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# Unwanted sexual advances at work: variations by employment arrangement in a sample of working Australians

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**R**ecent Australian and international research suggests that sexual harassment in the workplace persists as a substantial problem that disproportionately affects working women.<sup>1-5</sup> In a 2003 Australian national telephone survey, 41% of women and 14% of men reported having experienced sexual harassment at work at some time in the past.<sup>3</sup> The commonly reported harassers were co-workers and supervisors, and most respondents had not formally complained. A 2005 Victorian population survey of workplace violence against women found that 9.3% of women reported having experienced sexual harassment at work in the past five years, with 2.1% reporting such an experience in the past year.<sup>1</sup> The Victorian report found that the risk of workplace

violence (including, but not limited to sexual harassment) was particularly high for precariously employed women, and called for further research into 'structural characteristics of work' that could be targeted for intervention.<sup>1</sup>

Precarious employment refers to work arrangements characterised by instability, lack of protections, insecurity and social and economic vulnerability.<sup>6,7</sup> There is growing evidence that precarious employment adversely affects mental and physical health, but the mechanisms through which this might occur are incompletely understood.<sup>5,8,9</sup> While there is some evidence that precarious employment is associated with higher exposure to safety hazards and higher risks of occupational injuries, there is less evidence on other exposures that would

## Abstract

**Objective:** We tested the hypothesis that the risk of experiencing unwanted sexual advances at work (UWSA) is greater for precariously-employed workers in comparison to those in permanent or continuing employment.

**Methods:** A cross-sectional population-based telephone survey was conducted in Victoria (66% response rate, N=1,101). Employment arrangements were analysed using eight differentiated categories, as well as a four-category collapsed measure to address small cell sizes. Self-report of unwanted sexual advances at work was modelled using multiple logistic regression in relation to employment arrangement, controlling for gender, age, and occupational skill level.

**Results:** Forty-seven respondents reported UWSA in our sample (4.3%), mainly among women (37 of 47). Risk of UWSA was higher for younger respondents, but did not vary significantly by occupational skill level or education. In comparison to Permanent Full-Time, three employment arrangements were strongly associated with UWSA after adjustment for age, gender, and occupational skill level: Casual Full-Time OR = 7.2 (95% Confidence Interval 1.7-30.2); Fixed-Term Contract OR = 11.4 (95% CI 3.4-38.8); and Own-Account Self-Employed OR = 3.8 (95% CI 1.2-11.7). In analyses of females only, the magnitude of these associations was further increased.

**Conclusions:** Respondents employed in precarious arrangements were more likely to report being exposed to UWSA, even after adjustment for age and gender. Implications: Greater protections from UWSA are likely needed for precariously employed workers.

**Key words:** precarious employment, unwanted sexual advances, sexual harassment, psychosocial work environment.

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increase the risk of chronic health and disease outcomes such as depression or heart disease.<sup>5</sup> Further research is also needed to explore differentials in terms of the lack of protections and other vulnerabilities for precariously employed workers in the short term, such as the inability to refuse unsafe work, and sexual and other forms of harassment. Some investigators in this area have proposed that precarious employment may be particularly harmful to women.<sup>9</sup> Exposure to sexual and other forms of harassment, as well as limited rights and recourses to respond to such harassment, are plausible mechanisms through which precarious employment could be particularly harmful to working women.<sup>9,10</sup> However, to date, there has been limited research on this question.<sup>5</sup>

The research reported herein arose from the confluence of the two above-described research streams: the persisting problem of sexual harassment in the workplace and the hazards associated with precarious employment. We sought to comparatively assess working conditions across differentiated categories of precarious and other employment arrangements.<sup>11</sup> A previous analysis using the same data as here, reported that exposure to unwanted sexual advances was a unique occupational risk factor, showing no significant relationship with occupational skill level, educational level, workplace size, or trade union membership, but was significantly higher among females and younger age groups.<sup>12</sup> Variation in exposure reporting by employment arrangement was not included in that analysis. In this paper, we extend previous analyses by testing the hypothesis that the risk of experiencing unwanted sexual advances (UWSA) at work is greater for workers in precarious employment arrangements compared to those in permanent full-time employment.

## Methods

### *Study design and sample*

We conducted a secondary analysis of survey data collected for a study of job stress and precarious employment.<sup>11,13</sup> A cross-sectional population-based survey was conducted by telephone from a random sample of White Pages listings in Victoria, Australia. To reflect general population occupational group proportions, quotas were set to match Australian Bureau of Statistics (ABS) census proportions of upper white-collar, lower white-collar, and blue-collar groups (41%, 30% and 29%, respectively). We also quota sampled for ABS proportions of urban versus rural/regional Victorian residents (72% versus 28%). The inclusion criteria were 1) age 18 years or older, and 2) working at the time of the survey for profit or pay, including self-employed workers. To address the tendency of younger people to be harder to reach in telephone surveys, we asked to interview the youngest working person in each in frame household (i.e. where it was determined that more than one person was working for profit or pay aged 18+ at the household number contacted). Interviews were completed in November 2003 with a 66% response rate from in-frame households to yield a sample of 1,101 working Victorians (526 men and 575 women). More details are provided elsewhere.<sup>13</sup>

In-frame households were defined as those contacted that say they have one or more working residents aged 18 years or older. Reasons for in frame non-completions were as follows: selected respondent temporarily unavailable to continue (107), selected respondent refused to continue (46), phone answerer refused to pass on to eligible respondent (27), appointment made, but not achieved (228), and selected respondent away for duration of call-back period (157). The total in-frame contacts numbered 1,666, and 1,101 interviews were completed (1,101/1,666=66%). Average interview length was 31 min.

Three-quarters of completed interviews were achieved by the third call attempt, 99% by the ninth call attempt, and 1% required 10 or more calls to complete.

The upper white collar group was the first quota to fill (363 subsequent in-scope white collar contacts were screened out), followed by lower white collar (89 subsequent lower white collar contacts were screened out), and finally blue collar.

This study was reviewed and approved by the University of Melbourne's Human Research Ethics Committee (HREC protocol #030398), which conforms to the principles embodied in the Declaration of Helsinki.

### *Measures*

**Outcome:** The survey included a set of 10 general occupational hazards adapted from a US study, including one item on unwanted sexual advances at work.<sup>14</sup> This question is part of a broader battery of work hazard exposures which were originally modified from the Quality of Employment Survey in the United States.<sup>14</sup> Participants rated the statement: "My job exposes me to unwanted sexual advances" on a 4-point agree/disagree scale, dichotomised for multivariate analysis (strongly disagree or disagree = no; agree or strongly agree = yes).

**All measures of working conditions and work characteristics** referred to the respondents' main job (143/1101 = 12.9% held two or more jobs): median length of time working in the job was four years (mean 7.1 years).<sup>11,13</sup>

**Employment Arrangement:** We previously developed a measure of employment arrangements consisting of eight mutually exclusive categories.<sup>11</sup> Permanent Full-Time (46.9%), Permanent Part-time (18.5%), Casual Full-Time (2.8%), Casual Part-Time (9.2%), Fixed Term Contract (2.1%), Labour Hire (3.6%), Own Account Self-Employed (7.2%), and Self-Employed Employing Others (9.6%) (see Table 1). To address potential concerns about small numbers in some categories, we also conducted analyses with a four-category measure: Permanent Full-Time (46.9%), Permanent Part-time (18.5%), the two casual, fixed-term contract, and labour hire were combined into a 'precarious employment' group (17.8%), and both categories of self-employed respondents into 'self-employed' (16.8%).

**Other Covariates:** Various demographic data were collected, including sex, age, and education. Age was treated categorically as 18-30 years, 30-40 years, 41-50 years, and 51+ years. Education was coded as the highest level completed (post-graduate qualifications, undergraduate qualifications,

vocational qualifications, high school completion, and some primary or secondary school completion). Hostility was assessed using the sum of three 5-point Likert scaled items,<sup>15</sup> with higher scores indicating greater hostility.

Occupational skill level was measured using the Australian Standard Classification of Occupations (ASCO) nine ordered categories, and analysed in five collapsed categories: manager and professional (level 1); technician and associated professional work (level 2); tradesperson or related work and advanced clerical, sales or service work (level 3); intermediate clerical, sales or service work and intermediate plant operator/transport work (level 4); elementary clerical, sales or service work and labourer or related work (level 5).

**Table 1: Unwanted sexual advances at work: bivariate relationships with employment arrangements and demographics.**

	UWSA Reported N (row %)	Total N (row)	p-value
<b>Employment arrangements, eight categories (N = 1,089)</b>			0.001
Permanent full time	13 (2.5%)	510	
Permanent part time	10 (5.0%)	201	
Casual full time	3 (10.0%)	30	
Casual part-time	4 (4.0%)	101	
Fixed-term contract	5 (21.7%)	23	
Labour hire	2 (5.0%)	40	
Own account self-employed	5 (6.3%)	79	
Self-employed employing others	4 (3.8%)	105	
<b>Employment arrangements, four categories (N=1,089)</b>			0.040
Permanent full time	13 (2.5%)	510	
Permanent part-time	10 (5.0%)	201	
Precarious	14 (7.2%)	194	
Self-employed	9 (4.9%)	184	
<b>Sex (N=1,089)</b>			0.000
Male	10 (1.9%)	519	
Female	36 (6.3%)	570	
<b>Age: (N=1,089)</b>			0.023
18-30	17 (6.7%)	255	
30-40	17 (5.4%)	316	
41-50	7 (2.5%)	282	
>=51	5 (2.1%)	236	
<b>Educational level (N = 1,081)</b>			0.504
Post-graduate	4 (3.9%)	103	
Undergraduate	19 (5.5%)	346	
Vocational	6 (2.9%)	204	
Completed high school	10 (5.0%)	198	
Primary or some secondary	7 (3.0%)	230	
<b>Occupational Skill Level (N = 1,089)</b>			0.431
Managers, administrators	14 (5.1%)	276	
Technicians, associate professionals	6 (6.9%)	87	
Tradesperson, advanced clerical or service work	10 (4.8%)	209	
Intermediate clerical, sales or service work or intermediate plant operator/transport work	8 (3.1%)	260	
Elementary clerical, sales or service work	8 (3.1%)	257	

Trade union membership was a dichotomised variable in response to the question "...are you a member of a union or employee organisation?" Workplace size was a dichotomised variable for greater than or equal to 20 employees or less than 20 employees. Respondents were also asked whether their employer was a government, not-for-profit, religious or community, or private organisation (workplace type). Type of business the participants were employed in was categorised according to the 17-level coding of the Australian Bureau of Statistics and then classified in two categories, manufacturing versus service sector.

### Analysis

Variables were summarised as frequencies (categorical) or means (continuous). Bivariate analyses were performed using *chi square* tests for categorical variables and t-tests for continuous variables. Multiple logistic regression was used to model the probability of UWSA in relation to employment arrangement, adjusting for gender, age, occupational skill level, and hostility.

**Table 2: Unwanted sexual advances at work: bivariate relationships with workplace characteristics.**

	UWSA Reported N (row %)	Total N (row)	p-value
<b>Union membership (N=1,088)</b>			0.537
Not a union member	31 (4.0%)	777	
Union member	15 (4.8%)	311	
<b>Workplace size (N=1,089)</b>			0.800
≥20 employees	25 (4.4%)	572	
<20 employees	21 (4.1%)	517	
<b>Workplace type (N=1,078)</b>			0.939
Government	11 (4.7%)	235	
Not for profit	2 (4.1%)	49	
Private sector	33 (4.2%)	794	
<b>Industrial Sector (N=1,088)</b>			0.018
Accommodation, cafes and restaurants	7 (13.0%)	54	
Agriculture, forestry	0 --	53	
Communications services	1 (3.6%)	28	
Construction	0 --	71	
Cultural and recreation	2 (10.0%)	20	
Education	2 (1.8%)	110	
Electricity, gas and water	0 --	9	
Finance and insurance	0 --	37	
Government administration	1 (2.6%)	38	
Health and community services	9 (6.0%)	150	
Manufacturing	6 (4.5%)	132	
Mining	0 --	3	
Personal and other services	6 (8.1%)	74	
Property and business	4 (3.8%)	105	
Retail trade	8 (6.3%)	127	
Transport and storage	0 --	45	
Wholesale trade	0 --	32	
<b>Industrial Sector collapsed into two categories<sup>a</sup> (N=1,088)</b>			0.016
Manufacturing	6 (1.9%)	313	
Service	40 (5.2%)	775	

Note:

a) Manufacturing = six groups: agriculture/forestry, construction, electricity/gas/water, manufacturing, mining, transport/storage; Service = other 11 of 17 sector groups.

Models were built manually. The base model included the main hypothesised variable of interest (employment arrangement) and important demographic (age, sex) and occupational status adjustments (occupational skill level). Other covariates (union status, workplace size, industrial sector, etc.) were then rotated into this model, with particular attention paid to large changes (greater than 10%) in the beta estimates associated with employment arrangements, and retained only if significant at the 0.05 level. Given the gendered nature of UWSA, a female only analysis was also performed. Analyses were conducted using Stata 9.0 (Stata Corp, College Station TX).

## Results

There were 46 UWSA reported in our sample (4.2%). Females were significantly more likely to report UWSA than males (Table 1). Younger workers were also more likely to report UWSA. Reporting of UWSA varied significantly by employment arrangement (Table 1). For the eight-category measure, Casual Full-time, Fixed-term Contract, and Own-Account Self-employed workers reported the highest frequencies; for the four-category measure, the Precarious group was highest. However, there were no significant differences in reporting of UWSA by educational attainment or occupational skill level (Table 1), or by union membership, workplace size, or workplace type (Table 2). Certain industrial sectors showed higher reporting (Table 2), including 'accommodation, cafes, and restaurants,' 'cultural and recreation,'

'health & community services,' 'personal and other services,' and 'retail trade.' A difference in reporting was also observable when the 17 sectors were collapsed into service versus manufacturing (Table 2).

### Multivariate analyses

Table 3 presents multivariate logistic regression results for all respondents and for females only, using the 8-category measure of employment arrangement. Females were over 3-fold more likely to report UWSA compared to men, and workers aged 41 and above less likely to report UWSA compared to respondents aged 18 to 30. The odds of UWSA did not vary significantly by occupational skill level, but this was retained in the model as an adjustment for occupational and socio-economic status. In comparison to Permanent Full-Time, three employment arrangements – Casual Full-Time, Fixed-Term Contract, and Own-Account Self-Employed – were strongly associated with UWSA after adjustment for age, gender, and occupational skill level (Table 3, Model A). Odds Ratios for those three employment arrangements were further increased when analysed for women only (Table 3, Model B). There was substantial increase in the OR for Casual Full-Time workers when analysis was conducted for females only (from OR~7 to OR~17). There are 30 people in the Casual Full-Time group: 11 women and 19 men. However, all three of the UWSA reports from this group were from females, hence the OR increases dramatically in the female only analysis. Industrial sector (service versus manufacturing) was no longer significant in

**Table 3: Unwanted sexual advances at work: logistic regression modelling in relation to employment arrangement (eight categories), Sex, Age and Skill Level.**

	MODEL A <sup>a</sup> All Respondents N = 1,089		MODEL B Women Only N = 570	
	Odds Ratio	95% CI	Odds Ratio	95% CI
<b>Employment Arrangement</b>				
Permanent full time	Reference		Reference	
Permanent part-time	1.70	0.71-4.09	2.10	0.77-5.76
Casual full time	7.23	1.74-30.16	17.51	3.39-90.29
Casual part-time	1.45	0.43-4.83	2.40	0.64-8.92
Fixed-Term contract	11.41	3.36-38.78	17.07	3.82-76.27
Labour hire	1.91	0.40-9.09	3.24	0.61-17.19
Own account self-employed	3.81	1.24-11.72	4.99	1.14-21.92
Self-employed employing others	1.87	0.58-6.05	2.55	0.62-10.56
<b>Sex</b>				
Male	Reference		--	--
Female	3.97	1.86-8.47		
<b>Age</b>				
18-30	Reference		Reference	
30-40	0.62	0.29-1.32	0.79	0.33-1.86
41-50	0.27	0.10-0.69	0.22	0.07-0.69
51+	0.24	0.08-0.69	0.18	0.05-0.71
<b>Occupational Skill Level</b>				
Highest 1	Reference		Reference	
2	1.02	0.35-2.97	0.60	0.16-2.23
3	1.13	0.47-2.71	1.06	0.38-2.94
4	0.45	0.18-1.17	0.33	0.11-1.00
Lowest 5	0.46	0.17-1.22	0.41	0.14-1.23

Note: a) One model presented per column, with all OR and confidence intervals adjusted for all other variables in the table.

the multivariate analysis, suggesting that it is the more precarious employment arrangements within the service sector, rather than work in service sector per se, that account for the association with UWSA. Inclusion of hostility as measure of negative affect did not appreciably change results (data not shown).

A second analysis using the collapsed employment arrangement variable (four categories) was conducted because of the small numbers in some employment arrangement groups. Smaller – but still substantial and significant – associations were observed (Table 4, Models A & B). Significantly higher odds for both the Precarious and Self-employed groups were observed in the analysis including both males and females; these were further sharpened in the female-only analysis, showing nearly 5-fold higher odds for the Precarious group, and roughly 3-fold higher odds for Self-employed.

## Discussion

Precarious employment arrangements were associated with markedly elevated odds of UWSA at work, even after adjustment for gender, age, and education. Further, UWSA at work disproportionately affects younger women. These findings demonstrate a plausible mechanism through which precarious employment can adversely affect health and wellbeing, in addition to demonstrating a pathway through which precarious employment would be disproportionately harmful to women.<sup>9</sup> To our knowledge, this is the first epidemiologic study to link precarious employment and unwanted sexual advances in Australia or elsewhere. It is not clear why Labour Hire and Casual Part-Time workers were not found to be at elevated risk. Less exposure

time (both in an absolute sense for part-timers, and time per workplace for Labour Hire workers) is a possible explanation. The observation of substantial variation across categories suggests a need for differentiated measures of employment arrangement, such as applied in this report, in future research.

Acknowledging sample size limitations and the cross-sectional nature of our data, our results suggest a 3- to almost 5-fold increase in the risk of UWSA for women in self-employed and precarious employment arrangements, respectively, compared to those in permanent full-time employment, with the suggestion that those risks may be markedly elevated (15-fold+) for women in Casual Full-Time and Fixed-Term contract arrangements. Analyses including both men and women show that the risks of experiencing UWSA are still elevated for those in precarious and self-employed arrangements, but with a lower magnitude of risk. The small number of reports on UWSA from men (10 of 46) made regression modelling for only males infeasible.

The self-reported nature of our data is unlikely to have inflated observed associations, as UWSA are likely to be clearly recalled by respondents and the prevalence observed in our study was comparable to previous Australian population surveys on sexual harassment at work.<sup>1,3</sup> Acknowledging that our measure did not include a time frame and was worded differently, our finding that 6.3% of women reported UWSA at work was comparable to a previous Victorian survey of 977 working women in which 9.3% reported having experienced sexual harassment in the past five years, and 2.1% experienced sexual harassment in the past year, in particular given the median job tenure of four years in our sample.<sup>1</sup> The face validity of our measure of UWSA is further supported by concurrent validity: observed associations with younger age

**Table 4: Unwanted sexual advances at work: logistic regression modelling in relation to employment arrangement (four categories), Sex, Age and Skill Level.**

	MODEL A <sup>a</sup> All Respondents N = 1,089		MODEL B Women Only N = 570	
	Odds Ratio	95% CI	Odds Ratio	95% CI
<b>Employment Arrangement</b>				
Permanent full time	Reference		Reference	
Permanent part-time	1.73	0.72-4.15	2.08	0.76-5.68
Precarious	3.11	1.36-7.11	4.85	1.82-12.93
Self-employed	2.54	1.03-6.28	3.33	1.06-10.47
<b>Sex</b>				
Male	Reference		–	–
Female	3.58	1.69-7.57		
<b>Age</b>				
18-30	Reference		Reference	
30-40	0.69	0.33-1.45	0.82	0.36-1.90
41-50	0.29	0.11-0.74	0.24	0.08-0.72
51+	0.26	0.09-0.75	0.20	0.05-0.75
<b>Occupational Skill Level</b>				
Highest 1	Reference		Reference	
2	1.03	0.37-2.89	0.65	0.19-2.28
3	1.05	0.44-2.49	1.03	0.37-2.84
4	0.48	0.19-1.21	0.38	0.13-1.10
Lowest 5	0.40	0.15-1.03	0.38	0.13-1.08

Notes: a) One model presented per column, with all OR and confidence intervals adjusted for all other variables in the table.

and being female (as established from other studies). Common method variance is also unlikely to have affected our findings significantly, as adjustment for hostility as a measure of negative affect did not change the main findings.

Previous research has suggested that working conditions might be worse for those working in temporary positions 'involuntarily' (usually workers with lower education and income) versus 'voluntarily' (usually workers with higher education and income).<sup>16</sup> The particularly high risk observed in this study for Fixed-Term Contract workers (relatively high education and income<sup>11</sup>) suggests that this may not be the case with UWSA. Our findings suggest that those who would commit acts of UWSA may feel less restrained from doing so towards a worker with limited tenure and/or effectively limited rights and recourses at work, independent of their position in the occupational hierarchy. This would be consistent with the understanding of UWSA as gendered expressions of power,<sup>17</sup> as well as with a power-centred understanding of psychosocial working conditions and precarious employment.<sup>18</sup>

Because the survey was designed with a primary focus on other working conditions, we had no information on other aspects of UWSA (e.g. perpetrated by whom? co-worker/client/other? relative power position of perpetrating co-worker?). Although UWSA are traumatic experiences regardless of their source, given the relative paucity of research in this important area, we suggest that more research should be directed to understanding the contextual factors leading to the differential exposure to UWSA within more precarious employment arrangements. A recent Victorian study reported that workplace violence (physical and non-physical violence including sexual harassment) disproportionately affected women, with men being more than twice as likely to be perpetrators than women, and that supervisors (or other superiors in the workplace) and co-workers were more likely to be perpetrators than people external to the organisation (e.g. clients).<sup>1</sup> More research is required to determine if these general patterns also apply to UWSA as assessed in our report.

### **Implications for policy and practice**

Our findings echo and expand on conclusions reached in a recent government report into understanding the structural characteristics of work that are associated with workplace violence against women. We suggest that precarious working arrangements should be a priority setting for intervention against sexual harassment in particular, and workplace violence against women in general. The urgency of external intervention in this situation is compounded by precarious workers being less likely to report transgressions in their workplaces or to other authorities due to the risk losing their (precariously held) jobs as a consequence.<sup>1</sup> The lack of adequate opportunities for recourse in this situation, beyond seeking legal help through trade unions or other worker advocates such as *JobWatch* ([www.jobwatch.org.au](http://www.jobwatch.org.au)) should be considered in the national review of occupational health and safety legislation (<http://www.nationalohsreview.gov.au>) as well as the inquiry on sexual harassment at work by the office of the

Federal Sex Discrimination Commissioner (national survey data collected in 2008, see [www.hreoc.gov.au/sex\\_discrimination](http://www.hreoc.gov.au/sex_discrimination)). Our study also adds new information for action by identifying specific service sectors with high prevalence of UWSA – in short, our findings suggest that priority intervention, education, or other attention be directed to younger, precariously-employed women in the service sector.

Focusing on the service sector would appear to be appropriate because both precarious arrangements and female labour force participation are higher in this sector compared to goods-producing occupations. The higher proportion of women employed precariously was observed in our 2003 survey,<sup>11</sup> as well as the most recent 2007 ABS employment statistics – reporting 30% of women versus 20% of men working in precarious employment arrangements.<sup>19</sup>

Greater protections from UWSA for workers in precarious employment arrangements are needed. In addition to representing an occupational health and safety concern, UWSA represent likely breaches of anti-discrimination and equal opportunity legislation at both the state and federal levels. A wide range of public health, legal, and other frameworks should be applied to further investigate and address the concerns raised by these findings. More broadly, our findings add to the growing body of evidence on the adverse effects of precarious employment on health and wellbeing in both women and men,<sup>5-9</sup> adding further doubt as to whether precarious work arrangements are compatible with the social policy objective of providing work that is free from recognised hazards for all working Australians.

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