported in Table 3 show an increasingly high R^2 as the attitude variables are added to the specification. Specifically, for column (1), which contains only demographic and job-related control variables, the fit is poor: $R^2 = 0.04$. As the responses to the other survey questions are added (columns 2-4), the R^2 increases to 0.37. The results indicate a strong positive association between overall job satisfaction and aspects of the workplace captured by the attitude variables. When the six attitude question responses are aggregated into two measures – one measuring 'perceptions of management' and the other measuring 'perceptions of work conditions' – the fit is an $R^2 = 0.34$. One third of the variation in overall job satisfaction is explained by these aggregated measures. It also suggests that the two *aggregated* measures capture the essence of measured worker attitudes as relevant to worker job satisfaction.[3] As such, from here onwards we will interpret and denote the two aggregate measures as *Satisfaction with Management* and *Satisfaction with Work Conditions*.

[2] Respondents express their agreement with the statement: "All things considered, I am satisfied with my job."
[3] The magnitude of the relationship with overall job satisfaction deserves emphasis: for a one standard deviation increase in satisfaction with management, overall job satisfaction rises with 0.4 of a standard deviation; the relation with work conditions is also strong but somewhat weaker (0.21).

TABLE 3: Relationship between job satisfaction and attitude variables (wave 5 only)

Attitude variables	(1)	(2)	(3)	(4)	(5)
1. Managers consult employees	-	0.125*** (6.46)	0.103*** (5.42)	0.096*** (4.95)	-
2. Managers trusted to be honest	-	0.183*** (8.28)	0.146*** (6.67)	0.130*** (5.75)	-
3. Employees treated fairly	-	0.311*** (14.36)	0.260*** (12.02)	0.245*** (10.89)	-
4. Unlikely to lose job	-	-	0.137*** (8.62)	0.121*** (7.20)	-
5. Confident not get sick/injured	-	-	0.073*** (4.53)	0.080*** (4.64)	-
6. No more expected for same pay	-	-	0.130*** (8.65)	0.125*** (7.93)	-
7. Managers do not oppose unions	-	-	-	*0.039** *(2.45)*	-
8. Control over when work	-	-	-	*0.030* *(1.61)*	-
9. Control over no. of hours	-	-	-	*0.072**** *(3.87)*	-
Perceptions of management (1-3): *Consult/Trusted/Treated fairly*	-	-	-	-	0.394*** (25.16)
Perceptions of work conditions (4-6): *Won't lose job/No injury/No more expected*	-	-	-	-	0.210*** (13.55)
Control variables	yes	yes	yes	yes	yes
Observations	3751	3727	3710	3293	3710
R^2	0.044	0.319	0.360	0.373	0.341

Notes: Statistical significance denoted by + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. t-statistics in parentheses. POLS regressions of job satisfaction (wave 5 only) on control variables and attitudinal variables. Info on POLS-transformation in section 4: continuous variables, mean=0, stdev=1. Control variables: ln hourly wage, individual characteristics (age, tenure, partnered, has dependants, education level), job characteristics (occupation, PT work, supervisory/managerial role, contract type, same hours every week, shift work, evening/night work, irregular hours, overtime), firm characteristics (workplace size, industry), location (states and capital cities).

4. Methodology

Following Green and Heywood (2015) we characterise the job satisfaction (W_i) of worker i at time t as follows:

$$W_i = f(U_i, Z_i, X_i)$$

Where Z is a vector of employment characteristics, X is a vector of personal characteristics and U captures an individual's 'union status'. Our measure of job satisfaction is captured by

our measures of 'satisfaction with management' and 'satisfaction with work'. Recall that our satisfaction measures range between 3 and 15. Given the ordinal nature of the dependent variables, we employ probit-adapted ordinary least squares (POLS) regression. The POLS approach requires the transformation of an ordinal-dependent variable into a cardinal one, that is an unbounded normally distributed dependent variable (Ferrer-i-Carbonell and Frijters 2004; Green and Heywood 2015; Bessa, Charlwood and Valizade 2021). The POLS approach has two advantages. First, it facilitates the incorporation of fixed effects into the regression analysis in a tractable manner. Second, it does not require an assumption of linearity of the ordered responses.

Implementing POLS is described in Green and Heywood (2015). It requires deriving standard normal Z values for the cumulative frequencies of the k categories of the dependent variable. Following this, the expectation of a standard normally distributed variable is then taken for the interval between adjoining Z values. Suppose the true unobserved continuous variable is W_i^* and the observed $W_i = j$. If $w_{j-1} < W_i^* < w_j$ for $j = 1,2..k$, then the conditional expectation of the latent variable is given by:

$$\widetilde{W}_i = E\left(W_i | w_{j-1} < W_i^* < w_j\right) = \frac{n\left(w_{j-1}\right) - n\left(w_{ij}\right)}{N\left(u_j\right) - N\left(u_{j-1}\right)} = \frac{n\left(u_{j-1}\right) - n\left(u_j\right)}{p_j}$$

Where n is the standard normal density and $p_j = N\left(u_j\right) - N\left(u_{j-1}\right)$ for $j = 1, \ldots k-1$.

Ordinary least squares estimation can then be applied to the conditional expectations, allowing also for fixed effects to be included in in the specification.

To address our research question, we begin by estimating a series of equations that relate observed worker satisfaction to a set of observable characteristics:

$$\widetilde{W}_{imt} = \emptyset + \beta U_{imt} + \gamma X_{imt} + \delta Z_{imt} + \alpha_i + \varepsilon_{imt} \qquad (1)$$

where $\widetilde{W}_{imt}$ is the satisfaction measure for worker i in period t and job m; $\emptyset$ is the intercept; U_{imt} is the union status vector; X_{imt} is a vector of personal characteristics; Z_{imt} is a vector of job characteristics; α_i is an individual fixed effect and ε_{imt} is an iid error. Following Green and Heywood (2015), we estimate two versions of (1): one with worker fixed effects and a second with worker-job fixed effects. We have two measures of $\widetilde{W}$: satisfaction with management and satisfaction with work. Adding worker or worker-job fixed effects to (1) yields insight the role of sorting in the correlation between satisfaction and union status.

The benefits of the A@W data are twofold. Because the data are longitudinal, we can assess how satisfaction changes as workers join or leave a union (or change their desired union membership status). We do this by estimating a first-difference model that allows for asymmetric changes when joining or leaving a union, joining or leaving marginal (desired) union membership, and for asymmetrical changes across different types of 'stayers' depending on union status. Specifically, we estimate:

$$\Delta \widetilde{W}_{it} = \beta_0 + \beta_1 (\Delta U_{it} = +1) + \beta_2 (\Delta U_{it} = -1) + \beta_3 (\Delta MU_{it} = +1)$$
$$+\beta_4 (\Delta MU_{it} = -1) + \beta_5 stayU_{it} + \beta_6 stayMU_{it} + \beta_X \Delta X_{it} + \Delta\varepsilon_{it} \qquad (2)$$

where β_0 captures changes in satisfaction between $(t-1)$ and t for workers who remain non-union members (the reference group); β_1 (β_2) captures the change in satisfaction for workers joining (leaving) a union; β_3 (β_4) captures the change for workers joining (leaving) marginal (i.e. desired) union membership; and β_5 (β_6) captures the change for workers who remain a union member (marginal union member). The change for workers moving from marginal (MU) to actual union membership (U) is captured in the sum of the coefficients of leaving (MU) and joining (U): $\beta_1 + \beta_4$. Similarly, the change for workers moving from actual union membership to marginal membership is captured by $\beta_2 + \beta_3$. Thus, we can measure changes in satisfaction as individuals transition between different union status.

5. Results

We begin with the simplest form of specification, which examines measures of satisfaction (or attitudes) among union members and non-union members (the reference group). Panel A of Table 5 contains the POLS results without controls for worker or job fixed effects. Panels B and C report the results when worker fixed effects and worker-job fixed effects are added, respectively. We focus on the outcomes *Satisfaction with Management* and *Satisfaction with Work Conditions*. It is important to emphasize that the analysis in Table 5 controls for a wide range of individual, job and firm characteristics.

As reported in other studies, there is a strong negative association between union membership and satisfaction of employees. Panel A shows that union members report lower satisfaction with both management and work conditions compared to non-members in the range of 0.23-0.24 of a standard deviation. While Panel A estimates include a wide range of control variables, we first single out key coefficients of union-related control variables. Collective agreement coverage is associated with lower satisfaction levels regarding management and work conditions. Union presence in the workplace is related to lower satisfaction with work conditions while the presence of a union delegate more than compensates for this.

Other control variables. The coefficients of the other control variables are generally as expected. Both types of satisfaction are rising in the hourly wage, and are higher for those who are partnered, working in the not-for-profit sector and have the same work hours schedule each week. Unsurprisingly, satisfaction with *management* falls in workplace size and is higher for those with managerial or supervisory tasks. Both types of satisfaction are falling with age and tenure (typically convex). These findings align with existing literature on job satisfaction (e.g. Green and Heywood 2014). Both types of satisfaction tend to be lower when working shifts or evening/nights, and in technician/trades, machinery operator and labourer occupations. Satisfaction with *work conditions* is lower for those working under a

TABLE 5: Employee satisfaction and union membership

Panel A – POLS	Satisfaction with	
	Management	Work conditions
Union member	**-0.226*** **	**-0.236*** **
	(0.026)	**(0.026)**
Covered by collective agreement	-0.109***	-0.062*
	(0.025)	(0.025)
Union present in workplace	0.022	-0.069*
	(0.032)	(0.033)
Union delegate in workplace	0.046	0.088**
	(0.032)	(0.031)
Ln hourly wage	0.087**	0.161***
	(0.032)	(0.032)
Observations	*16,481*	*16,501*
Panel B – POLS, worker fixed effects		
Union member	**-0.124*** **	**-0.049**
	(0.037)	**(0.037)**
Covered by collective agreement	-0.042+	-0.010
	(0.023)	(0.023)
Union present in workplace	0.035	-0.021
	(0.031)	(0.031)
Union delegate in workplace	0.011	0.011
	(0.029)	(0.029)
Ln hourly wage	-0.017	0.000
	(0.038)	(0.038)
Observations	*16,481*	*16,501*
Panel C – POLS, worker-job fixed effects		
Union member	**-0.086+**	**-0.017**
	(0.047)	**(0.048)**
Covered by collective agreement	0.013	-0.017
	(0.025)	(0.026)
Union present in workplace	0.063+	0.038
	(0.033)	(0.034)
Union delegate in workplace	0.023	-0.011
	(0.030)	(0.031)
Ln hourly wage	-0.036	0.007
	(0.045)	(0.046)
Observations	*15,477*	*15,496*

Notes: Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Management attitudes: Managers consult employees / Managers trusted / Fair treatment; Work conditions: Won't lose job / No injury / No more expected. Controls: quadratic in age and tenure, sector (public/private/nfp), partnered, dependents, education, PT work, managerial/supervisory tasks, casual, fixed term, same hours every week, shift work, evening/night work, irregular, overtime, occupation (8), workplace size (5), industry (10), state & capital cities.

fixed term contract, working overtime, in community/personal service occupations, and in the educational or healthcare sectors.

To address worker selection into union membership and unions organizing in selected firms or jobs, we add worker-specific fixed effects and worker-job fixed effects to the POLS regressions (Panels B and C). Not surprisingly, the fixed effects reduce the magnitude and significance of most coefficients. The significant negative association of union membership with work conditions disappears while union membership remains associated with a lower satisfaction towards management (at the 10% significance level). The extent to which this remaining dissatisfaction among members is related to union-voice, aspects of the workplace that vary over time (e.g., firm restructuring, changing workloads) or other explanations remains unclear. However, the A@W data allow us to shed more light on dissatisfaction by considering different groups of workers. We start by considering heterogeneity among non-union members.

The A@W data distinguish non-union members who express a desire to be a union member from non-union members who have no desire to be a union member (the reference group). We consider those with a desire for membership to be 'marginal' union members. Table 6 reports the results for both *Satisfaction with Management* and *with Work conditions,* based on the same specifications as Table 5 without and with worker and worker-job fixed effects.

In panel A, non-union members who express a desire to join a union show even lower satisfaction with management and work conditions than union members. Hence, non-union members (without desire) report the highest satisfaction in both dimensions. As before, when worker (and subsequently worker-job) fixed effects are added to the specification, the (negative) association between union membership (or desired membership) and attitudes becomes significantly more muted. Interestingly, union members report a significantly more negative attitude to management than the reference group. However, that relationship is not apparent in attitudes to work conditions. In comparison, it is non-union members with a desire for membership who express dissatisfaction with work conditions.

The persistence, albeit muted, of dissatisfaction when worker or worker-job fixed effects are added to (1) is consistent with existing studies. For example, Green and Heywood (2015) find that sorting across employees or jobs is not the source of observed dissatisfaction expressed by union members. The additional insight provided by the A@W data is that among a select group of non-union members – those who express a desire to be a union member – there is a relatively high level of dissatisfaction across aspects of employment related to job security, the likelihood of injury and expectations of what is expected given pay. This potentially highlights why employees join unions and the role of unions: unions are a voice for workers dissatisfied with management attitudes. While appealing, such an interpretation leaves open the questions of why non-union members who desire membership are dissatisfied with work conditions. More importantly, do the attitudes of these workers change if they join a union? Specifications (2a) and (2b) provide some insight into this question.

TABLE 6: Employee satisfaction and extended union status

Panel A - POLS	Satisfaction with	
	Management	Work conditions
Marginal union member	-0.396***	-0.476***
	(0.036)	(0.035)
Union member	-0.291***	-0.314***
	(0.027)	(0.027)
Panel B – POLS, worker fixed effects		
Marginal union member	-0.140***	-0.169***
	(0.034)	(0.034)
Union member	-0.183***	-0.119**
	(0.040)	(0.040)
Observations	16,481	16,501
Panel C – POLS, worker-job fixed effects		
Marginal union member	-0.062	-0.091*
	(0.040)	(0.041)
Union member	-0.111*	-0.053
	(0.049)	(0.051)
Observations	15,477	15,496

Notes: Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Satisfaction with management: Managers consult employees / Managers trusted / Fair treatment; Satisfaction with work conditions: Won't lose job / No injury / No more expected; Controls included: covered (by collective agreement), union present in workplace, union delegate in workplace, ln wage (continuous variable), quadratic in age and tenure, sector (public/private/nfp), partnered, dependents, education, PT work, managerial/ supervisory tasks, casual, fixed term, same hours every week, shiftwork, evening/night work, irregular, overtime, occupation (8), workplace size (5), industry (10), state & capital cities.

Table 7 shows the results from the first-difference specification, which captures changes in attitudes across waves separately for the full sample (columns 1 and 2) and for job-stayers only (columns 3 and 4). The job-stayer estimates exclude any confounding effects associated with workers changing jobs, such as a change in union status, the work environment, or any 'honeymoon effect' from the new job. All columns in Table 7 include the full set of individual and workplace controls. Columns (1) and (3) focus on management attitudes; columns (2) and (4) on work conditions.

Several patterns emerge from Table 7. First, the coefficients of exiting both union membership and desired membership switch from large, positive and significant (columns 1 and 2) to small and insignificant (columns 3 and 4). The switch is likely driven by removal of the new job honeymoon effect when focusing on job-stayers. Second, the constants are significantly negative. This implies that a non-member's attitudes towards management and work conditions declines significantly from one period to the next when staying in the same job. This is consistent with findings in the literature. Third, the attitudes toward management for individuals entering union membership significantly decline by 0.232 (column 3). This reflects a similar pattern to Table 6 where union members consistently express dissatisfaction towards management across all specifications. The decline for a non-member who moves into

union membership from desired membership is very similar since there is no significant change in satisfaction upon exiting this state. Fourth, developing a desire for union membership is also associated with a drop in satisfaction with management and work conditions, irrespective of whether the worker is changing job.

Let us now consider changes in satisfaction with work conditions. The move into union membership is associated with no change in attitudes to work conditions, which may reflect the high rates of coverage in Australia and the absence of closed shops (employees must be union members to be employed) or bargaining dues on non-members. The implication is that work conditions, and in turn attitudes around work conditions, are far less likely to be contingent on an individual's membership status. For non-members who develop a desire for union membership, however, we find a strong decline in satisfaction with work conditions. For these workers, satisfaction with both management and work conditions deteriorate. This could be related to changes in the job or work environment that makes workers want to become union members.

TABLE 7: First-difference estimates: changes in satisfaction and union status - All Observations vs. Job-Stayers only

	All Observations		Job-Stayers only	
	Satisfaction with		Satisfaction with	
	Management	Work conditions	Management	Work conditions
	(1)	(2)	(3)	(4)
Enter union membership	-0.222**	0.006	-0.232**	0.071
	(0.075)	(0.074)	(0.082)	(0.080)
Exit union membership	0.179+	0.137+	0.000	0.063
	(0.093)	(0.081)	(0.109)	(0.082)
Enter desired union membership	-0.148*	-0.200**	-0.150*	-0.241***
	(0.067)	(0.063)	(0.074)	(0.065)
Exit desired union membership	0.180**	0.112+	0.061	-0.057
	(0.063)	(0.060)	(0.066)	(0.064)
Remain union member	0.006	0.024+	0.002	0.077
	(0.015)	(0.014)	(0.050)	(0.051)
Remain desired union member	0.035	0.075	0.008	0.030+
	(0.044)	(0.049)	(0.016)	(0.016)
Constant	-0.030**	-0.054***	-0.125**	-0.114*
	(0.010)	(0.010)	(0.045)	(0.045)
Observations	9,424	9,422	7,967	7,963
R^2	0.036	0.035	0.014	0.010

Notes: Statistical significance denoted by + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001. Controls: covered (by collective agreement), union present in workplace, union delegate in workplace, ln wage (continuous variable), quadratic in age and tenure, sector (public/private/nfp), partnered, dependents, education, PT, managerial/supervisory tasks, casual, fixed term, same hours, shiftwork, evening/night work, irregular, overtime, occupation (8), workplace size (5), industry (10), state & capital cities.

6. Summary and Conclusion

Researchers have devoted much effort to explaining the negative relationship between trade union membership and job satisfaction observed across countries. They have offered several explanations for the apparent paradox, including sorting of permanently dissatisfied workers into unions, unions organizing 'unpleasant' jobs, and a union voice or exit voice effect (Freeman and Medoff 1984).

In this paper, we provide a comprehensive analysis of the association between union membership and worker satisfaction in Australia. The industrial relations regime in Australia offers a unique opportunity to study this relationship because it has low union membership rates but high coverage rates, and where union membership is determined by a worker's preference rather than tied to a particular job or firm. Using the longitudinal Australia@Work data for the period 2007 – 2011, we can distinguish between worker satisfaction with management and worker satisfaction with job conditions. We show that the two measures capture important dimensions of overall job satisfaction.

The main analysis re-affirms that union members report lower satisfaction with the job. We find a negative and significant relationship between union membership and worker satisfaction in OLS models with a rich set of controls but also in models with worker and worker-job fixed effects. Therefore, sorting of permanently less satisfied workers or unions organizing unpleasant jobs cannot fully explain the negative relationship. We also distinguish non-union members with a desire to join a union from other non-members. The former, which we denote 'marginal' union members, are arguably more like union members. We find that both union membership and the desire for union membership are associated with reduced worker satisfaction, albeit across different dimensions. Unions members are more likely to express dissatisfaction with management while marginal members are less satisfied with their work conditions. While both results are consistent with a union voice effect, we cannot preclude the role of unobserved time-varying effects (such as firm restructuring) leading to an association between worker satisfaction and union status. Nonetheless, patterns of (dis)satisfaction across different domains of the job and workers stratified by union status provide additional insight into the nature and formation of that relationship.

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APPENDIX I – Descriptive Statistics

TABLE A.1: Personal and job characteristics by union membership status

	Union member	Non-union member	Non-member, *with* desire to join	Non-member, *no* desire to join
Hourly wage	31.826	28.891	26.369	29.257
Age	44.245	39.810	39.449	39.863
Female	0.500	0.491	0.546	0.483
Tenure	11.744	5.700	4.504	5.873
Living with partner	0.739	0.673	0.623	0.681
Education: Year 10	0.094	0.121	0.103	0.124
Year 11	0.034	0.054	0.044	0.055
Year 12	0.098	0.171	0.150	0.174
Diploma/certificate	0.176	0.220	0.212	0.222
Trade qualification	0.118	0.090	0.079	0.092
Undergraduate degree	0.264	0.216	0.259	0.210
Postgrad degree	0.215	0.127	0.153	0.123
Full time	0.674	0.662	0.605	0.670
Part time	0.326	0.338	0.395	0.330
Private sector	0.337	0.691	0.532	0.714
Public sector	0.562	0.219	0.339	0.202
NFP sector	0.101	0.090	0.129	0.085
Position: Managerial role	0.173	0.265	0.179	0.277
Supervisory role	0.198	0.149	0.149	0.149
Contract: Casual	0.061	0.190	0.208	0.188
Fixed term	0.058	0.067	0.112	0.060
Permanent	0.881	0.743	0.680	0.752
Hours: Irregular hrs	0.043	0.035	0.047	0.033
Same hrs each week	0.794	0.795	0.762	0.800
Shift work	0.140	0.054	0.082	0.050
Evening/night work	0.051	0.039	0.046	0.038
Overtime work	0.825	0.768	0.787	0.765
Occupation: Manager	0.072	0.154	0.089	0.164
Professional	0.435	0.239	0.314	0.228
Technician	0.115	0.112	0.108	0.112
Community services	0.114	0.095	0.141	0.088
Clerical/admin	0.109	0.191	0.151	0.196
Sales worker	0.042	0.096	0.075	0.099
Machinery operator	0.058	0.048	0.050	0.047
Labourer	0.054	0.066	0.073	0.065
Workplace size:<20 empl	0.161	0.376	0.320	0.384
20-100 employees	0.398	0.319	0.351	0.315
100-300 employees	0.184	0.122	0.131	0.121
300-500 employees	0.064	0.052	0.058	0.051
>500 employees	0.179	0.122	0.127	0.121
Industry: Mining	0.018	0.017	0.010	0.017
Manufacturing	0.069	0.121	0.091	0.125
Electricity/Gas	0.030	0.017	0.014	0.017
Construction	0.018	0.041	0.029	0.043
Wholesale	0.008	0.038	0.023	0.041
Transport	0.060	0.036	0.033	0.036
Retail	0.057	0.094	0.070	0.098
Hospitality	0.008	0.043	0.044	0.043
Business services	0.078	0.218	0.184	0.222
Public administration	0.171	0.097	0.097	0.097

Education	0.274	0.093	0.174	0.081
Healthcare	0.182	0.116	0.174	0.108
Arts	0.009	0.018	0.019	0.018
Other industry	0.016	0.034	0.032	0.035
Observations	*7,455*	*14,861*	*1,879*	*12,982*

TABLE A2: Union presence and types of workplace agreement, by union membership

Variable	Union member (1)	Non-member (2)	Difference: (1) – (2)
Union in workplace	.820	.385	0.435^{***}
Workplace agreement			
Award only	0.110	0.202	-0.09^{***}
Union CA	0.730	0.206	0.52^{***}
Non-union CA	0.021	0.058	-0.04^{***}
Individual agreement	0.132	0.489	-0.36^{***}
Other agreement	0.001	0.002	-0.00^{*}
No agreement	0.006	0.038	-0.03^{***}
Observations	7,455	14,861	22,316

Notes: Statistical significance denoted by + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

TABLE A3: Worker Attitudes by union membership (higher score = better)

Attitude/Satisfaction variable	Union member (1)	Non-member (2)	Difference: (1) – (2)
Managers consult employees	3.481	3.764	-0.28^{***}
Managers trusted to be honest	3.259	3.726	-0.47^{***}
Employees are treated fairly	3.614	3.902	-0.29^{***}
Unlikely to lose job	4.270	4.182	0.09^{***}
Confident I will not get injured	3.497	3.934	-0.44^{***}
No more expected for same pay	2.248	2.767	-0.52^{***}
I have control over when work	2.797	3.271	-0.47^{***}
I have control over number of hrs	2.946	3.148	-0.20^{***}
Managers do not oppose unions	3.486	3.279	0.21^{***}
Observations	7,455	14,861	22,316

Notes: Statistical significance denoted by + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

TABLE A4: Aggregated POLS-transformed attitudes by union membership status

	Union member (1)	Non-member (2)	Difference (1) - (2)
Satisfaction with management *(consult / trusted / treated fairly)*	-0.249	0.130	-0.380^{***}
Satisfaction with work conditions *(won't lose job / no injury / no more expected)*	-0.274	0.130	-0.404^{***}
Observations	7,450	14,834	22,284

Notes: Statistical significance denoted by + p < 0.10, * p < 0.05, ** p < 0.01, *** p < 0.001

Appendix II – Principal Components Analysis of attitude variables

The main analysis in this study relies on aggregated attitude variables: satisfaction with management and satisfaction with work conditions. This aggregation is motivated by a principal component analysis. Tables A.4, A.5 and Figure A.1 present the results from the principal component analysis using the 6 (normalized) attitude variables that are available in all 5 waves of A@W. While the main analysis relies on these aggregated variables, we also report the results for the (disaggregated) attitude variables in Appendix IV.

Table A.4 shows that the first three components capture 73 percent of the variation in the attitude variables. The first principal component is by far the most important: it captures 44 percent of the variation and has an eigenvalue of 2.65. Components 2, 3 and 4 each explain another 13-15 percent of the variation. The component loadings are presented in Table A5 and Figure A.1. Component 1 assigns large, positive weights to the three management-related variables, while these do not contribute to component 2. The three management-related attitudes thus all strongly contribute to this dominant first component: *Managers consult employees, Managers can be trusted to be honest* and *Employees are treated fairly*. Component 2 positively relates to job security and negatively to *no more expected for the same amount of pay* (thus capturing rising workloads in more secure jobs). Component 3 assigns a large, positive weight to all three work condition variables: *Unlikely to lose job, Confident won't get sick/injured* and *No more expected for same pay.* Note that this third component also assigns a somewhat negative weight to the management variables.

TABLE A4: Attitude variables - Principal components (correlation)

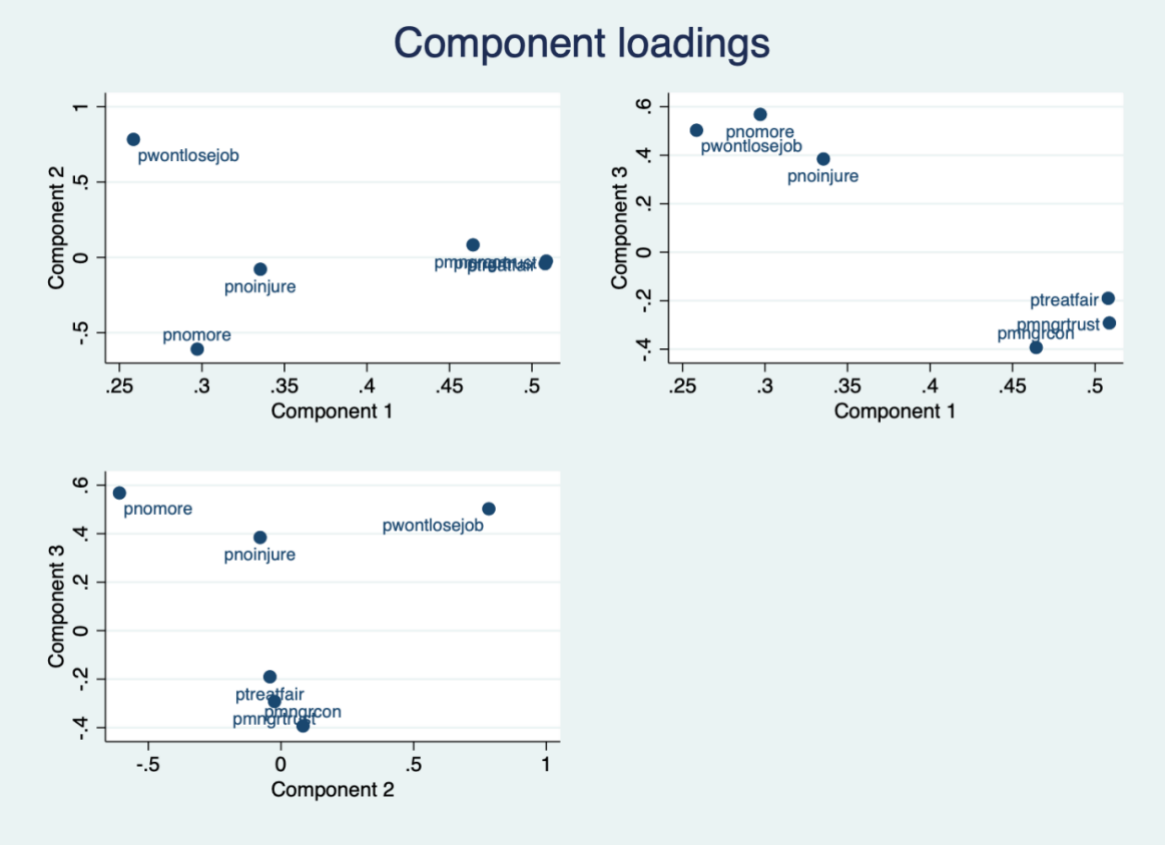
Components	Eigenvalue	Difference	Proportion	Cumulative
Comp1	2.64566	1.72236	0.4409	0.4409
Comp2	0.92331	0.11511	0.1539	0.5948
Comp3	0.80820	0.02019	0.1347	0.7295
Comp4	0.78800	0.30416	0.1313	0.8609
Comp5	0.48384	0.13286	0.0806	0.9415
Comp6	0.35099	.	0.0585	1.0000
Observations	23,592			
Number of components	6			
Rotation - Rho	1.0000			

TABLE A5: Attitude variables - Principal components (eigenvectors)

Components	Comp1	Comp2	Comp3	Comp4	Comp5	Comp6
Managers consult employees	0.4643	0.083	-0.3932	0.0189	0.7738	-0.1543
Managers trusted to be honest	0.5087	-0.0244	-0.2921	0.0901	-0.3048	0.7445
Employees are treated fairly	0.508	-0.0418	-0.1904	0.072	-0.5281	-0.6480
Unlikely to lose job	0.2585	0.7834	0.5029	0.2569	0.0144	0.0212
Confident won't get sick/injured	0.3354	-0.0788	0.3847	-0.8551	0.0305	0.0351
No more expected for same pay	0.2972	-0.609	0.5683	0.435	0.1685	0.0163

Note: the principal component analysis makes use of the normalized attitude variables.

Figure A1: Principal component analysis – Component loadings



Appendix III – Results from main analysis with aggregated satisfaction measures – all coefficients

TABLE A6: Satisfaction and extended union status: membership & desire – ALL coefficients

	Satisfaction with Management			**Satisfaction with Work Conditions**		
	POLS	*POLS + Worker FE*	*POLS+ Worker-job FE*	*POLS*	*POLS + Worker FE*	*POLS+ Worker-job FE*
Marginal union member	-0.396***	-0.140***	-0.062	-0.476***	-0.169***	-0.091*
	(0.036)	(0.034)	(0.040)	(0.035)	(0.034)	(0.041)
Union member	-0.291***	-0.183***	-0.111*	-0.314***	-0.119**	-0.053
	(0.027)	(0.040)	(0.049)	(0.027)	(0.040)	(0.051)
covered (collective agreement)	-0.098***	-0.042+	0.013	-0.048+	-0.010	-0.018
	(0.025)	(0.023)	(0.025)	(0.025)	(0.023)	(0.026)
Union in workplace	0.026	0.035	0.062+	-0.063*	-0.022	0.038
	(0.032)	(0.031)	(0.033)	(0.032)	(0.031)	(0.034)
Union delegate in workplace	0.041	0.010	0.023	0.082**	0.010	-0.011
	(0.031)	(0.029)	(0.030)	(0.031)	(0.029)	(0.031)
ln hourly wage	0.067*	-0.019	-0.037	0.137***	-0.003	0.005
	(0.031)	(0.038)	(0.045)	(0.032)	(0.038)	(0.046)
Age	-0.031***	-0.014	0.005	-0.018*	-0.029	-0.056
	(0.008)	(0.020)	(0.044)	(0.008)	(0.021)	(0.046)
Age^2	0.027**	0.007	0.026	0.016	0.017	0.044
	(0.010)	(0.023)	(0.029)	(0.010)	(0.023)	(0.030)
Lives with partner	0.108***	0.037	-0.002	0.089***	0.014	0.021
	(0.027)	(0.037)	(0.042)	(0.026)	(0.038)	(0.044)
Has dependants	-0.011	-0.055+	0.005	0.007	0.005	0.015
	(0.025)	(0.032)	(0.034)	(0.025)	(0.032)	(0.035)
Tenure	-0.024***	-0.062***	-0.102**	-0.010**	-0.052***	-0.067+
	(0.004)	(0.005)	(0.037)	(0.004)	(0.005)	(0.038)
Tenure^2	0.073***	0.135***	0.120***	0.018	0.094***	0.106***
	(0.012)	(0.022)	(0.029)	(0.012)	(0.022)	(0.030)
Part-time work	0.038	-0.021	-0.073*	0.064*	0.046	0.009
	(0.026)	(0.029)	(0.035)	(0.025)	(0.029)	(0.036)
Public sector	-0.001	-0.000	0.000	-0.036	-0.049	0.000
	(0.042)	(0.069)	(.)	(0.043)	(0.069)	(.)

Not-for-profit sector	0.117*	-0.049	0.000	0.105*	-0.152*	0.000
	(0.048)	(0.076)	(.)	(0.047)	(0.076)	(.)
Education						
Year 12 education	-0.028	0.070	0.237*	0.039	0.128	0.104
	(0.039)	(0.079)	(0.097)	(0.040)	(0.080)	(0.100)
Diploma or trade certification	-0.061+	-0.066	0.014	0.028	0.096	0.092
	(0.033)	(0.060)	(0.072)	(0.034)	(0.060)	(0.074)
Undergrad or postgrad degree	-0.040	-0.097	-0.176	0.053	0.009	0.063
	(0.041)	(0.097)	(0.125)	(0.041)	(0.097)	(0.128)
Position						
Managerial position	0.253***	0.153***	0.105**	0.038	-0.045	-0.031
	(0.032)	(0.031)	(0.037)	(0.033)	(0.031)	(0.038)
Supervisory position	0.107***	0.093***	0.077**	0.000	0.008	0.018
	(0.025)	(0.025)	(0.028)	(0.024)	(0.025)	(0.029)
Contract						
Casual contract	0.029	0.042	0.033	-0.010	-0.013	-0.077
	(0.034)	(0.038)	(0.059)	(0.037)	(0.038)	(0.060)
Fixed term contract	-0.019	0.073+	0.055	-0.251***	-0.162***	-0.150**
	(0.041)	(0.038)	(0.050)	(0.040)	(0.038)	(0.051)
Same hours each week	0.088***	0.041*	0.044*	0.171***	0.045*	0.050*
	(0.022)	(0.021)	(0.022)	(0.022)	(0.021)	(0.023)
Shift worker	-0.187***	-0.177***	-0.130**	-0.117**	-0.085*	-0.085+
	(0.036)	(0.037)	(0.043)	(0.038)	(0.037)	(0.044)
Evening/night shifts	-0.226***	-0.206***	-0.150**	-0.064	-0.022	-0.068
	(0.048)	(0.047)	(0.056)	(0.047)	(0.047)	(0.058)
Irregular hours	-0.145**	-0.079+	-0.028	-0.056	-0.010	0.005
	(0.045)	(0.041)	(0.045)	(0.046)	(0.041)	(0.047)
Works overtime	-0.029	-0.007	-0.011	-0.153***	-0.072***	-0.052*
	(0.022)	(0.020)	(0.022)	(0.023)	(0.020)	(0.023)
Occupation						
Manager occupation	0.042	0.104	0.138	-0.038	-0.029	0.015
	(0.048)	(0.073)	(0.195)	(0.050)	(0.073)	(0.200)
Professional occupation	0.008	0.032	0.091	-0.032	-0.028	-0.261
	(0.038)	(0.065)	(0.193)	(0.039)	(0.065)	(0.198)
Technician/Trades	-0.102*	0.027	-0.194	-0.117**	-0.138+	-0.126

occupation	(0.043)	(0.079)	(0.230)	(0.043)	(0.078)	(0.237)
Community/pers. service	-0.029	0.028	0.446^{+}	-0.225***	-0.148*	0.291
occupation	(0.046)	(0.075)	(0.259)	(0.048)	(0.075)	(0.266)
Sales worker occupation	-0.052	-0.088	-0.046	-0.077	0.100	0.142
	(0.051)	(0.075)	(0.218)	(0.052)	(0.076)	(0.224)
Machinery operator	-0.214***	-0.319**	0.362	-0.223***	-0.033	-0.041
occupation	(0.057)	(0.100)	(0.326)	(0.060)	(0.100)	(0.335)
Labourer occupation	-0.137*	-0.098	0.209	-0.293***	-0.143	0.109
	(0.055)	(0.090)	(0.331)	(0.056)	(0.089)	(0.340)
Workplace size						
Under 20	0.000	0.000	0.000	0.000	0.000	0.000
	(.)	(.)	(.)	(.)	(.)	(.)
20 to 100	-0.191***	-0.083**	-0.027	-0.089***	-0.013	0.018
	(0.025)	(0.026)	(0.034)	(0.026)	(0.027)	(0.036)
100 to 300	-0.277***	-0.094**	0.006	-0.069*	-0.015	0.012
	(0.033)	(0.035)	(0.043)	(0.033)	(0.035)	(0.045)
300 to 500	-0.337***	-0.069	0.015	-0.160***	-0.066	-0.037
	(0.044)	(0.045)	(0.054)	(0.042)	(0.045)	(0.055)
over 500	-0.323***	-0.118**	0.028	-0.074*	0.034	0.056
	(0.037)	(0.042)	(0.051)	(0.036)	(0.042)	(0.053)
Industry						
Primary	0.016	0.193	0.000	-0.108	-0.037	0.000
	(0.097)	(0.150)	(.)	(0.103)	(0.155)	(.)
Wholesale/transport	-0.131**	0.013	0.000	-0.044	0.188*	0.000
	(0.048)	(0.082)	(.)	(0.051)	(0.081)	(.)
Retail	-0.050	-0.092	1.661^{+}	-0.027	0.036	0.419
	(0.050)	(0.079)	(0.901)	(0.052)	(0.079)	(0.926)
Hospitality	0.079	-0.303**	0.000	0.038	-0.046	0.000
	(0.069)	(0.108)	(.)	(0.077)	(0.108)	(.)
Business Services	-0.015	0.009	0.000	0.012	0.186**	0.000
	(0.037)	(0.066)	(.)	(0.038)	(0.066)	(.)
Public admin and safety	0.062	0.136	0.000	0.088^{+}	0.278**	0.000
	(0.052)	(0.096)	(.)	(0.053)	(0.097)	(.)
Education	0.176**	0.045	0.000	-0.182***	0.185^{+}	0.000
	(0.054)	(0.097)	(.)	(0.054)	(0.097)	(.)

Healthcare	0.075	0.042	0.000	-0.160**	0.299**	0.000
	(0.050)	(0.097)	(.)	(0.051)	(0.097)	(.)
Arts, recreation and other	-0.024	-0.129	0.000	-0.029	0.269**	0.000
	(0.060)	(0.093)	(.)	(0.064)	(0.093)	(.)
Metropolitan area X State						
Other NSW	0.031	-0.084	-0.071	0.045	-0.055	-0.019
	(0.038)	(0.062)	(0.070)	(0.038)	(0.062)	(0.072)
Melbourne	0.060	-0.218+	-0.230	0.127***	-0.023	-0.126
	(0.037)	(0.112)	(0.172)	(0.037)	(0.113)	(0.176)
Other VIC	0.166***	-0.254*	-0.304+	0.209***	-0.127	-0.156
	(0.046)	(0.113)	(0.170)	(0.042)	(0.113)	(0.174)
Brisbane	0.045	-0.341**	-0.432*	0.127**	0.077	-0.003
	(0.043)	(0.122)	(0.216)	(0.043)	(0.122)	(0.222)
Other QLD	0.049	-0.305*	-0.407+	0.163***	0.052	-0.070
	(0.042)	(0.122)	(0.219)	(0.043)	(0.122)	(0.225)
Adelaide	0.102*	-0.644**	-0.700*	0.176***	-0.035	-0.348
	(0.049)	(0.201)	(0.301)	(0.050)	(0.201)	(0.308)
Other SA	0.085	-0.551**	-0.619*	0.176*	0.120	-0.163
	(0.073)	(0.203)	(0.306)	(0.071)	(0.204)	(0.313)
Perth	0.085+	-0.174	0.126	0.111*	0.128	-0.185
	(0.047)	(0.171)	(0.285)	(0.048)	(0.171)	(0.280)
Other WA	0.116+	-0.173	0.171	0.192**	0.026	-0.302
	(0.064)	(0.167)	(0.276)	(0.059)	(0.166)	(0.274)
NT	0.031	-0.664***	-0.336	0.191**	-0.048	-0.214
	(0.065)	(0.193)	(0.361)	(0.062)	(0.191)	(0.369)
Tasmania	0.074	-0.279	-0.402	0.125+	0.059	-0.301
	(0.065)	(0.217)	(0.355)	(0.066)	(0.218)	(0.364)
ACT	0.102+	-0.205+	0.082	0.133*	-0.051	-0.015
	(0.054)	(0.108)	(0.130)	(0.054)	(0.109)	(0.133)
Constant	0.727***	1.155**	0.097	0.166	1.158**	1.980
	(0.174)	(0.441)	(1.343)	(0.175)	(0.442)	(1.385)
Observations	16481	16481	15477	16501	16501	15496

Managerial attitudes: Managers consult employees / Managers trusted / Fair treatment; Work attitudes: Won't lose job / No injury / No more expected

TABLE A7: First-difference estimates: changes in union status - Job-Stayers only – ALL coefficients

	(1) Satisfaction with Management	(2) Satisfaction with Work conditions
intoUM	-0.232**	0.071
	(0.082)	(0.080)
outUM	0.000	0.063
	(0.109)	(0.082)
intoDM	-0.150*	-0.241***
	(0.074)	(0.065)
outDM	0.061	-0.057
	(0.066)	(0.064)
stayDM	0.002	0.077
	(0.050)	(0.051)
stayUM	0.008	0.030+
	(0.016)	(0.016)
D.covered (collective agreement)	0.019	-0.006
	(0.028)	(0.029)
D.Union present in workplace	0.057	0.023
	(0.037)	(0.039)
D.Union delegate present in workplace	0.035	-0.022
	(0.032)	(0.032)
D.Ln hourly wage	-0.061	-0.015
	(0.050)	(0.051)
D.Age	0.003	-0.061
	(0.058)	(0.061)
D.Age^2	0.026	0.057
	(0.046)	(0.047)
oD.Tenure	0.000	0.000
	(.)	(.)
D.Tenure^2	0.179***	0.132**
	(0.045)	(0.044)

oD.Public sector	0.000	0.000
	(.)	(.)
oD.Not-for-profit sector	0.000	0.000
	(.)	(.)
D.Lives with partner	0.028	0.039
	(0.052)	(0.059)
D.Has dependants	0.006	-0.028
	(0.042)	(0.048)
D.Year 12 education	0.161	0.125
	(0.122)	(0.120)
D.Diploma or trade certification	-0.053	0.068
	(0.100)	(0.092)
D.Undergrad or postgrad degree	-0.279^{+}	-0.000
	(0.145)	(0.173)
D.Part-time employment status	-0.074^{+}	0.055
	(0.042)	(0.039)
D.Casual contract	0.056	-0.096
	(0.062)	(0.069)
D.Managerial position	0.076^{+}	-0.066^{+}
	(0.040)	(0.040)
D.Supervisory position	0.050^{+}	0.003
	(0.030)	(0.029)
D.Fixed term contract	0.099^{+}	-0.029
	(0.055)	(0.056)
D.Same hours each week	0.047*	0.046^{+}
	(0.024)	(0.025)
D.Shift worker	-0.103*	-0.044
	(0.045)	(0.049)
D.Evening/night shifts	-0.077	-0.029
	(0.074)	(0.063)
D.Irregular hours	0.009	0.018
	(0.050)	(0.052)
D.Works overtime	0.007	-0.051*
	(0.024)	(0.026)
D.Manager occupation	0.035	-0.086

	(0.212)	(0.243)
D.Professional occupation	0.041	-0.237
	(0.208)	(0.238)
D.Technician/Trades	-0.546**	-0.363
occupation	(0.197)	(0.261)
D.Community/pers.	0.369	0.217
service occupation	(0.335)	(0.383)
D.Sales worker occupation	-0.245	-0.156
	(0.287)	(0.279)
D.Machinery operator	0.149	-0.313
occupation	(0.275)	(0.276)
D. Labourer occupation	0.312	-0.315
	(0.322)	(0.393)
oD.Industry: Primary	0.000	0.000
	(.)	(.)
oD.Industry:	0.000	0.000
Wholesale/transport	(.)	(.)
D.Industry: Retail	1.597***	0.385
	(0.210)	(0.241)
oD.Industry: Hospitality	0.000	0.000
	(.)	(.)
oD.Industry: Business	0.000	0.000
Services	(.)	(.)
oD.Industry: Public admin	0.000	0.000
and safety	(.)	(.)
oD.Industry: Education	0.000	0.000
	(.)	(.)
oD.Industry: Healthcare	0.000	0.000
	(.)	(.)
oD.Industry: Arts,	0.000	0.000
recreation and other	(.)	(.)
D.Other NSW	-0.049	0.102
	(0.081)	(0.088)
D.Melbourne	-0.141	0.048
	(0.171)	(0.184)

D.Other VIC	-0.221	-0.022
	(0.177)	(0.184)
D.Brisbane	-0.167	0.190
	(0.272)	(0.367)
D.Other QLD	-0.113	0.247
	(0.276)	(0.367)
D.Adelaide	-0.761**	-0.318
	(0.273)	(0.243)
D.Other SA	-0.707*	-0.188
	(0.281)	(0.257)
D.Perth	-0.354	-0.002
	(0.346)	(0.270)
D.Other WA	-0.224	-0.230
	(0.324)	(0.225)
D.NT	-0.026	0.338
	(0.400)	(0.361)
D.Tasmania	-0.326	-0.166
	(0.262)	(0.394)
D.ACT	0.123	0.176
	(0.153)	(0.177)
Constant	-0.125**	-0.114*
	(0.045)	(0.045)
Observations	7967	7963
R^2	0.014	0.010

Standard errors in parentheses

$^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Appendix IV – Results from main analysis with DISaggregated satisfaction measures – selected coefficients

TABLE A8: Employee attitudes and union status: membership & desire – DISAGGREGATED attitudes (selected coefficients)

POLS							
	Manager consult	Manager trust	Fair treatment	Won't lose job	Won't get injured	No more asked of me	Control over when work
Non-union member desires membership	-0.219*** (0.033)	-0.349*** (0.033)	-0.385*** (0.033)	-0.248*** (0.031)	-0.267*** (0.031)	-0.343*** (0.030)	-0.238*** (0.037)
Union members	-0.192*** (0.024)	-0.281*** (0.025)	-0.229*** (0.024)	-0.073*** (0.022)	-0.263*** (0.024)	-0.229*** (0.025)	-0.204*** (0.027)
covered (collective agreement)	-0.078*** (0.023)	-0.111*** (0.023)	-0.059** (0.023)	-0.023 (0.022)	-0.052* (0.022)	-0.026 (0.023)	-0.058* (0.026)
Union present in workplace	0.063* (0.030)	-0.020 (0.030)	0.020 (0.030)	-0.004 (0.028)	-0.013 (0.030)	-0.085** (0.031)	-0.069* (0.035)
Union delegate present in workplace	0.035 (0.030)	0.046 (0.030)	0.036 (0.029)	0.014 (0.027)	0.050 (0.030)	0.086** (0.029)	0.069* (0.033)
Observations	*16548*	*16560*	*16610*	*16576*	*16583*	*16613*	*12734*
POLS + Worker FE							
	Manager consult	Manager trust	Fair treatment	Won't lose job	Won't get injured	No more asked of me	Control over when work
Non-union member desires membership	-0.044 (0.037)	-0.140*** (0.034)	-0.143*** (0.034)	-0.092** (0.035)	-0.079* (0.034)	-0.145*** (0.033)	-0.121** (0.041)
Union members	-0.121** (0.042)	-0.156*** (0.039)	-0.155*** (0.039)	-0.056 (0.041)	-0.128*** (0.039)	-0.044 (0.039)	-0.044 (0.047)
covered (collective agreement)	-0.047+ (0.024)	-0.027 (0.023)	-0.028 (0.023)	-0.007 (0.024)	-0.033 (0.022)	0.015 (0.022)	0.029 (0.026)
Union present in workplace	0.048 (0.033)	0.021 (0.030)	0.017 (0.031)	-0.021 (0.032)	-0.005 (0.030)	-0.015 (0.030)	-0.024 (0.035)
Union delegate present in workplace	0.031 (0.031)	-0.007 (0.029)	0.006 (0.029)	-0.026 (0.030)	0.016 (0.028)	0.035 (0.028)	0.023 (0.032)
Observations	*16548*	*16560*	*16610*	*16576*	*16583*	*16613*	*12734*
POLS+Worker-job FE							
	Manager	Manager trust	Fair treatment	Won't lose job	Won't get	No more asked	Control over

	consult				injured	of me	when work
Non-union member	0.018	-0.112**	-0.039	-0.018	-0.023	-0.132**	-0.020
desires membership	(0.044)	(0.040)	(0.041)	(0.043)	(0.042)	(0.040)	(0.048)
Union members	-0.113*	-0.061	-0.093+	-0.054	-0.078	0.005	0.040
	(0.055)	(0.050)	(0.050)	(0.053)	(0.051)	(0.050)	(0.059)
covered (collective	0.010	0.018	-0.005	-0.028	-0.016	0.008	0.049+
agreement)	(0.028)	(0.025)	(0.025)	(0.027)	(0.026)	(0.025)	(0.030)
Union present in	0.044	0.072*	0.038	0.039	0.024	0.008	0.017
workplace	(0.037)	(0.034)	(0.034)	(0.036)	(0.035)	(0.034)	(0.039)
Union delegate	0.051	0.011	-0.012	-0.031	0.013	0.006	0.013
present in workplace	(0.034)	(0.031)	(0.031)	(0.032)	(0.032)	(0.031)	(0.035)
Observations	*15541*	*15544*	*15594*	*15564*	*15568*	*15597*	*11716*

TABLE A.?: First-difference estimates – DISAGGREGATED attitudes (selected coefficients)

EXTRA: TABLE A.?: Employee attitudes and union status: membership & coverage

Panel A - POLS		
	Management attitudes	Work conditions
Union-Uncovered union member ABS	-0.260***	-0.264***
	(0.036)	(0.036)
Union-Covered non-union ABS	-0.162***	-0.073*
	(0.035)	(0.035)
Union-Covered union member ABS	-0.334***	-0.270***
	(0.033)	(0.035)
Union present in workplace	*0.039*	*-0.069**
	(0.032)	*(0.033)*
Union delegate present in workplace	*0.037*	*0.084***
	(0.032)	*(0.031)*
Observations	16,974	16,996
Panel B – POLS, worker fixed effects		
Union-Uncovered union member ABS	-0.170***	-0.044
	(0.043)	(0.043)
Union-Covered non-union ABS	-0.129***	-0.009
	(0.035)	(0.035)
Union-Covered union member ABS	-0.196***	-0.049
	(0.042)	(0.043)
Union present in workplace	*0.045*	*-0.026*
	(0.030)	*(0.030)*
Union delegate present in workplace	*0.010*	*0.005*
	(0.029)	*(0.029)*
Observations	16,974	16,996
Panel C – POLS, worker-job fixed effects		
Union-Uncovered union member ABS	-0.123*	-0.029
	(0.053)	(0.055)
Union-Covered non-union ABS	-0.067	-0.018
	(0.041)	(0.042)
Union-Covered union member ABS	-0.102+	-0.038
	(0.053)	(0.054)
Union present in workplace	*0.076**	*0.033*
	(0.033)	*(0.034)*
Union delegate present in workplace	*0.010*	*-0.022*
	(0.030)	*(0.031)*
Observations	15,945	15,965

Notes: Standard errors in parentheses; $^{+}$ $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.
Management attitudes: Managers consult employees / Managers trusted / Fair treatment; Work conditions: Won't lose job / No injury / No more expected; Controls: lnw*, quadratic in age and tenure, sector (public/priv/nfp), partnered, dependants, education, PT, casual, managerial/supervisory tasks, fixedterm, samehrs, shiftwork, eve/night work, irregular, overtime, occupation (8), workplace size (5), industry (10), state & capital cities; *=continuous var