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Susan J. Shannon, Naomi Webb, Yishu Zeng, Jenna Holder

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# Why Architecture Graduates Do Not Register as Architects: A Quantitative and Qualitative South Australian Study 1999-2011

Susan J. Shannon\*, Naomi Webb, Yishu Zeng, Jenna Holder

School of Architecture & Built Environment, The University of Adelaide, Adelaide, Australia

Email: [susan.shannon@adelaide.edu.au](mailto:susan.shannon@adelaide.edu.au)

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## Abstract

Australia is not making the most of its architecture skills base because gender-based issues appear to be deterring female graduates from completing their registration as architects; gaining suitable employment is also a factor in non-registration for men and women. Architectural registration is required in all Australian states, and by Australia's major trading partners, to safeguard the public and regulate the profession. Tracking 13 cohorts of graduates from two adjacent Australian architecture schools (in one state, South Australia) revealed that more than three-quarters of female graduates over the period 1999-2011 had not registered as architects prior to 2014. Although, nationally, 21% of registered architects in Australia are women, there would be an expectation that this number is closing in male registration (79%) due largely to historically low female enrolments in architecture schools. This must be discounted as an ongoing explanatory factor as women have formed 40% of Australian graduating classes since 1999 and 37% in South Australia during the period 1999-2011. From 1999 to 2013, 29% of those who registered in South Australia were women. Because graduates can register in any state or territory in Australia, or overseas, the registration status of all architecture graduates from 1999 to 2011 was tracked using Australian and State registration rolls and social media. The findings were that 22% of female and 27% of male South Australian graduates (1999-2011) had registered as architects. Gender-based and other factors were investigated using qualitative research with female and male cohorts who had and had not registered. Gender, which along with confidence was seen as a factor in non-registration for women, was not an issue for men, who most frequently cited securing suitable employment to fulfil the mandatory hours for the registration Logbook as a factor in their non-registration.

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\*Corresponding author.

## Keywords

### Architectural Registration, Women, Factors in Non-Registration

## 1. Introduction

### 1.1. National Priorities

The prevalence of women studying and graduating from architecture programs, who now represent 40% of all Australian Master of Architecture (M Arch) (formerly Bachelor of Architecture [B Arch]) graduates, is not reflected in their representation among registered architects, which stands at only 21% of the total cohort of all registered architects in Australia (Matthewson, 2013). This discrepancy cannot be explained solely by historical overhang from an era of lesser female enrolment in architecture schools because women have comprised at least 40% of Australian graduates for the past 15 years (Matthewson, 2013). Nor can it be explained by students' intentions because graduates, including women, overwhelmingly state that they desire to be registered (Australian Institute of Architects [AIA], 2012b).

This research investigates factors in architecture graduates' registration as architects based on a quantitative and qualitative study undertaken in South Australia. On the basis of these data and qualitative inputs, detailed explanations for the female registration rates being lower than those of males have been derived and, accordingly, a range of possible policy responses within universities, architectural practices, the registration authority (Architects Accreditation Council of Australia [AACA] and state registration boards) and even legislation are proposed as recommendations for broad-based action.

This research is important for a number of reasons, including:

- Australia's scarce education resources need to be used efficiently, and understanding why graduates from architecture schools do not proceed to registration as architects is important for optimising the allocation of educational resources.
- Gender equality is an Australian social and workplace priority ("Sex Discrimination", 2014); it can be argued that the architectural profession is underperforming in this area and any policy response needs to be underpinned by appropriate data and analysis.
- The phenomenon of the ageing workforce in Australia will have significant effects on the availability of skills across all professions; women are an important source of skilled labour and they simply cannot be ignored in this context (Ryan, 2014).
- Australia faces significant opportunities in the export of skills to our rapidly growing Asian trading partners, who are undertaking city building on an unprecedented scale; realising these opportunities will require an assured supply of appropriate skills in Australia, including those of architects.
- Efforts to decarbonise the Australian economy will also require significant input from architects in the design of a more sustainable built environment; the supply of these skills will be critical in realising national objectives.
- Issues of skill supply also interact with other policy areas such as migration policy. For example, architects remain on the Department of Immigration and Citizenship's (2012) Skilled Occupation List at a time when Australia is producing almost 1000 new architecture graduates each year—many of whom do not manage to accumulate the graduate experience necessary to register. It could be argued that the latent workforce has been here already in Australia, awaiting a graduate employment opportunity.

### 1.2. Background

It may be surprising to most in the Australian architectural profession and the educators of the almost 1,000 architecture graduates each year that, despite female students forming at least 40% of graduating B Arch (now M Arch) classes since 1999, women comprised just 21% of registered architects in Australia in 2012 (Matthewson, 2013).

Graduates, including women, overwhelmingly state their desire to be registered (AIA, 2012b). So what is the problem? What, if any, are the barriers in the pursuit of architectural registration? It is insufficient to explain this

in vague, anecdotal terms as caused by a national or industry culture that is slow to change or develop despite frequent exhortation from industry leaders (Clark, 2014) about women's role in the national workforce. Analysis of this phenomenon requires empirical investigation of the range of factors in the non-registration of architecture graduates.

In other professions such as medicine, dentistry and law, such a discrepancy between graduation and registration is far less prevalent than it is in architecture.

One can argue that the difference between architecture and law, medicine, dentistry and allied health fields such as occupational therapy and physiotherapy is that no-one can practice in those professions at any level without registration, whereas, in almost all Australian architectural registration jurisdictions, anyone can design any type of building, regardless of qualification or registration. Not all people can call themselves architects, or call their designs architecture, but anyone can design. One can compare architecture as a contributor to the built environment with engineering or planning in Australia—cognate disciplines that do not require registration but have strong professional organisations, akin to guilds, that control their profession, accredit the university courses and work within legislation that mandates the involvement of these professions in all large-scale development projects. This is also the case for architecture as a profession; there is almost no mandate to involve an architect in any building design of any scale (New South Wales medium-density housing providing one notable exception). However, without architects involved in promoting sustainable design, the quality and sustainability of Australia's built environment is diminished.

This research concerns questions about female and male graduates of architecture, and their registration as architects. It builds upon Shannon's (1996) article, which stated that women comprised 9.5% of registered architects in Australia in 1995, despite forming 38% of all graduating architects and 40.5% of all architecture school enrolments in 1994.

The proportion of registered women has changed slowly in the past 18 years despite a greater awareness of gendered roles, pay equity, work-life balance, family-friendly government and private sector policies, and international attention to inequity in the profession—in New Zealand, Haarhoff (2010); in the UK, de Graft-Johnson, Manley and Greed (2003); in Australia, Whitman (2005) and *Parlour: Women, Equity, Architecture* (Parlour, n.d.); in Canada, Adams and Tancred (2000), and in the US, Esperdy (2012)—with recommendations for far-reaching changes in education, practice and government policies.

Women constitute a minority among the registered architectural profession worldwide: in Australia, 9.5% in 1995 (Shannon, 1996), 14% in 2004 (Whitman, 2005) rising to 20.9% in 2012 (Matthewson, 2013); in New Zealand, 9.5% in 2000 rising to 22% in 2008 (Haarhoff, 2010); in Canada, 11.5% in 2000 (Adams & Tancred, 2000) rising to approximately 13% in 2003 (Matsuzaki & Gibb, 2003); in the UK, 13% in 2003 (de Graft-Johnson, Manley & Greed, 2003) rising to 21% in 2011 (Architects Registration Board, 2011); in the US, 8.9% in 1996 (Fowler & Wilson, 2004) and, in 2011, "something less than 20%" (Stratigakos, 2012) of the profession are registered architect women. Despite initiatives to improve the conditions for women in architecture, closing this statistical gap has been a slow process.

Women are graduating from architectural courses at a higher rate than ever before. In Canada, female students make up approximately 50% of all architectural students (Matsuzaki & Gibb, 2003). Forty percent of graduates were women in Britain in 2010 (Fulcher, 2010), and 44% were women in Australia in 2010 (Matthewson, 2012). AACA Registrar Chris Harding (Interview, 2 August 2012) believes enrolments by women now outnumber those of men in some Australian schools. Registration figures remain heavily disproportionate to the gender composition of architectural graduates, and the gap is closing slowly.

This research identifies and reflects upon factors in the non-registration of female and male architecture graduates in a South Australian study. Quantitative as well as qualitative data are required to map women's and men's participation as architects. There are eight registration jurisdictions in Australia and, in 2012, 18 schools of architecture (AIA, 2012a). (Two more are in the accreditation process in 2013-2014—Bond University and an online program at Curtin). Haarhoff (2010) tracked all New Zealand graduates from 1987 to 2008 to registration; his task was simplified because there are only three schools and one registration jurisdiction in New Zealand. This tracking and database research has not previously been published in Australia, or elsewhere.

Parlour (n.d.) reported on an ARC Linkage Project (Stead et al., 2011) that explored women's participation and leadership in the architectural profession, to understand the culture of the profession and why women managers are underrepresented. Parlour aligned itself with the call of 2012 AIA National President Shelley Penn (2012) for the definition of practice to be broadened to capture more of the diversity of women's participation in

practice. Although this approach is relevant to understanding and responding to the gendered characteristics of architecture graduate employment patterns, the registered architect still represents the peak role in the profession; factors in women's and men's non-participation in this peak role are worthy of investigation.

### 1.3. Registration

Why is registration mandatory for all those who call themselves architects in Australia? Protection of the public is the paramount reason—so that those commissioning a building design from an architect can be confident that they are dealing with a well-qualified, legally responsible professional. Registration everywhere in Australia is a legal requirement for any person using the title “architect” or offering “architectural services”. Architectural registration in Australia is administered by six state and two territory architect boards upon the fulfilment of nationally agreed requirements, administered by the AACA (n.d.). Across Australia, an individual may apply for registration after obtaining an accredited tertiary qualification, a minimum of two years (3000 hours, and 3300 hours from 1 January 2015) of approved practical experience in Part 1 of the Architectural Practice Exam (APE), and successful completion of Part 2 APE, a written paper, and Part 3 APE, an interview. Alternative pathways are available if candidates are educated overseas or through competency-based assessment for longer-term practitioners who do not have tertiary qualifications (AACA, n.d.). In one Australian jurisdiction, building design and certification for some classes of building is restricted to architects (NSW Government, 2011); this is not widely supported in other states. If a client commissions an architect firm for his or her project, only an architect can act for the client in contract administration. In summary, only registered persons can call themselves architects, administer an architectural contract, and carry on business as an architect within the determination of an architectural business in each state's Architects Act, which varies between states in terms of the required number of business directors who are registered architects in an architectural business.

### 1.4. Economic Productivity

Other cognate professions such as medicine and dentistry, which are subject to professional accreditation of university programs, based on registration competency requirements, and require registration for practice, offer a useful comparison. In prioritising economic productivity and action to dissolve any barriers to attainment of clinical registration, these professions have acknowledged the intrinsic link between professional registration and productivity. If women, or men, are being significantly underutilised in the architecture profession, productivity will be negatively affected. The aim of this research is clear, and distinct from previous research undertaken in the field—it is not to investigate again “patterns of women's participation, progression and representation in the architectural profession, paying particular attention to women's under-representation in senior management”, as did Stead et al. (2011), but rather to examine what, if any, are the perceived barriers to women's and men's registration, once they have graduated from architecture school, and to examine the culture and practices within architectural practices in which graduates do register.

### 1.5. Research Aims and Objectives

The research aims and objectives are enumerated:

1. To develop a South Australia—wide database to link 1999-2011 university architecture graduates with 1999-2013 registered architects. This painstaking work is critical to understanding how graduates evolve professionally two, five and 10 years and more after graduation.
2. To quantify for the first time in any state in Australia the registration of female and male B Arch and M Arch graduates from 1999 to 2011.
3. To explore further the factors in non-registration of women and men as architects by interviewing female and male graduates who have, and have not, registered.
4. To seek to understand the drivers for registration at a firm or company level, as opposed to a personal level, partly through exploration with principals and directors of architecture firms in South Australia factors in registration and non-registration of graduates as architects, including their firms' accommodation of part-time work.
5. To propose recommendations for, among others, university educational environments and professional architectural firms' work practices, to create a more positive environment for women's, and men's, architectural registration.

## 2. Method

Human Research Ethics Committee approval HP-2012-067 was received for this research project, which employs mixed method (quantitative and qualitative) research methodologies within an interpretive research approach to engage with the research aims and objectives already stated.

A database was established of graduates from the two South Australian schools of architecture, the School of Architecture & Built Environment at the University of Adelaide and the School of Architecture and Design at the University of South Australia. All graduates' outcomes were tracked from graduation to registration through matching graduates with potential registration, utilising databases from the AACA's online database of Australia-wide registration and the eight jurisdictional databases of registered architects, which are online or government gazetted. Overseas registrations and locations of graduates were also pursued through extensive use of social media Facebook and LinkedIn. Regarding the collection of qualitative data, 68 interviews were conducted. The experiences of 18 female graduates who registered and 18 who did not register were then explored. The experiences of six male graduates who registered and 16 male graduates who did not register were also explored. Between four and eight standardised interview questions about registration, derived from a literature review, were used to elicit broad-ranging responses covering interviewees' opinions about registration, registration processes and the existence of barriers, if any, to registration for graduates, as well as any other views on registration they held to be important (Appendix A). Interviews were principally face-to-face, but six were by telephone and two by email to include interviewees in regional, interstate and overseas locations.

Ten principals of architecture firms who were revealed during the graduate interviews as having a pro-active stance towards registration were also interviewed. These interviews related to how firms viewed and managed the process of registration for architecture graduate employees through four standard interview questions. The questions were intended to determine the policies and processes within those firms that their graduate employees viewed as promoting registration (Appendix A). The overall goal was to determine whether lessons can be learned from those firms, and whether some of these might be promoted as transferable or scalable to other firms, or to workforce policy.

Interviews were noted, transcribed, coded, themed and reported. Anonymity of participants was rigorously maintained through theming of comments. Interviews were deemed sufficient in number when no new information was forthcoming from interviewees after the thematic information was repeated numerous times.

## 3. Results

By addressing the above aims, this research project has identified factors in non-registration of women and men as architects for graduates from the University of Adelaide and the University of South Australia in South Australia.

*Aim 1: To develop a South Australia—wide database to link 1999-2011 university architecture graduates with 1999-2013 registered architects.*

A database was developed and utilised to ascertain that, of the 1063 B Arch and M Arch graduates from the University of Adelaide (565) and the University of South Australia (498), 392 or 37% were women; of these, 214 (38%) graduated from the University of Adelaide, 178 (36%) from the University of South Australia. Overall, this 37% total sits just below the Australian average of 40% of the graduating classes for that period being women (**Table 1**).

*Aim 2: To quantify (for the first time in any state in Australia) the registration of female and male B Arch and M Arch graduates from 1999 to 2011.*

From the 1999-2013 Architectural Practice Board of South Australia registration rolls, of 352 new registrants in South Australia, 102 were women, which is 29% of the total number of new registrants (**Table 2**).

However, female and male graduates can register in any Australian jurisdiction as graduates, as well as overseas. Tracking the registration status for every 1999-2011 South Australian graduate (**Table 3**) against all registration rolls within the eight Australian jurisdictions, and overseas registrations utilising social media, showed that 88 women (from a total of 392 female graduates) registered (22%), and 184 men registered, forming 27% of the potential cohort of all eligible male graduates.

Of the graduates, when we investigated whether they had registered prior to 2014 (thus accounting for the minimum postgraduate time elapsed until potential registration within the APE process), exactly 21.98% of all female graduates and 28.45% of all male graduates had registered in any of the Australian or international juris-



**Table 1.** Graduation numbers bachelor of architecture, master of architecture summary table South Australia 1999-2011.

Year	University of South Australia					University of Adelaide				
	Female	%	Male	%	Sex Unknown	Female	%	Male	%	
1999	18	39	28	61	0	15	37	26	63	
2000	13	37	22	63	0	32	41	46	59	
2001	10	27	27	73	0	19	42	26	58	
2002	7	28	18	72	0	12	32	25	68	
2003	16	52	15	48	0	17	40	26	60	
2004	10	26	27	26	1	12	52	11	48	
2005	18	41	24	55	2	11	34	21	66	
2006	17	39	27	61	0	15	39	23	61	
2007	12	35	20	59	2	17	40	25	60	
2008	12	32	24	65	1	10	22	36	78	
2009	15	32	31	66	1	13	41	19	59	
2010	11	24	34	74	1	24	42	33	58	
2011	19	45	23	55	0	17	33	34	67	
<b>TOTAL</b>	<b>178</b>	<b>36</b>	<b>320</b>	<b>64</b>	<b>8</b>	<b>214</b>	<b>38</b>	<b>351</b>	<b>62</b>	
Total UniSA	498					Total UniAdel	565			
Total Grads	1063									
Total Women	392	37								
Total Men	671	63								

**Table 2.** New South Australian registrants by sex 1999-2013.

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	TOTAL	TOTAL %
SA New Registrants Female	6	0	6	6	8	7	6	10	6	8	3	10	10	9	7	102	29
SA New Registrants Male	14	9	10	14	24	26	11	16	18	25	19	16	17	16	15	251	71
Total New Registrants	20	9	16	20	32	33	17	26	24	33	22	26	27	25	22	352	100

dictions we could trace. Thus the percentage rate of men registering is gradually rising—not so the number of women, which remains stable at 22%.

*Aim 3: To explore further the factors in non-registration of women and men as architects by interviewing female and male graduates who have, and have not, registered.*

From all five groups interviewed—female graduates who have registered and those who have not, male graduates who have registered and those who have not, and principals and directors of firms that were cited in interviews with women as having a strong pro-registration stance—the conclusion was the same: practice culture and leadership creates a pro-registration environment, and, from that, all the other processes that enable and support registration flow, even for reluctant candidates.

### 3.1. Women's Factors in Non-Registration

Female interviewees reported that practice type, culture and size was a major factor in their non-registration in that large practices supported specialised staff, who often did not gain experience across the range of competences. Gaining relevant experience to complete the mandatory competences was important. However, most women did not feel that they were necessarily disadvantaged with regard to gender in gaining the requisite

**Table 3.** South Australian graduation compared with registration 1999-2011.

Year	Gender	Graduates	F/M Ratio %	Registered	F/M% of Registrants	% of Grads who Registered
1999	Female	33	38	14	39	42
	Male	54	62	22	61	41
2000	Female	45	40	17	36	38
	Male	68	60	30	64	44
2001	Female	29	35	8	29	28
	Male	53	65	20	71	38
2002	Female	19	31	5	24	26
	Male	43	69	16	76	37
2003	Female	33	45	10	37	30
	Male	41	55	17	63	41
2004	Female	22	36	2	11	9
	Male	38	62	17	89	45
2005	Female	29	38	6	38	21
	Male	45	59	10	63	22
2006	Female	32	39	7	28	22
	Male	50	61	18	72	36
2007	Female	29	38	10	42	34
	Male	45	59	14	58	31
2008	Female	22	27	4	25	18
	Male	60	72	12	75	20
2009	Female	28	35	4	44	14
	Male	50	63	5	56	10
2010	Female	35	34	0	0	0
	Male	67	65	3	100	4
2011	Female	36	39	1	100	3
	Male	57	61	0	0	0
<b>TOTALS</b>	<b>Female</b>	<b>392</b>	<b>37</b>	<b>88</b>	<b>32</b>	<b>22</b>
	<b>Male</b>	<b>671</b>	<b>63</b>	<b>184</b>	<b>68</b>	<b>27</b>

experience—the practice leadership and culture was critical to the process of acquiring the competence hours for Part 1 of the APE registration process: “your superiors have to be interested in seeing what you’ve done and whether you’ve covered off on the competencies”. Some women felt disadvantaged in gaining that experience: [We are] not necessarily getting the same opportunity as males for experience—it takes longer to build up your portfolio. Men are at the top and women are under them—some women have struggled for the right experience. (R interviewees 15, 16, 17)

Somewhat dependent on where you end up working. Support from the office is critical. Allocation of projects may be gender based. (R interviewee 9)

Other factors were discussed as relevant in non-registration of women as architects.

### 3.1.1. Gender

Gender was raised as a major factor in non-registration by women interviewees. The registration process was described as “boys clubby”, the profession as “male dominated” and “elitist—would I fit in?”:

I found the registration process to be an “old boy’s club”. Women are the minority. It didn’t seem straight down the line. (R Interviewee 10)



Many women felt that, in a male-dominated construction industry, “women need to prove something”, and they described the environment as aggressive or alternatively patronising. One reflected that women do not strive for the title architect—they strive for acceptance in a male-dominated construction industry:

For females—the title is not as important. Men strive for the title. Women strive for acceptance in the construction industry. (R interviewee 15, 16, 17)

From a female perspective—my husband is [in construction]—our industry is very male dominated. Every phone call is with a man—about aggressive construction issues. (R interviewee 6)

There are psychological barriers for many women. Smaller percentage of overall population in the construction industry. More to lose if we fail. Have to be better than male colleagues in any case in order to succeed—failing would not help. At a site inspection for tenderers—I was called “love” the whole way through by a builder. (R interviewee 9)

Women were sensitive to the male-dominated industry norms; one recounted that, as the female lead architect, she was referred to as “the bitch”, and her critique of consultants’ work was viewed as coming from a woman rather than from the lead architect. Emotion was a powerful factor—the fear of failing, the shame of failing the registration examination process:

To prepare for the exam—which you may fail—your parents/partner say you’ve studied five years, you’re working full time; you’ve prepared by studying—how can you fail? No-one understands the process—and then if you fail, it’s really hard to explain when you’ve never failed anything before. (R Interviewee 14)

The issue of secrecy arose. In the male-dominated construction industry, where they have to prove themselves every day, the women were afraid of failure when undertaking the APE (administered by the AACA, n.d.) for registration, and with that, the loss of face, confidence and authority in the office and on site. This fear was a major factor in not putting themselves forward as candidates for registration and in a desire for secrecy surrounding their candidacy if they did apply to register. The fear factor was paramount concerning the exams, from the name—“even the name is a problem—that it is called an exam”—to “the perception of registration is of difficulty” and the perception of the exam:

Everyone agrees there needs to be a process—but not this process. It puts stresses on people. They are feeling sufficiently confident to sit the exam coming from practice. (G Interviewee 13)

I had a huge fear about the written exam—just prior to my sitting there were disastrous fail rates. I didn’t go in thinking it would be a breeze. (R interviewee 11)

But then there is pressure, as you cannot study to understand what’s going on in the mind of the person who sets the written questions for the exam. Therefore the exam itself is a frustrating experience. Exam—easier not to do the exam as high possibility that you might fail. If you receive a Supplementary Offer, it’s not in close proximity [you can only resit in 12 months], you have to resit—I was so annoyed, I was not going to do it. (G Interviewee 11)

Nervous. Old way of examining people. Medicine—got rid of that style of exam—didn’t work for them [oral interviews for admission]. Every day of offering the oral exam is different. Every office does contract administration differently. Two against one, and sitting in a room for one hour. Two male examiners. (R interviewee 1)

Oral was horrendous—I felt wrung out. I am not used to feeling like that. Although I passed—my response within myself was that it was so much of an ordeal that I didn’t know if I had passed or failed. (R interviewee 2)

The biological clock ticks loudly for women who have completed a long university course with a minimum of two years post graduation before they can accrue the 3000 APE Logbook hours in the mandatory competences to be a candidate for registration. In the sample group of interviewees, the length of time to registration from graduation was five years on average, and up to 33 years. The time input required to prepare for registration was a major focus of the interviews with registered women. Women reported that it was a choice between “nappies or Natspec” (the national specification-writing pro-forma) and that they were inclined to either rush registration through earlier to have it accomplished before starting a family, thus acknowledging the difficulty of finding the time to study for registration with young children, or to delay registration until there was more time available, when their children were older. One interviewee delayed for 33 years and reported, “First question was, from a male examiner—Why did it take you so long? Doesn’t make me feel good”. (R Interviewee 9)

Taking off time to do your registration. Personal time is taken up with your family if you have one. Pressure to do it earlier or you run into the clash with your own family. (R interviewees 15, 16, 17)

Other personal factors were also gender based. Women reported that the salary for graduates and the time required to prepare for registration was so demanding that it lowered their aspirational commitment to registration

when there were multiple competing priorities for their time: “family, home, work, sick mother—[registration is] down list of priorities: I have to make some sort of sacrifice”.

Women were not always confident about their role in the profession. Seven interviewees in the group of unregistered graduates were not seeking registration for a variety of reasons, discussed below—one reporting that “my backroom role is perfect for those lacking in confidence” and “women are more self-doubting than men”.

### 3.1.2. Other Factors

Gender-based factors were not the only factors in non-registration reported by the women. Women wanted more mentoring from practice towards registration, time off for study and allocation of projects that could be logged: What you need is a mentor in the firm—someone who is looking out for your best interests in the registration process. (R Interviewee 5)

Many women interviewed reported that there were no obvious benefits or purpose in registration—no daily benefits, no salary difference, no seniority benefits—and observed that many people practice without registration: “no-one in our office is registered”. Women were wary of the professional liability consequences of registration and the flexibility to accept any work if not registered:

[The] legal liability [of registration]. Taking responsibility for the mistakes on site—all attributed to the architect with the builder/client and consultants dodging out. Boss said if I was an architect I had to have professional indemnity insurance for ever more. (G Interviewee 9)

Registered women felt that:

A lot of people don’t want the responsibility, pressure, stress. You have to deal with a lot of problems. A lot of people don’t want that shift. They see it and they don’t want it. I had no pressure to getting registered—I did not benefit at the pay level. I do have a lot of responsibility. People continue with lesser pay and not have the responsibility. (R interviewee 6)

Women who did register reported that personality factors were paramount in their decision to register. They viewed the apathy towards registration in their unregistered graduate cohorts as linked to women’s self-confidence and work culture. They desired registration, or their firm desired it and they concurred, sometimes reluctantly:

Registration was a personal goal—I won’t feel like I have finished uni until I have completed it. (R interviewee 5)

Work were very keen—they benefit. They pushed—I needed that pushing as I am a procrastinator. (R interviewee 6)

Nothing stopping the individual if they want to do it, but often a mismatch between the individual’s aspirations and the firm’s aspirations. (R interviewee 8)

The exam process was critiqued—from the written exam having an eastern states practice bias to multiple choice questions (MCQ) being an old-fashioned format with overly harsh penalties for the wrong answer, when women’s experience in practice was that the MCQ practice scenarios were open to interpretation:

I failed the written. It was ridiculously detailed. Why are we asked to remember the Building Code of Australia [another interviewee said in her interview that in their office, it was prohibited to use any code without pulling it up and referring to it directly]? Why is the exam concentrating on the Simple Works Contract? I administer completely different contracts. On fees questions in the exam, process should not be about whether people are efficient at setting fees. If they go bankrupt, so do gamblers. [Interestingly, legally in Australia it is forbidden to collude on fee setting and thus any professional can set a service fee at any level they desire.] (G Interviewee 11)

In the written exam, you have to interpret questions. I feel they are more “personal opinion”. I feel we are trying to interpret the questions. I feel like you are being “tripped up”. (G Interviewee 13)

Women also reported that Stage 3, the oral exam, was a pressure situation with an asymmetry of “two of them and one of you”:

About the exam process—I took it personally and felt I had to prove my self-worth to myself and to my family. (R Interviewee 15)

Costs were mentioned as substantial, and a disincentive “to undertake the process—especially if you do not get through”:

Time and money—there are substantial costs in doing it—when you are working but not in a large firm who might subsidise it—you are paying for it all. (R Interviewee 12)

Global practice and national registration were much discussed, within three dimensions. Overseas-educated graduates or registered architects from countries without a mutual recognition agreement for registration said the factors in non-registration were, first, having their overseas university qualifications audited (Recognition of Academic Equivalence [RAE]), before second proceeding to APE registration (with no consideration of practice experience or their overseas registration) in terms of time, costs and questionable worthiness when they were described in practice and tender documents as “overseas registered”. Third they also believed that there were onerous considerations for registration overseas for South Australian registered architects, without wider mutual recognition with our major trading partners.

## 3.2. Men’s Factors in Non-Registration

### 3.2.1. Practice Culture and Competences

Sixteen male interviewees who were all in architectural employment and all not registered had a much less complex narrative about factors in their non-registration, as did six registered male interviewees. For them, registration hinged on securing the right graduate position—in a firm whose culture supported registration and in which projects were distributed so that graduates could acquire the necessary competences:

[My employer] has a process—registration is supported by management but initiated by the individual. You’ve got to actively seek out the mandatory competences. I’ve got people around me who want to register. There’s not a lot of activity around registration—it is not visibly built into day-to-day practices. Twice yearly review—you bring up your own needs. (G interviewee 4)

The size of the firm was often mentioned as a critical factor in that large firms engaged specialised staff when the competences were not covered in their roles as “CAD jockeys”[typically junior graduate employees who spend their time on Computer Aided Design, preparing documentation much as a draftsman did in previous generations]. In large and small firms, it was still possible to push for the project allocation that would lead to logging competences towards registration.

Men said the trigger for registration was “getting their next job”, participating in the rollout of projects that required registration or becoming involved in a small practice.

Men held beliefs that resonated with the women’s statements that personality factors were critical in the drive for registration. Some felt that the process was weighted towards confident, outgoing candidates:

Getting work experience. Looking at younger less experienced people—they are not given the opportunities—that said, they are sometimes disinterested or lazy. (R interviewee 3)

### 3.2.2. Beliefs about Registration

The second major factor was a belief that registration was not important or required for a career in architecture:

Talking to grads it’s hard to make a case for *why* you’d need to be registered. There’s nothing obvious that you can do when you’re registered that you didn’t do before. So it’s not a priority for grads. In this new job of mine it was not specified that they needed a registered architect—just that they come from a well-rounded architectural background. (G interviewee 1)

Apathy towards registration was exacerbated when graduates could see promotion and salary increases without registration:

Why do we need to get registered, especially when surrounded by a director and associate directors who are not registered? (G interviewee 7)

Motivation to register—I am already an associate. What’s it worth? In a firm you’re promoted anyway. You don’t do it for the money. If you moved jobs, yes, it’s valuable. (G interviewee 12)

Graduates felt that non-registration was not necessarily constraining them in practice as sole practitioners either:

In small practice, the need to be an architect has not been paramount. I still get professional indemnity insurance as a building designer—I just cannot get the amount. I cannot do multi-million dollar projects. If projects are larger I go into a consortium with someone who is registered. (G interviewee 6)

Interestingly, this perspective that registration was inessential also gave rise to a male perspective broadly discussed—that as the years from graduation elapse, it becomes harder and harder to register due to the potential loss of face and the loss of the firm’s confidence in you if the process is not successful:

The pressure you put on yourself as the years post graduation elapse. (G Interviewee 14)

Biding my time a bit as I have taken so long to register [graduating more than 10 years ago]. It's never a good time to go through the process. I won't go into it unless I am 100% satisfied I am prepared, and that will depend on my workload and how much study can be done. (G interviewee 12)

### 3.2.3. Time

Time and workload were frequently cited as factors explaining non-registration, particularly by male interviewees who had considerable experience. Registration itself was viewed as a project that needed time, study and persistence. This needed to be considered as a factor in decision making about committing time for registration as most interviewees did not believe there was a disadvantage in non-registration:

Here the experience is that you are chucked in at the deep end—so if you cannot do your registration for two years due to lack of experience—then you find yourself too immersed in the work to find the time. Just keeping your head above water is the goal. (G interviewee 12)

### 3.2.4. Costs

Costs for the process were considered reasonable for the process and the resulting professional development, but high in proportion to graduates' salaries. As explained by a graduate, "the costs make it less likely that you'll just 'have a stab' because you want to be well prepared".

### 3.2.5. Family Commitments

Despite considerable probing, men did not report that family or lifestyle factors were influential in decisions about registration. Several interviewees with very young children were preparing for registration despite their roles at home. No women in that situation reported that they could even contemplate preparation for registration with a young family.

*Aim 4: To seek to understand the drivers for registration at a firm or company level, as opposed to a personal level, partly through exploration with principals and directors of architecture firms in South Australia factors in registration and non-registration of graduates as architects, including their firms' accommodation of part-time work.*

## 3.3. Employer's Factors in Non-Registration

Ten principals or directors of firms whom graduate and registered architects interviewees identified as having a pro-registration stance were interviewed with four standard questions. One of 10 interviewees was a woman.

The five factors in non-registration of graduates raised by architect employers were practice culture and leadership; costs and time for continuous training and mentoring; the sheer volume of graduates precluding some from securing graduate positions; the reputation of the registration examination; and the perception of the lack of value of registration within the architectural profession. These factors are covered in more detail below.

### 3.3.1. Practice Culture and Leadership

Practice culture and leadership was considered the most important factor by employers, and directors when interviewed about their beliefs concerning registration. This then gave rise to expectations and provision within practice which then led to graduates:

- Gaining the right experience, which was acknowledged as being more difficult in a larger practice;
- Gaining contract administration experience, which was acknowledged as having real costs for firms when a novice is shadowing an expert and two salaries are being paid for one job being done—but fee reductions mean that you cannot afford to have graduates involved; and
- Thence being confident about going through the registration process.

### 3.3.2. Resources for Training and Continuous Architectural Education

Practices in which graduates gained relevant experience, and felt confident to tackle architectural registration were typified by a collective approach to continuous architectural education for their employees. For graduates there was usually financial support for the costs of registration preparation and application, and time off for professional development and personal study as a part of a strong commitment to continuing professional development for all staff in the firm. There was regret that the state of the regional and national economy often caused

projects that would provide good graduate learning pathways to be put on hold, denying graduates a suitable learning context. Firms acknowledged that the preconditions for being able to provide the ideal practice learning environment included the luxury of time:

- For graduates to acquire the necessary professional competences;
- From the practice in mentoring a graduate through to registration.

### 3.3.3. High Volume of Graduates

It was thought that the volume of architecture graduates was greater than the profession's ability to absorb them in training positions with mentorship provided. The mismatch between the university sector's output and the profession's "intake" is growing wider every year:

The volume of graduates is enormous—but no more architecture jobs than 20 years ago. There are a fair number who never get suitable employment. (E interviewee 4)

### 3.3.4. Reputation of the Exam Process

Employers were as concerned as candidates were about the APE process being discouraging, disconnected from real practice and requiring considerable time investment from the candidate and the employer, even when candidates are engaged in projects in which competences and contract administration experience are being readily acquired:

People think that it's a bigger deal than it is. They build it up. Listen to stories. Trying to memorise MCQs. Is it harder than it was when I went through? That's the belief out there. (E interviewee 1)

The reputation of the exam process is that it is difficult. (E interviewee 7)

The problem is with the exam process—it scares some, but rigorous is good. The profession is full of egos; you find that questions that are asked in the exam environment—architects are never going to be on their own to face those problems. (E interviewee 5)

### 3.3.5. Perception of a Lack of Need for Registration by Employees

Employers stated that by most larger firms, it was considered that graduates could do everything they need to do within a firm without registration, and this is viewed within firms both as a disincentive to encourage graduates to register and, by graduates, as a lack of expectation for registration. Firms employing graduates bore no costs of registration or professional indemnity insurance; thus, they viewed registration as adding to their overheads. They saw that, in their fellow employers, no professional business case, or commercial advantage was accrued from encouraging registration:

Problem that nothing distinguishes between registered and non-registered except PI [professional indemnity] insurance as far as designing/documenting/supervising. (E Interviewee 9)

### 3.3.6. International Education and Experience Not Recognised

Employers were frustrated by the narrowness of the AACA mutual recognition scheme and the federal government scheme for migration of competent architects to Australia, who could not have their overseas qualifications and registration accepted here. There was an associated effect in firms that employed these competent professionals in that, to be recognised here, employees generally had to redo their whole registration process, including, for those whose university qualifications were not deemed equivalent through the recognition of architectural education, a recognition of graduate competence process. This is highly demanding on employees and prevents firms from fully exploiting the contribution they could make.

## 3.4. Part-time Work

Part-time work was a desired practice employment model for many interviewed women, but the project-based nature of architectural work compared with the sessional nature of other professional employment (medicine was frequently cited) meant that the architectural practices for whom they worked were not always willing or able to accommodate requests for part-time employment. No women interviewees were employed part-time when their registration process was undertaken. Conversely, several women interviewees employed part-time were not registered.

Employers raised propositions about how part-time work could be suitably structured to enable women (and,

they said, increasingly men) to participate in project-based work. Part-time work was not viewed either by employer interviewees or by graduate candidates as a factor in non-registration of graduates as architects, but the accommodation of part-time work was raised by graduate women and female architects, and employers when interviewed, as a desired employment practice.

One interviewee only stated that his firm's reality was that if they employed women—whom they found to be “much smarter”—they would eventually lose them to maternity leave. Other interviewees discussed their accommodation of women's needs for maternity leave as a staff management process, equally valid for women and men.

Proposed structures for part-time work are discussed in the recommendations for graduates (Section 4.2) and for practices (Section 4.3).

*Aim 5: To propose recommendations for, among others, university educational environments and professional architectural firms' work practices, to create a more positive environment for women's, and men's, architectural registration.*

Discussion of Aim 5 is best served by the recommendations for key stakeholder groups.

## 4. Recommendations

Some of the factors in non-registration of women and men B Arch and M Arch graduates in South Australia have now been revealed. Recommendations for change, deriving from an understanding of these factors, are proposed to encourage registration by multiple stakeholders, in particular, universities, practices and registration authorities. The recommendations derive from the revealed factors and the direct experiences of the interviewees, particularly the pro-registration employers whose firms were structured to encourage and facilitate registration.

### 4.1. For Universities

Universities, which provide 5 years of education for architects, have an opportunity to influence graduates' thinking about professional registration. They should:

1. Provide explicit information in professional practice courses about the route to architectural registration.
2. Encourage students to commence APE Logbooks during part-time and internship roles in firms, and encourage schools to accept such part-time and internship roles as elective studies towards M Arch degrees.
3. Extend graduates' expectations for interstate and overseas graduate employment through internships, study abroad, overseas and interstate studios and study tours to normalise the process of geographic mobility for employment.
4. Provide “Women in Architecture” networking and mentoring seminars to enable female students to see the path ahead to registration with strong female role models.
5. Engage women academic and sessional staff in equal numbers to women students' ratio.

### 4.2. For Graduates in Practice—And New Architects Group

New Architects Groups have sprung up to support friendship, and professional development for graduates. Graduates should be advantaged in preparation for registration if they:

1. Prioritise remaining in contact with their university cohort and other graduates and “New Architects Group” cohort for peer support throughout the registration process.
2. Commence Logbook as soon as employment commences. Take it to all reviews and when changing jobs. Ask for Logbook progress to be monitored and levels of participation checked and signed off.
3. Attend Practice of Architecture Learning Series (PALS) as graduate professional development, not solely as preparation for registration. Time PALS registration to attend the course twice in one year. Demand a great deal from PALS and lecturers.
4. Participate in the Keith Neighbour Graduate Study Program in South Australia, or establish a spin-off (from PALS) study group elsewhere.
5. Quarantine time for regular personal study over a longer period, possibly with a study group or study buddy.
6. Negotiate with their employer for the costs of PALS and registration to be shared, or covered.
7. Build up their own self-confidence within the firm, first, by being involved in extra office events such as



continuing architectural education (CAE), then, by offering to organise such events. Develop confidence on site first in a mentee role, then by managing smaller aspects of contract administration such as asking to draft requests for information and architect's instructions on his/her own to be subsequently checked.

8. For women, participate in AIA Women in Architecture and university-run events of the same calibre to surround yourself with positive role models of practitioner women with whom you can discuss how they manage practice and family.

9. Consider creating a registration-readiness schedule and steadily working towards achieving registration prior to starting a family.

10. If negotiating part-time work when returning after maternity leave, negotiate for a job-sharing basis to remain engaged in project work that can still accrue the Logbook hours.

11. Consider working with colleagues and the New Architects Group, to develop means for mature candidates, regional candidates and those excluded from the PALS tutorial process to gather together for support (for example, by Skype), and to explore their study needs as distinct from that of younger urban graduates.

### 4.3. For Practices

The role of practices in providing a supportive pro-registration culture is paramount in whether graduates feel well prepared and confident for registration. Practices should:

1. Create a pro-registration culture within firms—preferably with policies on the process of registration. In large firms, this may mean a graduate registration development program that enables graduates to rotate through sections to contribute to different areas of practice.

2. Make registration beneficial. Directors should give sustained, positive messages at professional development reviews (PDRs) about the importance of registration to architectural firms, and to reward registration with possible title, salary and responsibility increases to reflect their greater capacity for contribution. Reasons for positive messages may be:

- staff competency increased;
- better client service;
- professional indemnity premium reduced;
- graduates may develop within the firm to achieve their potential instead of swapping firms, with inevitable costs to the initial firm's productivity.

3. Implement annual PDR and interim reviews for graduates to monitor progress towards registration.

4. Develop a CAE model linked with and responsive to Recommendation 3 with a CAE budget from which graduates can draw.

5. Monitor Logbooks: monitor graduates' project allocation, practical experience and Contract Administration (CA) towards achieving registration, and candidates' accurate understanding of their achievement.

6. Implement mentoring by a registered architect for candidate graduates, or through alternatives, provide a mentoring environment.

7. Mentor women and men into on-site professional practice.

8. Talk openly about failure in the registration process and the implications for the candidate, the firm and possibly meeting the candidate's reapplication fees.

9. Devise part-time work pathways—job sharing is recommended as a model for part-time engagement with half-day crossovers for briefing on projects.

10. Consider accepting commissions (which are marginal for practice profitability) for the purpose of allocation to candidates to accrue suitable CA experience.

11. Arrange secondments of employees to alternate firms (possibly practising in association) to experience CA, if no CA is conducted within the firm.

12. As a last resort, when no possibility of accruing suitable competences within the firm exists, encourage and assist candidates into alternative employment to achieve registration.

13. Mentor (reluctant) women into on-site professional practice.

14. Budget for the downtime for architects to mentor; allocate recently registered employees to mentor.

15. Strongly encourage women to register in the period after graduation and discuss practice accommodation of time out for family up front at PDR.

16. Agitate for change to the AACA APE/RAE examination process to align competences assessed with practice needs.

17. Devise part-time work pathways—job sharing is recommended with half-day crossovers.

18. Agitate for legislative change to mandate preparation and certification of documentation by registered architects for certain classes of Building Rules Consent Application and Development Plan Consent, if considered appropriate as a methodology of underpinning the public's safety, and enhancing the sustainability of the built environment.

#### 4.4. For Women Architects—Through AIA and New Architects Group

Women architects could further support registration with graduate women through:

1. Considering mentoring a graduate through to registration.
2. Advising graduates to stay in contact with their peer group.
3. Talking about the benefits of your registration for your own self-confidence to graduates in your office.
4. Promoting the practical benefits to practice of attending PALS and engaging with a study group, and if in a position to do so, support graduates financially to attend PALS.
5. Supporting part-time work and, in particular, job sharing.
6. In management roles, agitating for workplace registration policies and processes.
7. Being open to graduates about how you have accommodated practice and family needs.

#### 4.5. For AACA and Registration Boards

Critical to architectural registration is the Australian architectural accreditation authority—AACA. Their oversight of the entire registration process, and its legislative oversight by the eight registration authorities means that many recommendations which go to the heart of the operational process of registration fall within their shared purview:

1. Remove “Exam” from the APE title and process. Normalise the process through commencing it within the university. Reconceive registration as a marker along the continuum of professional development, which continues after registration. (CAE or professional development is either a professional development goal or a requirement of all Acts).
2. Thoroughly evaluate APE Parts 1, 2 and 3, first, to remove inequity and, second, to align with contemporary competences required in practice through review of the competences required.
3. Consider a continuing professional development model for the APE process, managed and mentored in practice, along with off-site lectures and continuous assessment similar to the legal and medical registration process.
4. Consider an “amnesty on registration” to flush out mature-age practitioners who should be registered but may be too embarrassed or concerned about loss of face if they fail—not “Why haven’t you registered before?” but a fast-track process, possibly with a special focus, to support mature practitioners.
5. Align a best practice assessment method with the objectives of the APE Part 2 written assessment (for example, this would promote open book, online examinations with instant feedback). Delete APE Part 2 MCQ as ill fitted to complex assessment.
6. If retaining MCQ and memorisation for Part 2, written examination, scrap marks deduction for wrong answers and reset pass rate at 50%. Increase the number of questions to increase the breadth of examination.
7. If retaining MCQ, or an alternative written exam, make past exam papers available on the AACA website.
8. If retaining exams, ensure they are undertaken in comfortable, private, professional surroundings, at individual desks.
9. If retaining the RAE process, have sample applications available on the AACA website and very clear checklists with examples.
10. If retaining APE Part 3, oral exam process, require oral examiners to participate in continuing professional development every year to ensure equity, to train examiners in standardising the interviews, and for the APE convener to apply moderation.
11. If retaining APE Part 3, oral exam, ensure zero tolerance towards sexism and ageism in questions.
12. If retaining APE Part 3, oral exam, retain one male and one female examiner for every candidate—women and men.
13. If retaining the APE Part 2 and 3, examinations, reintroduce a supplementary assessment within one month of notification of the exam result.

14. If retaining APE examinations, ensure every candidate receives feedback—this can be automatically emailed feedback pre-prepared for the entire cohort about the assessment.

15. Negotiate with the federal government to align AACA migration competency assessment with requirements for RAE and APE to pre-qualify already registered architects.

16. Negotiate mutual recognition with the EU and UK in the first instance, and extend mutual recognition to our major trading partners to reflect the globalisation of graduates' career aspirations.

#### **4.6. For Architectural Practice Board of South Australia**

The local South Australian registration authority could indicate encouragement for part time roles through:

1. Introducing a pro-rata annual registration fee for registered architects working part-time.

#### **4.7. For Association of Consulting Architects (ACA)**

The industry employer's body has a role to play in garnering support for registration through:

1. Continuing to support and if necessary expand the Keith Neighbour Graduate Study Program. Monitor registration outcomes for participants and fine-tune the program in response.

2. Developing an interactive program to transfer to the APE Logbook practical experience from time sheets and encourage membership to adopt this time saver.

3. Encouraging ACA members to adopt recommendations for practices to promote registration practices beneficial for graduates.

#### **4.8. For Australian Institute of Architects (AIA)**

The professional guild for architects, the AIA, whilst not itself involved in registration, could further support registration through:

1. Removing anomalous corporate membership and voting categories that appear to undermine registration as a professional goal for graduates through enabling long-term AIA membership for non-registered persons who then rely on their AIA membership possibly to avoid registration.

2. Removing the right to use post-nominals and the AIA logo from any class of member who is not registered (because they are not architects).

3. Developing an expiry date policy relating to graduates remaining in the AIA graduate membership category—five years would be a recommended period based on this pilot study before graduates should be registered, and no longer eligible for graduate membership.

4. Encouraging AIA members to adopt recommendations for practices to promote registration practices beneficial for graduates.

5. Commissioning a professional Australasian Evaluation Society (AES) evaluation of PALS with terms of reference covering content, delivery, equity, monitoring, assessment, APE pass rate of candidates who complete PALS and benchmarking with alternative providers of pre-registration CAE. Liaise with the AACA and state APE examination convenors.

#### **4.9. For Association of Architecture Schools of Australasia (AASA) and Deans of Architecture Schools through Australian Deans of Built Environment and Design Colloquium**

Decision making about the number of enrolments within architecture schools rests with Universities, architecture schools and the funded, and unfunded places available through the Federal Government. There needs to be consideration of the:

1. Implications of the number of annual architectural graduates in terms of registration and training employment opportunities.

2. Matching of national economic and productivity goals with graduation numbers to ensure graduate training positions.

#### **4.10. For Federal Government**

The Federal Government, in their role funding higher education has a role to play in giving:

1. Consideration to treating architectural registration as training and offering a training incentive payment to architectural firms upon registration of graduates to offset their expenses in downtime (in the same way other apprenticeships and professional training programs [internships] are financially supported).

## 5. Limitations

This study was conducted in one state, South Australia, where graduates' registration experiences may not be reflective of the experience for graduates in the seven other registration jurisdictions in Australia.

Importantly, this research considers the starting point of graduation in South Australia, and the end point of registration in any Australian jurisdiction, and overseas jurisdictions where graduates' registration was able to be determined, particularly when they were identified, or responded through social media enquiries. What is not known is whether graduates in other states with stronger construction economies find it easier to secure meaningful graduate employment that leads more directly to architectural registration. Therefore, other states' graduates may comprise a higher proportion of all registered graduates.

There were eight graduates among 1063 total graduates whose sex was not known to the researchers. This small number is unimportant to the outcomes because it is statistically insignificant.

## 6. Conclusion and Further Research

Through detailed tracking of all graduates in South Australia from 1999 to 2011, we knew that 37% were women, and of all those graduates, 22% of women and 27% of men subsequently registered as architects in a jurisdiction in Australia or overseas until 2011. We also knew that, during this period, when the graduates were eligible for registration, 29% of the South Australian new registrants were women.

This would suggest that, if this 29% rate is replicated in other jurisdictions in Australia, the number of female registrations across Australia will gradually rise above the current rate of 21% of registered architects in Australia being women. However, the graduation-to-registration data do suggest that this 29% is a result of registration activity not by South Australian graduate women of relatively recent standing, but by overseas-educated architects and graduates, and interstate graduates, as only 22% of SA eligible female graduates have registered anywhere. This attests to the mobility of the architectural profession, and the length of time some graduates wait to be registered.

This has implications for education, the profession and the registration process, as enumerated in the recommendations arising from this research (Section 4).

Further research is warranted, in particular, the replication of this database tracking study (the quantitative component) in another jurisdiction in Australia where there is a stronger construction economy such as New South Wales, Victoria or Queensland. Replication of the qualitative component, using the same questions, is further warranted to ascertain whether South Australia presents a singular challenge for its architecture graduates to register as architects.

Lastly, research needs to be conducted into the present employment activities of the 79% of female and 73% of male architecture graduates who are not registered architects. Are they nevertheless employed in the architectural or construction sector despite their non-registration status? How many are "out the back" in architecture firms? Are they undertaking alternative employment in allied fields, where their degree is still valuable, or have they entirely departed employment-wise from the construction sector and allied fields? These are important questions to answer to understand the value of an M Architecture degree without subsequent architectural registration.

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## Appendix A—Standard Interview Questions

Questions for graduates of architecture who have not registered

1. Are you a graduate of Architecture?
2. Are you in architectural employment?
3. Do you intend at some stage to register as an Architect in Australia? (Yes, Questions 4, 5—no question 6)
4. (If yes, have you already made an application that was unsuccessful?)
5. If yes, how do you envisage that process of Registration unfolding? Support you envisage you will need, log book completion, mandatory competency completion and sign off, preparatory courses you will undertake, study group participation, the registration Exam Part 1 Written and Part 2 Oral, the costs of application and registration, the costs of public indemnity insurance etc.?
6. If no, why might that be?
7. What (if any) do you perceive are the barriers to registration for architectural graduates?
8. Is there anything else you wish to discuss about the topic of registration for architectural graduates?

Questions for graduates of architecture who have registered as architects

1. When did you register as an Architect? In which jurisdiction are you registered?
2. How did the process of Registration unfold for you? What support did you need, log book completion, mandatory competency completion and sign off, preparatory courses you undertook, study group participation, the registration Exam Part 1 Written and Part 2 Oral, the costs of application and registration, the costs of public indemnity insurance etc.?
3. What (if any) do you perceive are the barriers to registration for architectural graduates?
4. Is there anything else you wish to discuss about the topic of registration for architectural graduates?

Questions for principals of architecture firms

1. How does your firm view architectural registration? What policies about registration do you have?
2. How does the process of Registration unfold for your employees? What support did you need to provide for them for log book completion, mandatory competency completion and sign off, preparatory courses you think they may need to undertake, for study group participation, at the time of the registration Exam Part 1 Written and Part 2 Oral, and lastly for the costs of application and registration, and the costs of public indemnity insurance etc.?
3. What (if any) do you perceive are the barriers to registration for architectural graduates?
4. Is there anything else you wish to discuss about the topic of registration for architectural graduates?



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