

## **Gender differences in Australasian ophthalmologists' experiences of the workplace**

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## ABSTRACT

**Importance:** Gender differences were identified in experiences of the workplace and family responsibilities amongst Australian and New Zealand ophthalmologists.

**Background:** To survey ophthalmologists regarding their balance of career, family and workplace experiences, and to identify gender differences.

**Design:** Online questionnaire sent to 1000 randomly selected Royal Australian and New Zealand College of Ophthalmologists (RANZCO) Fellows in 2017.

**Participants:** The response rate was 28% (n=282) with 192 males.

**Methods:** Confidential questionnaire.

**Main outcome measures:** Questionnaire responses.

**Results:** Gender differences were noted in working hours (59% of males worked greater than 40 hours a week vs 26% of females,  $p<0.001$ ) and frequency of private practice work (mean of 6.6 half-day sessions per week for men vs 4.9 sessions for women,  $p<0.001$ ). Female ophthalmologists reported additional obstacles to career advancement including difficulty receiving mentorship (57% vs 40%,  $p=0.027$ ), travel difficulties due to family responsibilities (59% vs 34%,  $p<0.001$ ), and rigid timelines for promotion/tenure (38% vs 19%,  $p=0.005$ ). Female ophthalmologists delayed child-bearing, with 59% becoming parents after fellowship training. Women spent more time child-rearing (67% vs 8% of men cared for children >20 hours per week,  $p<0.001$ ). Female ophthalmologists were more likely to report experiencing discrimination (31% vs 8% of men,  $p<0.001$ ).

**Conclusions and relevance:** Female ophthalmologists worked fewer hours, mainly in the private sector, to fulfil their greater family commitments. Female ophthalmologists reported additional obstacles to career advancement and were more likely to report experiencing discrimination in the workplace.

**Keywords:** Ophthalmologist, Workforce, Work-life balance

## 1. INTRODUCTION

The proportion of women in the medical workforce has significantly increased, with female medical students now accounting for greater than 50% of enrolled students<sup>1,2</sup>. Although more women are entering surgical professions, which traditionally have been male-dominated, women continue to be under-represented in these specialties including in ophthalmology<sup>1,3</sup>. In 2016, 21% of Australian and New Zealand ophthalmologists and 35% of ophthalmology trainees were female<sup>2</sup>. In addition, women within surgical specialties are more likely to report constraints in career advancement compared with men<sup>4,5</sup>. Reasons for these constraints are partly societal and include women having a larger role in family duties, particularly in childcare and housework. Other potential contributory factors are a lack of mentorship and a culture that allows sexism<sup>5</sup>.

Studies conducted among Australian and New Zealand ophthalmologists in 2005<sup>6</sup>, and Canadian ophthalmologists in 2012<sup>7</sup>, suggested that female ophthalmologists face greater difficulty in balancing work and family responsibilities compared with their male counterparts. Differences were reported in family patterns; women tended to devote more time to childcare and were less likely to be in a long-term relationship<sup>6</sup>. A greater proportion of men were in surgical retina and cornea/anterior segment specialties, potentially contributing to the higher reported income among male surgeons. Women were more likely to hold a higher degree<sup>6</sup>. The reasons underlying these gender differences within ophthalmology, and changes over time with increasing female participation in the ophthalmology workforce, have not been established.

Gender-based discrimination has also been found to be prevalent in both medical and surgical professions<sup>8</sup>. In 2015, sparked by media reports of frequent discrimination, bullying and sexual harassment (DBSH) in surgical workplace environments, the Royal Australasian College of Surgeons (RACS) released a briefing

addressing these significant concerns <sup>9</sup>. A survey of Australian and New Zealand ophthalmologists in 2015 found the prevalence of reported discrimination, bullying and harassment was higher among female ophthalmologists (62%) than amongst all ophthalmologists (37%) <sup>10</sup>.

The primary aim of this study was to examine gender differences in the career and personal profiles of fellows of the Royal Australian and New Zealand College of Ophthalmologists (RANZCO)..

## 2. METHODS

This study was approved of and facilitated by RANZCO. A confidential questionnaire was sent online to RANZCO Fellows in May 2017 via a third-party host website. Both RANZCO and the authors were masked to the respondents' personal details and the surveys were anonymously analysed. A link to the survey was sent out to 1000 Fellows randomly chosen from all Fellows registered with RANZCO, with several reminders. RANZCO had 1135 fellows in 2017, including 251 females. The survey was also advertised via the RANZCO newsletter.

Questions were derived from validated questionnaires, in order to avoid inadvertent bias in question construction <sup>9,11,12</sup>. The 32-question survey was divided into sections of demographics, workload, career choices, personal circumstances, and workplace safety. Questions were multiple choice with options wherever appropriate for a 'not applicable' or 'other' response, and space for explanation. A five-point Likert scale was used to assess perceptions of personal and professional balance and satisfaction <sup>14</sup>. Ethnicity categories in the survey were European, North-East or South-East Asian, South Asian and other <sup>13</sup>.

Statistical analysis was conducted in SPSS version 24 (IBM, New York). Nominal data was analysed using chi-square testing or Fisher's exact test as appropriate.

Parametric continuous variables were analysed using Student's t-test. Tests were two-tailed and a p value of less than 0.05 was considered significant.

### 3. RESULTS

A total of 282 responses were received, 192 from male and 90 from female ophthalmologists, giving a response rate of 28%. The total proportions of RANZCO Fellows surveyed were 22% of males and 36% of females. The proportion of female respondents (32%) in this study was higher than the overall proportion of female Fellows (22%,  $p < 0.001$ ). Male respondents were older than females (54.6 vs 47.0 years;  $p < 0.001$ ); the ages of fellows who completed the survey were similar to the ages of all RANZCO fellows (53 and 48 years for males and females respectively)<sup>2</sup>. The demographic data of respondents is shown in *Table 1*.

**Table 1:** Demographic data of RANZCO survey respondents by gender (n = 282).

	Male fellows (n=192)	Female fellows (n=90)	p value
<b>Age mean (<math>\pm</math> SD)</b>	54.6 ( $\pm$ 10.9)	47.0 ( $\pm$ 9.2)	<b>&lt;0.001</b>
<b>Post-fellowship, years</b>			<b>&lt;0.001</b>
<b>&lt;10 years</b>	44 (23%)	46 (52%)	
<b>10-20 years</b>	56 (29%)	27 (30%)	
<b>&gt;10 years</b>	91 (48%)	16 (18%)	
<b>Ethnicity</b>			<b>0.023</b>
<b>European</b>	160 (84%)	62 (70%)	
<b>North-East or South-East Asian</b>	13 (7%)	15 (17%)	
<b>South Asian</b>	12 (6%)	6 (7%)	
<b>Other</b>	6 (3%)	6 (7%)	
<b>Region</b>			0.22
<b>New South Wales</b>	57 (30%)	36 (41%)	
<b>Victoria</b>	47 (25%)	19 (21%)	
<b>New Zealand</b>	30 (16%)	12 (13%)	
<b>Queensland</b>	28 (15%)	6 (7%)	

<b>Western Australia</b>	15 (8%)	4 (5%)	
<b>South Australia</b>	6 (3%)	5 (6%)	
<b>Tasmania</b>	5 (2%)	4 (5%)	
<b>Other</b>	1 (0.5%)	2 (2%)	
<b>Education</b>			
<b>Degree before medical school</b>	50 (27%)	20 (22%)	0.46
<b>Degree after medical school</b>	47 (31%)	43 (57%)	<b>&lt;0.001</b>
- <b>Master's degree</b>	28 (15%)	32 (36%)	
- <b>Doctor of Medicine</b>	13 (7%)	5 (6%)	
- <b>PhD</b>	15 (8%)	13 (15%)	

Key: SD = standard deviation, PhD = Doctor of Philosophy

A greater proportion of males had been a Fellow for greater than 10 years (77% vs 48%,  $p < 0.001$ ). A higher proportion of male fellows (84%) had European ancestry compared with female fellows (70%,  $p = 0.006$ ) and compared with the wider Australian and New Zealand population (70-75%)<sup>13,15</sup>. A higher proportion of female respondents had completed a further degree after medical school (57% vs 31%,  $p = 0.002$ ); the most common degree was a Master's degree.

**Table 2:** Work profile of the RANZCO survey respondents (n = 282)

	<b>Male fellows (n=192)</b>	<b>Female fellows (n=90)</b>	<b>p value</b>
<b>Average half-day sessions/week</b>			
Private practice	6.6 ( $\pm 2.2$ )	4.9 ( $\pm 2.3$ )	<b>p &lt; 0.001</b>
Public	1.7 ( $\pm 1.8$ )	2.1 ( $\pm 1.8$ )	<b>p = 0.003</b>
Academic	0.2 ( $\pm 0.7$ )	0.6 ( $\pm 1.2$ )	<b>p = 0.02</b>
<b>Divide between public and private work</b>			
Public	<u>19% (+19%)</u>	<u>30% (+22%)</u>	<b>p &lt; 0.001</b>
Private	<u>81% (+19%)</u>	<u>70% (+22%)</u>	<b>p &lt; 0.001</b>

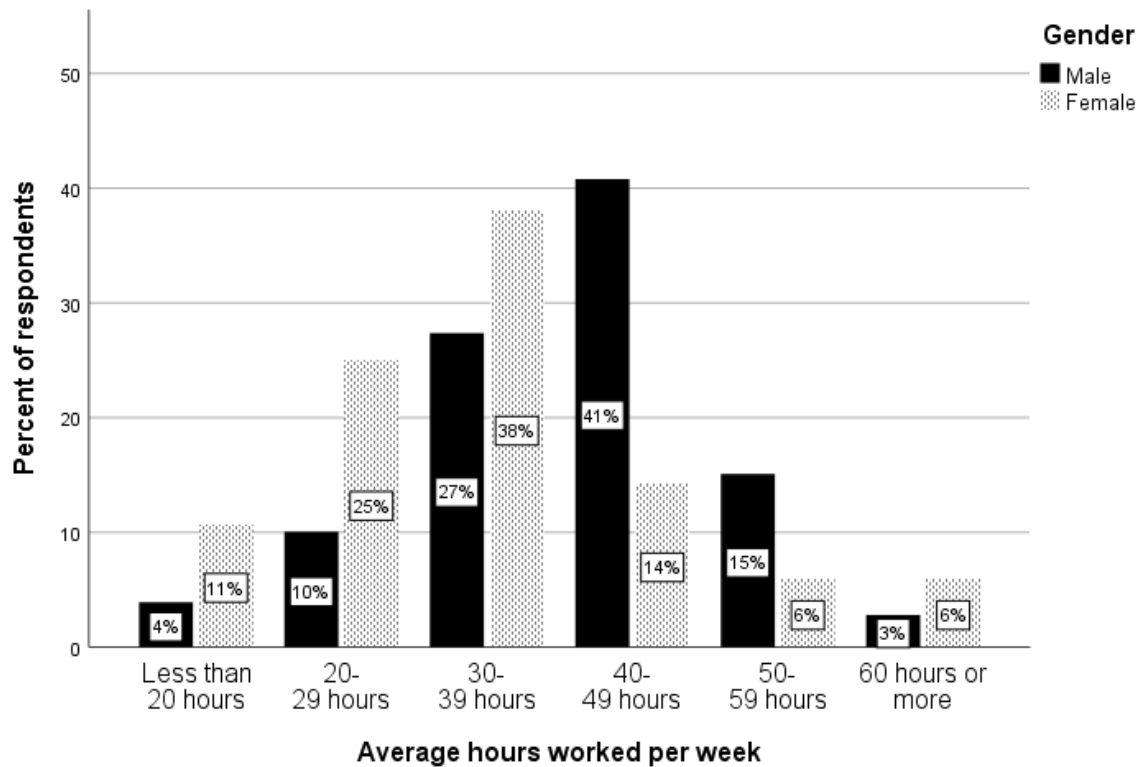
<b>Previous or current part-time work</b>	55 (29%)	66 (79%)	<b>p&lt;0.001</b>
<b>Leadership role participation</b>	84 (18%)	35 (19%)	p=0.32
<i>Area of Ophthalmology</i>	100 (52%)	35 (39%)	p=0.04
General	47 (25%)	16 (18%)	p=0.21
Cataract	33 (17%)	21 (23%)	p=0.22
Medical retina	32 (17%)	11 (12%)	p=0.33
Glaucoma	22 (11%)	8 (9%)	p=0.51
Cornea	22 (11%)	11 (12%)	p=0.85
Oculoplastics	15 (8%)	3 (3%)	p=0.15
Surgical retina	14 (7%)	4 (4%)	p=0.36
Refractive	14 (7%)	9 (10%)	p=0.44
Paediatric	5 (3%)	7 (8%)	p=0.05
Uveitis	4 (2%)	1 (1%)	p=0.56
Neuro-ophthalmology			

A higher proportion of male compared with female ophthalmologists identified as 'general ophthalmologists' (52% vs 39%, p=0.039). There were no significant differences between the genders within subspecialties. The work profiles of respondents are outlined in Table 2.

The majority of male responders reported working more than 40 hours a week (59% vs 26% for females, p<0.001) (Figure 1). The proportion of ophthalmologists working more than 40 hours per week was smaller compared to the 2005 study for both men (59% vs. 70%, p=0.04) and women (26% vs. 41%, p=0.03)<sup>6</sup>. Male ophthalmologists worked more half-day sessions per week in private practice (mean of 6.6 vs 4.9 sessions for women, p<0.001) and had a higher overall proportion of private practice work in an average week (81% vs. 70% for women, p<0.001). A greater proportion of male ophthalmologists had a salary of more than \$200,000 per annum (86% vs 70%, p=0.003). This result however was not significant when adjusted for hours worked within the 40-49 hours per week bracket (93% of men

vs. 83% of women earned >\$200,000) or the 50-59 hours per week bracket (96% vs. 80% earned >\$200,000,  $p>0.05$  for both).

**Figure 1:** Average hours worked per week for RANZCO survey respondents by gender (n = 263)



Most women had worked part-time at some point in their careers (79% vs 29% of men,  $p<0.001$ ). The proportion of ophthalmologists who had worked part-time at some point was higher in the current study than in the 2005 study for both men (29% vs. 14% in 2005,  $p<0.001$ ) and women (79% vs. 57% in 2005,  $p=0.001$ )<sup>6</sup>. The primary reason among women for part-time work was child-rearing (88% vs 22% for men,  $p<0.001$ ). Men and women were equally likely to nominate lifestyle reasons (22% vs. 23% respectively,  $p=0.93$ ) or personal preference (22% men vs. 20% women,  $p=0.76$ ) as reasons for undertaking part-time work.



### 3.1 Leadership roles and academic positions

Overall, academic positions (Professor, Associate Professor, or Senior Lecturer) were held by more males than females (36 vs 28, respectively). However, a higher proportion of female survey respondents held academic positions (31% vs. 19%,  $p=0.02$ ). Similar proportions across both genders held leadership positions (48% of men and 39% of women,  $p=0.32$ ).

Women were more likely than men to cite the following as obstacles to pursuing an academic career: balancing academic pursuits with clinical workload (74% vs. 59%,  $p=0.035$ ), difficulty receiving mentorship (57% vs 40%,  $p=0.027$ ), travel difficulties due to family responsibilities (59% vs 34%,  $p<0.001$ ), and rigid timelines for promotion or tenure (38% vs. 19%,  $p=0.005$ ). Women were additionally likely to cite balancing with child-care or home duties (74% vs. 41% for men,  $p<0.001$ ) and negotiating the politics associated with networking (62% vs. 46%,  $p=0.005$ ) as obstacles to both academic progression and serving on committees.

**Table 3:** Personal profile of RANZCO survey respondents by gender (n = 282)

	Male fellows (n=192)	Female fellows (n=90)	p value
<b>Relationship status</b>			<b>p=0.01</b>
Married	158 (91%)	65 (77%)	
Long-term relationship	7 (4%)	7 (8%)	
Single	2 (1%)	5 (6%)	
Divorced/separated	5 (3%)	7 (8%)	
<b>Partner's employment status</b>			<b>p&lt;0.001</b>
Full-time	39 (23%)	50 (60%)	
Part-time	70 (40%)	10 (12%)	
Not in the labour force	44 (25%)	7 (8%)	
Not applicable/other	18 (11%)	16 (19%)	
<b>Partner work-area</b>			<b>p=0.001</b>
Medicine	39 (23%)	29 (33%)	
Other health-care	39 (23%)	4 (5%)	

provider	49 (28%)	32 (38%)	
Non-medical professional	45 (26%)	20 (24%)	
Not applicable/other			
<b>Timing of first child</b>	36 (23%)	8 (11%)	<b>p&lt;0.001</b>
Before starting training	59 (38%)	16 (22%)	
During training	13 (8%)	6 (8%)	
During fellowship	49 (31%)	44 (59%)	
After fellowship			
<b>Number of children</b>	12 (7%)	10 (12%)	<b>p&lt;0.001</b>
None	10 (6%)	18 (21%)	
1	68 (39%)	30 (36%)	
2	83 (48%)	26 (31%)	
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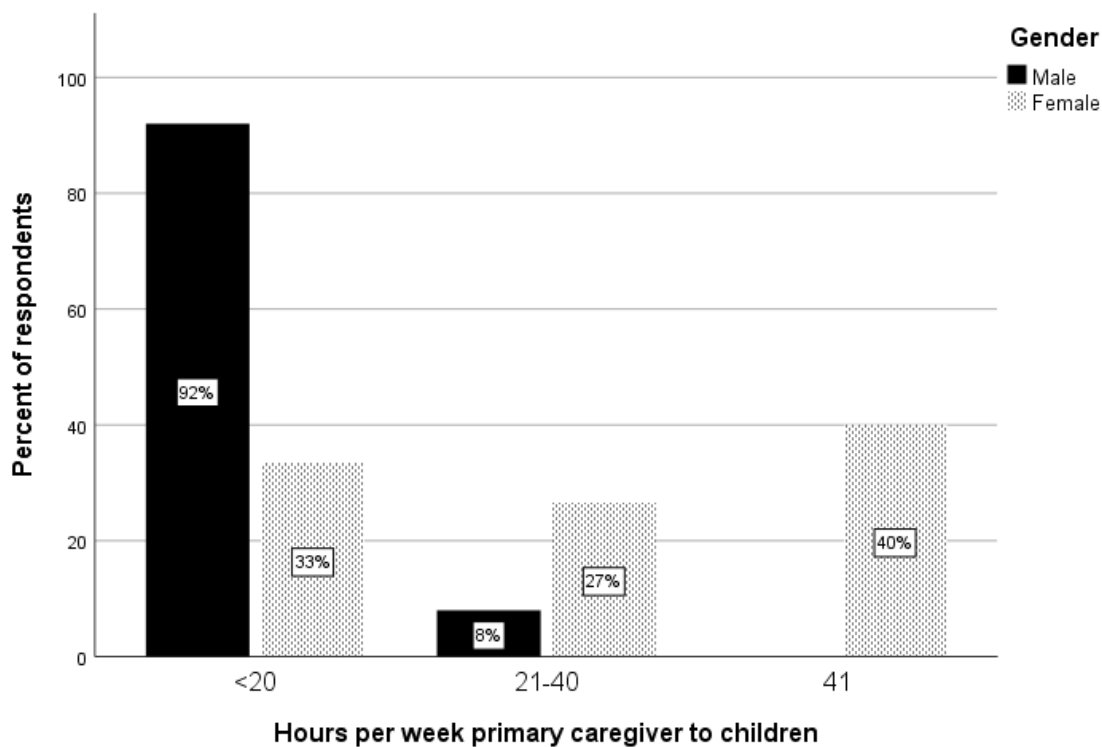
Men were more likely to be married or in stable long-term relationships (95% vs. 86% for women,  $p=0.01$ ). The partners of male ophthalmologists were more likely to work part-time or not work (65% vs. 21%,  $p<0.001$ ). The personal profiles of respondents are summarised in *Table 3*.

A number of respondents (37%) stated there was 'no optimal time' to start a family. However, of the remainder, women were more likely to state that after fellowship was a better time for having children than before (66% vs 39%,  $p=0.008$ ). Men were more likely than women to have their first child before or during ophthalmology training (60% of men vs. 32% of women,  $p<0.001$ ). These were very similar to the proportions reported in the 2005 study (60% for males vs. 30% of females)<sup>6</sup>. Women were more likely to have their first child after their fellowship training (59% vs. 31%,  $p<0.001$ ). Women tended to become first-time parents at a slightly older mean age of 35 (range 25-53) compared to 33 (range 26-51) for men ( $p=0.014$ ). Men tended to have more children, with 48% having >2 children compared with 31% of women,  $p=0.014$ .

Female ophthalmologists reported spending more time caring for children. Of ophthalmologists with children, 67% of women compared with 8% of men were involved in childcare for >20 hours per week ( $p<0.001$ ) (Figure 2). The spouses of

male ophthalmologists provided three quarters of total childcare time for 19% of respondents, and all childcare for 21%, compared with 7% and 0% respectively among spouses of female respondents. Female ophthalmologists were more likely to rely on unpaid relatives (54% vs. 24%,  $p=0.01$ ), paid in-home childcare (54% vs 46%,  $p=0.004$ ) or childcare centres (75% vs. 42%,  $p=0.003$ ).

**Figure 2:** Hours per week spent by the primary caregiver to children in childcare by gender of RANZCO survey respondents (n = 135)



Female respondents were more likely to report that having children had slowed their career progression (75% vs 16%,  $p<0.001$ ) and that they had experienced

discrimination as a result of making family-orientated choices (32% vs 9%,  $p < 0.001$ ).

### **3.2 Bullying, discrimination and harassment**

Almost half the respondents (42%) reported experiencing bullying (34%), discrimination (14%), and/or sexual harassment (7%) during their career. Although similar proportions of male and female respondents reported bullying (33% vs 43% respectively,  $p = 0.12$ ), a greater proportion of women reported discrimination (31% of women vs 8% of men,  $p < 0.001$ ) and sexual harassment (23% vs 0.5%,  $p < 0.001$ ).

While 31% of respondents had reported bullying by a male ophthalmologist, 8% of respondents reported prior bullying by a female ophthalmologist ( $p = 0.03$ ). Female ophthalmologists were more likely than male ophthalmologists to record bullying by a male ophthalmologist (54% vs 25%,  $p < 0.001$ ), female nursing staff (20% vs. 10%,  $p = 0.02$ ) and female administrative staff (17% vs. 4%,  $p < 0.001$ ), a difference which was not observed for male nursing staff (3% vs. 1%,  $p = 0.17$ ) or male administrative staff (6% vs. 4%,  $p = 0.46$ ).

The most common type of bullying reported based on gender was receiving a different perceived level of respect or responsiveness from the medical team (38% for females vs 2% for males,  $p < 0.001$ ) or nursing/administrative team (30% vs 5%,  $p < 0.001$ ). More women also reported feeling that they had been denied operating lists (20% vs 0%,  $p < 0.001$ ), had been excluded from work social events (19% vs 1.6%,  $p < 0.001$ ), and had had hurtful or humiliating comments made about them (22% vs 3%,  $p < 0.001$ ) based on their gender.

### **3.3 Personal and professional balance**

Male and female ophthalmologists were satisfied with their careers in medicine (91% and 89% respectively,  $p = 0.70$ ), and more specifically in ophthalmology (87% and

90%,  $p=0.50$ ). However, women were more likely to feel frustrated by the lack of time available to devote to their career (33% vs 12%,  $p<0.001$ ), and feel they often had to choose between career and family (57% vs 26%,  $p<0.001$ ).

Female respondents were slightly less likely than male respondents to agree that 'female trainees and ophthalmologists are well-supported in the workplace' (86% vs 96% of men,  $p=0.01$ ). They were also more likely to disagree with the statement 'a woman's opportunity for advancement in ophthalmology is the same as a man's' (50% vs 86% of men,  $p<0.001$ ), and that they personally were treated as an 'equal' by their colleagues in ophthalmology (82%, vs 96%,  $p<0.001$ ).

#### **4. DISCUSSION**

Gender-based differences in aspects of Australian and New Zealand ophthalmologists' working profiles and family responsibilities are presented in this study. In particular, female survey respondents tended to work fewer hours, spend less time in private practice and reported additional obstacles to career progression. The findings echo those of other studies of ophthalmologists, both in Australasia and further afield<sup>6,7,16</sup>.

When comparing the results of the present survey to the 2005 survey of Australasian ophthalmologists<sup>6</sup>, a greater proportion of both male and female respondents had previously undertaken part-time work (29% vs. 14% in 2005,  $p<0.001$  for men, 79% vs. 57% in 2005,  $p=0.001$  for women). While the majority of female ophthalmologists worked part-time work for child-rearing purposes (88%), male ophthalmologists' reasons were split evenly between lifestyle, personal preference, or family. These trends are consistent with research suggesting that there has been a generational change amongst men away from traditional male career paths<sup>17</sup>. Indeed, in the medical profession, there has been trend towards controllable lifestyle

becoming more of a factor than traditional career motivators including prestige and remuneration <sup>18</sup>.

Similar to prior studies in various specialties, children and child-care had a greater impact on female ophthalmologists <sup>1,3,7,19-21</sup>. Female ophthalmologists reported delaying child-bearing until after training, had fewer children, took on a greater proportion of childcare and were more likely to rely on alternative child-care arrangements in comparison to their male counterparts. Compared with other surgical specialties, female ophthalmologists had higher marriage rates (77% compared with 61% and 65% for female paediatric and plastic surgeons respectively) and higher child-bearing rates (88% compared with 46% and 58% for paediatric plastic surgeons) <sup>19,22</sup>. While female ophthalmologists demonstrated equivalent career satisfaction to male ophthalmologists and other medical professions <sup>12,18</sup>, they expressed greater frustration in balancing their career and family responsibilities and felt child-bearing slowed down career progression, as has been acknowledged in other studies in ophthalmology and other specialties <sup>1,16,20</sup>. Higher proportions of women compared with men were found to have completed higher research degrees and attained academic positions, potentially demonstrating a greater interest in academic pursuits amongst women who responded to the survey. This finding may reflect a preponderance of women with higher qualifications completing the survey. Women nevertheless were more likely than men to report additional obstacles to academic advancement, including a lack of mentorship, rigid academic timelines, negotiating the politics associated with networking and difficulty balancing family responsibilities. These factors have been well recognized in the literature as barriers to women's career advancement in academic medicine as well as in the broader science sector <sup>4,5,19,20,23</sup>. Studies have shown that although women enter academic medicine in equal or greater numbers, they are less likely to be promoted to senior positions, including head of department or full professor <sup>5,21,24</sup>. Across Australia and New Zealand, there are currently 4 (3 in

Australia) female full professors of ophthalmology out of 21 (19%). Female professionals may use 'intentional invisibility' to navigate such adverse environments<sup>25</sup>. 'Intentional invisibility' involves strategies centred on lowering risks and avoiding conflicts in order to avoid backlash and maintain a professional status quo and may complicate career advancement for women. Women of ethnic minorities have been found to be the most vulnerable in academic employment<sup>5</sup>; although it was not possible to undertake sub-group analysis based on ethnicity in the present study due to low numbers in the subgroups, future studies should collect this data.

Initiatives to re-structure opportunities, such as altered timelines for promotion and tenure and flexible meeting scheduling for those with families, may facilitate women meeting both their professional and personal goals and in turn reduce systemic gender-based discrimination<sup>19,24</sup>. The Athena SWAN framework, introduced in the UK in 2005, aimed to address underrepresentation of women within STEMM careers through an awards scheme that promoted structural and cultural change within the higher education and research sector<sup>23</sup>. The introduction of the program was associated with an increase in female representation in academic medicine posts<sup>26</sup>. The program has been piloted in Australia as The Science in Australia Gender Equity (SAGE) initiative and has been adopted by over 50% of Australian academic institutes<sup>23</sup>.

Almost half of all respondents reported experiencing DBSH with female ophthalmologists nearly four times more likely to report discrimination and fifty times more likely to report sexual harassment compared to their male counterparts. Male ophthalmologists were the most common source of DBSH behaviours. Female nurses and female administrative staff were more likely to be recorded as bullying female ophthalmologists than male ophthalmologists, as has been reported previously in a study of general surgical residents<sup>27</sup>. In this study, the overall rates of reported bullying, discrimination and sexual harassment (34%, 14% and 7% respectively),

were similar to those found in the RACS survey (49% overall, 39%, 18% and 7% respectively) and that of other surgical specialties<sup>20,27-29</sup>.

RANZCO has acknowledged issues of bullying and harassment with a similar survey of its Fellowship<sup>10</sup> and has instituted new policies and measures that aim to address systemic discrimination<sup>2</sup>. These include processes for dealing with complaints to allow reporting of abuse without fear of retribution, training on appropriate behaviour to increase positive role modelling and reduce bystander silence, third-party employee assistance programs organised for victims, and updated codes of conduct that emphasise no tolerance for discriminatory behaviours<sup>2</sup>. Recognising a lack of diversity as contributing to gender-based discrimination, RANZCO aims to achieve a 35% participation rate in College leadership positions, in contrast to the 2016 female representation rate of 20%<sup>2</sup>. In the current study, there was evidence of existing support systems, with women being more likely (86%) to agree that ophthalmology in their workplace was supportive of female trainees and surgeons than in the RACS survey (67%)<sup>28</sup>.

Limitations of the current study include selection bias inherent in voluntary online survey participation and recall bias in providing responses about past events. While the response rate was similar to other voluntary surveys of medical and surgical professionals, including ophthalmologists<sup>7,22,27</sup>, a slightly larger proportion of women responded to the survey than would be representative of registered RANZCO fellows, potentially affecting the applicability of the results. The questionnaire did not include specific definitions of DBSH behaviours or differentiate between higher-ranked and lower-ranked leadership roles, leading to possible bias through varied interpretations of these questions. It is likely that women in leadership and academic positions were more likely to have responded to the survey as a similar portion of female and male ophthalmology leaders were reported, yet RANZCO committees and academic ophthalmology do not currently have equal female representation. Gender differences in promotion timelines were not examined in this study. While this study



is limited as it represents a cross-section of the survey population at particular time point, when viewed in conjunction with the survey conducted in 2005, it is able to highlight findings which are consistent as well as suggest possible trends over time in the ophthalmology workforce.

#### **4.1 Conclusions**

The ophthalmology workforce in Australia and New Zealand is changing, with increased female representation and increased interest amongst both genders in balancing work and family responsibilities. Gender-related differences exist, with female ophthalmologists reporting fewer career advancement opportunities and a higher rate of discrimination compared with male ophthalmologists. Initiatives in workplaces and leadership by the College will be able to utilise these data and are crucial in minimising obstacles that may negatively influence career advancement and family life satisfaction amongst both women and men.

## REFERENCES

1. Jinapriya D, Cockerill R, Trope GE. Career satisfaction and surgical practice patterns among female ophthalmologists. *Can J Ophthalmol* 2003; **38**: 373-8.
2. Royal Australian and New Zealand College of Ophthalmologists. *RANZCO 2017 Annual Report*. 2018. Accessed August 2018. Available from <https://ranzco.edu/about-ranzco/our-organisation/annual-report>
3. Grandis JR, Gooding WE, Zamboni BA, Wagener MM, Drenning SD, Miller L, Doyle KJ, Mackinnon SE, Wagner RL. The gender gap in a surgical subspecialty: analysis of career and lifestyle factors. *Arch Otolaryngol Head Neck Surg* 2004; **130**: 695-702.
4. Linehan C, Sweeney C, Boylan G, Meghen K, O'Flynn S. Getting in and getting on in medical careers: how the rules of the game are gendered. *Gender, Sexuality, and Feminism* 2013; **1**.
5. Zhuge Y, Kaufman J, Simeone DM, Chen H, Velazquez OC. Is there still a glass ceiling for women in academic surgery? *Ann Surg* 2011; **253**: 637-43.
6. Danesh- Meyer HV, Deva NC, Ku JY, Carroll SC, Tan YW, Gamble G. Differences in practice and personal profiles between male and female ophthalmologists. *Clin Exp Ophthalmol* 2007; **35**: 318-23.
7. McAlister C, Jin Y-P, Braga-Mele R, DesMarchais BF, Buys YM. Comparison of lifestyle and practice patterns between male and female Canadian ophthalmologists. *Can J Ophthalmol* 2014; **49**: 287-90.
8. Komaromy M, Bindman AB, Haber RJ, Sande MA. Sexual harassment in medical training. *N Eng J Med* 1993; **328**: 322-6.
9. Royal Australasian College of Surgeons. *Expert Advisory Group on discrimination, bullying and sexual harassment. Background Briefing*. 2016. Accessed February 2018. Available from: <http://www.surgeons.org/media/21827232/background-briefing-16-june-15-final.pdf>

10. RANZCO. *Update on the elimination of discrimination, harassment and bullying*. 2018. Accessed January 2019. Available from: <https://ranzco.edu/ArticleDocuments/176/DHB%20booklet.pdf.aspx?Embed=Y>
11. West CP, Dyrbye LN, Sloan JA, Shanafelt TD. Single item measures of emotional exhaustion and depersonalization are useful for assessing burnout in medical professionals. *J Gen Intern Med* 2009; **24**: 1318-21.
12. Joyce CM, Schurer S, Scott A, Humphreys J, Kalb G. Australian doctors' satisfaction with their work: results from the MABEL longitudinal survey of doctors. *Med J Aust* 2011; **194**: 30.
13. Australian Bureau of Statistics. *Australian Standard Classification of Cultural and Ethnic Groups (ASCCEG)*, 2016. Accessed February 2018. Available from: <http://www.abs.gov.au/AUSSTATS/abs@.nsf/DetailsPage/1249.02016?OpenDocument>
14. Hulley SB. *Designing clinical research*. Philadelphia: Lippincott Williams & Wilkins, 2007.
15. Statistics New Zealand. *Major ethnic groups in New Zealand*. 2014. Accessed January 2019. Available from: <https://www.stats.govt.nz/infographics/major-ethnic-groups-in-new-zealand>
16. Viviers S, Lachance L, Maranda MF, Menard C. Burnout, psychological distress, and overwork: the case of Quebec's ophthalmologists. *Can J Ophthalmol* 2008; **43**: 535-46.
17. Brown BLM, Herbert C. Surgical culture in transition: gender matters and generation counts. *Can J Surg* 2013; **56**: 153.
18. Keeton K, Fenner DE, Johnson TR, Hayward RA. Predictors of physician career satisfaction, work-life balance, and burnout. *Obstet Gynecol* 2007; **109**: 949-55.

19. Caniano DA, Sonnino RE, Paolo AM. Keys to career satisfaction: insights from a survey of women pediatric surgeons. *J Paediatr Surg* 2004; **39**: 984-90.
20. Limacher MC, Zaher CA, Walsh MN, Wolf WJ, Douglas PS, Schwartz JB, Wright JS, Bodycombe DP. The ACC professional life survey: career decisions of women and men in cardiology. A report of the Committee on Women in Cardiology. American College of Cardiology. *J Am Coll Cardiol* 1998; **32**: 827-35.
21. Gerson LB, Twomey K, Hecht G, Lee L, McQuaid K, Pizarro TT, Street S, Yoshida C, Early D. Does gender affect career satisfaction and advancement in gastroenterology? Results of an AGA institute-sponsored survey. *Gastroenterology* 2007; **132**: 1598-606.
22. Halperin TJ, Werler MM, Mulliken JB. Gender differences in the professional and private lives of plastic surgeons. *Ann Plast Surg* 2010; **64**: 775-9.
23. Science in Australia Gender Equity. *Putting Gender on your Agenda: Evaluating the introduction of Athena SWAN into Australia*. 2018. Accessed January 2019 from: [https://www.sciencegenderequity.org.au/wp-content/uploads/2018/12/SAGE\\_Report\\_44pp\\_SCREEN.pdf](https://www.sciencegenderequity.org.au/wp-content/uploads/2018/12/SAGE_Report_44pp_SCREEN.pdf)
24. Rochon PA, Davidoff F, Levinson W. Women in Academic Medicine Leadership: Has Anything Changed in 25 Years? *Acad Med* 2016; **91**: 1053-6.
25. Ballakrishnen S, Fielding-Singh P, Magliozzi D. Intentional Invisibility: Professional Women and the Navigation of Workplace Constraints. *Sociol Perspect*, doi:10.1177/0731121418782185
26. Caffrey L, Wyatt D, Fudge N, Mattingley H, Williamson C, McKeivitt CJBo. Gender equity programmes in academic medicine: a realist evaluation approach to Athena SWAN processes. 2016; **6**: e012090
27. Bruce AN, Battista A, Plankey MW, Johnson LB, Marshall MB. Perceptions of gender-based discrimination during surgical training and practice. *Med Educ Online* 2015; **20**.

28. Crebbin W, Campbell G, Hillis DA, Watters DA. Prevalence of bullying, discrimination and sexual harassment in surgery in Australasia. *ANZ J Surg* 2015; **85**: 905-9.
29. Askew DA, Schluter PJ, Dick ML, Rego PM, Turner C, Wilkinson D. Bullying in the Australian medical workforce: cross-sectional data from an Australian e-Cohort study. *Australian health review : a publication of the Australian Hospital Association* 2012; **36**: 197-204.



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