Descriptive study of workplace demand, control and bullying among migrant and Australian-born workers by gender: does workplace support make a difference?

Alison Reid, Alison Daly, Anthony D LaMontagne, Allison Milner, Elena Ronda Pérez

ABSTRACT

Objective The objective of this study is to examine the relationship between bullying in migrants and Australians and types of workplace iso-strain, by gender.

Design and setting Two descriptive cross-sectional surveys of the Australian working population.

Participants Australian-born workers of Caucasian ancestry (n=1051, participant response rate=87.3%) and workers born in New Zealand (n=566), India (n=633) and the Philippines (n=431) (participant response rate=79.5%).

Primary and secondary outcomes measures Using logistic regression, we examined whether self-reported assessment of various forms of bullying in the workplace was associated with iso-strain (job with high demands and low control and without social support), gender and migrant status.

Results The prevalence of workplace bullying within the previous year was 14.5%. Sexual harassment, though rare (n=47, 1.8%), was reported by more women than men (63% vs 17%, \( \chi^2 = 19.3, p<0.0001 \)) and more Australia or New Zealand born workers compared to India or the Philippines workers (75.5% vs 25.5%, \( \chi^2 = 4.6, p=0.032 \)). Indian-born women had lower adjusted OR for being bullied and for being intimidated compared to other women. Independent of migrant status, iso-strain (1), (low support from boss) and iso-strain (2), (low support from colleagues) predicted being bullied. Women were more likely to be in an iso-strain (1) job than men (18.7% vs 13.6%, \( p=0.013 \)) and had twice the risk of being both verbally abused and intimidated compared to men (OR 9 vs OR 5.5, \( p<0.0001 \)).

Conclusion Workplace bullying was more likely for women than men. There were few differences between workers from different migrant groups. Iso-strain was the strongest predictor of workplace bullying. Workplaces should encourage supportive and collegiate work environments.

INTRODUCTION

Exposure to workplace psychosocial stressors differs by migration status and gender. Compared to native-born workers, migrants have a higher prevalence of exposure to most psychosocial stressors, including high demands, lower job control and less social support. Women are more exposed to emotional job demands, lower job control and lower reward, than men.

High job strain, the combination of high job demand and low job control is associated with both physical and mental health issues. Some studies of exposure to high job strain hypothesised that high job strain might encourage conditions in which a worker has an increased risk for becoming a target of bullying, while other research found it did not. Iso-strain is a psychosocial workplace hazard that is based on two conditions, first the worker is in a high strain job (a job with high demands and low control as defined by Karasek et al) and second that the worker has little or no workplace support from either colleagues or supervisors. Iso-strain has been associated with higher risk of cardiovascular disease, absence from work for...
mental health issues, decreased emotional and physical functioning in women and various self-reported physical symptoms.

Bullying is associated with the presence of poor working conditions including high workload, low control and job insecurity. Bullying can take different forms; sexual harassment, intimidation, verbal or physical abuse and the type of bullying and the perpetrator are important issues to consider when estimating its prevalence. Sexual harassment is more likely for those in precarious employment especially for women. Bullying as a workplace stressor has been associated with a range of adverse health outcomes, in particular, anxiety, irritability and depression. There has been little investigation into the association betweenIso- strain and bullying, however one study showed that increasing likelihood of being bullied during high stress situations is increased when social support is low and another showed that Iso-strain interacted with the effect of being bullied.

While some research has shown that the likelihood of being bullied in the workplace is similar for men and women, the response to bullying appears to be different. Men tend to leave the workplace while women stay but have more absenteeism. Men were more likely to have a common work mental disorder than women. Men and women tend to do very different jobs which may explain differences in responses to psychosocial hazards such as bullying.

Research examining both racism and bullying is limited and there is little empirical data about differentials in bullying between ethnic and racial groups. Among White, African American, Hispanic/Latino workers the latter group were more likely to report general bullying, while all non-Caucasian groups were likely to report racial or ethnic bullying. In the UK, ethnic minority workers in the public sector were more likely to be bullied than their white counterparts. However, we were unable to find work examining bullying in workers born outside the host country who migrated for work, despite the likelihood of their being a vulnerable group.

In 2016, 35% of Australian workers were born overseas. Most of these entered Australia as skilled workers, based on their educational and occupational qualifications, and in the last 10 years the majority of skilled workers came from India, China, the UK and the Philippines. However, the largest migrant group in Australia after the UK come from New Zealand and do not need skills or qualifications to enter and work in Australia.

The aims of this current study are to describe the prevalence and type of bullying by gender for Australian born workers and three migrant groups, workers born in New Zealand, India and the Philippines; to compare men and women within the three migrant groups; and to determine if Iso-strain is associated with bullying among these groups.

MATERIAL AND METHODS
Study design
Two national, cross-sectional telephone surveys, conducted in 2017–2018, targeted Australian-born workers aged 18–65 years of Caucasian origin and migrant workers born in New Zealand, India and the Philippines, of (8.7%, 7.8% and 3.9% of the working migrant population, respectively).

Participants
The Australian worker study used the Electronic White Pages (EWP), including both land line and mobile telephone numbers where these were listed, to call a randomly selected total of 33 103 households of which 1217 contained eligible respondents and 1062 consented to participate (participation rate 87.3%).

The migrant worker survey required a variety of methods to obtain enough sample: the first was a random sample of the EWP filtered by the most common surnames for peoples born in the target countries; the second targeted only suburbs that had high proportions of the target migrant residents; the third used a commercial sampling firm and the fourth used snow ball sampling. Using these four methods a total of 310 636 households were called of which 2051 had eligible respondents and 1630 consented to participate (participation rate 79.5%). Full details of the methods have previously been published.

Variables
Trained interviewers used computer-assisted telephone interviews to collect data. Migrant participants were given the option of completing the interview in Hindi or Tagalog. Information collected included gender, age, country of birth, year of arrival in Australia, highest level of education, employment status, contract type, occupation (coded using the Australian and New Zealand Standard Classification of Occupations), bullying and racial discrimination. The definition of bullying was being bullied within the last year in one of three ways. Discrimination was whether or not the respondent had ever been racially discriminated against by anyone. Being in a high strain job was whether or not the respondent was in a job with high demand and low control. Iso-strain was defined as being in a high strain job and having little or no support at work from either supervisor (Iso-strain (1) or colleagues (Iso-strain (2)). (See online supplementary table 1 for details on how bullying, racial discrimination, job strain and Iso-strain were assessed.)

Patient and public involvement
The questionnaire was informed by previous validated research without direct involvement of the respondents. There was no public involvement in this study. Respondents were asked if they would be willing to participate before the interview proceeded.

Statistical analysis
Only participants who had been bullied within the last year were included in the analysis. To enable comparable
description estimates, data from the survey were weighted using Iterative Proportional Fitting with age, gender, education and area of residence for each migrant group surveyed using the 2016 Australian Bureau of Statistics Census data. Univariate descriptive analysis produced weighted estimates with 95% CIs for sociodemographic, employment variables, job strain, social support, being bullied and racial discrimination by migrant status. Adjusted ORs were calculated for the prevalence of workers who reported being bullied adjusted for age, education, years in Australia, employment status, contract type and occupation. Stratified logistic regression (by sex) was used to develop models related to being bullied using the variables in the univariate analysis as covariates in conjunction with job strain and Iso-strain (job strain (high demand/low control) with little support from (1) supervisors or (2) colleagues. Logistic regression was used to develop models for ever been bullied, bullied within the previous year, feeling safety or health at work was at risk due to bullying and experiencing both racial discrimination and bullying. Deletion of non-significant covariates (p>0.05) was used to improve all models. Only statistically significant associations were reported. Post estimation tests were conducted for fit using contrast Hosmer-Lemeshow $\chi^2$ for logistic models and Bayesian information criteria to identify the models with the best fit for the data with level of fit determined by using the Raftery criteria. All analyses were conducted using Stata V.14.

RESULTS

There were significant differences across almost all of the sociodemographic and work-related variables between the workers by country of birth (table 1). Only perceived support from supervisors or colleagues among women and men did not differ by country of birth.

Overall, the prevalence of job strain was significantly higher among women than men (34.6% vs 27.5%, $\chi^2$=8.3, p=0.004; data not shown) as was Iso-strain (1) (18.7% vs 13.6, $\chi^2$=6.2, p=0.013; data not shown). There was no statistically significant difference in Iso-strain (2) between women and men (15.5% vs 12.8%, $\chi^2$=1.5, p=0.219; data not shown).

The prevalence of job strain, Iso-strain (1) and Iso-strain (2) did not vary by country of birth among men (table 2). Compared to men, the prevalence of job strain was higher in women born in Australia or India. The prevalence of Iso-strain (1) was also higher among Australian women compared to their male counterparts, and the prevalence of Iso-strain (2) was higher among Indian-born women compared to their male counterparts.

Across women and men combined, 771 (weighted prevalence 27.1%) reported having ever been bullied in the workplace at any time. Women were more likely to report ever having been bullied as were workers born in New Zealand, workers with education higher than school and workers aged over 45 years. However, the highest odds of reporting ever being bullied were workers who had any type of Iso-strain (OR 1.8 (1.3 to 2.4), p<0.0001). Full results are shown in online supplementary table 2.

When being bullied within the previous 12 months in one of three ways, sexually harassed, verbally abused or intimidated was examined by gender, women born in India had statistically significantly lower adjusted prevalence ratios for being bullied overall or for being intimidated in the previous 12 months compared to women born in Australia, New Zealand or the Philippines (table 3). A higher per cent of women than men reported being bullied within the previous 12 months across all types of bullying, and these differences were statistically significant. A higher per cent of Filipino women reported being verbally abused although the CI around this estimate overlapped with the other migrant groups. Australian-born women reported their health/safety was at risk due to bullying compared to Filipino and Australian-born men, respectively. Full results are shown in online supplementary table 3.

Across men and women combined, 356 workers (weighted prevalence 14.5%) reported being bullied within the previous 12 months. When sex was used as a covariate, women were more likely to report being bullied within the last year (OR 1.9, 95% CI (1.4 to 2.5), p<0.0001) as were people with education higher than school and those who worked for others. The highest odds of being bullied in the last 12 months were those who had any type of Iso-strain (OR 6.1, 95% CI (4.6 to 8.1), p<0.0001). There was no statistically significant association with country of birth. Full results are shown in online supplementary table 4.

When men and women were analysed separately, country of birth was also not a significant predictor of bullying in the last year after adjusting for all the covariates in tables 1 and 2. Other than Iso-strain (1) and (2), only education significantly predicted risk of bullying. However, there were differences by gender and type of Iso-strain. The risk of being bullied within the previous 12 months was six times more likely if the worker had any kind of Iso-strain job (table 4). Men with a trade/diploma or certificate educational qualification had a higher likelihood of being bullied compared to any other education level. Women in an Iso-strain one job were almost six times more likely to be bullied compared to women not in Iso-strain (1) jobs. This increased to nine times the likelihood of being bullied if women were in an Iso-strain (2) job.

Education level was the only sociodemographic variable that significantly increased the risk of being verbally abused, intimidated or both, for men and women (table 5). Iso-strain was the biggest predictor of any form of bullying, independent of gender.

The prevalence of racial discrimination was low (n=208, weighted prevalence 7.5%) but almost a quarter who reported racial discrimination (n=72, weighted prevalence 23.8%; data now shown) also reported being bullied in the last year. After adjusting for sociodemographics and
| Age Group | Men | Women |
|-----------|-----|-------|
| 18-45 years | 138 | 182 |
| 45-65 years | 307 | 282 |
| School only | 107 | 90 |
| Trade/diploma/certificate | 182 | 150 |
| Tertiary | 156 | 150 |
| Living in Australia for up to 10 years | 156 | 150 |
| Self-employed | 113 | 110 |
| Work for other full-time | 268 | 262 |
| Work for other part-time | 64 | 62 |
| Living in Australia for over 10 years | na | na |
| Work for other full-time | 268 | 262 |
| Work for other part-time | 64 | 62 |
| School only | 107 | 90 |
| Trade/diploma/certificate | 182 | 150 |
| Tertiary | 156 | 150 |
| Living in Australia for up to 10 years | 156 | 150 |
| Self-employed | 113 | 110 |
| Work for other full-time | 268 | 262 |
| Work for other part-time | 64 | 62 |

Table 1: Socio-demographic and employment characteristics for male and female participants by country of birth.
### Table 1  Continued

|                          | Australia          | New Zealand         | India                  | Philippines       | P       |
|--------------------------|--------------------|---------------------|------------------------|-------------------|---------|
|                          | N  | Weighted* % (95%CI) | N  | Weighted* % (95%CI) | N  | Weighted* % (95%CI) | N  | Weighted* % (95%CI) |       |
| Living in Australia for over 16 years | na | 210 | 54.6 (47.6 to 61.5) | 108 | 24.9 (19.3 to 31.4) | 99 | 40.8 (33.4 to 48.7) | <0.0001 |
| Self-employed            | 80  | 12.3 (9.1 to 16.4) | 34  | 8.8 (5.9 to 13.0) | 23  | 8.7 (5.3 to 13.9) | 16  | 6.2 (3.7 to 10.4) |       |
| Work for other part-time | 280 | 49.1 (43.4 to 54.9) | 120 | 36.3 (30.1 to 43.0) | 82  | 41.0 (32.3 to 50.3) | 95  | 50.4 (42.5 to 58.3) |       |
| Work for other full-time | 246 | 38.6 (33.2 to 44.2) | 174 | 54.9 (48.1 to 61.5) | 126 | 50.3 (41.2 to 59.5) | 98  | 43.3 (35.8 to 51.2) | 0.003  |
| In a casual contract     | 95  | 21.4 (16.5 to 27.2) | 62  | 22 (16.5 to 28.7) | 43  | 25.4 (17.9 to 34.7) | 46  | 23.2 (17.1 to 30.7) |       |
| In a fixed-term contract | 87  | 15.1 (11.4 to 19.7) | 32  | 9.7 (6.6 to 14.0) | 24  | 10.8 (6.7 to 17.0) | 15  | 6.0 (3.5 to 10.3)   |       |
| In a permanent contract  | 424 | 63.5 (57.5 to 69.1) | 234 | 68.3 (61.5 to 74.5) | 164 | 63.8 (54.4 to 72.2) | 148 | 70.8 (63.1 to 77.4) | 0.106  |
| Manager/professional     | 37  | 27.3 (22.3 to 33.0) | 28  | 31.2 (25.5 to 37.5) | 15  | 40.2 (32.0 to 49.0) | 16  | 32 (25.3 to 39.5)   |       |
| Technician/community services/ clerical/sales | 133 | 64.8 (58.6 to 70.6) | 83  | 53.8 (46.9 to 60.5) | 99  | 50.4 (41.2 to 59.5) | 54  | 48 (40.1 to 55.9)   |       |
| Machinery operator/labourer | 27  | 7.8 (4.8 to 12.7) | 16  | 15.0 (10.1 to 21.8) | 13  | 9.4 (4.5 to 18.6) | 15  | 20.0 (14.3 to 27.3) | 0.002  |
| Sometimes to never have support of boss | 169 | 31.9 (26.5 to 37.9) | 86  | 28.6 (22.3 to 35.8) | 58  | 23.3 (16.9 to 31.4) | 67  | 35.5 (27.9 to 43.9) | 0.19   |
| Sometimes to never have support of colleagues | 130 | 27.5 (22.2 to 33.6) | 55  | 18.7 (13.2 to 25.7) | 49  | 26.4 (17.9 to 37.0) | 53  | 26.8 (20.2 to 34.6) | 0.229  |

*Weighted prevalence estimates represent the per cent of the worker population adjusted by age, sex, education and country of birth.
working conditions, there were no gender differences in the likelihood of experiencing both bullying and discrimination. There was over a ten-fold increase in the likelihood of experiencing both bullying and discrimination if the worker was born outside Australia and over twice the likelihood of experiencing both if the worker was also in any Iso-strain job (online supplementary table 5).

DISCUSSION

In this study examining bullying at work among Australian-born workers and migrant workers to Australia, the prevalence of bullying (14.5%) within the last 12 months was similar compared to other estimates using the same type of measure (14.8%). There were no differences by country of birth in either men or women after adjusting for employment and sociodemographic characteristics. Neither job strain nor category of Iso-strain varied significantly in men by country of birth. Australian and Indian-born women reported more job strain and Australian-born women more Iso-strain (1) than the other groups.

The prevalence of all types of bullying was higher in women than men. Working with job strain and without support from either supervisors or colleagues were significant predictors of being bullied in both men and women, with risks tending to be higher in women. Bullying also impacted adversely on health and safety at work, particularly for women and those working with job strain and without support from supervisors and/or colleagues. Iso-strain jobs were related to an increased likelihood of experiencing both racial discrimination and bullying in the previous year.

In this current study, we found differences between women and men in the prevalence of job strain, Iso-strain (1), Iso-strain (2). In general, the prevalence of these exposures was higher in women than men within country of birth groups as well as overall. This concurs with work from Canada that found that women were more likely than men to be in high strain jobs (25.7% v 16.2%, respectively), and to be in high strain jobs with low support (16.8% v 11.0%, respectively), although the latter difference was not statistically significant. In the European Union, women’s jobs are more monotonous, demanding and lower paid with fewer promotion prospects than men. They also experience more psychological and sexual harassment. A meta-analysis of studies published between 1999 and 2010 comparing working conditions between women and men found inconsistency in exposure to psychosocial stressors. More men were exposed to low support at work and more physically demanding work than women, while more women worked in high demand, low control jobs and on a temporary contract or in shift work.

Bullying has been described as being gendered, with men more likely to be bullied by other men and women most likely to be bullied by men but also bullied by...
Table 3  Weighted per cent and adjusted ORs (95% CI) for categories of bullying† among women and men by country of birth

|                          | Australia | New Zealand | India | Philippines |
|--------------------------|-----------|-------------|-------|-------------|
|                          | Weighted %(95%CI) | aOR (95%CI) | Weighted %(95%CI) | aOR (95%CI) | Weighted %(95%CI) | aOR (95%CI) | Weighted %(95%CI) | aOR (95%CI) |
| **Men**                  |           |             |       |             |
| Bullied in last year     | 9.9 (6.3 to 15.3) | 1           | 13.4 (8.9 to 19.8) | 1.3 (0.7 to 2.3) | 10.4 (7.2 to 14.9) | 1.2 (0.7 to 2.0) | 10.4 (6.8 to 15.7) | 1.0 (0.5 to 1.8) |
| Sexually harassed        | 0.6 (0.2 to 2.1) | 1           | 1.1 (0.3 to 4.4)  | 0.8 (0.1 to 4.9) | 0.2 (0.0 to 1.4)  | 0.1 (0.0 to 1.5) | 0.8 (0.2 to 3.2)  | 0.7 (0.1 to 4.5) |
| Verbally abused          | 9.1 (5.6 to 14.3) | 1           | 9.5 (5.9 to 14.8) | 1.0 (0.6 to 1.9) | 8.3 (5.6 to 12.1) | 0.9 (0.5 to 1.7) | 8.0 (4.9 to 12.6) | 0.8 (0.4 to 1.5) |
| Intimidated              | 9.3 (5.8 to 14.5) | 1           | 11.2 (7.3 to 16.7) | 1.2 (0.7 to 2.1) | 7.8 (5.2 to 11.5) | 1.1 (0.6 to 1.9) | 8.6 (5.4 to 13.5) | 0.9 (0.4 to 1.6) |
| Health/safety at risk because of bullying | 3.2 (1.4 to 7.0) | 1           | 6.3 (3.5 to 10.9) | 2.1 (0.9 to 5.1) | 5.0 (3.0 to 8.2)  | 2.1 (0.9 to 5)  | 2.9 (1.2 to 6.6)  | 0.8 (0.3 to 2.4) |
| **Women**                |           |             |       |             |
| Bullied in last year     | 16.8** (12.6 to 22.0) | 1           | 18.3 (13.3 to 24.5) | 1.0 (0.7 to 1.5) | 17.6 (10.0 to 29.1) | 0.6* (0.4 to 1.0) | 21.5** (15.5 to 29.1) | 1.2 (0.8 to 1.9) |
| Sexually harassed        | 2.6** (1.2 to 5.2) | 1           | 3.9 (2.1 to 7.0)  | 0.6 (0.3 to 1.2) | 2.4** (0.9 to 6.5) | 1.3 (0.6 to 2.6) | 1.5 (0.6 to 4.1)  | 0.7 (0.3 to 1.4) |
| Verbally abused          | 12.1 (8.7 to 16.6) | 1           | 12.0 (8.2 to 17.3) | 1.2 (0.7 to 2.1) | 7.6 (4.3 to 13.2) | 1.1 (0.6 to 1.9) | 15.6** (10.6 to 22.4) | 0.9 (0.4 to 1.6) |
| Intimidated              | 15.7** (11.7 to 20.7) | 1           | 14.0 (9.9 to 19.4) | 0.9 (0.6 to 1.3) | 14.2 (7.5 to 25.3) | 0.6* (0.3 to 0.9) | 17.9** (12.6 to 24.9) | 1.1 (0.7 to 1.8) |
| Health/safety at risk because of bullying | 8.8** (5.9 to 12.8) | 1           | 6.1 (4.0 to 9.2)  | 0.8 (0.5 to 1.3) | 5.4 (2.7 to 10.5) | 0.4* (0.2 to 0.8) | 8.9** (5.8 to 13.4) | 1.0 (0.6 to 1.8) |

*P<0.05; **P<0.01 for differences between men and women.
†Missing values included those who had not been bullied within the last 12 months (n=417); those who were unsure (n=14) or refused (n=3) and those who were self-employed (n=140). Only statistically significant associations are reported. aOR (95% CI) was adjusted for age, education, occupation, job type and employment status.
Table 4  Likelihood of being bullied in the last 12 months, for men and women, adjusted

|                | Model 1* |  | Model 2* |  |
|----------------|----------|---|----------|---|
|                | OR (95% CI) | P  | OR (95% CI) | P  |
| **Men**        |          |   |          |   |
| Having a trade/diploma/certificate qualification vs any other education qualification | 3.1 (1.8 to 5.3) | <0.0001 | 3.2 (1.9 to 5.5) | <0.0001 |
| Iso-strain (1) | 6.2 (3.6 to 10.7) | <0.0001 |  |
| Iso-strain (2) | 6.1 (3.5 to 10.8) | <0.0001 |  |
| **Women**      |          |   |          |   |
| Having a trade/diploma/certificate qualification vs any other education qualification | 1.5 (0.9 to 2.4) | 0.129 | 1.3 (0.8 to 2.3) | 0.287 |
| Iso-strain (1) | 5.8 (3.5 to 9.5) | <0.0001 |  |
| Iso-strain (2) | 9.1 (5.0 to 16.6) | <0.0001 |  |

*Adjusted for age, occupation, job type, employment status.

Table 5  Likelihood of being verbally abused, intimidated or both for men and women

|                | Being verbally abused* |  | Being intimidated |  | Both verbally abused and intimidated |  |
|----------------|-----------------------|---|--------------------|---|-------------------------------------|---|
|                | OR (95% CI) | P  | OR (95% CI) | P  | OR (95% CI) | P  |
| **Men**        |          |   |          |   |          |   |
| Trade/diploma/certificate vs school only | 2.8 (1.5 to 5.0) | 0.001 | 3.6 (1.6 to 8.2) | <0.0001 | 3.4 (1.4 to 8.3) | 0.007 |
| Tertiary vs school only | 1.4 (0.6 to 3.0) | 0.037 | 1.3 (0.5 to 3.0) | 0.579 |  |
| Iso-strain (1) | 5.6 (3.1 to 10.1) | <0.0001 | 5.8 (3.3 to 10.1) | <0.0001 | 6.0 (3.2 to 11.0) | <0.0001 |
| Iso-strain (2)† | 5.5 (3.0 to 9.9) | <0.0001 | 5.3 (3.0 to 9.5) | <0.0001 | 5.5 (2.9 to 10.3) | <0.0001 |
| **Women**      |          |   |          |   |          |   |
| Trade/diploma/certificate compared to any other level of education | 1.6 (0.9 to 2.7) | 0.082 | 2.7 (1.3 to 5.6) | <0.0001 | 4.0 (1.8 to 8.8) | 0.001 |
| Tertiary compared to any other level of education | 2.3 (1.2 to 4.5) | 0.037 | 3.1 (1.5 to 6.6) | 0.003 |  |
| Iso-strain (1) | 5.6 (3.4 to 9.3) | <0.0001 | 5.2 (3.2 to 8.4) | <0.0001 | 6.0 (3.5 to 10.3) | <0.0001 |
| Iso-strain (2)† | 6.9 (3.8 to 12.7) | <0.0001 | 9.4 (5.3 to 16.7) | <0.0001 | 9.6 (5.1 to 18.2) | <0.0001 |

*Adjusted for age, occupation, job type, employment status; using Bayesian Information Criteria, model 2, Iso-strain (2) fit the data better than model 1. Iso-strain (1) (difference in BIC of 4.6 provides positive to strong support for model 2). While there were minor differences in the ORs for education between men and women, they were so small that only the model for men was used to enable a comparison between the types of Iso-strain.

†Being in an Iso-strain (2) was a better fit for the data, compared to being in an Iso-strain (1) job for all types of bullying with the BIC difference ranging from 6.0 (strong support) for verbally abused to 8.1 (strong to very strong support) for being both verbally abused and intimidated.
in Australia although we did not find the same the strong
association with casual employment.17

While there were no statistically significant differences
for the likelihood of being bullied by country of birth in
either men or women after adjusting for occupation and
demographic characteristics, unadjusted estimates in the
types of bullying did differ by both gender and country of
birth. This discrepancy might be due to the relatively small
numbers who reported being bullied but this would need
to be further investigated. The current study suggests that
it is demographic and/or occupational characteristics
that predict bullying and not gender or country of birth
per se.

Working in a job that was demanding as well as lacking
in support from either a supervisor or colleague (Iso-
strain) was the biggest predictor of bullying in our study.
Workers in these types of jobs reported a 5-fold to 10-fold
increased risk of being bullied compared to workers not
working in Iso-strain jobs. Similar findings have been
reported among employees working in a range of occupa-
tions in the USA,6 and among Australian frontline
police officers where bullying increased as job demands
increased and support and job control decreased.19 In the
current study, lack of support from a colleague offered
a better fit for the data than the lack of support from a
supervisor. This might be a factor specific to Australian
workers and workplaces, where the ideas of egalitarianism
and ‘mateship’ are important cultural phenomena.

Another possible explanation for the relationship
between iso strain and workplace bullying may be that
not having support is, itself, part of the bullying. It is also
possible that multiple forms of discrimination may be
happening across a variety of situations.6 Some research
suggests that the combination of these factors lead to lack
of engagement within the workplace.43 Further inves-
tigation investigating the interactions and associations
between measures of workplace psychosocial stressors is
planned.

The lack of association between bullying and any
employment characteristics, which had been previously
reported as strongly associated,44 may be indicative of a
changing workplace environment45 as more people are
moving from traditional work arrangements to more
flexible work arrangements.46 This requires further
investigation.

Our cross-sectional surveys depended on self-report for
key variables such as bullying. However, the consistency of
our results with previous research provides some support
for our estimates. A further limitation of our study was
the use of three sampling methods: electronic telephone
books which offered a reasonable platform for random
sampling but lacked full mobile contact information;
sample brokers who had mobile numbers but provided
information from unknown sources; and snowball
sampling, limiting their generalisability. Weighting the
data to the census for workers from each migrant group
reduced bias in prevalence estimates and improved the
generalisability of our findings. We did not specifically
ask respondents if they thought bullying was occurring
because of their race or if they had experienced physical
violence. These omissions might have led to an underes-
timation of bullying. We also did not ask income which
precluded any analysis to examine economic status and
bullying.

CONCLUSION
This study provides the first population-based investiga-
tion of workplace bullying in migrant groups by gender.
While there were no statistically significant differences
in the prevalence of bullying by migrant status, women
overall and in the target countries of birth were more
likely to be bullied at work than their male counterparts.
Iso-strain, whether driven by lack of support from supervi-
sors or colleagues, was the strongest predictor of bullying
in the workplace. As a consequence, workplaces should
encourage supportive and collegiate work environments
as well as reducing high job strain as means of preventing
or mitigating bullying. Specific policies to address gender
and migrant status issues need to be developed in conjunc-
tion with those groups as a matter of priority.

Author affiliations
1School of Public Health, Curtin University Bentley Campus, Perth, Western Australia, Australia
2Population Health Strategic Research Centre, School of Health & Social Development, Deakin University, Melbourne, Victoria, Australia
3School of Population and Global Health, University of Melbourne, Melbourne, Victoria, Australia
4Preventive Medicine and Public Health Area, University of Alicante, Alicante, Alicante, Spain
5Centre for Research in Occupational Health (CISAL), Universitat Pompeu Fabra, Barcelona, Barcelona, Spain

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ORCID iDs
Alison Reid http://orcid.org/0000-0002-1202-7150
Alison Daly http://orcid.org/0000-0002-4919-5932
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Author/s:
Reid, A; Daly, A; LaMontagne, AD; Milner, A; Ronda Perez, E

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