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RESEARCH ARTICLE

## Early career women in construction: are their career expectations being met?

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### Abstract

The recruitment, retention and development of early career women have always been a challenge in the construction industry. With the focus on early career women or new female construction management degree graduate hires in construction, this study explores: (i) factors influencing their choice of career in construction; (ii) the extent of which their career expectations were met in their first few years of job experience; and (iii) how their met or unmet career expectations are related their overall job satisfaction. Data was collected using an online survey questionnaire. The results show that the top significant factors influencing the respondents' career choice are career opportunities and belief of getting better pay. Their career expectations, on the other hand, were met or exceeded to a great extent for almost all the measurement items. The results also show that the respondents have a relatively high overall job satisfaction level. Although there is lack of evidence that their overall job satisfaction increased as met career expectations increased, there are statistically significant positive correlations among the career expectation measurement items. These findings have implications for human resource practices of construction employers that aimed to attract early career women into the industry, and to reinforce their met career expectations and job satisfaction.

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## Keywords:

Career, career expectations, the construction industry, female graduates, women.

## Introduction

With the backdrop of women as an untapped resource in the construction industry worldwide, it is of practical importance for addressing challenges associated with the recruitment and retention of women in the industry (Fielden et al., 2000; Menches and Abraham, 2007; Morello, Issa and Franz, 2018). Younger women or new female graduates have been identified as the cohorts of concern due to their high turnover intentions and decision not to join the industry upon graduation (e.g., Dainty, Neale and Bagilhole, 1999; Ling and Poh, 2004; Morello, Issa and Franz, 2018). The literature is ripe with studies on barriers faced by women and strategies aimed at improving their retention and career progression in the industry (Navarro-Astor, Román-Onsalo and Infante-Perea 2017). Nonetheless, dramatic changes have occurred pertaining to employer-employee relationships in the last two decades (Maden, Ozelik and Karacay, 2016). There is an increasing tendency among employees to hold lower levels of job loyalty and switch one job to another when their existing jobs do not meet their expectations (Tulgan, 2004). For graduates, in particular, authors have reported the exist of significant gaps on what they expect and their actual experience regarding work environment (e.g., Polach, 2004; Jusoh, Simun and Chong, 2011; Islam et al., 2015). This condition of unmet expectations is correlated to newcomers' job satisfaction, organizational commitment, intention to leave, job survival (quitting job) and job performance (Wanous et al. 1992). Proost, van Ruysseveldt and van Dijke (2012) states that it is an important endeavour for today's organizations to fulfil employees' job-related expectations since the consequences of unmet job expectations can be both costly and burdensome. Islam et al. (2015), on the other hand, urged for a win-win situation for both employers and employees. In this, graduates should market themselves effectively by knowing the job requirements to which they are applying, and similarly employers should familiarize themselves with the expectations of new graduates including the development of respective human resource practices and strategies.

While there are few studies that examined career expectations of construction management (CM) degree program students in the literature (e.g., Bennett, Davidson and Galeand, 1999; Moore, 2011; Venugopal, 2016), many facets have not been explored hitherto when looking at the experiences of new CM graduate hires. These include: their transitions from university to the world of construction careers, their first job experience, the challenges they faced as newcomers, their career expectations and fulfillments, and their job satisfaction and job performance. With the focus on early career women or new female CM graduate hires in construction, this study explores: (i) factors influencing their choice of career in construction; (ii) the extent of which their career expectations were met in their first few years of job experience; and (iii) how their met or unmet career expectations are related their overall job satisfaction. The findings provide an understanding that is critical to addressing the challenges and difficulties in recruitment and retention of early career women in construction. This understanding brings with it some important implications for employers. These include: (i) the formulation and development of respective strategies focussing on the influencing factors in their attempts to attract more female graduates: (ii) the communication strategies for better clarity on job expectations to potential graduate hires in the future; (iii) the adoption of human resource practices to meet and enhance female newcomers' career expectations. It is only by

understanding their career choice and career expectations that the construction employers can play a proactive role to attract, retain, and provide specific training and development needed to grow this significant source of employees in the industry.

## Women's choice of career in construction

In examining women's choice of career in construction, authors have attempted to explore this topic area via theoretical lenses and/or empirical investigations. Erickson and Schultheiss (2009) identified that the five theories applied to women's choice of career in trades and construction in the literature are: (i) Holland's (1997) theory of vocational personality and work environment; (ii) social cognitive career theory (Lent, Brown and Hackett 1994); (iii) Super's (1957) life span development theory; (iv) Gottfredson's (1996) theory of circumscription and compromise; and (v) Krumboltz's (1994) social learning theory. For empirical investigations, it is noted that authors have begun to focus on female students in CM undergraduate degree program (e.g., Koch, Greenan and Newton, 2009; Adogbo, Ibrahim and Ibrahim, 2015; Bigelow et al. 2015; Escamilla, Ostadalimakhmalbaf and Bigelow, 2016). Oo, Li and Zhang (2018) claimed that this shift in focus can be partly explained by the reported high proportion of female CM graduates who decided not to enter the industry upon graduation (Bennett, Davidson and Galeand, 1999; Ling and Poh, 2004); and the difficulties in recruitment of young graduates into the construction industry in different countries (Ling and Ho, 2013; Ling, Leow and Lee, 2016). The other possible explanation is the proposition that if female enrolment in CM programs increased, so would the female participation in the construction industry (Bigelow et al. 2015). However, Moore and Gloeckner (2007) pointed out that CM academia are facing two key challenges, these challenges are: (i) to attract female students to CM programs, and (ii) to retain them through graduation and send them out into the industry. In their interview with 24 female CM graduates, they classified the identified factors affecting career choice into three main categories, namely: (i) family background variables that include gender role specialization and parental influence (mainly from fathers); (ii) individual or psychological variables that include high school academic skills and interests, personality, and strength of self-efficacy; and (iii) environmental or sociological variables including role models, mentors and significant others (i.e., boyfriends, husbands, and friends). They also found that these variables have greatest positive influence, but not educational climate of junior or high schools which was found to be of greatest negative influence. Based on a list of sixteen influencing factors, Bigelow et al. (2015) found that the top three factors influencing female students' choice of CM programs are 'internships', 'career opportunities' and 'father in the industry'. Ninety-six percent of their female CM student respondents from universities in the US planned to work in the construction industry upon graduation. This finding is really encouraging as the percentages of female enrolments for CM programs in the US are generally below 10% of total enrolment (Oo, Li and Zhang, 2018). In Australia, the enrolment trends were between 10 and 20% of total CM program enrolments (Oo and Widjaja, 2018).

Researchers have also examined the role of high school or career counsellors in females' choice of career in construction. Francis and Prosser (2014) found that high school or career counsellors perceived construction as a less suitable career for females, and therefore may not actively direct them to consider careers in construction. However, an interesting finding from their study was that career counsellors were found more likely to direct young women, but not young men, to consider a construction career if counsellors personally knew someone in construction and had a better knowledge of construction careers. On the other hand,

authors have noted the existence of knowledge gaps of construction career prospects and opportunities among career counsellors (Francis and Prosser 2014, Wilkes et al. 2015). In Koch, Greenan and Newton (2009), high school career counsellor was also identified as the least influential person with respect to CM students' career choice in construction. Other than female CM students, there is a collection of literature that examined women's choice of career in construction trades. For example, Greene and Stitt-Gohdes (1997) found that the four critical factors that influence women's choices to work in trades are: (i) perceived innate ability to perform the trade they had chosen; (ii) strong sense of self; (iii) desire for independence; and (iv) role models. Authors had also highlighted that the relatively high wages, and the high degree of job autonomy and task variety are key factors influencing women's choice of trades career (Dabke et al., 2008; Moir, Thomson and Kelleher, 2011; Ness, 2012). While different cohorts of female workforces share many common factors influencing their career choice in construction, the career choice decision process itself is complex and affected by many inter-related factors (Dainty and Lingard, 2006). The focus of this study is on factors affecting early career women's (i.e., new female CM graduate hires) career choice to enter the construction industry and their career expectations.

## Women's career expectations and job satisfaction in construction

Employees in general build up their career expectations based on gender, race, socioeconomic status, life experiences, career aspirations, cultural background and personal characteristics (Gahan and Abeysekera 2009, Damaske 2011). For women embarking on a career in construction, they would have positive, uncritical perceptions of the industry; otherwise they are unlikely to have chosen this career path (Powell et al. 2005). New female entrants were found to enter the industry with a poor understanding of the industry, and the inherent difficulties of working in a male-dominated industry (Dainty, Neale and Bagilhole 1999). Dainty, Neale and Bagilhole (1999) pointed out that these new entrants were subjects of targeted recruitment campaigns, and that their CM education was found to have provided a sheltered environment, and to have presented a sanitized view of realities of working life in the industry. In the UK, Bennett, Davidson and Galeand (1999) found that female students had significantly higher expectations on salary and budget responsibility (both being monetary variables) as compared to male students. Male students in their study, on the other hand, had significantly higher expectations in terms of number of staff they supervise, power and decision-making. In the US, the top five career expectations among CM students are (Moore, 2011; Venugopal, 2016): (i) job security, (ii) feeling of accomplishment, (iii) opportunity to earn a high income, (iv) continued development of knowledge and skills, and (v) advancement to higher administrative responsibility. Some of these studies are dated, and the authors only examined career expectations of CM program students. Regrettably, little is known about the CM graduates' experiences in their transition from university to the world of construction career, and their job experiences once they have actually begun working.

Undoubtedly, the transition from university to work is a tremendous and often stressful process in the life of young graduates. Life after graduation was considered as a very uncomfortable world in an Australian case study on this transition process (Perron and Vickers 2003). The four themes emerged from the case study are: 'an uncertain feeling', 'inflated expectations', 'the work experience paradox' and 'a low time'. Most graduates commit their career with expectations about well-paying, secure workplace conditions and satisfied employment (Jusoh, Simun and Chong, 2011). However, the initial expectations

may change immediately once they have actual work experience (Jusoh, Simun and Chong, 2011; Islam et al., 2015). Previous studies reported the exists of significant gaps on what new graduates expect and their actual experience regarding work environment, i.e., the condition of unmet job expectations (e.g., Polach 2004; Jusoh, Simun and Chong, 2011; Islam et al., 2015). Porter et al. (1974) defined unmet job expectations as the discrepancy between what employees encounter in their job in positive and negative way experiences and what they expected to encounter. Indeed, this concept of met (or unmet) job expectations has been a key psychological variable in the industrial psychology and organizational behaviour literature for decades (Maden, Ozcelik and Karacay 2016). In a review of the effects of met job expectations for newcomers to organizations based on a meta-analysis of 31 studies, Wanous et al. (1992) found that met job expectations is correlated to newcomers' job satisfaction, organizational commitment, intention to leave, job survival (quitting job) and job performance. Similarly, more recent studies have established the relationship of unmet job expectations to negative outcomes among employees such as emotional exhaustion, reduced satisfaction and organizational commitment, and increased turnover intentions (Maden, Ozcelik and Karacay 2016).

For younger women who are newcomers to construction career, they tend to seek alternative positions outside the industry once they experienced disappointment with reality of career opportunities in the industry (Dainty, Neale and Bagilhole, 1999). Similarly, a recent work by Morello, Issa and Franz (2018) found that women aged between 18 and 24 were significantly more likely to express a desire to leave their construction career as compared to others in the age group between 25 and 64. Polach (2004) asserts that it is paramount that human resource professionals understand newcomers' or graduates' hopes, expectations, and challenges early into their career so that specific development and training programs can be provided to grow them into the role of leader and influencer over time. Moore and Gloeckner (2007) emphasize that the construction industry will be losing out on future leaders if women remain a small minority of the CM graduates. However, many facets have not been explored hitherto when looking at the experiences of new female CM graduate hires. What is their first job experience like? What challenges do they encounter in adapting to the workplace? To what extent are their career expectations being met as newcomers? What is their first few years of job experience like? This study explores the extent of which early career women's career expectations were met in their first few years working in the construction industry, and how their met or unmet career expectations are related their overall job satisfaction.

The literature is ripe with studies on employee job satisfaction in the construction industries around the globe. Many researchers have attempted to examine the effects of personal, work and organisational factors on job satisfaction of different cohort of workforces in the industry. While there are studies that focussed on all construction professionals in general, some recent works have specifically focussed on project managers (e.g., Ling et al., 2018; Hwang, Zhao and Lim, 2019;), architects (e.g., Sang, Ison and Dainty 2009), quantity surveyors (e.g., Bowen and Cattell, 2008; Lian and Ling, 2018), craftworkers (e.g., Albattah et al., 2016; Shan et al., 2016; Oo, Liu and Lim, 2020), and labourers (e.g., Hosseini, Chileshe and Zillante, 2014; Hsu and Liao, 2016). However, there is little or no study on job satisfaction of early career women or new female CM graduate hires in the construction industry. Given the exploratory nature of the present study, the respondents' job satisfaction was measured using a single-item measure on their overall job satisfaction as advocated in Wanous, Reichers and Hudy (1997). This single-item measure was considered suffice as it is unambiguous to the respondents who were newcomers to the industry.

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## Research method

This study adopted a survey research design that permits timely data collection to gather broad characteristics of a population. Data was collected using an online structured survey questionnaire in 2017. An online structured survey questionnaire is an efficient tool to gather information on individual perspectives from the targeted population based in different geographical locations. In addition, it is hoped that the anonymity of responses would encourage participation in the online survey. A purposive sampling method that involved the total population sample was adopted to reach the targeted population in achieving the research aim and objectives. The targeted population was new female graduates of a CM undergraduate program in an Australian university – University of New South Wales (UNSW). The UNSW is one of the few universities in the New South Wales state of Australia that offers CM program. The selection criteria for the targeted respondents were female graduates who: (i) completed the UNSW CM program in the last five years, i.e., between 2012 and 2016; and (ii) had at least one-year of full-time working experience in the industry post-graduation. Given the fact that the population size is rather small with only 46 female CM graduates between 2012 and 2016, the online survey link was distributed to the entire population sample. This total population sampling was feasible with the support from the UNSW Alumni office which maintains the contact list. For the development of the questionnaire, factors affecting career choices and list of career expectations were adopted from the literature (e.g., Moore 2011; Bigelow et al. 2015, Venugopal 2016). The respondents were asked to indicate their perceptions on the subject matter and their overall level of job satisfaction based on a three- or five-point Likert scale (for e.g., 1 = very dissatisfied and 5 = very satisfied). In total, there were 29 complete responses usable for the data analysis, representing a response rate of 63%. The response rate was considered satisfactory and adequate for this exploratory study, particularly when taking into consideration some female graduates might decide not to join the industry post-graduation or had left the industry at the time of survey. Indeed, this rather high response rate seemingly reflected an interest among the respondents on the subject matter, and their willingness to share their early career experiences in the construction industry. One-sample Kolmogorov-Smirnov test was performed to test on the normality of data. The test results show that the observed variables failed the normality assumption, and thus non-parametric statistical tests were used for the subsequent data analysis. These tests include: (i) One-sample Wilcoxon Signed Rank test for examining whether the median of the population is equal to a test-value, for example, a test value of three (i.e., the mid-point of the five-point Likert scale) in evaluating the importance of factors influencing the respondents' career choice, and (ii) Mann-Whitney U-test for testing the difference in distribution between two groups of respondents according to current job is or is not their first job grouping.

## Results and discussion

The results were reported in three major sections focussing on the respondents' career choice, career expectations and overall job satisfaction. Table 1 show the profile of the 29 respondents with the majority (75.9%) of them aged between 21 and 25 years old and worked full-time (82.8%) at the time of survey. Only two respondents were with postgraduate qualification after the completion on their CM undergraduate program. Above 50% of them worked as quantity surveyor or cost estimator, supporting findings in the literature where women tend to be allocated with office-based cost-related tasks (e.g., Bennett, Davidson and Galeand 1999; Ling and Poh 2004). On average, the respondents have had 3.39 years of experience, confirming

that they were early career women in the construction industry. For 59% of the respondents, the current job was their first job and this group has an average of 2.61 years of experience. For most of those who had changed job cited that their moves were for better career development opportunities and their recorded average years of experience is 4.5. This considerable high turnover rate (41%) is consistent with the authors' findings on high turnover among younger women in construction (e.g., Dainty, Neale and Bagilhole, 1999; Morello, Issa and Franz 2018). Next, on their pre-tax annual income, about 65% of the respondents earned above A\$ 60,000, and of these, close to 25% earned above A\$ 100,000 (1 USD = 1.3 AUD as of 2017). These income levels suggest that the respective respondents had a generous income in their early career based on a broad comparison to the full-time adult average weekly total earnings in Australia in November 2017 that was \$1,628 per week or \$84,661 annually (Australian Bureau of Statistics, 2017).

Table 1 The profile of the survey respondents

Profile	Freq.	%
Age		
21-25	22	75.9%
26-30	7	24.1%
Employment		
Full-time	24	82.8%
Part-time	3	10.3%
Casual	2	6.9%
Annual salary (pre-tax)		
Below 40k	5	17.2%
41k-60k	5	17.2%
61k-80k	8	27.6%
81k-100k	4	13.8%
Above 100k	7	24.1%
Education		
Undergraduate	27	93.1%
Postgraduate	2	6.9%
First job in the industry		
Yes	17	58.6%
No	12	41.4%
Years of experience (average)		3.39 years

Table 2 shows the descriptive statistics and one-sample Wilcoxon Signed Rank test results on the nine factors influencing the respondents' choice of career in the construction industry. The recorded mean scores range from the lowest of 2.76 to the highest of 4.24 (scale 1 to 5). There is a rather widespread in the respondents' responses for some factors as demonstrated

by the high standard deviations. The top three ranked factors are: (i) career opportunities (F1, mean = 4.24); (ii) belief of getting better pay (F2, mean = 3.90); and (iii) self-efficacy and strong confidence to perform construction job tasks (F7, mean = 3.28). However, the test results show that only the median values of F1 and F2 are statistically significantly higher than three, suggesting that the respondents had placed greater importance on these two factors in their career choice. It is worth noting that these two factors have recorded low variability in responses as demonstrated by the corresponding standard deviations (i.e., the lowest of 0.62 for F2 and second lowest of 0.91 for F1). These findings support previous findings that career opportunities and opportunities for getting generous, lucrative wages with good earning potential in the industry should be raised with female graduates in order to attract more women into the industry (Francis and Prosser, 2014; Bigelow et al., 2015; Oo, Li and Zhang, 2018). While the median value of F7 has not been found statistically significantly above three, this third top-ranked factor indicates that female graduates' self-efficacy and strong confidence in their abilities to perform construction tasks do play a role in their choice for a career in construction. This finding supports that self-efficacy or one's degree of confidence is related to career options (Moore and Gloeckner, 2007; Whitmarsh et al., 2007). In addition, there are another two factors with mean scores relatively close to F7 and are above three, namely: 'family influence and support (F3, mean = 3.21)' and 'role models or mentors (F4, mean = 3.24)'. These two factors that have been identified as important in previous studies (e.g., Moore and Gloeckner 2007; Bigelow et al. 2015) would have affected the respondents' career choice in some way. The respondents, on the other hand, have placed least importance on 'previous hands-on experiences related to construction (F8, mean = 2.76)'. It is worth nothing that this factor has been identified as a key motivator for students' choice of a career in construction (e.g., Koch, Greenan and Newton, 2009, Bigelow et al. 2015) and, however, it is bottom ranked in the present study. This could partly be explained because some respondents were able to approach their family members and/or mentors (i.e., F3 and F4 are ranked higher) in gaining a better understanding about a career in construction, and thus this respective group did not give greater importance to F8 that resulted in its low mean value. Next, both the role of counsellors (F5) and education climate (F9) have recorded mean values below three, suggesting these two factors are less influential, and this finding is consistent with that of Moore and Gloeckner (2007), Koch, Greenan and Newton (2009), and Bigelow et al. (2015). The results suggest that career choice decision process itself is complex and affected by many inter-related factors (Dainty and Lingard, 2006), as evidenced in mixed results in the present study in relative to previous studies.

Table 2 Factors influencing the respondents' career choice

Factors	Mean <sup>#</sup>	Std. Dev.	Sig. <sup>a</sup>
Career opportunities	4.24	0.91	<b>0.00</b>
Belief of getting better pay	3.90	0.62	<b>0.00</b>
Family influence and support	3.21	1.15	0.38
Role models or mentors	3.24	1.12	0.26
Encouragements from college advisors, teachers or counsellors	2.97	0.98	0.83
Strong science ability and high academic achievements	2.83	1.04	0.33





Table 2 continued

Factors	Mean <sup>#</sup>	Std. Dev.	Sig. <sup>a</sup>
Self-efficacy and strong confidence to perform construction job tasks	3.28	1.00	0.14
Previous hands-on experiences related to construction	2.76	1.24	0.31
Education climate that encourages women to pursue non-traditional careers	2.97	1.09	0.91

<sup>#</sup> scale: 1 to 5, not at all important to very important

<sup>a</sup> One-sample Wilcoxon Signed Rank test

Turning into the respondents’ career expectations, Table 3 shows the frequency distribution of their career expectation gaps for eleven measurement items (i.e., E1 to E11). Encouragingly, most perceived current job conditions met or exceeded their expectations as demonstrated by the percentages of respondents in the corresponding groups that are far higher than those in the below expectation group for most of the items. In particular, there are less than 10% of respondents in the below expectation group for four expectations, namely: (i) job security (E1); (ii) comfortable working conditions (E3); (iii) advancement to higher administrative responsibility (E9); and (iv) responsibility to take risks (E11). It is also worth noting that the percentages of respondents in the exceeded expectation group for nine (out of eleven) items are all above 50%, with the highest at 72.4% for job security (E1), followed by ‘comfortable working conditions’ (E3, 69.0%); and ‘fine salary’ (E2, 65.5%). These findings provide strong evidence that the respondents’ current job conditions generally met or exceeded expectations to a great extent as demonstrated by the frequency distribution. However, as about 40% of the respondents had changed job(s) before, at the time of survey, a further analysis is needed to investigate if there are significant differences between the two group of respondents according to the groupings: (i) current job is their first job, and (ii) current job is not their first job.

Table 3 The frequency distribution of the respondents’ career expectation gaps

Expectations	Current job conditions, number and % of respondents					
	Below expectation		Matched expectation		Exceeded expectation	
Job security	1	3.45%	7	24.14%	21	72.41%
Fine salary	4	13.79%	6	20.69%	19	65.52%
Comfortable working conditions	1	3.45%	8	27.59%	20	68.97%
Regular routine in time and place of work	7	24.14%	8	27.59%	14	48.28%
Feeling of accomplishment	6	20.69%	7	24.14%	16	55.17%
Equal opportunities with male counterparts	5	17.24%	9	31.03%	15	51.72%

Table 3 continued

Expectations	Current job conditions, number and % of respondents					
	Below expectation		Matched expectation		Exceeded expectation	
Continued development of knowledge and skills	6	20.69%	8	27.59%	15	51.72%
Advancement to higher administrative responsibility	1	3.45%	12	41.38%	16	55.17%
Working independently	4	13.79%	9	31.03%	16	55.17%
Responsibility to take risks	2	6.90%	14	48.28%	13	44.83%
Being respected by colleagues	3	10.34%	10	34.48%	16	55.17%

Table 4 shows the mean scores of the respondents' career expectation gaps according to current job is or is not a first job grouping, which are the 'yes' and 'no' groups, respectively. First, as expected, the overall mean scores for all eleven measurement items are above zero (i.e., above matched expectation) given the high percentages of respondents in the matched or exceeded expectation groups (see Table 3). The one-sample Wilcoxon Signed Rank test results further show that the median values of all items are statistically significantly above zero, with the exception of item E4 'regular routine in time and place of work' that recorded the lowest mean of 0.24. It should be noted that E4 also has the highest percentage of respondents in the 'below expectation' group (see Table 3). This could be explained by the project-based nature of construction employments which has implications on employees' working time and location including working longer hours and moving between project sites. However, a further examination based on the respective mean scores for both 'yes' (mean = 0.06) and 'no' (mean = 0.50) groups for E4 provide an interesting insight. It shows that the respondents in the former group generally have a higher expectation gap than the latter group on this expectation. The mean score for the 'yes' group in E4 that is marginally above zero (i.e., matched expectation) seems suggesting that the respective respondents would need time to get used to the working routine in their first construction employment upon graduation. In contrast, for those in the 'no' group who had changed their job before, their current job matched their expectations on E4 to a great extent (i.e., 50% of the respective respondents scored exceeded expectation with a resultant mean of 0.5,  $n = 12$ ).

In addition to E4 with lowest mean of 0.06, the mean scores of the 'yes' group for the other ten items are all lower than the 'no' group, ranging between 0.24 to 0.53. This shows that the former group generally have higher expectation gaps than the latter group. There are two plausible explanations for this observation. One explanation is that the former group might had higher initial expectations in first construction employment, supporting authors' findings where fresh graduates tend to have high initial job expectations (Dainty, Neale and Bagilhole, 1999; Jusoh, Simun and Chong, 2011). The other explanation is that the results seemingly suggest first jobs offered in the industry generally failed to meet the career expectations of new female CM graduate hires. This has been evidenced to some extent in the current study (about 40% of the respondents had changed job(s)). It should be noted that there is only an item with slightly more than 50% of the respective respondents in the 'yes' group scored

exceeded expectation, i.e., comfortable working conditions (E3, with the highest mean of 0.53). This can be partly explained because some of the respondents were likely to work in an office environment as a cost estimator or quantity surveyor and their expectations were met to a great extent for E3. It is interesting though, despite of the greatly matched expectation on working conditions, item E4 on regular routine in time and place of work scored lowest mean as highlighted before. This seemingly suggests that the office-based respondents might be also required to work longer hours (for e.g., when rushing for tenders) that explain the mean difference between E3 and E4. Nonetheless, in their first job, they generally perceived their expectations on 'job security' (E1, mean = 0.47) and 'being respected by colleagues (E11, mean = 0.41)' were met or exceeded to a great extent as compared to other items.

Table 4 The respondents' career expectation gaps according to first job grouping

Expectations	Mean of expectation gaps <sup>#</sup>		
	Overall <sup>a</sup>	Group (first job) <sup>b</sup>	
		Yes (rank)	No (rank)
Job security	0.69*	0.47* (2)	1.00* (1)
Fine salary	0.52*	0.29 (5)	0.83 (2)
Comfortable working conditions	0.66*	0.53 (1)	0.83 (2)
Regular routine in time and place of work	0.24	0.06 (11)	0.50 (6)
Feeling of accomplishment	0.34*	0.24 (10)	0.50 (6)
Equal opportunities with male counterparts	0.34*	0.29 (5)	0.42 (10)
Continued development of knowledge and skills	0.31*	0.29 (5)	0.33 (11)
Advancement to higher administrative responsibility	0.52*	0.35 (4)	0.75 (4)
Working independently	0.41*	0.29 (5)	0.58 (5)
Responsibility to take risks	0.38*	0.29 (5)	0.50 (6)
Being respected by colleagues	0.45*	0.41 (3)	0.50 (6)

<sup>#</sup> Scale: below expectation (-1), matched expectation (0), exceeded expectation (1)

<sup>a</sup> One-sample Wilcoxon Signed Rank test for median equals 0, \*significant at the 0.05 level.

<sup>b</sup> Mann-Whitney U-test, \*significant at the 0.05 level.

However, as for the case of 'no' group ( $n = 12$ ), their perceptions on career expectations would have reflected experiences in previous job(s). Overall, the respective mean values are between 0.5 and 1.0 (i.e., at least 50% of them scored exceeded expectation) for nine (out of eleven) measurement items. They all perceived job security (E1) in their current job exceeded their expectation with the resultant maximum mean value of 1.0. Similarly, their expectations on salary (E2, mean = 0.83) and working conditions (E3, mean = 0.83) were met or exceeded to a very great extent. The only two items with mean scores below 0.5 are: (i) equal opportunities with male counterparts (E6, mean = 0.42) and (ii) continued development of knowledge and skills (E7, mean = 0.33). While expectations on these two items were generally met (mean  $\geq 0$ ), more than 50% had higher expectations that were not exceeded. Nonetheless, the results are encouraging since most of the career expectations were met or exceeded to a great extent after

moving to a current job. The evidence is suggestive to support that an increased maturity and work experience led the respondents to adjust their work expectations to a more realistic level.

In terms of differences between the ‘yes’ and ‘no’ groups, it can be seen that there is a difference in the mean ranking between both groups. As explained above, the difference in the mean ranking between both groups could be due to the fact that the respondents would have reflected on different expectation benchmarks depending on whether the current job is or is not their first job. Next, a further test using the Mann-Whitney U-test shows that there is statistically significant difference in distribution between both groups for their expectations on only one item, i.e., job security (E1). Although the evidence is suggestive that both groups have different perceptions on their career expectations, the differences are not statistically significant. This could possibly be explained because all the respondents were in early career development, with an average of less than 5 years of experience, even though some had changed job(s) before, at the time of survey.

Figure 1 shows the frequency distribution of the respondents’ overall job satisfaction. Surprisingly, none of the respondents have rated overall job satisfaction as very dissatisfied or dissatisfied (i.e., below the neutral point of 3 on a 5-point Likert scale). Most were either satisfied (55%) or very satisfied (21%) with the current job. The respondents’ overall job satisfaction was further examined according to the first job grouping (see Table 5).

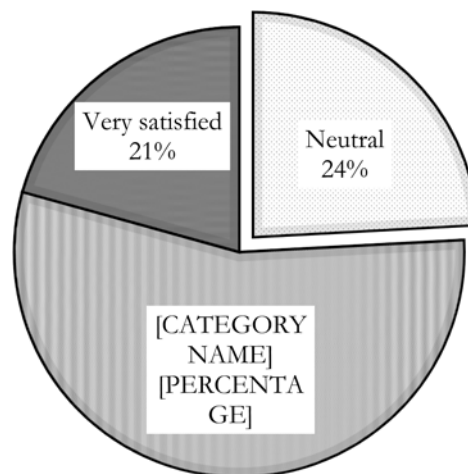


Figure 1 The frequency distribution of the respondents’ overall job satisfaction

Table 5 shows the descriptive statistics and test results of the respondents’ overall job satisfaction. The respondents’ relatively high level of job satisfaction is further demonstrated by the overall mean score of 3.97 (out of 5). A further test confirms that the median of the respondents’ overall job satisfaction is statistically significantly above three. While about a quarter of the respondents are in neutral position, the difference in distribution of overall job satisfaction between the ‘yes’ and ‘no’ groups is not statistically significant. The mean score for the ‘no’ group is just marginally higher than the ‘yes’ group, this finding is consistent with the insignificant difference between both groups on their career expectations. Above all, the respondents’ relatively high overall job satisfaction level is encouraging since the respondents were all early career women in the construction industry, which has been claimed as a hostile working environment for women (Dainty, Neale and Bagilhole, 1999; Ling and Po 2004). Indeed, their relatively high overall job satisfaction level, seemingly suggest that they were at the ‘idealistic achievement’ phase as proposed in Lu and Sexton’s (2010) four-career



development model for women. They described this career phase starts with transition from university to work, which is about adjustment to the demands of work. While they claim some women may experience a sense of reality stock in this career phase, women see themselves as being in charge of their career and are strategically planning towards successful career.

**Table 5** The respondents’ overall job satisfaction

	Mean		
	Overall <sup>a</sup>	Group (first job) <sup>b</sup>	
		Yes	No
Overall job satisfaction	3.97	3.94	4.00

# Scale: 1 to 5, very dissatisfied to very satisfied

<sup>a</sup> One-sample Wilcoxon Signed Rank test for median equals 3, \*significant at the 0.05 level.

<sup>b</sup> Mann-Whitney U-test, \*significant at the 0.05 level.

Table 6 examines the correlations between the respondents’ career expectations and overall job satisfaction. It should be noted that the correlations were not examined based on the first job grouping since there are insignificant differences between both groups as evidenced above. While most of the expectation items and overall job satisfaction are associated positively, the Spearman’s rho test shows that there is no statistically significant correlations between these measurement items. Indeed, most of the positive correlations are negligible (i.e., below 0.3). There is lack of evidence that the overall job satisfaction increased as the met career expectations increased. This finding can be largely explained by the fact that the respondents were very likely in the phase of adjusting their work ambitions and expectations at the early career stage, and that there are many other personal, work, and organisational factors influencing their job satisfaction. However, the results show that there are statistically significant positive correlations among most of the career expectation measurement items. Some of the positive correlations are indeed relatively high (i.e., above 0.7), for example, ‘job security’ (E1) is highly positively correlated with ‘fine salary’ (E2) with the recorded coefficient  $r = 0.88$ . Also, ‘comfortable working conditions’ (E3) is highly positively correlated with ‘working independently’ (E9,  $r = 0.74$ ) and ‘being respected by colleagues’ (E11,  $r = 0.727$ ). These statistically significant positive correlations have implications for human resource practices (for e.g., the communication of career expectations to future hires, organization of work and working conditions) to reinforce female employees’ met career expectations and job satisfaction in their early career stage. The respective practices could help addressing the challenges of low retention of female workforces in the industry.

**Table 6** Correlations between the respondents’ career expectations and overall job satisfaction

	E1	E2	E3	E4	E5	E6
E1	1.000					
E2	0.879**	1.000				
E3	0.620**	0.574**	1.000			
E4	0.409*	0.374*	0.671**	1.000		

Table 6 continued

	E1	E2	E3	E4	E5	E6
E5	0.504**	0.501**	0.538**	0.432*	1.000	
E6	0.510**	0.449*	0.543**	0.548**	0.686**	1.000
E7	0.405*	0.388*	0.568**	0.449*	0.704**	0.817**
E8	0.573**	0.407*	0.631**	0.659**	0.227	0.439*
E9	0.639**	0.669**	0.740**	0.471**	0.639**	0.571**
E10	0.286	0.238	0.462*	0.557**	0.277	0.573**
E11	0.619**	0.642**	0.727**	0.575**	0.564**	0.538**
Overall job satisfaction	-0.026	0.008	0.074	0.194	0.207	0.344
	E7	E8	E9	E10	E11	Overall job satisfaction
E7	1.000					
E8	0.496**	1.000				
E9	0.587**	0.524**	1.000			
E10	0.462*	0.520**	0.471**	1.000		
E11	0.602**	0.573**	0.710**	0.413*	1.000	
Overall job satisfaction	0.284	0.051	0.132	0.132	0.092	1.000

\*\* Correlation is significant at the 0.01 level (2-tailed)

\* Correlation is significant at the 0.05 level (2-tailed)

## Conclusion

This study focussed on early career women or new female construction management (CM) graduate hires. It explored: (i) the factors influencing their choice of career in construction; (ii) the extent of which their career expectations were met in the first few years of job experience; and (iii) how met or unmet career expectations are related to their overall job satisfaction. The online survey respondents were 29 female CM program graduates from an Australian University between 2012 and 2016, who have had an average of 3.39 years of experience in the industry. Of these, twelve respondents had changed job(s) before, at the time of survey. The results suggest that career choice decision process itself is complex and the individual respondents' decision were affected by many factors. The top three ranked factors are: (i) career opportunities; (ii) belief of getting better pay; and (iii) self-efficacy and strong confidence to perform construction job tasks. In examining the respondents' career expectations, they were grouped into two groups according to current job is or is not a first job. While the results show that both groups have different perceptions on the extent of which career expectations were met, the differences are not statistically significant. Encouragingly, their career expectations were met or exceeded to a great extent for almost all the measurement items (i.e., 10 out of 11). Both groups of respondents have a relatively high overall job satisfaction level, and again

there is no statistically significant difference in overall job satisfaction between the groups. Although there is lack of evidence that their overall job satisfaction increased as met career expectations increased, there are statistically significant positive correlations among most of the career expectation measurement items. These findings have implications for human resource practices of construction employers including the recruitment, pay, organization of work, working conditions, reward systems and the training and development of female employees at early career stage, in order to attract more female workforces and reinforce met career expectations and job satisfaction.

The findings of this exploratory study provide a much-needed insight on career expectations of early career women in the construction industry, whom have been claimed to have high turnover intentions. The recruitment, retention and development of these newcomers have always been challenging to construction employers. While it is recognized that real work situations are different from the expectations of graduates as well as employers, the familiarization and fulfillment of newcomers' expectations are important in the landscape of employer-employee relationship in addressing the associated challenges. Finally, there are research limitations that prompt to the need of future research. There are other personal, work, and organisational factors influencing early career women job satisfaction that have not been considered in the current exploratory study. There is also a need to explore the challenges encountered and how early career outcomes were perceived and realised which could provide a further insight of job satisfaction. Future study could also consider different facets of job satisfaction of early career women in construction using multiple job-facet items. Indeed, there is a dearth of literature on the concept of met career expectations and how it relates to job satisfaction, organizational commitment, job performance and turnover intentions among construction professionals (both newcomers and experienced). Finally, the working experiences of male workforces in their early career stage in construction seems to have been missed out in the literature to enable comparative studies.

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