



# THE SLOWER TRACK

## WOMEN IN THE STEM PROFESSIONS SURVEY REPORT

2015

## ABOUT PROFESSIONALS AUSTRALIA

Professionals Australia (formerly the Association of Professional Engineers, Scientists and Managers, Australia) represents over 23,000 professionals from across the STEM professions including engineers, scientists, managers, veterinarians, surveyors, information technology professionals and pharmacists throughout Australia.

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**Professionals Australia (2015). The slower track: 2015 Women in the STEM professions survey report**  
**ISSN 1834-6545 (Online)**

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# KEY RESULTS



## Pay equity

- 40.2 per cent of respondents did not believe they received equal compensation for work of equal value compared to their male professional colleagues.
- Survey respondents ranked pay equity second in importance only to flexible working arrangements/work and life balance.

## Part-time work and flexible work arrangements

- Results confirmed that women are more likely to be employed part-time than men in the Engineering, Science, ICT and Pharmacy professions, and that women with children are more likely than those without to be employed part-time, suggesting a strong link between caregiver responsibilities and employment status.
- 61.5 per cent of respondents reported that they believed working part-time had negatively impacted their career.
- 51.2 per cent said they were unnecessarily prevented from undertaking certain types of work because they worked part-time.
- 25.3 respondents said they had been sidelined for promotion because they worked part-time.

## Retirement savings

- 47.4 per cent of respondents said a career break had seriously reduced their retirement savings.
- 49 per cent said working part-time had seriously reduced their retirement savings.

## Career advancement

- Respondents reported that the two greatest barriers to career advancement were balancing work/life responsibilities and the lack of access to senior roles for women.
- 26.6 per cent of respondents said their employer rarely or never proactively ensured that men and women had equal opportunity to progress.

## Career breaks

- 70.3 per cent of respondents said that taking maternity/parental leave was detrimental to their career.
- 21.3 per cent of respondents said they had been sidelined for promotion because they had taken a career break.





## Role/occupational segregation

- Across the professions of Engineering, Science, ICT and Pharmacy, female respondents were over-represented at the lower levels of responsibility and under-represented at more senior levels.
- Only 38.1 per cent agreed or strongly agreed that clients respect the professional opinion or advice of men and women equally; 31.9 per cent disagreed.
- 60.2 per cent agreed or strongly agreed that professional women in their workplace often take up less challenging work roles so they can accommodate family/carer responsibilities.
- 50.3 per cent said lack of access to senior roles for women had detrimentally impeded their career advancement.

## Work/life balance

- 51.9 per cent stated that maintaining a work/life balance had significantly or moderately impeded their career development.
- 41.8 per cent of respondents said their employer had good work/life balance policies but the culture of the organisation did not support it.
- Of those who were considering leaving their current employer, 26.9 per cent said work/life balance was a contributing factor, and of those considering leaving their profession, 30.6 per cent said work/life balance was an important factor.

## Workplace culture

- 54.2 per cent of respondents said that workplace culture had detrimentally impeded their career advancement to a significant or moderate extent.
- 37.9 per cent of respondents said they felt like they had to “become one of the boys” if they wanted to “fit into” their workplace.

## Discrimination

- 51.6 per cent of respondents reported having been directly discriminated against during the course of their employment; 78.8 per cent on the basis of gender.

## Sexual harassment

- 25.8 per cent of respondents reported that they had been sexually harassed in the course of their employment.

## Bullying

- 42.1 per cent of respondents reported having been subject to bullying in the course of their employment.

# INTRODUCTION

“Making choices to balance work/life means that you are placed on the slower track. Technical roles generally have a limit as to how high you can go and it is hard as a female to be taken seriously in male-dominated workplaces – you have to work twice as hard just to be considered adequate...”





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**The latest OECD data show that just over 30 per cent of tertiary qualifications were awarded to women in STEM fields in OECD countries. In Australia, 33 per cent of STEM tertiary qualifications were awarded to women.<sup>1</sup>**

The differential persists in the workforce with only 28 per cent of the employed STEM-qualified Australian workforce aged 15 years and over being female, compared to 55 per cent for all fields in the tertiary qualified population.<sup>2</sup>

The workforce participation figure stood at 14 and 86 per cent for females and males respectively in Engineering and related technologies, and 25 and 75 per cent respectively for females and males in Information and communications technology (ICT). There was less disparity in the Natural and physical sciences where females comprised 47 per cent of the workforce compared with 53 per cent males,<sup>3,4</sup> and in Pharmacy, women comprised 56 per cent of the workforce.<sup>5,6</sup>

International research shows that 75 per cent of the fastest growing occupations require STEM skills<sup>7</sup> and that Australian employers report experiencing difficulties recruiting STEM-qualified graduates and staff.<sup>8</sup>

It is in this context that the results of the 2015 Survey of Women in the STEM Professions are cause for serious concern. The survey found a complex set of interrelated factors which contributed to respondents reporting that they were “on a slower track” than their male counterparts. The aim of this report is to detail some of the factors which contribute to women’s under-representation in the STEM professions and to explore professional women’s career experiences as part of the STEM workforce.

Addressing the issues raised in this report is not only a matter of justice and equity – fully realising Australia’s productivity potential and innovative capability into the future will depend on ensuring a sustainable STEM skills pipeline and effectively attracting, developing and retaining women in the STEM workforce.



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CHRIS WALTON

CEO,  
Professionals  
Australia



# SUMMARY ANALYSIS

## Barriers to career advancement

Respondents reported that the three greatest barriers to advancement in their working lives were balancing their work/life responsibilities, workplace culture and the lack of access to senior roles for women.

## Remuneration

In comparing the full-time average weekly earnings of male and female respondents, data from the Professionals Australia remuneration surveys in Engineering, Science and ICT confirmed that women respondents in the traditionally male-dominated professions generally earned less than their male counterparts with equivalent experience in the middle stages of their careers.

The 2015 Professional Scientists Remuneration Survey found a significant interaction between a professional scientist's gender and responsibility level for both base salary and total package. Males appeared to receive significantly higher remuneration packages during the middle stages of their career than their female counterparts. While the differences were not significant at Levels 1 or 2 or beyond Level 5, women appeared to be disadvantaged at Levels 3, 4 and 5.

The average income for male respondents reported in the 2015 Professional Engineers Remuneration Survey was generally higher for males than for female respondents for levels of responsibility beyond Levels 1 and 2 and at or below Level 5, a pattern similar to that found amongst science professionals.

The average income for male respondents reported in the 2015 Professionals Australia/Australian Computer Society ICT Professionals Remuneration Survey was generally higher than for female respondents for levels of responsibility beyond Level 1 and at or below Level 5, again similar to the pattern found amongst both science and engineering professionals.

## Retirement savings

The survey found that disadvantage in the form of comparatively lower retirement savings was a significant issue for respondents. 47.4 per cent of respondents said a career break had seriously reduced their retirement savings while 49 per cent said working part-time had seriously reduced their retirement savings.

## Carer responsibilities, part-time work and flexible work arrangements

The survey found that providing access to part-time and other flexible work arrangements can be a means of addressing barriers which arise as women move from full to part-time work to accommodate family and carer responsibilities. The responses showed however that utilising part-time work and flexible work practices could also result in a narrowing of choice, limiting of opportunities and the reinforcement of discriminatory historic work patterns such as the concentration of women in roles and occupations with less responsibility and seniority. 61.5 per cent of respondents reported that they believed working part-time had negatively impacted their career.

Results confirmed that women are more likely to be employed part-time than men in the Engineering, Science, ICT and Pharmacy professions, and that women with children were more likely than those without to be employed part-time.



## Work/life balance

The survey found that even where positive workplace policies existed around work/life balance, cultural issues within workplaces meant that accessing these provisions was often difficult. Of those who were considering leaving their profession, 30.6 per cent said the lack of work/life balance was a contributing factor. Comments widely confirmed that opting for work/life balance to take account of carer responsibilities often meant women's career progression was placed "on a slower track".

## Career breaks

The survey confirmed that traditional concepts of promotion and advancement, which value a full-time uninterrupted career trajectory, can disadvantage women because they are more likely to work part-time and take career breaks to accommodate carer responsibilities. 21.3 per cent of respondents said they had been sidelined for promotion because they had taken a career break.

## Workplace culture

The survey confirmed a range of workplace practices and policies that had the effect of directly or indirectly excluding, marginalising or disadvantaging women. Respondents' comments showed that even where positive workplace policies existed around diversity and inclusion, cultural issues within workplaces meant that accessing these provisions was often difficult.

The survey found systemic problems with workplace culture around workplace flexibility issues that disproportionately affect women with carer responsibilities in their prime working years. Cultural issues around part-time work, career breaks and carer responsibilities dominated the findings, with 70.3 per cent reporting their belief that taking maternity leave would be detrimental to their career, and 23.9 per cent of members with carer responsibilities reporting a negative impact on their progression. 51.9 per cent stated that maintaining a work/life balance had significantly or moderately impeded their career development. 55.5 per cent agreed or strongly agreed that in their occupation women have to prove themselves where men are assumed to be capable. 41.3 per cent of all respondents agreed that in their workplace, advice or information of a technical nature was less likely to be listened to if provided by a woman than a man.

## Attrition and retention of women in the STEM professions

Almost a third of respondents (31 per cent) expect to leave their profession within five years. Of those who do not expect to be working in their profession in five years, factors nominated as influencing that expectation included:

- lack of career advancement - selected by 41.3 per cent of all respondents;
- need for a better work/life balance - selected by 30.6 per cent of respondents; and
- the need for change and/or to gain experience – selected by 33.9 per cent of respondents.

## Role or occupational segregation

The survey found that across the professions of Engineering, Science, ICT and Pharmacy, female respondents were over-represented at lower levels of responsibility and under-represented at more senior levels.

Respondents' comments confirmed that role or occupational segregation arises in the form of the over-representation of professional women in less challenging roles and the under-representation of women in senior, management and leadership roles. Both these phenomena appear to primarily arise as a result of part-time work arrangements and the need for flexibility. Many respondents commented that part-time or flexible work arrangements were only available in lower-paid less senior roles. Survey respondents reported being offered demotion by their employer on their return to work from parental leave as a way of accommodating their carer responsibilities – confirming the fairly blunt operation of systemic bias against the advancement of women with carer responsibilities.

## Discrimination and sexual harassment

Disturbingly, 51.6, 25.8 and 42.1 per cent of respondents respectively stated that they had experienced discrimination, sexual harassment or bullying in the course of their employment. Of those, only 23.1, 13.4 and 39.1 per cent respectively had sought advice on how to deal with the matter.

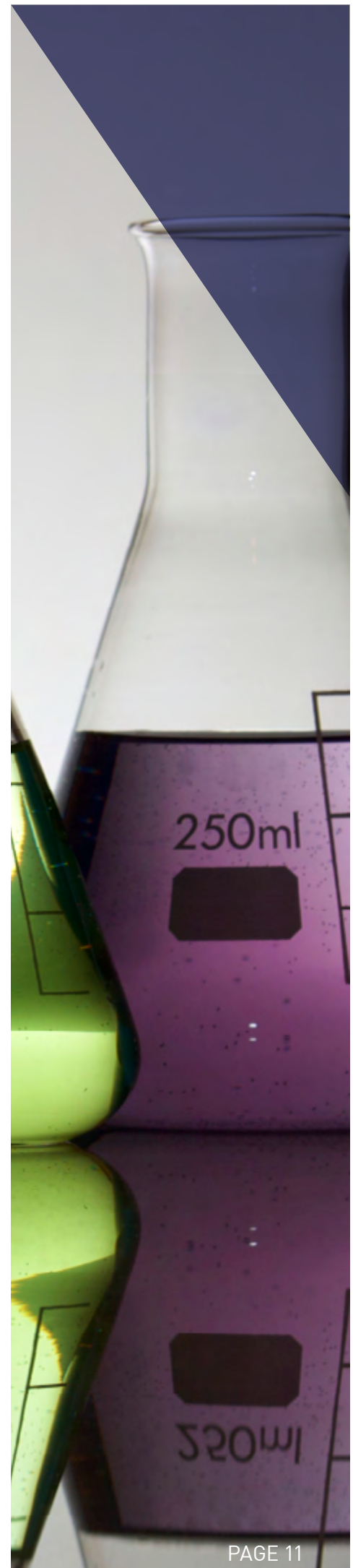
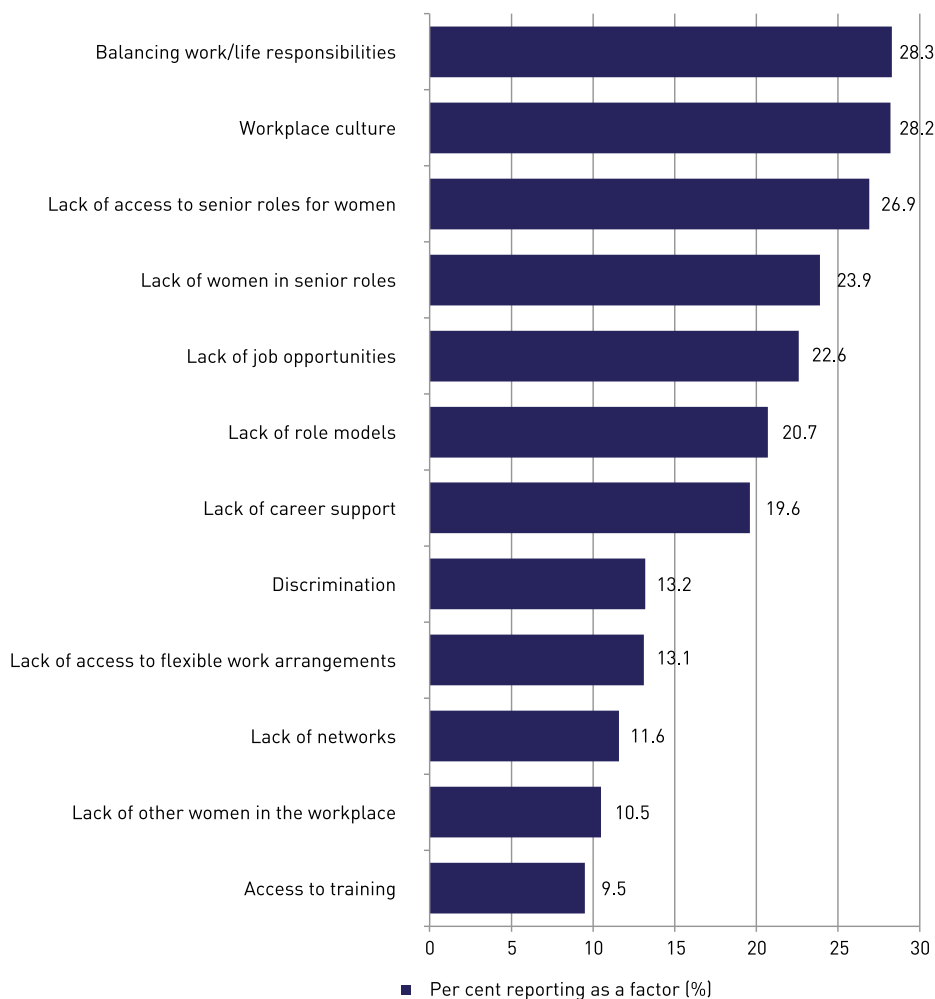
# FINDINGS



# BARRIERS TO CAREER ADVANCEMENT – AN OVERVIEW

The three greatest barriers to career advancement reported were balancing work/life responsibilities, workplace culture and the lack of access to senior roles for women.

Respondents said the following factors significantly impeded their career progress:





# COMPARATIVE REMUNERATION

## GENDER PAY GAP

The 2015 gender pay gap in Australia reported by the Australian Bureau of Statistics stands at 17.9 per cent. The gap is greater still for the Professional, Scientific and Technical Services industry where the differential sits at 24.4 per cent, marginally down on last year's figure of 25.3 per cent. For Professionals as an occupation, the gap stands at 23.6 per cent.<sup>9</sup>

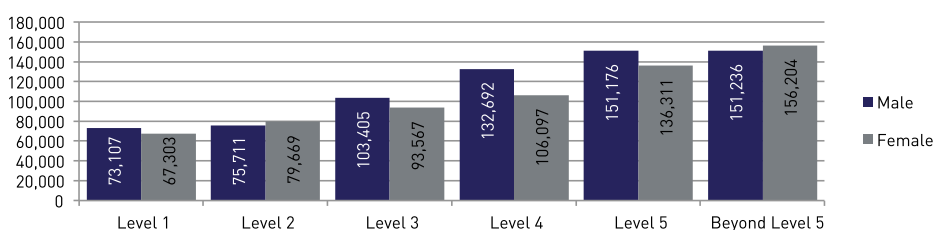
In this context, the differential earnings for male and female STEM professionals found in Professionals Australia's recent remuneration surveys in Science, Engineering and ICT are of interest.

**Note: The figures in this section compare the average weekly earnings of male and female respondents currently employed on a full-time basis. Differences noted mid-career are therefore not attributable to women working part-time.**

## Professional Scientists

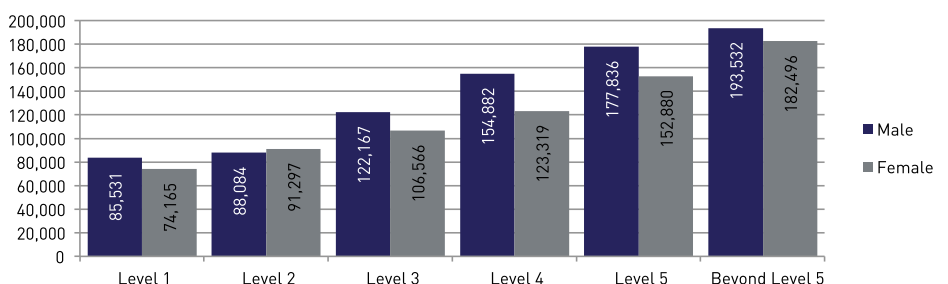
The Professionals Australia 2015 Professional Scientists Remuneration Survey found a significant interaction between a professional scientist's gender and responsibility level as defined by the Professional Employees Award 2010<sup>10</sup> for both base salary and total package. Males appeared to receive significantly higher remuneration packages during the middle stages of their career than their female counterparts. While the differences were not significant at Levels 1 or 2 or beyond Level 5, women appeared to be disadvantaged at Levels 3, 4 and 5.

### Average annual base salary by responsibility level and gender – Professional Scientists



(Unpublished data, 2015 Professional Scientists Remuneration Survey)

### Average annual total package by responsibility level and gender – Professional Scientists

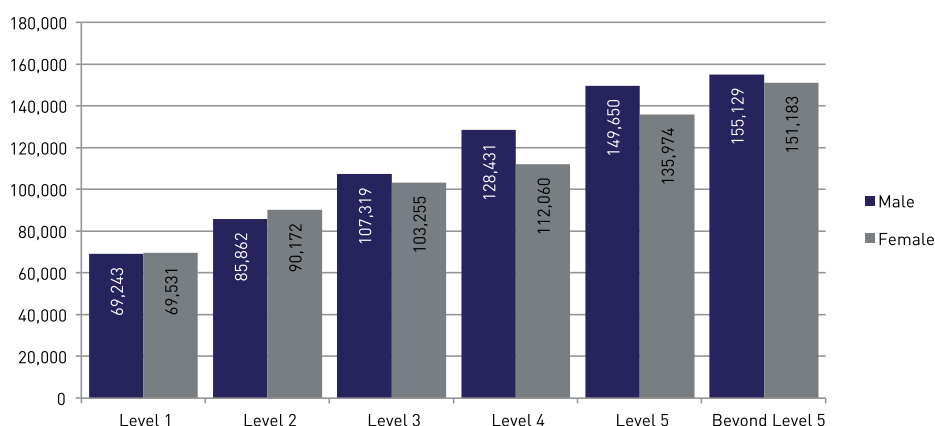


(Unpublished data, 2015 Professional Scientists Remuneration Survey)

## Professional Engineers

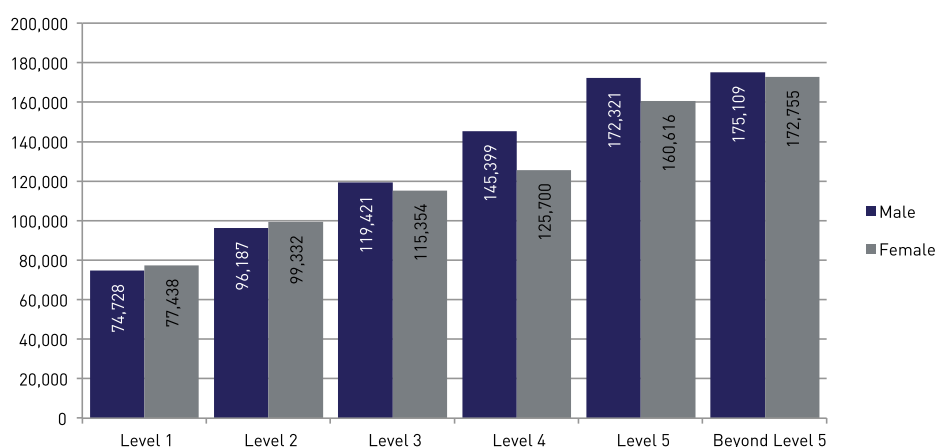
The average income for male respondents reported in the June 2015 Professional Engineers Remuneration Survey appeared to follow a similar pattern to that found in the 2015 Professional Scientists Remuneration Survey, with women in the middle stages of their career earning less than their male counterparts.

### *Average annual base salary by responsibility level and gender – Professional Engineers*



(Unpublished data, June 2015 Professional Engineers Remuneration Survey)

### *Average annual total package by responsibility level and gender – Professional Engineers*



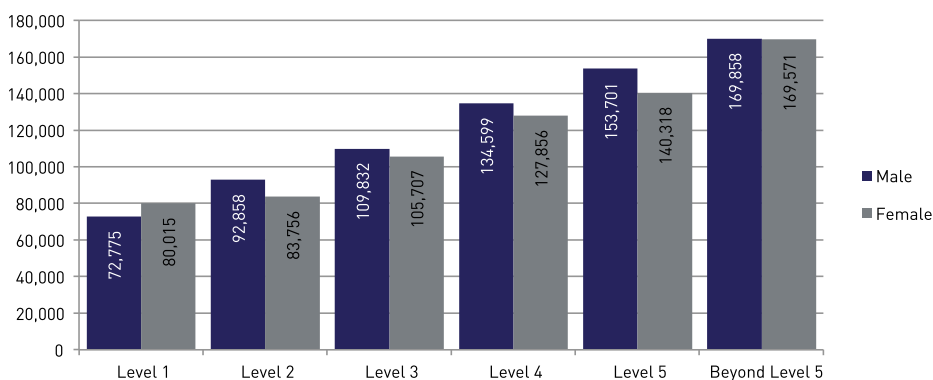
(Unpublished data, June 2015 Professional Engineers Remuneration Survey)



## ICT Professionals

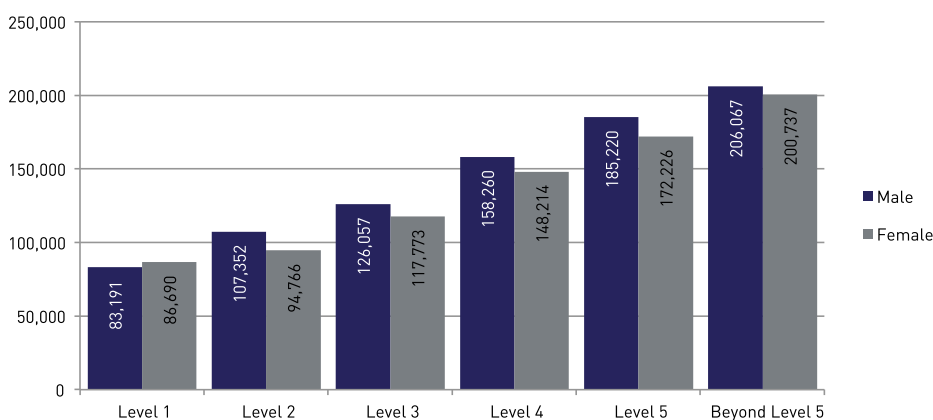
The average income for male respondents reported in the 2015 Professionals Australia/Australian Computer Society ICT Professionals Remuneration Survey was generally higher than for female respondents for levels of responsibility beyond Level 1 and at or below Level 5, a pattern similar to that found amongst both science and engineering professionals.

### *Average annual base salary by responsibility level and gender – ICT Professionals*



(Unpublished data, 2015 Professionals Australia/ACS ICT Remuneration Survey)

### *Average annual total package by responsibility level and gender – ICT Professionals*



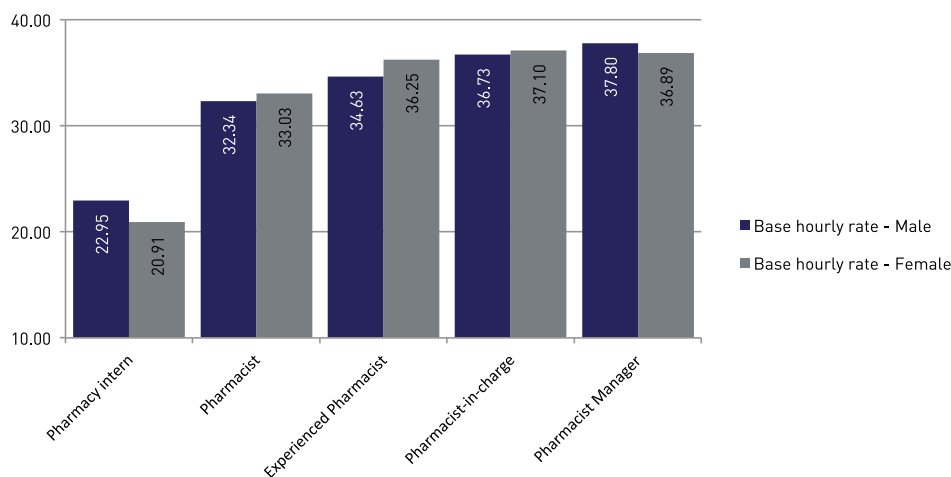
(Unpublished data, 2015 Professionals Australia/ACS ICT Remuneration Survey)



## Pharmacists

There was no significant difference between the average hourly rates of pay for male and female respondents reported in the 2015 Professionals Australia Pharmacists Remuneration Survey. This differs to the trends identified for science, engineering and ICT professionals and is likely to be related to the pharmacy sector not being a male-dominated industry.

### Average base hourly rate by gender – Pharmacists

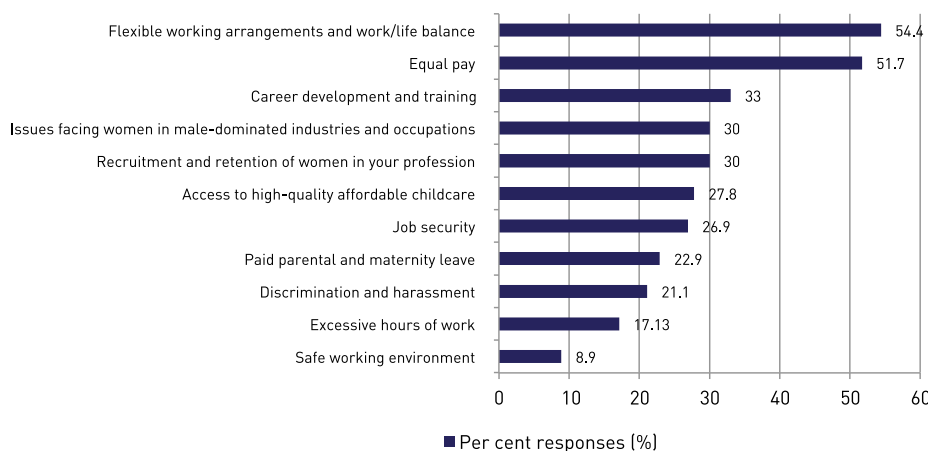


(Unpublished data, 2015 Community and Hospital Pharmacists' Remuneration Survey)

## PAY EQUITY

- 40.2 per cent of respondents did not believe they received equal compensation for work of equal value compared to their male professional colleagues.
- Survey respondents ranked pay equity second in importance only to flexible working arrangements/work and life balance as an issue faced by professional women that should be prioritised by government and industry.

### Ranking of issues facing professional women



The double-whammy of PhD and maternity leave has seriously impacted my retirement savings

## RETIREMENT SAVINGS

Disadvantage in the form of comparatively lower retirement savings can be entrenched as a result of women opting for part-time time work, taking a career break for maternity leave or to accommodate family responsibilities. It can also arise as an outcome of the concentration of women in lower-paid roles, in lower-paid occupations and in lower-paid disciplines within the STEM professions.

The survey found the following in relation to retirement savings:

- 47.4 per cent of respondents said a career break had seriously reduced their retirement savings.
- 49 per cent said working part-time had seriously reduced their retirement savings.
- 47.7 per cent said access to more flexible work arrangements and therefore full-time work would have meant a reduced impact on their retirement savings.



## PART-TIME WORK AND FLEXIBLE WORK ARRANGEMENTS

While gaining access to part-time work and flexible work arrangements can help women balance their work and family responsibilities, the arrangements can also be a means of entrenching discriminatory practices and structural bias against those who have primary caregiver responsibilities. The survey found that utilising part-time work and flexible work practices could result in a narrowing of choice, limiting of opportunities and the reinforcement of discriminatory historic work patterns such as the concentration of women in roles and occupations with less responsibility and seniority. Survey respondents confirmed a range of practices operating in their workplaces that had the effect of creating systemic biases and barriers to career advancement for women who opted for part-time or flexible work arrangements.

Results confirmed a significant differential in the employment status of males and females across the STEM professions, with females more likely to be employed part-time than males in Engineering, Science, ICT and Pharmacy.

- Women with children were found to be less likely to be employed full-time than those without, confirming that caregiver responsibilities directly impact employment status.
- 61.5 per cent of survey respondents reported that they believed working part-time had negatively impacted their career.
- 23.9 per cent said carer responsibilities had negatively impacted their career.
- 51.2 per cent said they were unnecessarily prevented from undertaking certain types of work because they worked part-time.
- 23.6 per cent said they were seen as not pulling their weight because they used flexible work arrangements.
- 27.2 per cent said lack of access to flexible work arrangements had significantly or moderately impeded their career advancement.
- 25.3 per cent of respondents said they had been sidelined for promotion because they worked part-time.
- 40.1 per cent of respondents said they can miss out on information about what is happening in their workplace because they use flexible work arrangements.

My partner is on leave without pay, because we had no childcare in our area – this has impacted both our retirement savings

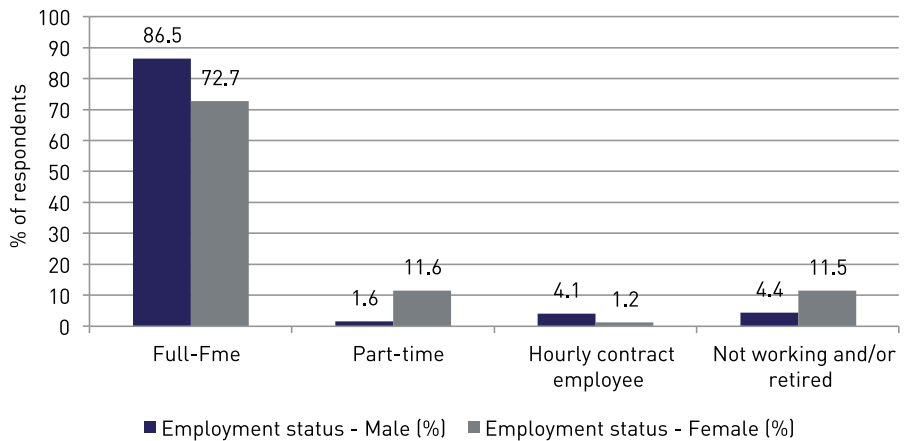


Women with children were found to be less likely to be employed full-time than those without

## CONCENTRATION OF WOMEN IN PART-TIME WORK ARRANGEMENTS

Professionals Australia research found a significant difference in the distribution of males and females by employment status across the STEM professions of Engineering, Science, ICT and Pharmacy with females significantly more likely to be employed part-time than males.

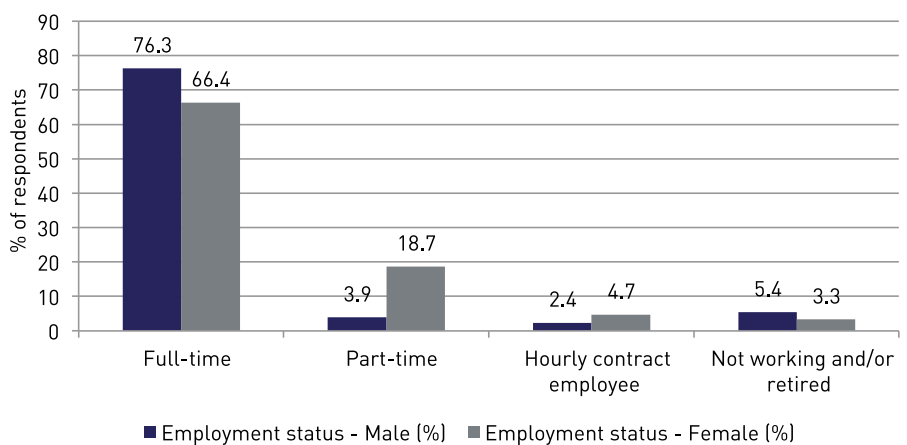
### *Professional Engineers - employment status by gender*



(Unpublished data, 2015 Professional Engineers Remuneration Survey)

A significant difference emerged in the employment status of male and female Engineering professionals with females more likely to be employed part-time than males (11.6% compared with 1.6% respectively).

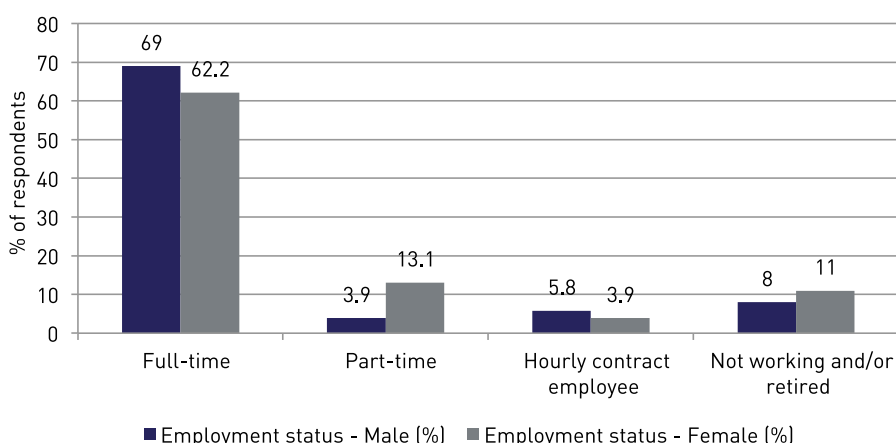
### *Professional Scientists - employment status by gender*



(Unpublished data, 2015 Professional Scientists Remuneration Survey)

A significant difference emerged in the employment status of male and female Science professionals, with females more likely to be employed part-time than males (18.7% compared with 3.9% respectively).

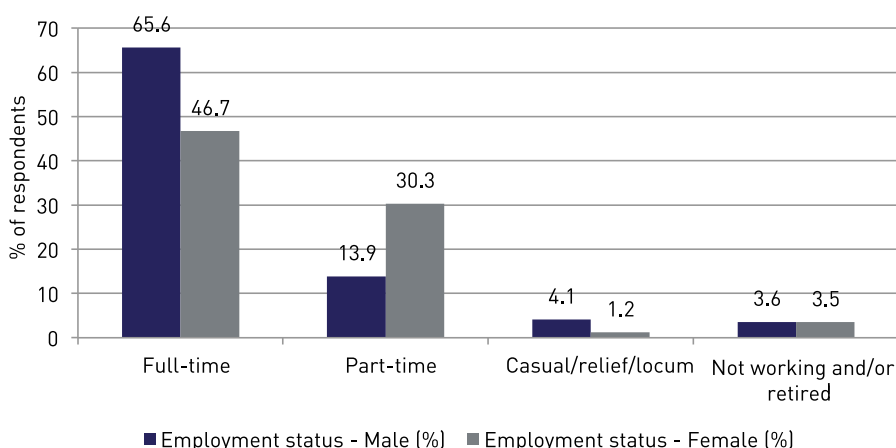
### ICT Professionals – employment status by gender



(Unpublished data, 2015 Professionals Australia/ACS ICT Remuneration Survey)

A significant difference emerged in the employment status of male and female ICT professionals, with females more likely to be employed part-time than males (13.1% compared with 3.9% respectively).

### Pharmacists – employment status by gender



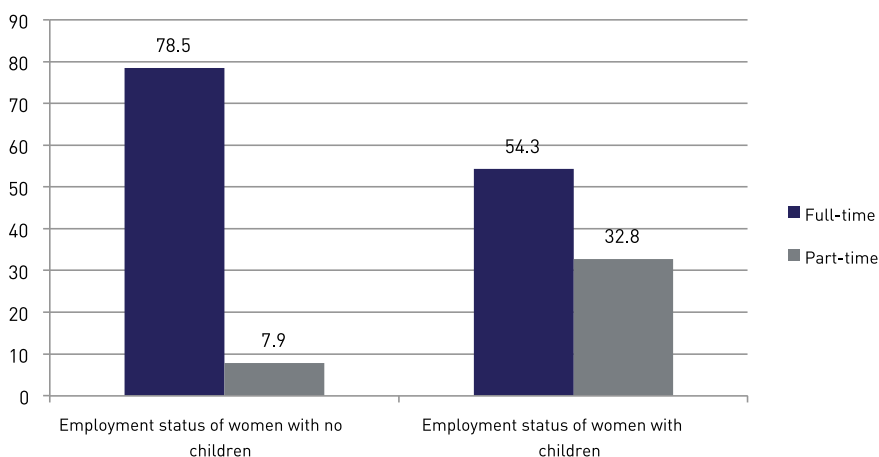
(Unpublished data, 2015 Professionals Australia Pharmacy Remuneration Survey)

The pattern found in Engineering, Science and ICT whereby women respondents were more likely to be employed as permanent part-timers compared to their male counterparts held in the case of Pharmacy in spite of Pharmacy not being a male-dominated profession (30.3% compared with 13.9% respectively).

Survey respondents confirmed barriers to career advancement for women who opted for part-time or flexible work arrangements

## CARER RESPONSIBILITIES AND EMPLOYMENT STATUS

The survey found that women with children were less likely to be employed full-time than those without children suggesting a strong link between caregiver responsibilities and employment status. 78.5 per cent of women without children worked full-time compared to 54.3 per cent with children, while 32.8 per cent of women with children worked part-time compared to 7.9 per cent of women without children.



Where I am, the culture is that part-time workers are not to be promoted – even where there are already people working part-time at those levels

## PART-TIME WORK AND THE IMPACT ON CAREER ADVANCEMENT/PROMOTIONAL OPPORTUNITIES

Survey respondents reported a range of factors that created differential access to career progression. These included advancement strategies that promote from the ranks of full-time staff, differences in access to informal support mechanisms such as mentoring and limited choice about the projects in which part-timers could be involved.

- 65.6 per cent of respondents agreed or strongly agreed that promotions in their workplace were generally drawn from those working full-time.
- 28.6 per cent said that mentoring in their workplace was informal and often after hours making it less accessible.

*I regularly see the high-potential males being taken to lunch or into managers' offices where they discuss their projects and get advice on how to solve issues. This never occurs for the women.*

*Career progression appears non-existent to part-time employees. You either have to sacrifice family time and work full-time and have a career, or enjoy your kids before they grow up and stay stuck where you were before maternity leave.*

*Although my employer has been very flexible about me working part-time (letting me choose how many and which days), part-time employees are not seriously considered for developmental opportunities nor career progression/promotion.*

*As a part-timer, you are considered lucky to work part-time and consequently have less say in what projects you would like to work on or be involved in.*

*Good projects are not availed to you as a part-timer.*

*I have found that mothers are discriminated against for promotions, but not women without family responsibilities.*



## PART-TIME WORK AND ACCESS TO CONTINUING PROFESSIONAL DEVELOPMENT

Unconscious bias on the part of employers appears to play a role in sidelining women who could otherwise be undertaking further training and professional development activities that would underpin career advancement. This marginalising effect can arise from women working part-time not being offered training, or self-selecting out of the training due to the hours in which it is offered.

- 31.3 per cent of respondents said they were unnecessarily prevented from undertaking training and professional development because they worked part-time.
- 58.2 per cent said the impact on personal or family time prevented them from commencing or completing professional development.

*The professional development sessions at my work are run Monday afternoons between 3 and 5pm which is impossible for me to attend due to carer responsibilities (school pick-up). Employer will not provide video for viewing in own time though I have asked.*

*My boss did not offer me the company-provided project management training that was offered to many others on equivalent grade to me, saying that I was not a priority as a part-time employee.*

*I am occasionally presented opportunities to attend training etc. however I choose not to take them up as it disrupts family life too much.*

*I'm not even considered when training is offered - I'm pigeon-holed as not being able to make it but I haven't been offered it.*

My post-graduate study was not funded as funding is only given to full-time employees even though my study was directly related to my role



My employer  
once told me  
“We don’t need  
to offer flexible  
employment –  
everyone wants  
to work for us”

## LIMITING THE TALENT POOL

Comments suggest that some employers do not recognise how a failure to offer flexible work arrangements to their workforce including men – or indeed to employ women at all - limits the talent pool from which an organisation’s workforce is drawn, and in turn, limits their diversity advantage (diverse teams have been consistently shown to outperform on innovation, problem-solving, flexibility, and decision-making<sup>11</sup>).

- 20.5 per cent of respondents said that management in their workplace thinks that work/life balance is only relevant for women with children.

*Flexibility needs to be granted to men as well. This enables their female partners to return to work/work longer hours. It also means the workplace is not dominated by full-time males and part-time females.*

*The problem is not just enabling women to work flexibly, but enabling men to as well. This allows women to return to work to a greater extent and “levels the playing field” as both women and men are working flexibly. My husband requested to work four days per week at the same organisation as myself and the request was declined. The culture is that it is acceptable for women to work part-time but not men.*



## WORK/LIFE BALANCE

The survey found that even where positive workplace policies existed around work/life balance, cultural issues within workplaces meant that accessing these provisions was often difficult. Comments widely confirmed that opting for work/life balance to take account of carer responsibilities often meant women's career progression was placed "on a slower track".

- 57.7 per cent of respondents agreed that they feel they currently have work and life balance; 24.2 per cent disagreed.
- 48.4 per cent agreed or strongly agreed that the organisation that they work for genuinely encourages work and life/family balance; 25.4 per cent disagreed.
- 64.4 per cent agreed or strongly agreed that their immediate manager genuinely encouraged work and life/family balance.
- 44.4 per cent disagreed or strongly disagreed that in their workplace, managers and senior staff modelled good work/life balance.
- Of those who were considering leaving their current employer, 26.9 per cent said work/life balance was a contributing factor, and of those considering leaving their profession, 30.6 per cent said work/life balance was an important factor.

Making choices to balance work/life means that you are placed on the slower track

## THE CAREER PENALTY ATTACHED TO WORK/LIFE BALANCE

*Making choices to balance work/life means that you are placed on the slower track. Technical roles generally have a limit as to how high you can go and it is hard as a female to be taken seriously in male dominated work places – you have to work twice as hard just to be considered adequate.*

*I was offered a demotion the day I returned from four months' maternity leave to "help with my family flexibility".*

*I was told by a manager that if I applied for a job and a male of the same age and experience also applied, he would select the male as they are less likely to take leave in the future to care for children.*

*I work four days per week and generally take on a full-time workload i.e. often work outside of my contracted hours to get the job done. I believe that I have been overlooked for promotion opportunities .. despite a willingness to take on a full-time workload and work flexibly to meet requirements of work and home.*



It is not easy  
to convince  
managers  
that we can be  
productive using  
flexible working  
hours or working  
from home

## SEEKING CHANGE

- 44.2 per cent of respondents answered that they would like to use conditions of employment that may assist in balancing work and life that they do not currently access.
- 39.7 per cent indicated they would like to work fewer hours each week. Of these respondents, only 18.1 per cent had broached the issue with their manager; of those that had broached the issue with their manager, 49.3 per cent were dissatisfied or very dissatisfied with the result.
- Inconsistency between workplace policies and practice around work/life balance
- 41.8 per cent of respondents said their employer had good work/life balance policies but the culture of the organisation did not support it.

*Though there are systems in place for work-life balance, it is not easy to convince managers that we can be productive using flexible working hours or working from home. It is a complete waste having these systems when they cannot be accessed. Managers need to understand and encourage staff to use such systems to balance work and life.*

*While the organisation can have policies regarding flexible work arrangements, it still very much depends on your direct manager or the next level up - it's just the attitude of the next few levels up.*

*Our enterprise agreement has the 48/52 leave provisions and working from home and job sharing but it is only available if your immediate boss allows it. The workplace and managers attach their own conditions to it which makes it almost impossible to use.*





# ROLE/OCCUPATIONAL SEGREGATION

A report to the Australian Government by the Women in Science, Engineering and Technology Advisory Group noted that:

*Women remain seriously under-represented in some specific disciplines of science, engineering and technology .. and furthermore, are not well-represented at the most senior levels in all disciplines...*<sup>12</sup>

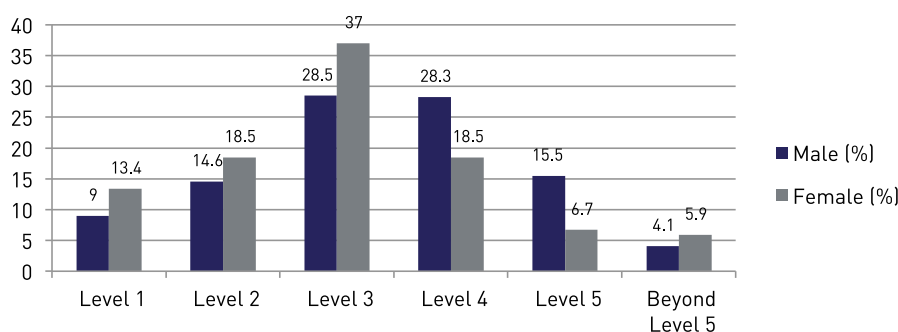
Role or occupational segregation arises in the form of the over-representation of women professionals in lower-paid roles or roles with less responsibility and the under-representation of women in senior, management and leadership roles – both these phenomena appear to primarily arise as a result of part-time work arrangements and the need for flexibility.

Women remain seriously under-represented in some specific disciplines of science, engineering and technology

## OVER-REPRESENTATION OF WOMEN AT LOWER RESPONSIBILITY LEVELS AND UNDER-REPRESENTATION AT MORE SENIOR LEVELS

The data suggest that across the professions of Engineering, Science, ICT and Pharmacy, female respondents were over-represented at the lower levels of responsibility and under-represented at more senior levels.

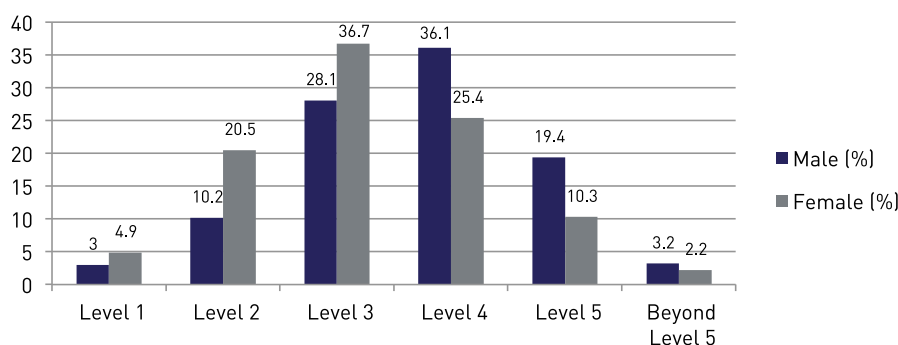
### Professional Engineers – levels of responsibility by gender



(Unpublished data, 2015 Professional Engineers Remuneration Survey)

The data suggest that female respondents are over-represented at Levels 1 to 3 and under-represented at Levels 4 and 5 in Engineering.

### Professional Scientists – levels of responsibility by gender

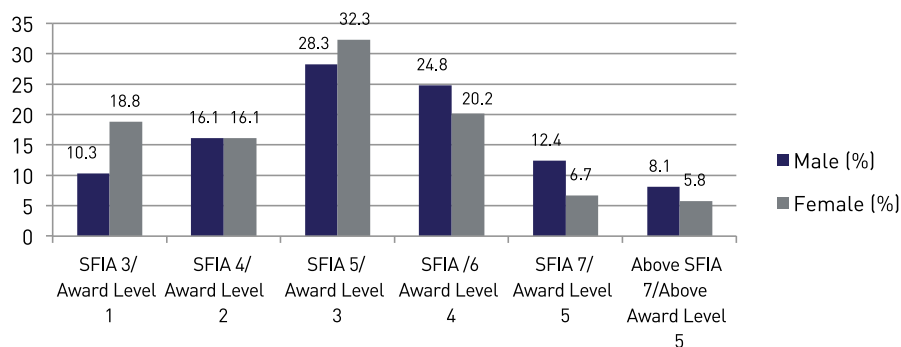


(Unpublished data, 2015 Professional Scientists Remuneration Survey)

The data suggest that female respondents are over-represented at Levels 1 to 3 and under-represented at Levels 4 and 5 in Science.

This industry has women in junior roles doing all the grunt work

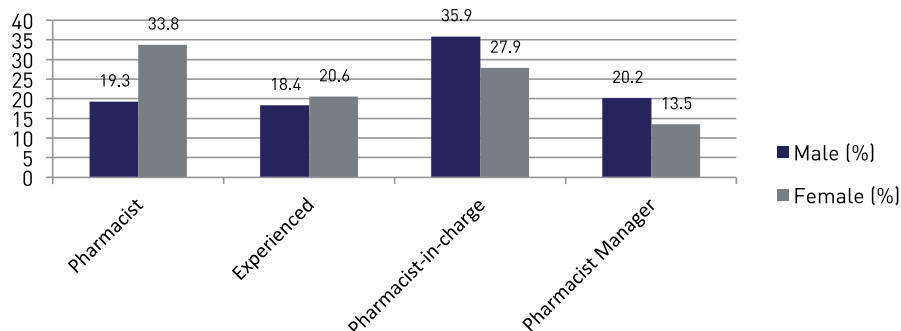
### ICT Professionals – levels of responsibility by gender



(Unpublished data, 2015 Professionals Australia/ACS ICT Remuneration Survey)

The data suggest that female respondents are over-represented at SFIA 3 and SFIA 5/Award Levels 1 and 3 and under-represented at SFIA 6 and 7/Award Levels 4 and 5 in ICT.

### Pharmacists – levels of responsibility by gender



(Unpublished data, 2015 Professionals Australia Pharmacy Remuneration Survey)

The data suggest that female respondents are over-represented at the Pharmacist level, slightly over-represented at the Experienced Pharmacist level and under-represented at the Pharmacist-in-charge and Pharmacist Manager levels in Pharmacy.

## OVER-REPRESENTATION OF PROFESSIONAL WOMEN IN LESS CHALLENGING ROLES

Gendered access to part-time work arrangements, the concentration of women who work part-time in less senior roles and the underutilisation of the skills of those opting for part-time work were significant issues for respondents. Many respondents commented that part-time or flexible work arrangements were only available in lower-paid less senior roles.

- 60.2 per cent of respondents said that professional women in their workplace often took up less challenging work roles so they could accommodate family/carer responsibilities.
- 32.1 per cent of professional women said underemployment – defined as engagement in roles which underutilise their professional skills and judgement – in their workplace was a significant issue.

*Many of the passionate female scientists that I know (myself included) have taken less senior roles than they are qualified for, as these are typically offered on a part-time basis. I would ideally like to see part-time senior management/technical positions offered within industry for both men and women.*

*I have been told that I cannot progress in my workplace structure due to the fact that I work part-time.*

*I been passed over for interview for roles I am more than qualified for because of taking time away from my career to care for my child.*

Prior to maternity leave I held senior roles – when I came back, I was put into low level roles due to my part-time work arrangement



Lack of females  
in senior  
management  
often results  
in a lack of  
understanding  
of work/family  
balance

## UNDER-REPRESENTATION OF WOMEN IN SENIOR, MANAGEMENT AND LEADERSHIP ROLES

A lack of role models, lack of women in senior roles and lack of access to senior roles for women were reported by respondents as detrimentally impacting their career advancement. Survey respondents reported being offered demotions on their return to work from parental leave as a way of accommodating their carer responsibilities – confirming the fairly blunt operation of systemic bias against the advancement of women with carer responsibilities. Survey responses also showed that women self-select out of senior, management or leadership roles as a way of balancing their work and family commitments. These factors operate to reinforce gendered historic work patterns whereby women are concentrated in lower-paid roles with less responsibility and work part-time, while men work full-time in more senior roles with greater responsibility.

- 52 per cent of respondents said that the lack of role models had significantly or moderately impeded their career advancement.
- 49.5 per cent said the lack of women in senior roles had negatively impacted their progress.
- 50.3 per cent said lack of access to senior roles for women had detrimentally impeded their career advancement.

*Lack of females in senior management often results in a lack of understanding of work/family balance.*

*My workplace has never had a woman executive and few women managers at any level. This has definitely had an impact on any advancement opportunities.*

*There is definitely a lack of women in senior roles in my workplace and I feel that I don't have any role models senior to me who are female.*

*There are no women in my organisation at a General Manager level in the heavy engineering sections of the company.*

*The higher up the ladder you go, the less flexible the work hours.*

*Higher level and supervisory roles within the organisation are filled on a full-time basis and in the past employees with a supervisory role and carer responsibilities have been asked to work at a lower level when requesting part-time hours or access to flex-time provisions.*

*I have always been given the opportunity to undertake professional development and leadership training but, as a part-time employee, I have chosen not to move into management as I don't believe I can fulfil the role as well as I would like.*

*Working part-time has definitely impacted my career but this has been a personal choice. I would have been into middle-management positions well before now if I was willing to work full-time.*

*There are limits on management roles that can be undertaken because I'm not available all week. I have focused more on technical roles, which generally have lower remuneration and recognition.*



# CAREER BREAKS AND THEIR IMPACT ON CAREER ADVANCEMENT

I'm frustrated with limited career opportunities and my inability to gain career trajectory

Research confirms that traditional concepts of advancement which value a full-time uninterrupted career trajectory can disadvantage women because they are more likely to work part-time and take career breaks to accommodate carer responsibilities.<sup>13</sup> Whether the issues are characterised as a 'glass ceiling', a 'leaky pipeline' or being placed on a 'slower track', the implications for the STEM workforce in the longer-term are serious. The survey confirmed these findings with respondents reporting that family responsibilities and career breaks having a significant negative impact on advancement opportunities. Respondents also highlighted the stereotyping of women with carer responsibilities as less committed to their careers, the professional isolation which can accompany a career break, difficulties with re-entering the workforce following a career break and the pressure to return from maternity leave early.

- 21.3 per cent of respondents said they had been sidelined for promotion because they had taken a career break.
- 70.3 per cent of respondents said that taking maternity/parental leave was detrimental to their career.
- The stereotyping of women with carer responsibilities as less committed to their careers seriously impacts career advancement.

## IMPACT ON CAREER ADVANCEMENT

*The glass ceiling for women in senior management roles still exists. Senior males can unintentionally discriminate against women moving into senior positions.*

*It's so much harder for those who have taken a career break! The pay you get when you start is what you are stuck with - you can get incremental increases but never a rebalancing so that you are comparatively earning the same.*

*Taking time off to have children has been significantly detrimental to my career.*

*Having two 'significant' periods away from work (just over 12 months in total - six to seven months each time) has had a detrimental effect on my career.*

*The main issue is that the people still at the workplace are being exposed to opportunities - acting roles, sideways moves, networking - and general exposure of their name and performance. Keeping in touch sounds OK in theory but so many things change even in a short period of time.*

Once a woman has children, I think there is an unconscious bias against them as they are seen to be not as serious about their careers

## PROFESSIONAL ISOLATION

*You quickly lose touch with networks. Many things revolve around where you work – if you're not working, you are a bit "out in the wilderness".*

*I think most women who enjoy their career struggle with leaving the workforce for maternity leave. I have felt isolated because of it, with no real conclusion except to accept that time off will affect my career, advancement opportunities and resultant salary.*

*My direct supervisor changed but I wasn't told. There was very little communication – email passwords expired and couldn't be changed remotely.*

## LACK OF SUPPORT FOR REINTEGRATION FOLLOWING A CAREER BREAK

*My career break meant I was deskilled. It would have been good to actually receive training on new methods/tests that were implemented while I was absent.*

*I had to start my career again twice. There was no assistance and my boss moved jobs without telling me. I came back to work to nothing - not even a computer to use.*

*I have taken two rounds of maternity leave adding up to 2.5 years off work. Each time I came back I had to start my career again from the beginning.*

*I missed out on technological developments, and being in touch with colleagues – very hard to catch up.*

*I came back to an unrecognisable workplace after a restructure and lots of redundancies/new hires.*

## PRESSURE TO RETURN FROM MATERNITY LEAVE

*There was a horrendous level of pressure to return to the workforce before the 12 months of allowable maternity leave.*

## GENDER STEREOTYPING AROUND CAREER COMMITMENT

*"[R]esearch .. [shows] that: 'there [is] no evidence that women are less committed to their careers than men; that women were just as likely to have a career plan as men; and women were just as eager to attain seniority as men'.<sup>14</sup>*

While there is no evidence that women are less committed to their careers, respondents reported assumptions being made about their commitment to their career once they had carer responsibilities.

*Typically men are perceived as being more serious about their careers because they can work longer hours and work late if required.*

*Managers do not view part-time staff as serious about their role.*

*I'm not even considered when training is offered or I'm considered last minute to attend training. They pigeon-hole me as not being able to make it but I haven't even been offered it.*

# CULTURE OF THE WORKPLACE, OCCUPATION AND INDUSTRY

My company  
distinctly  
lacks female  
role models  
in leadership  
positions

The survey confirmed that a range of practices and policies created workplace cultures which directly or indirectly excluded, marginalised or disadvantaged women. These included a culture which rewarded long working hours, professional women not being part of the “boy’s club”, women being subject to sexist remarks and the technical expertise of women being regarded less seriously than that of their male colleagues.

- 54.2 per cent of respondents said that workplace culture had detrimentally impeded their career advancement to a significant or moderate extent.
- Of those considering leaving their current employer, workplace, occupation or industry culture was a factor for 24.2 per cent of respondents.
- 41.8 per cent agreed or strongly agreed that their employer has good work/life policies but the culture did not support it.
- 44.4 per cent disagreed that in their workplace, managers and senior staff model good work/life balance.

## CAREER ADVANCEMENT IN MALE-DOMINATED PROFESSIONS

When asked whether their employer was proactive in ensuring that men and women had equal opportunity to career advancement:

- 26.7 and 25 per cent of those working in Engineering and ICT respectively answered “rarely” or “never” compared to 21.8 per cent in Science; and
- 27.2 and 23.3 per cent of those working in Science and Pharmacy respectively answered “always” compared to 15.4 and 0 per cent in Engineering and ICT.

These figures confirm that, for respondents, the lack of equal opportunity to career advancement is a significant issue across the STEM professions.

*Being a female professional in a male-dominated workplace is extremely difficult. There are few women colleagues available to support you and fewer male colleagues who will. It is a hard road and you do feel alienated.*

*I got the impression that a number of companies only interviewed me to see what a female engineer looked like, and I was never a serious contender for the role.*

*There is still “traditional” or old-fashioned thinking that females are subordinates, support and in administration roles. Many of my male colleagues questioned why I returned to work after 12 months of having my child (and that was in 2004!!).*

*I was told by my direct manager he would prefer to have a male in my role as there would be less emotional issues in the workplace.*

Women in my industry have to fight for the pay and respect that the men get naturally

## WORKPLACE CULTURE AND MARGINALISING BEHAVIOURS

- 37.9 per cent of respondents said they felt like they had to “become one of the boys” if they wanted to “fit into” their workplace.
- 55.5 per cent agreed or strongly agreed that in their occupation, women have to prove themselves, where men are assumed to be capable.
- Only 38.1 per cent agreed or strongly agreed that clients respect the professional opinion or advice of men and women equally; 31.9 per cent disagreed.
- 41.3 per cent said that in their workplace, advice or information of a technical nature was less likely to be listened to if provided by a woman than a man.

*I think there is often an unconscious bias against women progressing in senior positions in a male-dominated field. It feels like a ‘boys club’ at times and career progression is not always based on merit.*

*When instructing a colleague and requesting overdue information from them – “you sound like my wife” – would regularly come out.*

*As a young woman, comments were made which made me uncomfortable but I was expected to be a “good sport”.*

## WORKPLACE CULTURE AND LONG WORK HOURS

- 30.4 per cent agreed or strongly agreed that the number of hours they have to work limits their capacity to maintain a work/life balance work.

*It is still seen by men that you need to be there 24/7 to get ahead. In engineering typically the longer you work, the more you get ahead. I can no longer do the 50 to 60 hour weeks. On salary, the company wins for every hour over the normal 38 and they reward people for it.*

*We still seem to work in a society where your value and contribution is measured by your hours in the workplace.*

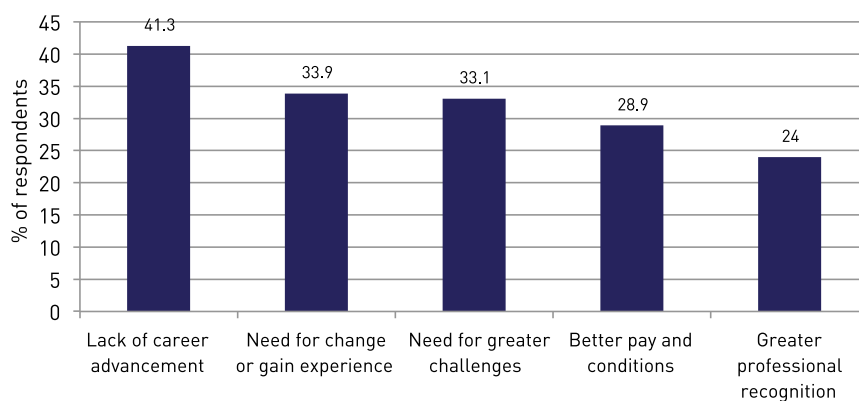
*My workplace has a competitive culture with expectation of long hours and single-minded purpose. It's difficult to compete and have a healthy home and family life.*



# ATTRITION AND RETENTION OF WOMEN IN THE STEM PROFESSIONS

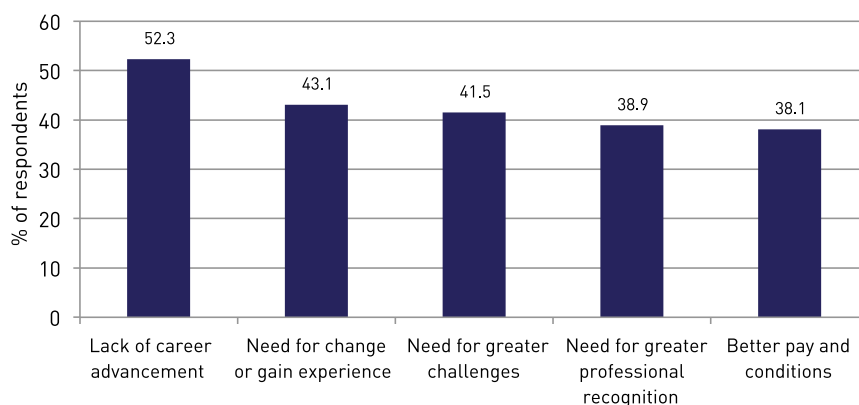
It is clear that the increased participation of women in the STEM professions and the reduction of attrition rates will be vital to ensuring a sustainable pipeline of skilled and experienced STEM professionals. Not addressing these issues would represent a failure to realise the dividend from the considerable investment in education and development of professional experience and judgement of STEM-qualified women.

Respondents who were considering leaving their current *profession* in the next five years cited the following as the main reasons:



Note: Respondents could select multiple responses.

Respondents considering leaving their current *employer* in the next five years cited the following as the main reasons:



Note: Respondents could select multiple responses.

In order to have a work/life balance that works for me without constant renegotiation, I've considered leaving engineering a number of times

When asked how long they expected to continue working with their current employer, 66.9 per cent answered less than 5 years

Almost a third of respondents (31 per cent) expect to leave their profession within five years. This figure was higher for private sector respondents (75 per cent). 4.9 per cent of respondents expect to be working in their current profession less than 1 year, 9.6 per cent 1 to less than 3 years, 16.5 per cent 3 to less than 5 years, 19.1 per cent for 5 to less than 10 years and 49.9 per cent 10 years or more.

Of those who do not expect to be working in their profession in five years, the top three factors nominated as influencing that expectation were:

- lack of career advancement – selected by 41.3 per cent of all respondents;
- need for change and/or gain experience – selected by 33.9 per cent of respondents; and
- need for greater challenges – selected by 33.1 per cent of respondents.

When asked how long they expected to continue working with their current employer, 66.9 per cent answered less than 5 years. At the other end of the spectrum, 14 per cent expected to still be working for their current employer beyond the next 10 years.

Of those that do not expect to be working with their current employer in five years, the top three factors nominated as influencing that expectation were:

- lack of career advancement – selected by 52.3 per cent of respondents;
- need for change and/or gain experience – selected by 43.1 per cent of respondents; and
- need for greater challenges and excitement (41.5 per cent).

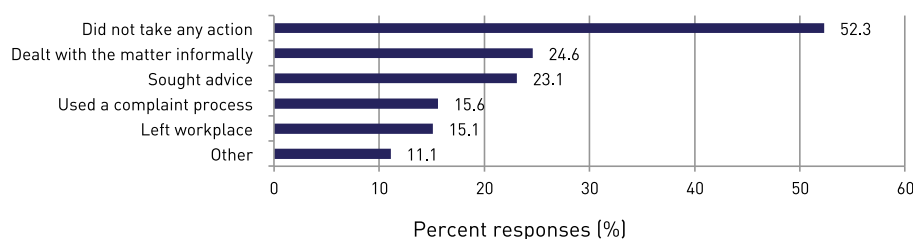
The factors influencing respondents' intentions to leave were consistent across leaving their employer and leaving their profession.



## DISCRIMINATION

- 51.6 per cent of respondents reported having been directly discriminated against during the course of their employment, 78.8 per cent of these on the basis of gender.
- Of those that reported they had experienced discrimination, only 23.1 per cent of respondents had sought advice on dealing with the matter. A disturbing 15.1 per cent left their workplace and 52.3 per cent took no action at all.

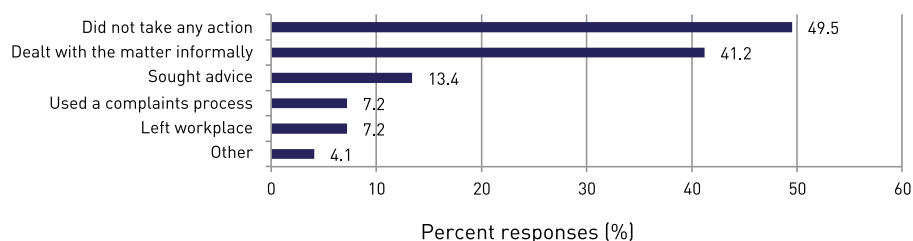
25.8 per cent of respondents reported that they had been sexually harassed in the course of their employment



Note: Respondents could select multiple responses.

## SEXUAL HARASSMENT

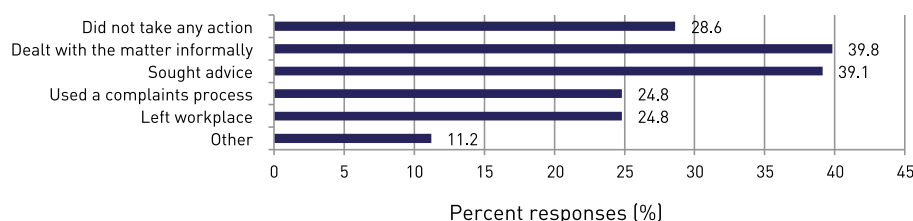
- 25.8 per cent of respondents reported that they had been sexually harassed in the course of their employment.
- Of those that reported they had experienced sexual harassment, only 13.4 per cent of respondents had sought advice on dealing with the matter. A disturbing 7.2 per cent left their workplace and 49.5 per cent took no action at all.



Note: Respondents could select multiple responses.

## BULLYING

- 42.1 per cent of respondents reported having been subject to bullying in the course of their employment.
- Of those that reported they had experienced bullying, 39.1 per cent of respondents had sought advice on dealing with the matter. A disturbing 24.8 per cent left their workplace and 28.6 per cent took no action at all.



Note: Respondents could select multiple responses.



# SUMMARY

Addressing the complexities of “the slower track” for women in the STEM professions is not only a matter of justice and equity. Tackling the issues will be fundamental to providing for the optimal attraction, development and retention of women in the STEM workforce, and to fully realising Australia’s productivity potential and innovative capability into the future.



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**The 2015 *Women in the STEM Professions Survey* provides valuable insight into factors affecting women's participation and progression in the STEM professions. The findings highlight how far we still have to go to ensure that professional workplaces are equitable, family-friendly and safe.**

Despite demand for STEM skills and the difficulties that employers face in recruiting and retaining key STEM staff, the survey findings reveal that strategies to attract, retain and promote professional women may be hampered by cultural barriers, inflexible working practices, systemic bias in advancement strategies and inequities in remuneration. While women have made considerable inroads into STEM fields over the past three decades in particular, workplace practices have been slow to catch up.

Many of the problems raised by respondents to the survey are core workplace, cultural and industrial issues, which must be addressed to ensure that all employees are able to reach their professional potential. Flexibility in hours and carer and parental leave provisions are conditions that in practice are particularly important for female professionals, with women continuing to undertake the majority of carer responsibility within their families. As long as flexibility and work/life balance provisions operate to entrench systemic bias, and while workplace culture continues to affect employees' ability to access these core working conditions, the types of cultural problems highlighted by respondents to this survey will continue to undermine the attraction and retention of women in STEM professions.

In highlighting these issues, Professionals Australia aims to contribute to the national discussion around improving the participation rates of women in the STEM workforce. Data from our 2015 Professional Engineer, ICT Professionals and Professional Scientists Remuneration Reports reveal that these highly-educated professional women continue to earn less than their male counterparts mid-career, and the responses to this survey suggest that women are also frustrated by a functional lack of access to core conditions that may be instrumental in promoting female retention and advancement.

We hope this report encourages policy-makers and employers to look at ways to tackle entrenched structural bias in work practices, provide flexible work arrangements, address cultural impediments to women's access to advancement and consider undertaking and acting on gender pay gap analysis at the workplace level. We also urge decision-makers to consider policies that will support the recruitment and retention of women in male-dominated technical professions, improve the workforce participation rate of women in STEM fields and encourage employers to bring about the changes needed to become contemporary family-friendly and equitable workplaces that maximise the diversity advantage.

Addressing the complexities of "the slower track" for women in the STEM professions is not only a matter of justice and equity. Tackling the issues will be fundamental to providing for the optimal attraction, development and retention of women in the STEM workforce, and to fully realising Australia's productivity potential and innovative capability into the future.

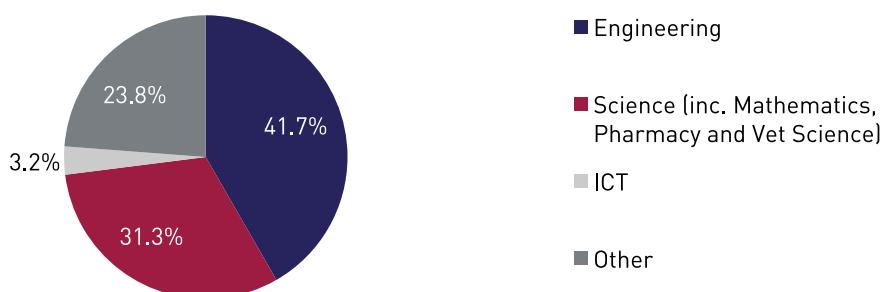
The purpose of the survey was to detail some of the factors which contribute to women's under-representation in the STEM professions

## ABOUT THE SURVEY

The *Women in the STEM Professions Survey* (formerly the *Women in Professions Survey*) has been produced since 2000. The survey provides valuable insight into the workforce experience of female technical professionals working in STEM fields. The purpose of the survey was to detail some of the factors which contribute to women's under-representation in the STEM professions, to explore professional women's career experiences as part of the STEM workforce and ensure the needs of women in the STEM professions can be recognised in the development of policy by government, industry and professional associations.

### Sample characteristics

#### Profession breakdown (%)



41.7% had tertiary qualifications in Engineering, 31.3% in science (including Mathematics, Pharmacy and Veterinary science) and 3.2% in IT. Roughly a quarter of Scientists were qualified as Pharmacists.

### OTHER CHARACTERISTICS OF THE SAMPLE

- 65.3% worked full-time, 19.9% worked part-time and 4.3% were casual employees
- 7.6% had a doctorate/PhD, 24.1% had a Masters degree, 10% had a graduate diploma and 49.5% had a Bachelor degree (including Hons.)
- 62.7% worked in the private sector and 46.6% in the public sector
- 52.5% of respondents worked for large employers that employed over 500 employees, 24.5% worked for employers with between 101 and 500 employees and 23% worked for employers that had fewer than 100 employees
- Industries that respondents worked in included Consultancy and technical services (22.5%), Health (15.7%), Roads (11.1%), Public administration (10.9%), Electricity and gas supply (10.4%), Mining or oil and gas exploration (8.2%), Construction (7.7%), Education (4.8%), Water, sewerage and drainage (12.8%) and Research (7.5%)
- 75.9% of respondents reported working in a male-dominated industry
- 49.3% of respondents had children; 14.6% had carer responsibilities for an adult such as an elderly parent
- The average age of respondents was 40

## SURVEY METHODOLOGY

In April 2015 Professionals Australia conducted a survey of their female members asking questions about their experiences in the workforce. The 78-question survey was digitally sent out to 3,100 members. The survey remained open until August 2015, during which time 432 members responded, for a total response rate of just under 14%. For the majority of questions participants could choose whether or not to provide answers so all subsequent analyses are conducted only for those who provided a response to the item of interest. As such, where the number of responses are reported, they may not necessarily add up to 432. The information on pay differentials and the incidence of males and females in part-time work and at lower levels of responsibility was based on data from the Professionals Australia Remuneration Surveys for Professional Engineers, Scientists, ICT and Pharmacists with responses from over 1,100 Professional Engineers, 1,400 Professional Scientists, 2,100 ICT Professionals and 900 Pharmacists respectively. The survey utilised qualitative as well as quantitative methods to draw out detail and variation as well as patterns and convergences in responses.

## REPORT PREPARATION

This report was compiled by Dr. Kim Rickard, PhD, BA and Mr. Alex Crowther MSc, BSc (Hons).

## ACKNOWLEDGEMENTS

Professionals Australia would like to thank the professionals who took time out of what are invariably already busy lives to take part in this research.

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