AN EXAMINATION OF GENDER DISPARITY ON SEVERAL FACTORS INFLUENCING THE USE OF BUILDING DESIGNERS, DRAFTSPERSONS OR ARCHITECTS IN BUILDING DEVELOPMENT IN NSW, AUSTRALIA

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### Abstract:

This paper investigates gender disparity on several factors influencing the use of key serv providers in building development. The data upon which the paper draws were collected questionnaires from a range of respondents, both male and female, and representing both those relatively uninformed about the building industry and those who are repeat clients architectural services. The results identify gender disparities over a range of factors, and indicate whether the disparities are substantial, minimal or negligible in influencing involvement in the building development process and in the choice of service provider. Finally, recommendations are made for the development of future studies.

Keywords: Gender; Architects; Building Designers; Drafting Services; Building Clients.

### INTRODUCTION

Recent surveys and studies by researchers in New South Wales have revealed – or, perhap more accurately, confirmed – the existence of a range of gender disparities affecting client involve-ment in personal building developments (Crawford, 1995). Such studies, however did not offer cogent explanations as to why such disparities might occur.

What the studies did appear to indicate was that, in general, males tend to take a radical an "rapid response" approach to issues concerning planning and executing building development, while their female counterparts are almost unfailingly moderate, calculating and slow in their approach.

One unsubstantiated 'explanation' for the rapid response attitudes of males is based on the entirely assumptive yet stereotypical assertion that males are better risk bearers and have 'thicker skins' to bear the consequences of bad or wrong decisions than females. Men, it is claimed, rely much more on their intuition in decision-making on issues of build development; if such intuitions prove wrong and they fail on one occasion, then they learn from their past mistakes and take measures to avoid a re-occurrence in future.

<sup>&</sup>lt;sup>1</sup> The authors wish to acknowledge the generosity of Ms Lynn Crawford et.al. in providing the survey data used in paper; and the Royal Australian Institute of Architects who provided the grant under which the original survey conducted.

Such trial-and-error learning patterns are, so conventional wisdom would have it, antithetical to female behavior: women are finicky and (excessively) cautious in such matters because they do not want to make any mistakes. They would prefer to seek detailed information about their development proposals before they embark on them.

If the earlier of the assertions outlined above appears both nonsensical and mildly offensive, and if the supposedly stereotypical behavior of the females appears to an objective reader the more 'common-sensical' of the two, it remains undeniable that, regardless of speculations about decision-making procedures, females are far less likely to be involved in the building industry, either as practitioners or as commissioners of building works. In New South Wales, and one presumes in Australia in general, it remains the case that building is a non-traditional area for females in both an educational/training sense and in a practical working or commissioning sense.

Within building and building-related courses in the TAFE and university sector in NSW the number of female students in comparison to their male counterparts is not merely less but dramatically so and, despite recent efforts by universities to promote participation by women in a range of the so-called non-traditional areas of study and training, numbers remain exceptionally low. This is despite indications that women who do enroll in such discipline areas have a tendency to out-perform their male peers.

Such a lack of participation by females at a tertiary level has two immediate consequences – or, more accurately, perpetuates a chicken-and-egg cycle of distancing females from the building industry. Firstly, the relative absence of female trainees means that the building industry tends to be an almost exclusively male preserve in terms of employment. Secondly, and as a corollary of the first, women as a group tend to have less knowledge of the building industry than their male counterparts and are thus less likely to be involved from an employer or client perspective. An additional consequence is, of course, that societal expectations and prejudices are continually reinforced – and, it should be said, often self-reinforced. Thus, for example, the received view is that women are not expected to know anything about the building or construction industries; men are. Women do (or should) rely on men to take the fore in the planning, commissioning and executing of building developments; men should be (or 'naturally' are) competent to undertake such tasks.

If this effective distancing of women from the building professions were the only damage resulting from such stereotypical preconceptions, then the situation would be sufficiently deplorable; yet it is possible to speculate that such attitudes on the part of both women and men predispose clients of either gender to mistrust or to undervalue the contribution of women who have chosen to work within the building industries and related design areas, such as architecture and building design, and thus to adopt a 'men-only' or at best a 'men-in-charge' attitude to commissioning.<sup>2</sup>

While not objectively measured, this overtly sexist attitude has been confirmed via numerous discussions with female architecture students (all engaged in a minimum four-day week work pattern within small architectural practices) and some female graduate architects who, in general, report a two-fold response from potential (and even extant) clients contacting architectural offices. In being presented with a female voice in answer to a telephone inquiry, many female students report that the response is immediately to ask to speak to an architect – presumably on the assumption that female staff members are 'receptionists' or other administrative assistants. On informing the inquirers that they are (colloquially if not legally) architects, or in some cases are the very staff members assigned to that client's specific architectural project, responses are commonly reported to be to ask for 'your boss' – this time presumably on the assumption that it will be a man!

Yet the above notwithstanding, it is undeniable that, at the present time, men continue to pa significantly greater part in the building industries than do women, both at a practice and commissioning level. Under the conditions currently obtaining within Australia, and in ter of any survey of the building industries, it therefore follows that men would be more likely claim connection with and/or knowledge of the building industry, and would thus be in a much advantaged position regarding the provision of a perspective of the building industry and the players within it.

Within this inherently skewed scenario this paper seeks to identify gender disparities acros several factors influencing the use of building designers, draftspersons and architects in building development in New South Wales, and to illuminate and offer some explanations to such disparities.

# SOURCE DATA AND ORIGINAL FIELD SURVEY METHODOLOGY

The data examined here and the results presented below are based on a field study conduction 1995 by Lynn Crawford, Michael Bates, Lici Inge and Felicity Xiernan under a grant from the Royal Australian Institute of Architects (NSW Chapter) for the general purpose of determining public perceptions of the term 'architect' and its cognate terms.

A questionnaire was used to elicit the factors determining the relative use of the services of building designers, draftspersons or architects by building clients in New South Wales. In order to obtain a representative sample of the different types of NSW building clients, the questionn-aire was delivered to three distinct groups: those who regarded themselves as relatively uninformed about the building industry; those who saw themselves as having strong connections with the building industry; and those who were repeat clients of architectural service providers. Respondents were required either to choose between certain pre-defined response options or to supply a 'Yes' or 'No' answer to the questions provided In situations where questions were left unanswered or responses were uninterpretable, they were coded as 'Unsure'.

The paper which follows analyses the available data via nine specific issues, aimed at comparing male and female responses. In so doing, and in relation to several of the issues, has been necessary also to offer a critique of the original questionnaire.

# ISSUE 1 - CONNECTIONS WITH THE BUILDING INDUSTRY

As a starting point, question 1 of the original survey asked simply Have you ever worked in or had any connection with the building industry? The response options provided were:

- no connection with the building industry;
- · worked in the building industry;
- has a relative in the building industry:
- knows someone in the building industry;
- studied subjects in the building industry;
- read about the building industry;
- · built or altered some building infrastructure;
- · an owner/builder.

Three important points should be noted here. Firstly, since the original survey was directed to participants, rather than being randomly assigned, and since those participants were deliberately selected as representing the three distinct groups outlined above – those who regarded them-selves as relatively uninformed about the building industry; those who saw themselves as having strong connections with the building industry; and those who were repeat clients of architectural service providers – it follows that the number of responses indicating knowledge of or some degree of involvement in the building industry should be higher than in a similar survey of the population at large. While this might be appropriate given the information sought in the remainder of the original questionnaire, it does present a skewed sample as its starting point.

Secondly, and more significantly given the current analysis, such skewing of the sample might have two significant effects. On the one hand, and if the above speculations about the lack of connection between women and the building industry are well-founded, the direction of the questionnaire, at least in part, to respondents that are likely to be more industry-informed than a random sample of the population, will tend to over-represent and premiate the views of men. On the other hand, the same argument might be used to suggest that, while women will be numerically less represented as respondents, those women targeted will also tend to be more industry-informed than a random sample of the female population, and thus will tend to effectively overstate women's connections to the building industry. Accordingly, using responses to this question to ascertain the extent of the connection between women and the building industry is fraught with danger.

Thirdly, and highly significant in terms of the conclusions that can be drawn from the data supplied, the original set of potential responses, while adequate as categories in their own right, are often ambiguous in relation to each other. While the first response, 'no connection with the building industry', is unproblematic insofar as it is mutually exclusive in relation to the group of all other potential responses, the individual responses contained in this grouping are not mutually exclusive.

While one might rightly argue that the categories do not need to be mutually exclusive, and that respondents might quite properly indicate connections with the building industry under two or more categories, as in, for example, 'worked in the building industry' and 'built or altered some building infrastructure', both the instructions to respondents and some of the categories themselves are sufficiently ambiguous to cloud the responses. An obvious example is the potential confusion arising from the third and fourth response options: 'has a relative in the building industry' and 'knows someone in the building industry'. While it must follows that everyone who 'has a relative in the building industry' automatically 'knows someone in the building industry', it is surely unreasonable to infer that all respondents who indicated the former necessarily indicated the latter as well.

Indeed, one might argue that a kind of 'common sense' logic probably suggested to most respondents that they should *not* select 'know someone' when they had already selected 'relative', indicating the former only when it meant 'know someone [else who is not a relative]'. An even more obvious example would be the presumed disinclination to indicate 'know someone' if one had already indicated 'worked in the building industry'. Regardless of what inference the respondents made in relation to such issues, the fact remains that the intentions of the respondents are not clear from the survey data, and that any enumeration or quantification of responses by category remains problematic. This is not aided by the fact that the total number of respondents cannot be determined from the total number of responses.

Nevertheless, what tentative information can be extracted form the survey data, participant in relation to issues of gender? Table 1 below shows a breakdown of data by response and gender.

Response options	Female	Male	
1	Response Count	Percent	Response Count
no connection with the building industry	27	34.6	21
worked in the building industry	8	10.3	75
has a relative in the building industry	8	10.3	22
knows someone in the building industry	9	11.5	39
studied subjects in the building industry	7	8.9	41
read about the building industry	8	10.3	38
built or altered some building infrastructure	10	12.8	40
an owner /builder	1	1.3	24
Total	78	100	300

Table 1. Connections with the building industry by response option and gender

With some caution, at least three points may be made on the basis of this. Firstly, while have speculated above that the distribution of the original questionnaire to, at least in pathose with some potential connection with the building industry may have had a tendent skew the distribution list to a male audience, and thus to reinforce the view that males higreater connection than females, we can nevertheless note that, in comparing responses within, rather than across, gender groups, there is a far greater reportage of no connection with the industry among females – 27 out of 78, or 34.6% of all responses – than males only 21 out of 300, or 7.0% of all responses.

Secondly, and once again remembering that we cannot infer precise numbers of respond from the data given, nor the number of multiple-category entries in the returns, it is clear as a percentage of response counts, males are much more likely to have worked in the building industry – 25.0% of all male responses as compared with 10.3% of all female responses. While this comparison remains somewhat suspect due to the potentially self-skewing nature of the survey distribution, it is nevertheless worthy of consideration. The especially so given the relative closeness of the counts pertaining to having studied some subjects relating to the building industry.

With 8.9% of all female responses indicating such study as compared to 13.7% for male given the vastly disparate figures for male versus female enrolment in tertiary building courses, one might suggest, as noted earlier, that, far from skewing the results towards a bias, the original surveys may actually have targeted a greater number of women who we associated with the building industry than might be 'normal'. Accordingly, the figures for women who have 'worked in the building industry' may actually be far greater than one would expect to find in a randomized survey of the population at large. This remains, however, speculative.

Thirdly, one might note the approximate equality of responses in regard to having built or altered some building infrastructure (12.8% of responses for females, 13.3% for males), especially when compared to the disparity between a single owner/builder for the female sample compared to 24 for the male; (in relation to the latter response category we may realistically infer that the number of responses corresponds to the actual number of respondents).

# ISSUE 2 - EXPERIENCE IN PLANNING AND EXECUTING BUILDING WORK

Question 2 of the original survey asked participants *Have you ever had (or considered having) any building work done, either at home or at work*? Respondents were asked to include any occasions when they had had plans drawn up or when they had consulted someone about designing a building or about alterations regardless of whether or not the work was actually undertaken. The response options may be presented in four groups:

- never considered building work;
- · house alteration previously performed;
- · commercial alteration previously performed;
- industrial alteration previously performed;
- institutional alteration previously performed;
- multi-unit residential alteration previously performed;
- · house alteration proposed;
- · commercial alteration proposed;
- industrial alteration proposed
- · institutional alteration proposed;
- · multi-unit residential proposed [sic];
- · no future proposed building work

As noted in the authors' previous paper drawn from this data (Harfield & Oluwoye, 1999), question 2 seems oddly constructed insofar as it appears to permit a distinction only between extant and potential future building work with regard to *alterations*. With the exception of the category 'multi-unit residential proposed' – which given the context must be taken as a typing error for 'multi-unit residential *alteration* proposed' – there appears no opportunity to include a *completely new* building project, whether extant or proposed, i.e. not an alteration to an existing building.

This, however, is not critical provided that the inferred conclusions go no further than asserting that what has been ascertained is the choice of building designers, draftspersons or architects as the preferred providers of designs *for alterations and additions*. Quite what the response would be for new buildings cannot be inferred from the survey data.

Given our current interest in gender this criticism can safely be ignored. One should note, however, that the framing of the question once again permits an initial category of exclusion when compared to the *grouping* of all other response options, i.e. either one had never contem-plated building work or one had, in a variety of ways. In this question, however, and unlike question 1, the varieties of ways provided encourages multiple-category responses and yet remain mutually exclusive categories. Again the total number of respondents cannot be inferred from the response count. Table 2 below shows a breakdown of data by response option and gender.

Once again taking into account the proportionally larger number of male responses (306 across all response categories as compared to 88 for female respondents), the data indicate that women are much less likely than men to be involved in the planning and execution of building development.

Response options	Female		Male	
	Response Count	Percent	Response Count	-1
never considered building work	19	21.6	17	1
house alteration previously performed	24	27.3	64	Ì
commercial alteration previously performed	3	3.4	44	٦
industrial alteration previously performed	5	5.7	29	7
institutional alteration previously performed	1	1.1	20	1
multi-unit residential alteration previously perf.	7	8.0	32	
house alteration proposed	17	19.3	43	
commercial alteration proposed	1	1.1	25	
industrial alteration proposed	ļ _	1 -	9	٦
institutional alteration proposed	_	1 -	5	
multi-unit residential proposed [sic]	1	1.1	[1]	1
no future proposed building work	10	11.4	7	1
Total	88	100	306	1

Table 2. Experience in planning and executing building work

Thus on the response category 'never considered building work' women outscored men considerably – 21.6% of responses for women compared with only 5.5% for men. Simil in the final category 'no future building work proposed', 11.4% of female responses agree compared to only 2.3% for men – only 7 responses out of 306.

While the data as provided does not allow us to explain this, it is interesting to speculate only to conform to the stereotype – that women are honestly inclined to report 'no future building work' if they do not have a particular project in mind, whereas men are rarely inclined to answer in the negative since they must always hold open the possibility that so future project will undoubtedly emerge!

Regardless of this, the data provided offers clear indications that men have more experied in, or at least more involvement in, the execution of building development than women.

This is highly significant when considering the response counts for the categories 'house alteration previously performed' and 'house alteration proposed'. In both cases, while the response count for each was greater for men than women (as expected from the almost fourfold difference in response numbers), the relative percentages tell a different story. Reportages for 'house alteration previously performed' represented 27.3% of all female responses, compared to 20.9% of male responses, while reportages for 'house alteration proposed' represented 19.3% of all female responses, compared to 14.1% of all male responses.

Such statistics, particularly the latter, suggest that women are intimately involved in build developments when represented by *house* alterations. In all other categories of building a commercial, industrial, institutional and multi-unit residential – and whether extant or proposed, percentage male responses outscore percentage female responses. The central the house in relation to female involvement within building projects seems assured by the above data, irrespective of the somewhat clichéd perspectives it supports. That women a left to take control of the house, including its alteration and development, while men are involved in other – and presumably 'external' – building developments is a dangerous inference at best.

#### ISSUE 3 - LEVELS OF CLIENT INFORMATION

Question 3 or the original survey sought to determine the extent to which the client was informed prior to commencing the design or planning of building work, asking *How much information did you have when you started planning?* Response options were extremely vague, offering 'needed a lot of information', 'had some information', 'had a lot of information', 'had enough information' and 'dependent on project'. Quite how responses are to be compared with no control referent for 'enough' or a 'lot' is unclear, but general trends of how clients *felt* about their sufficiency or otherwise of information may be inferred. Responses by option and gender are presented in Table 3 below.

Response options	Female		Male	
	Response Count	Percent	Response Count	Percent
needed a lot of information	12	44.5	14	18.2
had some information	5	18.5	12	15.6
had a lot of information	4	14.8	14	18.2
had enough information	6	22.2	31	40.3
dependent on project'	_	T -	6	7.7
Total	27	100	77	100

Table 3. Levels of client information prior to commencement

Figures here reinforce the stereotype of women as less industry-experienced or industry-informed than men, with 44.5% of female responses indicating that they 'needed a lot of information' compared to only 18.2% of male responses. While figures for 'had some information' and 'had a lot of information' were approximately equal across the genders, the above trend was reinforced in the 'had enough information' category where men outscored women by 40.3% to 22.2%.

#### ISSUE 4 - EXPERTISE INVOLVED IN BUILDING PROJECTS

Question 4.1 of the original survey sought information on the expertise that would be considered necessary in building developments. Respondents were asked If you were planning some building work, or if you have had building work done before, would you or did you ask someone to plan, design or coordinate part or all of your building work? Respondents could answer 'No', indicating that no additional skill was required (of which more below) or 'Yes', whereupon a range of nine response options were provided, as follows:

- builder:
- · carpenter / tradesperson;
- draftsperson;
- · building designer;
- engineer;
- · architect;
- dependent on project;
- · other: or
- self

Two points should be made about the framing of this question. Firstly, it is unclear why the category 'self' was included in the response options for those who had indicated 'yes' since this could certainly appear to have been covered by the 'no' response.

Under the 'no' response it might be assumed that common sense would dictate that the intended meaning was 'no, I did not ask anyone to plan, design or coordinate my buildin work because I did not believe that any additional skill was required; rather, I took responsibility for these tasks myself'. In this sense the participant has, self-evidently, 'athemselves'. However, if the intention was to find out about the degree of building or de expertise on the part of the respondent, or why they had not asked others to supplement town expertise, or if they had undertaken building work under their own cognizance but it full knowledge that they had no relevant design or building expertise at all, then the questhould have been framed in this way. As it is, one has no idea whether an indication und the category 'self' means extant expertise on the part of the respondent, or merely that the did not see fit to consult others (regardless of their expertise or lack of it).

Secondly, it should be noted once again that all the response options under 'yes' allow multiple-category responses – over a range of projects one might have consulted all of the above.

Responses by option and gender are shown on Table 4 below.

The inferences that may be drawn from the above data are intriguing. Firstly, and given now familiar stereotype that women have little connection with or experience of the build industry, and even less expertise in it, and thus given the tacit assumption that they must therefore be in need of the help of others who do – (probably men!) – it is well nigh coun intuitive that women appear far *less* likely than men to involve others in the process on the basis that they felt that no additional skills were required!

Response options	Female	Male	
	Response Count	Percent	Response Count
no additional skill required	7	11.1	8
builder	17	27.0	35
carpenter / tradesperson	1	1.6	17
draftsperson	7	11.1	16
building designer	3	4.8	19
engineer	2	3.2	28
architect	21	33.3	57
dependent on project	_	T -	2
other	4	6.3	13
self	1	1.6	15
Total	63	100	210

Table 4. Expertise involved in building projects

Quite why this is so is not ascertainable from the data, but there is a clear distinction between 3.8% of male responses which indicated 'no additional skill required' and the 11.1% female responses.

While the data might be surprising, little can be made of this. Apart from speculating the men, supposedly being more familiar with the building industry, take it for granted that t will need additional expertise in order to undertake their project, and thus are unlikely to select the first response option, two suggestions may be made in regard to the women's' responses.

If the first possibility, that the results may be taken at face value as an indication that a higher percentage of women in general feel that they do not need additional help with their projects, seems unlikely, then it may be explained by the suggestion, outlined earlier, that the directing of the questionnaire to targeted respondents might have had the effect of including a larger percentage of women with experience in the building industry than might be expected in the population at large, hence skewing the data regarding the need for additional skills. This, remains, of course, speculative – and it is contradicted by the responses to the last category, 'consult self', where a single woman responded positively in comparison to 15 men. The ambiguity caused by the inclusion of this category has been outlined above.

In regard to the other response categories it may be noted that while builders were commonly consulted by both sets of respondents, percentage female responses significantly outnumbered male 27.0% to 16.7%. Females were, however, appeared much less likely to consult carpenters or tradespersons, 1.6% of responses for females as compared to 8.1% for males.

A greater familiarity with the building industry, or a greater number of people known within the building industry, might allow men to more easily contact individual tradespersons as well as (or instead of) general builders.

In terms of the four response options that might most firmly be connected to the design of the proposed building – draftspersons, building designers, architects and engineers – the responses by gender are mixed. Quite clearly the architect was the most consulted by both groups, securing 28.6% of all responses, with female responses slightly outscoring male by 33.3% to 27.1%.

For females this was followed by the draftsperson, with 11.1% of all responses, then building designer (4.8%) and engineer (3.2%). This sequence was precisely reversed for male responses, with 13.3% indicating engineers, followed by 9.1% for building designers and 7.6% for drafts-persons. Note not only the reversal of preferences, but that males consistently outscored females in each of the categories.

Of some interest, and quite surprising, is the fact that almost no-one considered that the nature of the design and planning consultation might be dependent on the project itself!

#### ISSUE 5 - INFORMATION RELEVANT TO HIRING

Question 4.2 of the original survey asked simply How would you or did you get information about who to hire? Six response options were offered:

- personal recommendation
- · word of mouth
- advertising
- professional referral
- \* no help considered
- · other.

Response counts are outlined in Table 5 below.

Response options	Female	Male	
	Response Count	Percent	Response Count
personal recommendation	29	33.7	57
word of mouth	18	20.9	34
advertising	13	15.1	23
professional referral	8	9.3	29
no help considered	9	10.5	2
other	9	10.5	17
Total	86	100	162

Table 5. Obtaining information relevant to hiring

As will be noted, there are no significant differences between male and female responses the first three response categories, with both groups eliciting information on building designers and other service providers on the basis of, in descending order of popularity, personal recommend-ation, word of mouth and advertising. A major disparity is, howeven noticeable in relation to professional referrals, where male responses outscore female by 17.9% to 9.3%, possibly an indication that greater familiarity and connection with the building industry make professional contacts statistically more likely for men than women

Once again it is in the response category 'no help considered' that the most surprising disparity is evidenced, with women being less likely to consider external help by a factor almost nine – 10.5% for women as compared to only 1.2% for the men surveyed. Counter intuitive in the extreme, this again suggests a skewed survey sample in favor of women experienced in the building industry.

#### ISSUE 6 – SELECTION CRITERIA FOR SERVICE PROVIDERS

Question 4.3 of the original survey sought information on how the particular service providers were selected, asking On what basis would you or did you choose a person or to plan, design or coordinate huilding work? This question did not distinguish between of the possible service providers, offering only response options based on the reasons for selecting, as follows:

- good reputation;
- · already knew them;
- cost:
- quality of previous work;
- qualifications;
- · experience; or
- · other.

Responses by gender are indicated on Table 6 below.

With the minor exception of a trend towards greater priority being placed on the recognit of qualifications on the part of men than women (14.6% as compared to 8.8%) and a grest recognition of good reputation on the part of women (26.3% as compared to 20.1%) there appear to be no significant differences between men and women on what would be the boof their choice of service providers to plan, design or coordinate building works.

The top two categories – good reputation, and quality of previous work – are consistent across both groups, while the third- and fourth-placed categories vary between them, women selecting on the basis of prior knowledge of the service provider (3<sup>rd</sup>) and cost (4<sup>th</sup>), men on the basis of the service provider's experience (3<sup>rd</sup>) and qualifications (4<sup>th</sup>).

Response options	Female		Male	
	Response Count	Percent	Response Count	Percent
good reputation	30	26.3	63	20.1
already knew them	18	15.8	45	14.3
cost	17	14.9	43	13.7
quality of previous work	20	17.5	57	18.2
qualifications	10	8.8	46	14.6
experience	16	14.0	47	15.0
other	3	2.7	13	4.1
Total	114	100	314	100

Table 6. Basis for clients' choice of service providers

## **ISSUE 7 - QUALIFICATIONS**

Questions 4.4 and 5 of the original survey both sought information on the qualifications of the prospective service providers, question 4.4 establishing the client's knowledge of formal qualifications (If you have previously asked someone to plan, design or coordinate building work, did you know whether or not they had formal qualifications?) and question 5 establishing the importance of such qualifications (If you wanted someone to plan, design or coordinate building work, would it matter to you whether or not they had formal qualifications?). In the former a simple 'Yes / No' response was required; in the latter three response options were offered. Results for question 4.4 are tabulated below.

Response options	Female	Female		Male	
	Response Count	Percent	Response Count	Percent	
No	10	30.3	18	21.2	
Yes	23	69.7	67	78.8	
Total	33	100	85	100	

Table 7. Clients' foreknowledge of service providers' formal qualifications

Despite differences between male and female responses that indicate that men are more likely to know if their proposed service providers have formal qualifications, the differences are essentially marginal. Both groups appear to have a good knowledge of the qualifications of their service providers, both rating at approximately 70% or above.

What is not indicated above, and what is of far more significance, however, is the extent to which formal qualifications are regarded as important by each group. It is all very well knowing that potential service providers are or are not formally qualified, but quite another matter if such qualifications are not regarded as important in the selection of the service provider. This is the subject of question 5, the results of which are shown in Table 8 below.

Response options	Female	Male		
	Response Count	Percent	Response Count	F
no importance	9	19.1	21	7
very important	38	80.9	81	7
dependent on several factors	-		2	T
Total	47	100	104	1

Table 8. Importance of qualifications

Indications here are two-fold: first, that formal qualifications are of crucial importance in selection of service providers; and second, that such decisions are not gender-based, both groups indicating approximately 80% in favour of the importance of qualifications.

#### ISSUE 9 - PERCEPTION OF DIFFERENCES BETWEEN SERVICE PROVIDER

Respondents were also questioned about perceived differences between specified service providers. The question was framed in two distinct ways, the first couched in terms of perceived differences between different services, the second in terms of named providers. Thus question 7 asked Do you think there is any difference between building design servidafting services, architectural services, or architects' services?, with respondents being asked to indicate if they believed there was 'no difference', a 'clear difference' or if they were 'unsure'. Results for this question are indicated in Table 9 below.

Response options	Female		Male	
	Response Count	Percent	Response Count	P
No difference	9	18.8	15	7
Clear difference	29	60.4	85	8
Unsure	10	20.8	5	
Total	48	100	105	1

Table 9. Perception of differences between services

Given the approximate parity of responses indicating 'no difference', the above results we suggest that men are more familiar with the services provided, and thus readily recognize their differences. This would be consistent with the 20.8% 'unsure' response rate for women, compared to only 4.7% for men. Given that respondents are not asked to identife enumerate the differences, a somewhat cynical alternative might be that, while the 20.8% 'unsure' response represents a genuine uncertainty on the part of the female respondents overwhelming 81.0% response in favour of 'clear differences' on the part of male respondents represents an expectation that they *should* know the differences, hence conforming to a cultural stereotype. This remains, of course, entirely speculative.

The parallel question to the above asked about differences between named providers, wit question 8 asking *Do you think there is any difference between building designer, draftsperson, planner or architect?* Responses are outlined below.

Response options	Female	Female		Male	
	Response Count	Percent	Response Count	Percent	
No difference	9	21.4	14	13.6	
Clear difference	28	66.7	88	85.4	
Unsure	5	11.9	1	1.0	
Total	42	100	103	100	

Table 10. Perceived difference between service providers

It should be noted here that, since the questions 7 and 8 are presumed to be related, it must be assumed that the named providers are intended to correspond to or represent each of the services identified in the question 7.

This being the case, it appears that the term 'planner', which might normally be reserved for something quite different, is intended to correspond to 'architectural services' above. While it is of little significance in regard to question 8 itself, it is nevertheless a source of potential ambiguity.

The above notwithstanding, results for question 8 closely parallel results for question 7, as would be expected. Thus, the relative percentages indicating 'no difference' are of the same order as in the earlier question, again with percentage female responses greater than male. Also consistent is the response pattern for 'clear difference', with percentage females responses lower than male, 66.7% to 85.4% (and as compared to a 60.4% / 81.0% split in the previous question). A case for greater familiarity with the named service providers on the part of men can be inferred in both cases.

#### CONCLUSIONS

Within the levels of uncertainty that both the framing of certain questions and the selection of the target sample population bring to the data, it seems reasonable to conclude the following as being the most well-confirmed inferences:

- [1] assumptions and stereotypical views concerning the knowledge of women about the building industry and their engagement within the building industry remain at a high level despite laudable moves within the educational sector to encourage women to consider study in 'non-traditional' areas [Intro.] <sup>3</sup>;
- [2] the above prejudices are often based on the naturalizing of the male relation to and knowledge of matters pertaining to building, construction and devilment [Intro.];
- [3] these stereotypes remain both ill-conceived and ultimately offensive [Intro.];
- [4] nevertheless, the perception of male prominence is an accurate reflection of the current state of both the building industry and the involvement of men in building development.

<sup>3</sup> For each of the conclusions provided, the section of the paper pertaining to the original data analysis is indicated in square brackets

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On the basis of the data available for analysis it is possible to conclude that (at least in N women are considerably less likely than men (tentative figures suggest a 1:5 ratio) to hav any connection with the building industry; as a corollary, men are up to 2.5 times more li to have worked in the building industry than women [issue 1];

- [5] regardless of connections with the building industry, males and females are equal likely to have built or to have had alterations done to some building infrastructure with w they were associated. However, the data clearly indicate that women are much less likely than men (a ratio of approximately 1:4 is indicated) to be involved in the *planning and execution* of building developments. This obviously reinforces the stereotypical view that men thus have more experience in, and thus a greater knowledge of, the execution of building development than women [issue 1];
- [6] regardless of the above, when alterations and/or additions are identified as *houses* women are marginally more likely than men to indicate that they have previously had alterations performed and more likely to report that they have future house alterations planned. Contrariwise, in all other categories of building type commercial, industrial, institutional and multi-unit residential and whether extant or proposed, percentage make responses outscore percentage female responses [issue 2];
- [7] female respondents are much more likely than their male counterparts (by a facto approximately 2.5:1) to indicate that, prior to planning any particular building project, th were in need of 'a lot of information'. As a corollary of this, men were more likely than women (approximately 2:1) to report that they 'had enough information' [issue 3];
- [8] similarly, and in relation to their own extant skill levels, men are also more likely a factor of approximately 3:1) to report that they required 'no additional skill' prior to planning building work [issue 4];
- [9] regardless of gender, and to approximately the same extent, the architect is the m likely of the nominated service providers to be consulted for the design of the proposed building [issue 4];
- [10] also regardless of gender, clients are likely to get information about service proviby (in descending order of popularity) personal recommendation, word of mouth and advertising. Men are, however, approximately twice as likely than women to garner information about service providers by professional referral, presumably reflecting the greater involvement with the building industry which engenders such referral [issue 5]]:
- [11] counter-intuitively, women in the survey were almost 9 times more likely than m indicate that they no help was considered in obtaining information relevant to hiring serv providers lissue 51:
- [12] gender does not appear to be a significant factor in the selection criteria for hiring service providers to plan, design or coordinate building works, the two top-ranked category good reputation and quality of previous work being consistent for both groups [issue
- [13] gender differences play only a marginal role in either knowledge of qualificationthe importance placed on qualifications (issues 7 & 8).

Data does, however, suggest that formal qualifications are of crucial importance in the selection of service providers, with both groups indicating approximately 80% in favour of the importance of qualifications [issue 8];

[14] males are marginally more likely to perceive (or claim to recognize) clear differences between the services provided by the variety of service providers, and are similarly marginally more likely to perceive (or claim) clear differences between the named service providers [issue 9].

While the above suggestions are far from reliable, drawn as they are from a single survey, and one in which the questions were not developed with the specific intention of studying gender issues, the combination of them might point to at least four significant recommendations:

**Recommendation 1** – that the university and TAFE sector both continue and expand the range of initiatives aimed at encouraging the involvement of women in the so-called 'non-traditional' area of building studies;

Recommendation 2 — that an extensive survey be conducted within the Australian tertiary sector to ascertain the level of involvement of women in the variety of building and building-related courses, and, in conjunction with this, the performance and retention levels relative to their male counterparts;

Recommendation 3 – that, in regard to ascertaining the public's perception of the role and contribution of women within the building industry, and in light of the criticisms directed at the original questionnaire, particularly in regard to the targeted groups to which the survey was directed, a follow-up survey be conducted aimed at a target audience selected at random from the population at large. Careful determination of questions would allow within this sample the selection of that subset comprising those who have previous experience within the building industry;

**Recommendation 4** – additionally, a parallel survey aimed directly at the building industry, via membership of its various industry bodies, would be of great interest. Self-evidently, careful and precise question formulation is a precondition of a good survey instrument, and essential to the extraction of meaningful conclusions.

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