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## Career Choice and the Experience of Project-Based Work

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### Abstract

A trend towards project based organisation of work has given rise to increasing demand for skilled and experienced personnel to fill project roles across a wide range of industries. For this demand to be met there is a need to enhance the entry and continuing participation of both men and women into project based careers. The nature and context of project-based work combines with sectoral characteristics to present both barriers and support that influence career choices and experiences. Using social cognitive career theory (SCCT) as a lens, this paper contributes to understanding of the relative involvement of women and men in project roles by exploring the ways they perceive the experience of project based work and the personal and contextual factors that influence their careers.

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## 1. Introduction

Industry statistics and research studies report higher numbers of men than women in project roles and there is strong evidence that women are consistently paid less than their male counterparts (PMI, 2013a). One indicator of the relative number of women and men in project roles is membership of professional associations. The Project Management Institute membership survey reported 29% female and 71% male members in 2013. Figures for female membership of the Association for Project Management (UK) were slightly lower at 17% although the number of female qualification takers was 30% (Association for Project Management, 2013). Research study samples tend to reflect these percentage splits, and even where positive attempts are made to include female respondents the number of women rarely goes above 40%.

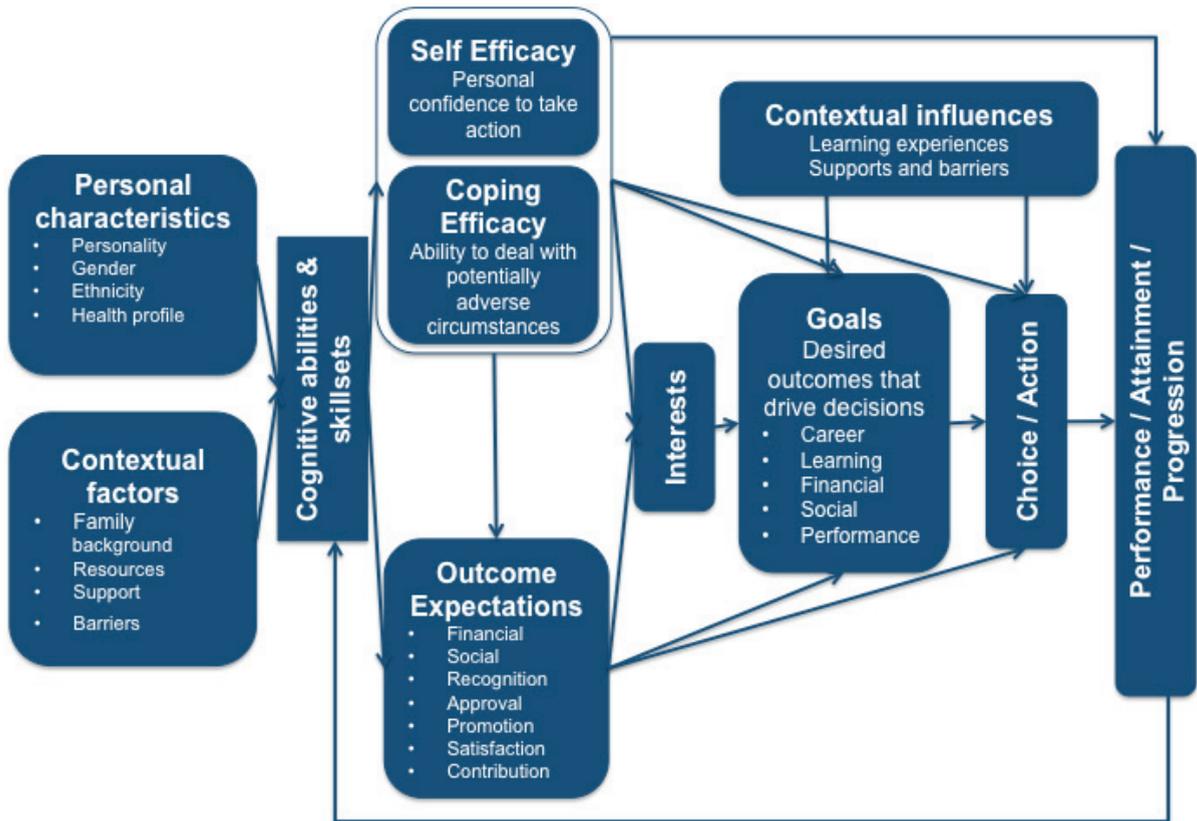
As work is increasingly project-based (Lindgren & Packendorff, 2006), this persistent under-representation of women is indicative of occupational segregation, which is a source of concern as it causes labour market rigidity and inefficient use of human resources (Anker, 1997; Blackburn, Browne, Brooks, & Jarman, 2002). This is particularly relevant for project-based work as demand for project personnel is expected to increase significantly over the next ten years (PMI, 2013b). Career choice and continuing engagement are factors that influence participation in particular disciplines and work roles. As a basis for enhancing the participation of both men and women in project-based work, this paper uses social cognitive career theory (SCCT) as a lens to explore the factors that influence choice of project based careers and career progression.

## 2. Literature Review

Evidence for the under representation of women in project roles is plentiful. Numerous studies undertaken predominately in the UK indicate that the image and reputation of a male culture in project based industries such as construction has been identified as a primary reason (Cartwright & Gale, 1995; Dainty, Bagilhole, & Neale, 2001; Fielden, Davidson, Gale, & Davey, 2001; Worrall, Harris, Stewart, Thomas, & McDermott, 2010). Cartwright and Gale (1995) found that the organizational culture is particularly masculine and that education acts as its gatekeeper, restricting access to project management roles by women.

Considerable research has been undertaken into the persistence of gender inequality in engineering and construction, identifying cultural and structural barriers as well as other factors that encourage or discourage entry into the industry. Factors identified in various studies include socializers such as teachers, parents and colleagues; career rewards, such as job prospects and salaries; educational experiences; social identity including a desire to make a contribution to society or work in a team; and specific characteristics of the nature of the work (Powell, Bagilhole, Dainty, & Neale, 2004; Jawitz & Case, 1998). Powell et al (2010) present a review of literature that confirms the importance of gender and identity in career choice.

Social cognitive career theory (SCCT) (Lent, Brown, & Hackett, 1994; Lent, Brown, & Hackett, 2000) provides a framework for understanding how people form interests, make career choices and achieve relative degrees of career success. Based on Bandura's (1986) social cognitive theory, SCCT focuses on cognitive variables such as self-efficacy, outcome expectations and goals and their interaction with other personal (eg gender, ethnicity) and contextual factors (eg education, learning experiences, financial and social) that may present barriers or provide support in shaping career choices and progression. Such interactions are complex as opportunities, resources, barriers and affordances are subject to individual differences in interpretation and response (Astin, 1984; Vondracek, Lerner, & Schulenberg, 1986). Since its articulation by Lent, Brown and Hackett in 1994, SCCT has



been widely used as a theoretical framework for research and understanding of career choice. Although it has been further developed, the key variables remain largely the same. Figure 1 indicates the theoretical relationship of these variables and their contribution to work satisfaction.

Figure 1: Model of Career Choice and Progression Based on models developed and presented by Lent et al., 1994; Lent & Brown, 2006; Brown, Lent, Telander, & Tramayne, 2011

Cognitive abilities and skills, personal characteristics and a range of contextual factors such as family background and resources give rise to interests that influence educational and career choices. Learning experiences, through education, work and life, moderate interests and choices.

**Self efficacy** is a person's confidence in their ability to successfully undertake work tasks and respond to challenges. **Coping efficacy** is the ability to deal with potentially adverse circumstances and barriers to performance achievement. As Lent et al (1994, p. 106) suggest, "supports, opportunities and barriers – like beauty – lie at least partly in the eye of the beholder". Different people may view potential obstacles to performance "alternatively as an insurmountable barrier, a minor obstacle, a character-building opportunity, or even a personal contest or challenge" (Lent et al., 2000). Self efficacy has been found to be a predictor of academic and career choice and success and both relevant skills and a strong sense of self efficacy are considered necessary for competent performance of complex tasks (Lent et al., 1994). Aitken (2011) found that project managers have a stronger belief in their own actions resulting in positive outcomes as evidenced by their general level of self-efficacy relative to general populations.

While self efficacy is concerned with personal confidence to respond and take action, **outcome expectations**

relate to potential consequences of decision and action. Anticipated outcomes may be financial, social including identity and recognition, approval or promotion, self- satisfaction, or the desire to make a societal contribution.

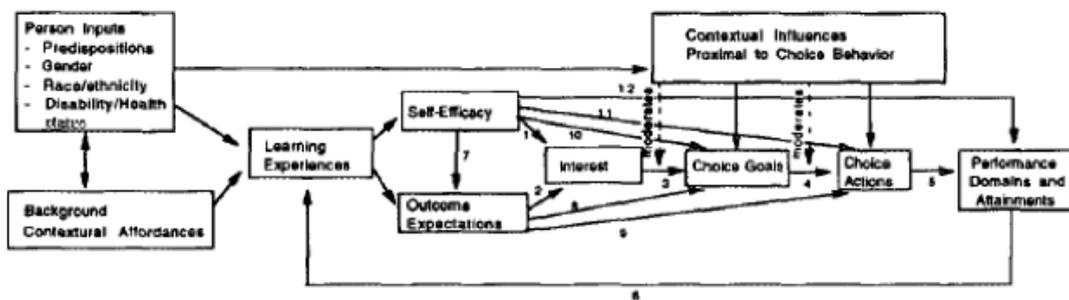
**Goals** are desired outcomes that drive and direct behaviour. Such goals may include career direction and progression, work opportunities, financial or social rewards, or they may be desired levels of workplace performance. They may therefore be the same or similar to expected outcomes, but are qualitatively different in that they are a fundamental aspect of personal agency. One may expect or anticipate certain outcomes. One plans, takes decisions and actions and pursues specific directions usually over a period of time to achieve desired goals.

**Contextual factors** are those aspect of the person and their environment in their formative years and throughout their work life, generally in the form of supports or barriers, that influence their choices in terms of interests, goals, and actions (Lent et al, 1994). Characteristics of the person relevant to career choice and progression include aspects of their personality, ethnicity, gender and health profile. These characteristics interact with other contextual factors such as parental, partner or teacher support or discouragement, family history including potential career role models, financial status and aspects of the external environment such as organisational context and economic conditions particularly those affecting work opportunities. Such influences will tend to have positive (supportive) or negative (constraining) effects which will be perceived and reacted to by different people either as

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FIG. 2. Model of person, contextual, and experiential factors affecting career-related choice behavior. Copyright 1993 by R. W. Lent, S. D. Brown, and G. Hackett. Reprinted by permission.

3. Research Design

A qualitative research design was adopted for this research, using semi-structured interviews to gain insight into the career journeys and experiences of practicing project managers. Sixty interviews have been conducted across two industry sector groups: engineering / construction and information technology/business. The study consisted of depth interviews with those in project roles. Such roles included but were not limited to construction managers, project and program managers. A conscious attempt was made to engage interviewees of at various stages in their career journeys. The average age of those interviewed was 42, the youngest being 24 and the eldest, 61 years.

Face to face interviews were conducted at a location determined by the interviewees or by telephone. The semi structured interview format was developed through a literature search and each interview lasted approximately 60 minutes. Interviews were recorded and transcribed verbatim. Participation was voluntary. Responses were treated as anonymous and results confidential. A snowball approach to sampling was used. Data were analysed and coded using the qualitative analysis software, Atlas.ti (Friese, 2012) drawing on Lent, Brown and Hackett’s (Lent et al.,

1994; Lent & Brown, 2006; Brown, Lent, Telander, & Tramayne, 2011) model of social cognitive and contextual influences on career choice behavior. Due to the qualitative nature of the study findings and discussion will be presented together.

Table 1: Research participants by industry and gender

	Engineering / Construction	Business / IT	Total	%
Male	21	21	42	70%
Female	10	8	18	30%
Total	31	29	60	100%

## 4. Findings and discussion

### 4.1. Cognitive abilities and skillsets

Particular cognitive abilities such as mathematical aptitude, are influential in formation of interests and choice of educational pathways. School leavers considering career choices are most likely to be drawn to the established disciplines. They would have been unlikely in the past and even at the present time, to consider project management as an initial career choice. Those in project based roles generally have a degree in one of the established disciplines, most commonly engineering although some do not have academic qualifications, having come to the role through a range of work experiences. Postgraduate degrees in project management are readily available worldwide as are professional certifications which are the most common evidence of a project specific skillset and associated knowledge.

Of the male respondents interviewed for this research, the most direct and common pathway into project based careers was through a degree in engineering. This is not the case for the women whose initial and later educational and career choices were wide ranging, including engineering as well as history, veterinary science, media and communications, advertising, marketing, human resources, organizational change management, business and law. Pathways into project management are often circuitous. When asked if project management was her first preference, one woman responded:

*No, I actually didn't consider it. I guess I always thought I would end up more in management consulting, or marketing, advertising. I actually did my advertising and marketing degree ....., and then did law overseas. [F4\_F\_CON].*

Another woman said:

*I enjoy projects, my background isn't engineering, and a lot of people I work with are engineers and I absolutely love working with them because there is such a difference between what they bring to the table and what I have. [C1\_F\_Eng]*

If engineering is the primary entry point to a project based career it is not surprising that women are under-represented as the low numbers of women entering engineering and construction degrees and careers is well researched and documented (Powell et al., 2004; Powell, Dainty, & Bagilhole, 2010; Marra, Rodgers, Shen, & Bogue, 2009; Saifuddin, Dyke, & Rasouli, 2013; Worrall et al., 2010).

With project management skills and experience in one industry there is evidence that it is possible to transfer to other industries and project types.

*I'm a PM and I don't see myself as being held into one industry, so I've gone from industry to industry. [C5\_M\_ENG]*

Particular experience or skillsets such as change management are most likely to provide a platform for transfer to another organization, project type or industry. Skills are often developed in the workplace although external recognition through professional certification is mentioned.

*I took small, short courses along the way where they've been available through employers, but largely through learning by doing and by observing, that's how I've built my skills, I've "done my time" really. At this point in time I'm undertaking the Diploma certification through the AIPM, certification for the CPM ticket and that's entirely off my own bat just to cement what I've been doing for the last 10 or 12 years, as a transferrable qualification that's recognised elsewhere. [C4\_M\_Bus]*

#### 4.2. Self efficacy

Research indicates that those in project based roles are likely to have higher levels of self efficacy when compared with a general population (Aitken, 2011) and higher levels of self efficacy are associated with positive career progression. The interviews provide ample evidence that project personnel enjoy variety and challenge and have confidence in their ability to successfully tackle complex tasks. High levels of self efficacy also appear linked to career progression.

*I again took the same philosophy of biting off as much as I can chew, and throughout the course of that job promoting me through to Senior Project Engineer, which ruffled a few feathers within that team, because there were a few long standing .... guys there who are older than me, and I was sort of promoted past them, which I suppose that's just one of those things. [B3\_M\_CON]*

From the interviews, men appear more willing to express their confidence in their own abilities

*Not to blow my own horn but I get along well with people and to be a PM you need to have good communication skills, and I don't know but it just works and I get along well with people and I build a good rapport and its working for me so I'm just going with it. [C8\_M\_IT]*

Women seem to be more reserved and reflective. They demonstrate self efficacy but in a more restrained way, in keeping with the evidence that women are less inclined to self promotion than men (Rudman, 1998; Marcus, 2014):

*I have a combination of big picture thinking and ability and sort of draw those things out, but also an eye for detail in terms of implementing this kind of change. [B6\_F\_CON]*

*... the role that I have now has had a big impact... probably for four to five years, four years before that, my role didn't really change. I might have been working for different clients, but my role didn't really change. I was very much just one project, and then since being at [Company] I've gone to multiple projects at once, I'm now managing a program. That's a fairly significant thing for me and I'm really enjoying it. [F2\_F\_CON]*

Evidence of self efficacy also provides some insight into the experience of in project based work.

*.... I think in this industry you have got to be sort of self motivated if you want to get anywhere. [The company] are ... of the opinion that you throw people in at the deep end and if you swim to the top you keep moving forward whereas if you don't you kind of get parked to a certain extent. [B10\_M\_CON]*

*... it's all results. If you can run your projects, and prove that you can run them. ....I think*

*over time my track record has spoken for itself.[F3\_M\_CON]*

Career progression requires an active approach and strong self efficacy and you may only be considered as good as the performance of your last project.

#### 4.3. Outcome expectations

The interviews provide evidence of a wide range of outcome expectations or expected consequences of decision and action. Approval, promotion, challenge and self-satisfaction are strong drivers for those in project roles.

*I want to be delivering much more complex projects, larger projects, bigger teams, learning different ways of commercial delivery. I then want to go onto a bigger project roles.  
[C9\_M\_ENG]*

Outcome expectations of women may be more colourfully and emotively expressed:

*...then I got to the point of being a client side project manager, **and that's where I found my happiness.**[F2\_F\_CON]*

Monetary rewards are clearly important for many although this is only one of a number of considerations. The following three quotes provide insight into the nature of financial outcome expectations firstly for a 28 year old woman recognising that a male counterpart is receiving a higher salary, a 47 year old with a varied background in the midst of their career, and a 57 year old considering imminent retirement.

*I don't think that I'll get any more money in the near future. So we'll see if I stay here.  
[F4\_F\_CON]*

*I have moved many times. IBM and Motorola in Telecoms, Petroleum, Automotive. Ended up in banking probably because they pay the best. [C10\_M\_BUS]*

*I am 57 and reaching a point in my career where I am interested in maximising my revenue.  
[C13\_M\_IT]*

#### 4.4. Goal direction

Goal direction differs from outcome expectation in that it involves the expression of desired goals and specific plans or actions to achieve them. Goals articulated by interviewees included career progression:

*For me, as I said when I first started, it was all about getting as high as I could as quickly as I could. And really I've always assessed the forks in the road in terms of what's going to give me the best outcome at the end of the day. [B3\_M\_CON]*

challenge and work satisfaction:

*If I get into governance or PMOs, I have the ability to influence the organisation's attitude towards its projects, and therefore perhaps influence all of its projects. So that's where I really want to get to. [C19\_M\_BUS]*

and goals relating to levels of performance:

*Except for one project I think every other job I have been on I have enjoyed and actually all the projects I have been on have given me the opportunity to either perform at the level I need to or take the next step so you know obviously you get offers to go to other companies.  
[B11\_M\_ENG]*

#### 4.5. Contextual factors

Learning experiences and support through mentoring are the most consistent career relevant contextual factors revealed in this study. Throughout the interviews there is strong evidence that learning experiences are an important aspect of and contributor to career decisions and progression in project based roles for both men and women. In many cases people seem to learn their way into a project based career, being offered challenges and opportunities that others with lower levels of self efficacy might not take, and finding themselves managing projects.

*...that very first secondment was an invitation into a project world and I was very lucky it was a well-managed project. I learnt more what to do than what not to do. In the projects that followed I learned what not to do. [C7\_F\_IT]*

Under these circumstances, experiential learning is vital to performance but these project people seem to consider the opportunity to learn a significant contributor to their job satisfaction.

*I have enjoyed working here. I am on a mammoth learning curve; if I wasn't learning anymore I would perhaps move on or get it from elsewhere. [C1\_F\_ENG]*

*I've pieced together my career by working in a number of organisations picking up different experiences and reflecting on them and building my tool sets and capabilities as I go and usually you're working forward and sometimes you take time to reflect. I've worked for big companies and small companies, the business side, the IT side, structured environments and immature environments and I just learn from each and piece it together. An external mentor would be a worthwhile sounding board to have. [C4\_M\_BUS]*

Support provided by mentoring was a consistent theme throughout the interviews for both men and women. Appreciation of informal mentoring from work colleagues, usually outside the company, and from social networks is more common than formal in-company mentoring arrangements.

*I've been quite lucky that I have networks outside of [company] as well. The networks I like to maintain, because it keeps you current, it keeps you aware of all the challenges that other organisations are facing too and how they evolve their work as projects change and grow and get bigger. [C11\_F\_ENG].*

Short term mentoring to assist in dealing with current issues and challenges appears more prevalent than long term career advice.

*...when I first started out, somebody with thirty years' experience in that industry and project management was my mentor and set me up, guided me and gave me direction. It has always since then been about on the job mentoring and learning, and I have always found mentoring extremely beneficial. [C2\_F\_ENG]*

## 5. Conclusions

Results of this research provide insight into the ways in which women and men enter into, progress and perceive the experience of project-based work. Significantly, for those currently in project roles, it is unlikely that projects were a first or even planned career choice as most find their way into the management and leadership of projects along diverse pathways. Availability of an increasing number of undergraduate degrees in project management, and the rising awareness of project management as a career pathway, fostered and promoted by professional associations, can be expected to increase entry into project based careers as a first choice. This may also facilitate increasing participation of women in projects as availability of earlier and more specific entry points weaken the past trend towards entry via male dominated engineering qualifications.

There is evidence that project management is a transferable skillset, enabling movement between organisations, project types and industries throughout a career. Skills are primarily developed in the workplace with professional certification being used as a recognition and validation of skillsets and postgraduate qualifications adding value and credibility to assist in skill development and support career progression.

Men and women in projects view their skills and abilities differently with women tending to value a broader skillset than men who often focus their efforts through specific discipline choices. In the area of their personal belief in their skills, women appear restrained about their own belief in their abilities in project management while men are more exuberant. This difference is reflected also in the area of outcome expectations. Monetary gains and promotions appear high on the agenda for men while women consider other issues, often in addition to monetary requirements and promotional opportunities or lack thereof. Career progression is considered the responsibility of the individual, requiring an active approach and strong self efficacy. Career goals include approval, promotion, challenge, self-satisfaction as well as monetary rewards.

Learning experiences are valued and sought by both men and woman and are considered an important factor in career choice, development and progression. To date, those in project based roles have found themselves working in projects and have chosen to continue along this pathway because they enjoy the experience of project based work. Experience on projects of different types, offering increasing levels of challenge are considered essential to the development of skills and a major contributor to work satisfaction.

Finally, career support through formal and informal mentoring is generally appreciated but especially by women who appear to value relationships including opportunities for individual mentoring and networking throughout their careers. Men value connections through movement between project experiences.

These insights provide greater understanding and visibility of the factors that influence the career choices and progression of both men and women and provide a basis for working towards greater participation as well as gender equality in terms of representation in project based work.

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