

**Time trends in psychosocial working conditions in a representative sample of working
Australians 2000-2008: Evidence of narrowing disparities?**

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ABSTRACT (max 250 words)

Background: Psychosocial working conditions are important, modifiable determinants of health. Acknowledging previous research demonstrating cross-sectional disparities in psychosocial working conditions, we assessed time trends in job control and security in a representative sample of working Australians to determine whether disparities were narrowing.

Methods: Measures of job control (5 items) and job security (2 items) were collected in 8 annual waves (2000-2008) from a population-based Australian panel survey (n = 10608 individuals). Population-weighted measures of control and security were calculated for the whole population, and separately by sex, age, occupational skill level and employment arrangement. Model-predicted time trends were generated using population-averaged longitudinal linear regression models, with year fitted as a categorical variable, and adjustment for potential confounders. Differences in time trends by sex, age group, skill level and employment arrangement were tested as interactions with time.

Results: Significant cross-sectional disparities were observed by sex, age, occupational skill level, and employment arrangement. Job control remained relatively flat over time, whereas job security increased from 2000-2007, followed by a decrease at the onset of the global financial crisis. There was little evidence of narrowing of disparities over time, with the exception of an improvement in job control among young workers compared to older groups, and an improvement in job security among casual workers compared to others.

Conclusions: Most cross-sectional disparities in job control and security persisted over time, though two favourable trends were identified. Concerted policy and practice intervention could reduce persisting inequalities in psychosocial working conditions and associated illness burdens.

249 words

INTRODUCTION

Psychosocial working conditions or stressors are widely prevalent, potentially modifiable determinants of population health. Psychosocial working conditions include well-characterised job stressors such as job control, job security and effort-reward imbalance, as well as others such as bullying and sexual harassment at work. Exposures to these stressors predict serious adverse effects on mental and physical health, even after accounting for other established risk factors.¹⁻³ Given the widespread prevalence of exposure to job stressors across the full working population, this translates to large preventable burdens of common chronic illness and disease, including cardio-metabolic disease and common mental disorders.⁴⁻⁸

The increasing salience of job stressors as modifiable determinants of health has been paralleled by their inclusion in a growing number of government and other surveillance systems internationally.⁹ For work-related disease outcomes with both work-related and non-work-related contributions (such as depression and cardiovascular disease), exposure or hazard surveillance is the most efficient way to identify at risk groups, occupations or work contexts, to monitor trends, and to guide and evaluate policy and practice interventions.¹⁰ Predictively validated stressor measures (e.g., for job control, job security, etc.) that serve as proxies for associated disease risk can be acted upon by governments, industry, or other workplace stakeholders to reduce the burden job stress-related disease.¹¹

Published surveillance analyses of job stressor exposure trends have yielded disparate findings by country, calendar time period, and working conditions measured.^{9 12-16} There has, however, been some consistency in cross-sectional disparities across countries and over time, with those in lower occupational status positions generally more likely to experience worse psychosocial working conditions.¹⁷ For example, job control is lower among working women compared to working men, and is typically lowest among the lowest skill level or occupational status groups compared to the highest,¹⁸⁻²⁰ and the reverse is often the case for job strain.⁸ Most published studies of population exposure patterns have focussed on job control and demand measures. While less is known about the population exposure patterns of job security and other psychosocial stressors, lower occupational status groups tend to show lower job security,²¹⁻²³ but—in contrast to job control—men are usually more likely to report poor job security than women.²⁴

In this paper, we combine a specific interest in the surveillance of psychosocial working conditions with a more general interest in health inequalities and the improvement of ‘monitoring and surveillance of upstream social determinants of health’, such as called for in the 2008 report from the WHO Commission on the Social Determinants of Health.²⁵ We apply a health inequalities surveillance perspective, acknowledging previous research demonstrating social disparities in psychosocial working conditions, and investigate exposure trends for evidence of narrowing disparities over time. Making use of a longitudinal national panel survey of working Australians, we assess exposure patterns for job control and job security over an 8-year period, assessing cross-sectional and longitudinal disparities by sex, age, occupational skill level, and employment arrangement.

METHODS

Study population and data collection

The Household Income and Labour Dynamics of Australia (HILDA) survey is longitudinal, nationally representative study of Australian households that has been running since 2001. It collects detailed information about all individuals within households, that have been present across any waves of the study period.²⁶

The survey collects detailed information annually across a range of dimensions including social, demographic, health and economic using a combination of face-to-face interviews with trained interviewers and a self-completion questionnaire. Although data is collected on each member of the household, interviews are only conducted with household members older than 15 years of age. Only those respondents who were employed and aged under 65 years are included in these analyses.

The outcome variables

Job control and security were estimated for each respondent for each survey year from survey items contained in the self-completion component of the HILDA survey. This was a questionnaire that respondents completed in addition to the face-to-face interviews. For job control, five items were used to estimate two equally-weighted subscales that were combined into an overall measure of control: skills discretion and decision authority.

Skill discretion was based on two items: "My job often requires me to learn new skills" and "I use many of my skills and abilities in my current job". Respondents were asked to indicate on a 7 point scale ranging from strongly disagree (1) to strongly agree (7) their response to each question. The scale was the sum of the scores for each item divided by two. Decision authority was based on three items: "I have lots of freedom to decide how I do my work", "I have a lot of say about what happens in my job" and "I have a lot of freedom to decide when I do my job". The scale is the sum of the scores for each item divided by three, ranging from one to seven. Job control was computed as the sum of the skill discretion and decision authority subscales, given equal weight (Cronbach's alpha internal consistency reliability = 0.40). Job security was also measured using the seven-point scale, constructed from two relevant survey items: "I worry about the future of my job" and "I have a secure future in my job" (Cronbach's alpha internal consistency reliability = 0.60).

The predictor variables

Predictor variables included age (five categories: 15-24, 25-34, 35-44, 45-54, 55-64), sex (male or female), occupational skill level and employment arrangements. Data on employment arrangements was obtained from a series of questions in the survey concerning people's contract arrangements and schedule of work. People were categorized in to five groups: permanent full time, permanent part time, casual / labour hire, fixed term and self-employed. Occupational skill level was based on the Australian Standard Classification of Occupations (ASCO). In ASCO, occupations are classified according to two main criteria: skill level and skill specialization. Skill

level refers to the range and complexity of the set of tasks required for an occupation. It is measured operationally as the amount of formal education, on-the-job training and previous experience usually necessary for the satisfactory performance of the set of tasks. The skill specialisation of an occupation is a function of the field of knowledge required, tools and equipment used, materials worked on, and goods or services provided in relation to the tasks performed.²⁷ Other potential confounding variables included in the models were education (high school not completed, high school / certificate / diploma, bachelor degree or above) and Indigenous status (Indigenous or non Indigenous).

The analysis

Descriptive

For each population group of interest, the number of people in each category and the corresponding mean score for control and security were calculated at baseline (2001).

Population averaged models

Population averaged longitudinal linear regression analyses were conducted in Stata 11.1 (StataCorp LP, 2008). Job control and job security were estimated in both unadjusted and adjusted models. Unadjusted models included the outcome variable (control or security) and one of sex, age, occupational status, employment arrangements and year. The adjusted models included all of predictor variables listed above, and were additionally adjusted for the potential confounders of education and Indigenous status.

Interactions between population groups and time were also tested. This was done by including specific interaction terms in the unadjusted models and comparing the log likelihood (using the likelihood ratio test) of models with and without the interaction term. The p-values for the likelihood ratio tests are reported in text in the results section (estimates of interaction terms in not shown, as there are up to 40 estimates for each predictor variable). Trends in the outcomes over time are instead presented in graphical form.

Trend graphs

To obtain the trend graphs, mean values of job control and security were calculated for each year for categories of each predictor variable. These mean values were plotted with separate graphs for each predictor. Estimates were weighted to the Australian population using the cross-sectional responding person weights provided with the HILDA dataset. These weights were constructed using benchmarks from various Australian Bureau of Statistics surveys and adjust the sample according to the following: Sex by broad age; state by part of state, state by labour force status, marital status and household composition (number of adults and children). To show how adjustment for co-variates affected time trends, predicted values were obtained from the adjusted models and also graphed. These graphs are included as an appendix.

RESULTS

At baseline, there were 7588 employed persons included in the sample, with slightly more men than women and with most aged between 35-44 years. Most were employed in permanent full-time positions (45%) and at higher skill levels (32%). Almost half had at least a high school education, and there were very few who identified as indigenous. The mean control score (on a scale from 1 to 7) in 2001 was 4.71 and the mean security score (on a scale from 1 to 7) in 2001 was 4.87 (Table 1).

Including those people who joined the sample in subsequent years, for the period 2001 to 2008 there were 55689 observations from 12324 respondents for job control and 55736 observations from 13229 respondents for job security.

Unadjusted models indicate that job control was significantly lower among working women compared to men, showed a gradient from oldest to youngest and highest skill level to lowest skill level workers, and was highest among the self-employed and lowest among casual or temporary workers (Table 2). Patterns were different for job security, with women reporting higher security than men, and security higher in those aged 55-64 years. There was a shallow gradient in job security by skill level, with the highest skill workers reporting the greatest security and vice versa. By employment arrangement, permanent workers reported the highest security, and casual workers the lowest (Table 2).

After adjusting for co-variates, the differences in control persisted but were less pronounced. For example, lower levels of control observed for women and younger age groups were attenuated. For security, differences by gender and age groups were slightly greater, with younger age groups having significantly greater security than those who were middle aged. The differences in security between occupational skill levels and employment arrangement were less evident in the adjusted models (Table 2).

With respect to trends over time, job control remained relatively flat over the 8 year observation period, though there were small significant changes over time relative to baseline (Table 2 and Figure 1A). There were no statistically significant interactions observed for gender*time or for occupational skill level*time (p-value were 0.38 & 0.56 respectively), and no evidence of narrowing disparities (see figure 1, panel A & C). In contrast, significant interactions were observed for age*time and employment arrangement*time (p-values were both <0.001). For age, there is a suggestion that job control for the youngest age group is improving relative to others (see trend for 15-24 yr old age group in Figure 1B). For employment arrangement, despite the significant interaction with time, there was no discernable pattern to suggest a narrowing of disparities between groups over time.

Job security showed modest but significant change over time, with security improving overall from 2000-2007, followed by a small drop in 2008. There was no evidence of disparities narrowing over time by gender, age group or occupational skill level (no significant interactions with time, p-values were 0.15, 0.25 & 0.33 respectively). There was, however, a significant interaction with time for employment arrangements (p-value 0.03), with some variation in

patterns of inflection between groups and the suggestion of an improvement over the observation period for casual/temporary workers (see Figure 2D).

Similar trends between groups were observed when examining predicted values from the adjusted models (see appendix A1 & A2 for these graphs).

DISCUSSION

Our results show persisting disparities in the key psychosocial working conditions of job control and security in the Australian working population, with little evidence of narrowing of these disparities over the 2000-2008 period. Significant cross-sectional disparities were observed by sex, age, occupational skill level, and employment arrangement for job control. The disparities observed for sex and age were attenuated when controlling for potential confounders, suggesting that differences in occupational skill level and employment arrangements explained some of the observed effect. Cross-sectional disparities were less marked for job security, with the greatest differences across employment arrangements.

Job control remained relatively flat over time, with the exception of an improvement over time among young workers compared to older groups. In contrast, job security increased steadily from 2000-2007, followed by a decrease at the onset of the global financial crisis in 2008. There was some evidence of narrowing disparities by employment arrangement for job security, with the suggestion of an improvement in job security for casual/temporary workers. Following a discussion of study strengths and limitations, we discuss study findings in relation to the international literature, and suggest implications for policy and practice.

The longitudinal panel survey/cohort design has both strengths and limitations for surveillance purposes. The large representative sample and 8 annual data collections provide a detailed picture of time trends, and the cohort design provides a clear picture of within and between person (and likely within-job) time trends. Changes in job stressors that might arise due to changes in labour force composition would be captured less efficiently. For this reason, purpose-designed surveillance systems ideally include both longitudinal cohort and repeat cross-sectional samples in a so-called 'split panel' design.¹⁵ Another limitation of the cohort design is that while the sample was representative at baseline, it has become less so over time due to attrition, with bias towards higher socio-economic status population groups.²⁶ In the context of these analyses, we would expect that a disproportionate loss of lower occupational status participants over time would lead to an underestimate of disparities at the population level. Further, the question of whether the composition of jobs in the Australian labour market has changed over time is not answerable in our study. With respect to one important stratifying variable, employment arrangement, Australian Bureau of Statistics (ABS) repeat cross-sectional labour force surveys indicate that the proportion of workers in permanent versus precarious employment arrangements has not changed substantially over the last decade.²⁸

Job control and security were examined as proxies for stress-related illness risk,¹¹ as these constructs have been predictively validated in relation to various physical and mental health outcomes.¹⁻³ Job control and security measures are robust, with a wide range of variously composed measures showing associations with health outcomes. The job security measure used in this study has been previously shown to be associated with mental health outcomes.²⁹ The job control measure, while exhibiting lower internal consistency reliability than international norms (0.4 vs. ~0.8), has been shown in separate analyses to predict SF-36 mental health outcomes (data not shown).

Despite the growing salience of psychosocial working conditions as modifiable determinants of health, as well as calls for the surveillance of upstream determinants of health inequalities,²⁵ relatively little has been published on how psychosocial working conditions are trending over time at the population level. Two published studies on national samples from Denmark¹⁵ and Canada¹⁶ analysed time trends in job stressors over the 1990s. The Canadian study used a longitudinal cohort design and analysed data collected in 1994/5 and 2000/1; little change was observed in job stressors overall, including job control.¹⁶ Job security, however, did show a small increase, coincident with a fall in unemployment from 11% to 7%. The Danish study combined cohort and repeat cross-sectional samples, with data collected in 1990, 1995, and 2000. Improvements in job control were observed over this period, and were explainable by changes in labour force composition (an increase in higher control jobs). Job security also improved over these 10 years due to within-job improvements during a period of relative economic prosperity.¹⁵ Our Australian findings are comparable to these. Unemployment in Australia fell steadily over the 2000-2008 period from ~7% to 4%. Across these three OECD countries, job security varies with the state of economy, whereas job control is less sensitive to economic trends.

Our results suggest a favourable trend of job control improving for the youngest age group of Australian workers (15-24 years) in relation to all older age groups, whose job control remained relatively flat over the 2000-2008 period. An improvement in job control for younger workers would narrow the age-related disparity in job control. If sustained, this could translate to significant health benefits, particularly for mental health. In contrast to most chronic diseases, mental disorders have their onset in youth and early adulthood,³⁰ and psychosocial working conditions are preventable risk factors mental disorders in young people. A New Zealand birth cohort study estimated that, at age 32, 45% of incident cases of depression and anxiety in previously healthy young workers were attributable to job stress.³¹ Policy and practice interventions to enhance and sustain this trend could translate to substantial population mental health benefits over the working life course. Such investment could also help to address the rising social and economic costs of early exits from the workforce onto mental illness-related disability pension in Australia and other OECD countries. The combination of low job control and high job demands, or job strain, has been shown to predict subsequent disability pension in a large prospective cohort study of over 25,000 Finnish public sector employees.³² The odds of going on to disability pension were 2.6 times higher for employees with high job strain than for those with low job strain 3-5 years earlier. The indication of improvement in job security among casual/temporary workers relative to others is also promising, both because this group contains a disproportionate number of younger workers, and because casuals tend to be exposed to multiple adverse working conditions.³³

Implications for Policy & Practice

It has been previously shown that psychosocial working conditions contribute significantly to population social gradients in self-rated health^{21 23 34} as well as specific mental and physical health outcomes as detailed in the Introduction section.¹⁷ Thus, targeted measures to reduce persisting disparities in psychosocial working conditions could help to reduce health inequalities. Effective intervention strategies are available to improve job control, job security, and other psychosocial working conditions, and the evidence suggests that these intervention strategies also have the potential to reduce health inequalities.³⁵⁻³⁹ Change will likely require intervention at a variety of

levels, including macro/labour market/legislative (more so for job security) and micro/organisation/employer (more so for job control).³⁹⁻⁴² Expanded efforts in these areas have the potential to reduce work-related health inequalities, and to benefit workers employers, and society through reductions in work-related physical and mental illness burdens.

Table 1: Description at baseline (2001); Cohort groups, with mean control and security scores

	Cohort groups		Control	Security
	N (%)		Mean (SD)	Mean (SD)
Employed persons	7,588 (100)		4.71 (1.23)	4.87 (1.57)
Sex				
Male	4,011 (52.90)		4.83 (1.20)	4.74 (1.59)
Female	3,577 (47.10)		4.58 (1.25)	5.01 (1.54)
Age				
15-24	1,225 (16.14)		4.15 (1.28)	4.95 (1.48)
25-34	1,806 (23.80)		4.76 (1.19)	4.97 (1.55)
35-44	2,143 (28.24)		4.80 (1.20)	4.73 (1.58)
45-54	1,707 (22.50)		4.89 (1.16)	4.83 (1.61)
55-64	707 (9.32)		4.89 (1.27)	4.96 (1.62)
Employee Arrangements				
Permanent full-time	3,418 (45.04)		4.78 (1.09)	5.07 (1.49)
Permanent part-time	716 (9.44)		4.38 (1.21)	5.17 (1.48)
Casual or Labour Hire	1,547 (20.39)		4.02 (1.30)	4.41 (1.62)
Fixed Term	537 (7.08)		4.96 (1.14)	4.70 (1.62)
Self Employed	1,326 (17.47)		5.43 (1.08)	4.79 (1.61)
Unknown	44 (0.58)		4.98 (1.11)	4.67 (1.82)
Occupational Skill Level				
High skill	2,432 (32.05)		5.27 (0.92)	5.04 (1.52)
Moderate to high	853 (11.24)		4.96 (1.10)	4.98 (1.57)
Moderate	1,026 (13.52)		4.85 (1.09)	4.76 (1.65)
Low to moderate	1,779 (23.44)		4.39 (1.21)	4.80 (1.58)
Low skill	1,487 (19.60)		3.95 (1.36)	4.68 (1.57)
Unknown	11 (0.14)		3.77 (1.28)	4.32 (1.42)
Education				
Degree or above	1,807 (23.81)		5.09 (1.07)	4.99 (1.53)
High school, certificate or diploma	3,597 (47.40)		4.68 (1.22)	4.80 (1.56)
No formal qualifications	2,184 (28.87)		4.45 (1.31)	4.87 (1.62)
Indigenous status				
Non Indigenous	5,827 (76.79)		4.70 (1.23)	4.91 (1.56)
Indigenous	101 (1.33)		4.74 (1.2)	4.6 (1.69)
Unknown	1,660 (21.88)		4.74 (1.24)	4.72 (1.6)

Notes: Employed and aged under 65 only; Excludes those missing both outcome measures (n=776)
Includes those that have one of two outcomes: missing control score (n=54) or security score (n=38)

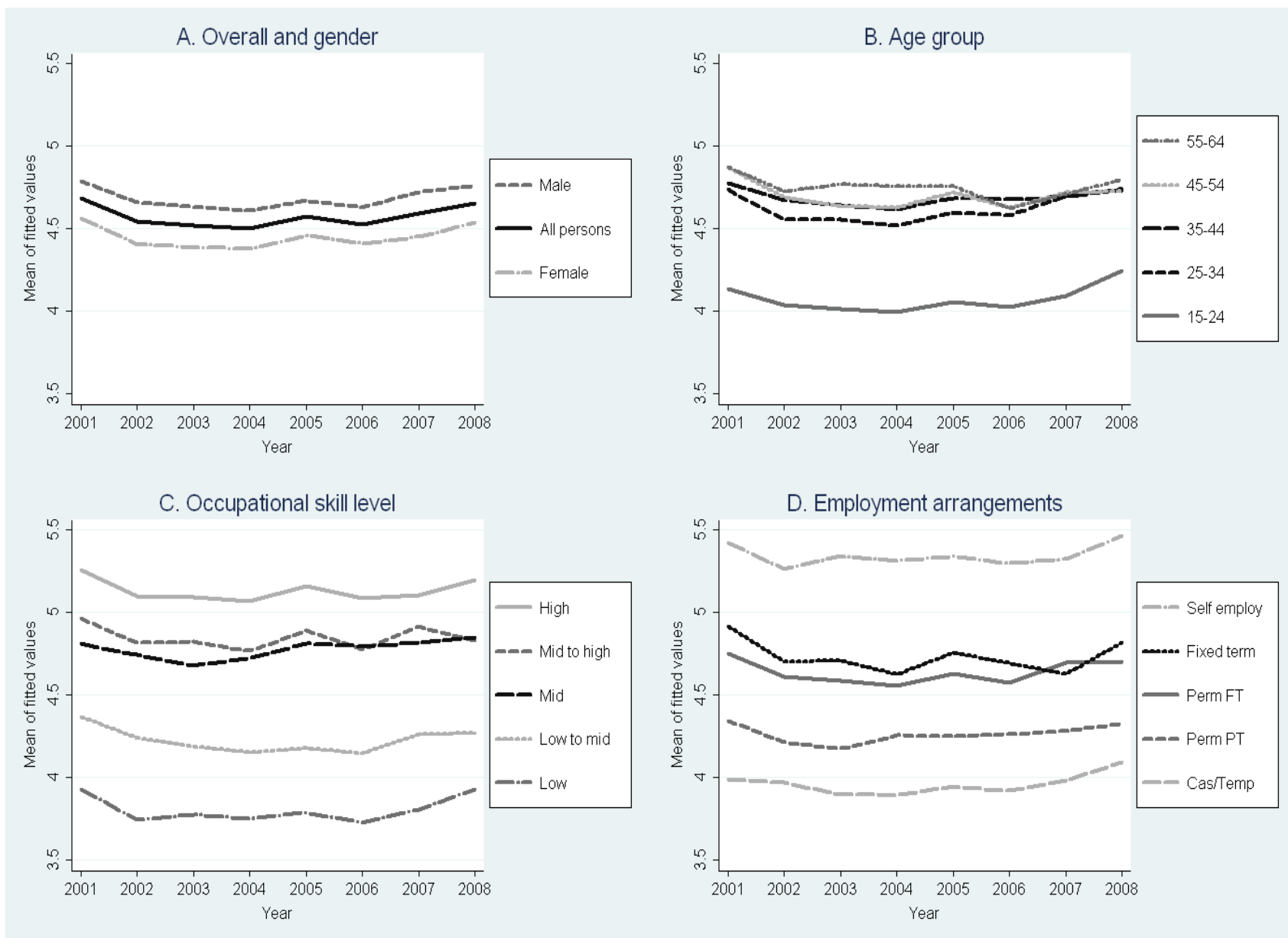
Table 2: Job Control and Security: Unadjusted and adjusted estimates for sex, age, skill level, employment arrangements and year

	Control				Security			
	Unadjusted		Fully adjusted		Unadjusted		Fully adjusted	
	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI	Estimate	95% CI
Age								
15 - <25 years	-0.55***	(-0.59, -0.52)	-0.17***	(-0.21, -0.13)	0.02	(-0.03, 0.07)	0.22***	(0.17, 0.27)
25 – 34 years	-0.13***	(-0.17, -0.10)	-0.04*	(-0.08, -0.01)	0.05*	(0.01, 0.10)	0.13***	(0.08, 0.19)
35 – 44 years	-0.02	(-0.05, 0.01)	0.02	(-0.01, 0.05)	-0.01	(-0.05, 0.03)	0.04	(-0.01, 0.08)
45 – 54 years	<i>Reference</i>		<i>Reference</i>		<i>Reference</i>		<i>Reference</i>	
55 – 64 years	0.02	(-0.02, 0.05)	0.01	(-0.04, 0.05)	0.17***	(0.11, 0.22)	0.18***	(0.12, 0.24)
Sex								
Male	<i>Reference</i>		<i>Reference</i>		<i>Reference</i>		<i>Reference</i>	
Female	-0.24***	(-.027, -0.21)	-0.09***	(-0.12, -0.05)	0.18***	(0.14, 0.22)	0.24***	(0.19, 0.29)
Occupational skill level								
1 (most skilled)	<i>Reference</i>		<i>Reference</i>		<i>Reference</i>		<i>Reference</i>	
2	-0.23***	(-0.26, -0.20)	-0.19***	(-0.22, -0.15)	0.01	(-0.04, 0.05)	0.01	(-0.04, 0.06)
3	-0.34***	(-0.37, -0.30)	-0.26***	(-0.30, -0.22)	-0.08**	(-0.12, -0.03)	-0.01	(-0.06, 0.05)
4	-0.68***	(-0.71, -0.65)	-0.51***	(-0.54, -0.48)	-0.14***	(-0.17, -0.10)	-0.09***	(-0.14, -0.05)
5 (least skilled)	-1.04***	(-1.08, -1.02)	-0.80***	(-0.84, -0.77)	-0.24***	(-0.28, -0.20)	-0.11***	(-0.16, -0.06)
Employment arrangement								
Permanent full time	<i>Reference</i>		<i>Reference</i>		<i>Reference</i>		<i>Reference</i>	
Permanent part time	-0.29***	(-0.32, -0.26)	-0.17***	(-0.21, -0.14)	-0.01	(-0.05, 0.03)	-0.04	(-0.09, 0.01)
Casual and labour hire	-0.53***	(-0.56, -0.51)	-0.28***	(-0.30, -0.25)	-0.57***	(-0.60, -0.53)	-0.45***	(-0.59, -0.51)
Fixed term	0.03	(-0.01, 0.06)	0.03	(-0.01, 0.07)	-0.43***	(-0.48, -0.39)	-0.47***	(-0.52, -0.42)
Self employed	0.56***	(0.53, 0.60)	0.54***	(0.51, 0.58)	-0.30***	(-0.35, -0.26)	-0.25***	(-0.31, -0.20)
Year								
2001	<i>Reference</i>		<i>Reference</i>		<i>Reference</i>		<i>Reference</i>	
2002	-0.13***	(-0.15, -0.10)	-0.13***	(-0.16, -0.10)	0.09***	(0.06, 0.13)	0.09***	(0.04, 0.13)
2003	-0.14***	(-0.16, -0.11)	-0.15***	(-0.18, -0.12)	0.22***	(0.19, 0.26)	0.20***	(0.16, 0.24)
2004	-0.13***	(-0.16, -0.10)	-0.16***	(-0.19, -0.13)	0.23***	(0.19, 0.27)	0.20***	(0.15, 0.24)
2005	-0.05**	(-0.08, -0.02)	-0.09***	(-0.12, -0.06)	0.21***	(0.17, 0.25)	0.17***	(0.12, 0.21)
2006	-0.08***	(-0.11, -0.06)	-0.13***	(-0.16, -0.10)	0.25***	(0.21, 0.29)	0.21***	(0.17, 0.26)
2007	-0.02	(-0.05, 0.01)	-0.08***	(-0.12, -0.06)	0.36***	(0.32, 0.40)	0.31***	(0.26, 0.35)
2008	0.05***	(0.02, 0.08)	-0.03	(-0.06, 0.01)	0.26***	(0.22, 0.30)	0.21***	(0.17, 0.26)

*p<0.05 **p<0.01 ***p<0.00

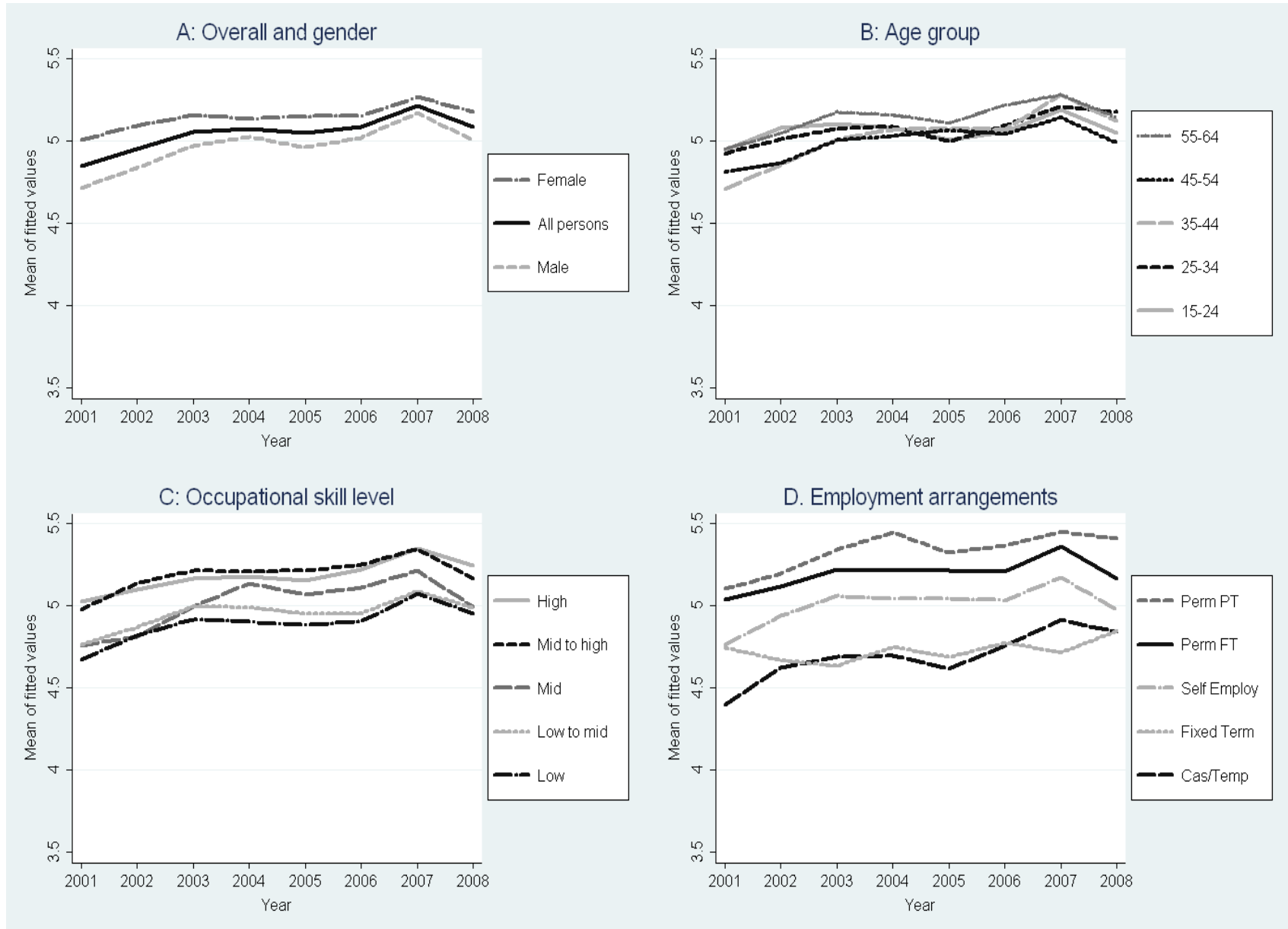
Notes: Scale 1 to 7. Models adjusted for education, ATSI, age, sex and year, occupational skill level and employment arrangements.

Figure 1: Observed mean job control from 2001 to 2008 by gender, age group, occupational status and employment arrangements



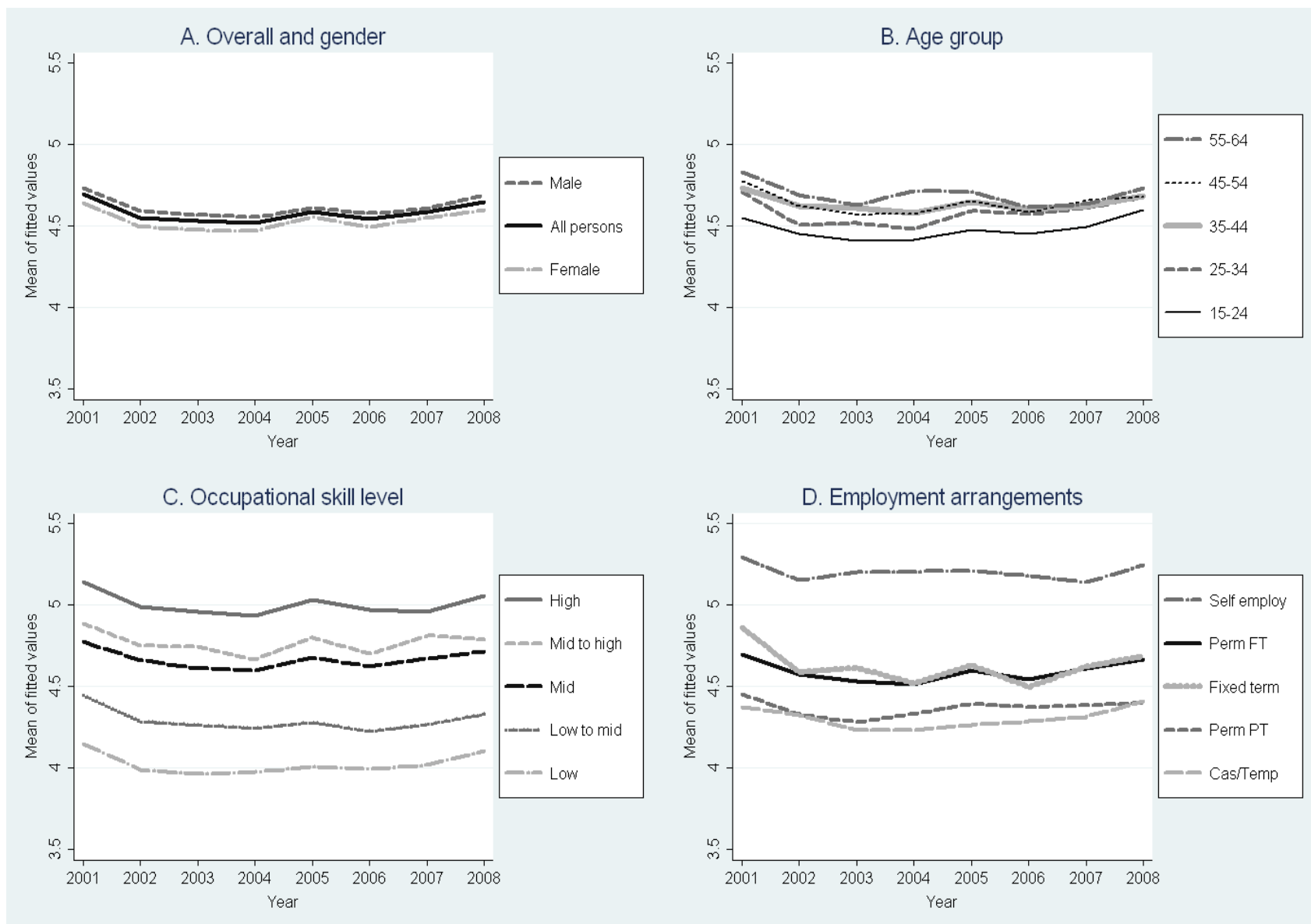
Notes: Results generated by plotting the mean observed control score, for each year across each category of the predictor variables. These estimates were weighted to the Australian population using the cross-sectional responding person weights provided with the HILDA dataset. Scale of security is from 1 to 7 (lowest to highest).

Figure 2: Observed mean job security from 2001 to 2008 by gender, age group, occupational status and employment arrangements



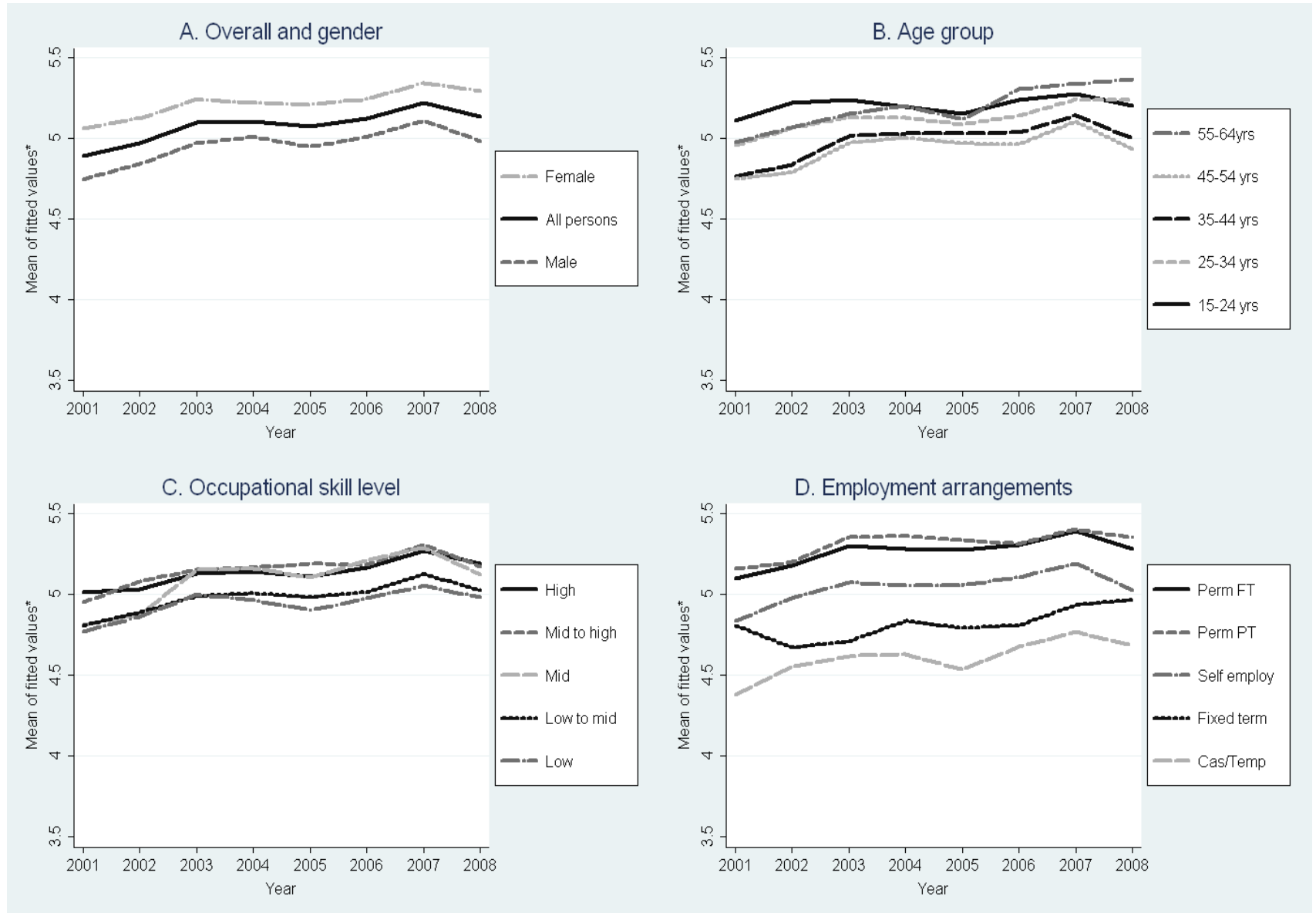
Notes: Results generated by plotting the mean observed security score, for each year across each category of the predictor variables. These estimates were weighted to the Australian population using the cross-sectional responding person weights provided with the HILDA dataset. Scale of security is from 1 to 7 (lowest to highest).

Figure A1: Predicted mean job control from 2001 to 2008 by gender, age group, occupational status and employment arrangements



Notes: Results generated from population averaged linear regression models. Scale of control is from 1 to 7 (lowest to highest). All models adjusted for education, ATSI, age, sex and year, occupational skill level and employment arrangements.

Figure A2: Predicted mean job security from 2001 to 2008 by gender, age group, occupational status and employment arrangements



Notes: Results generated from population averaged linear regression models, stratified by each population sub-group. Scale of security is from 1 to 7 (lowest to highest). All models adjusted for education, ATSI, age, sex and year, occupational skill level and employment arrangements.

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