

# Chapter 13

## Progression of UK Women Engineers: Aids and Hurdles

**Haifa Takruri-Rizk**  
University of Salford, UK

**Natalie Sappleton**  
Manchester Metropolitan University, UK

**Sunrita Dhar-Bhattacharjee**  
University of Salford, UK

### ABSTRACT

*Whilst evidence presented in recent scholarship suggests initiatives aimed at increasing female recruitment to the industry may be proving somewhat effective, retention of female engineers is falling, and there has been minimal progress on breaking down vertical segregation in the engineering workplace. In this chapter the authors explore the situation of women engineers in the UK; they examine, using qualitative and quantitative data collection methods, whether women in engineering do indeed suffer from the application of descriptive and prescriptive stereotypes in the workplace, and how they are able to circumvent them. In particular, the authors instigate the factors, such as self-promotion and confidence, which may aid or hinder the progression of women's careers. They urge educational institution and engineering industries and organisations to nurture such qualities. Their findings indicate that confidence and self-promotion should be high on the agenda of women engineers to survive and progress in the engineering industry.*

### INTRODUCTION

Social psychologists examining organisational gender relations have confirmed the existence of a 'double bind' for professional women (Rudman & Glick 2001). This bind arises because of the ap-

plication of stereotypes to women in their gender and occupational roles. As women, they are assumed to possess communal traits (nurturance, kindness, consideration for others) (Parsons & Bales, 1955), and at work, because of their shorter working histories and lesser social status they are assumed to be less competent than men (Acker, 1990). Put simply,

DOI: 10.4018/978-1-61520-657-5.ch013

because of the prevalence and pervasiveness of stereotypes regarding the proper role of women in the workplace, women who exhibit agentic behaviour may suffer from a backlash effect expressed in negative social repercussions (Glick & Fiske, 1999). Engaging in agentic behaviour might allow them to break down the stereotype of lesser capability, but such behaviour and its correlates (independence, forcefulness, competitiveness, ambition) are incompatible with the prescriptive communal stereotype. Rudman (1998: p. 629) describes succinctly how self-promotion – highlighting and marketing one’s skills, qualifications, prior successes and expertise – can be a double-edged sword for women:

*Because social influence is a function of both competence and social attraction (e.g., Carli, LaFleur, & Loeber, 1995), women may suffer from backlash effect in which self-promotion may enhance perceptions of their qualifications, but at the cost of social rejection. That is women may be stuck in a catch-22 in which they are damned if they do self-promote and damned if they don’t. (Rudman, 1998, p629)*

Thus, although a woman can be perceived as competent when assuming “masculine” behaviours, she risks being judged as insufficiently likeable. In contrast, agentic men are acting in accordance with the stereotypic prescription that this is natural behaviour, and although this may mean that they too, such men are not perceived as likable, likeability is not a prescribed stereotype for men. Thus women and men who behave in an identical fashion are judged differently, with women being treated more harshly (Heilman, 2001).

Recent statistics suggests that initiatives aimed at increasing female recruitment to engineering may be proving somewhat effective in the UK<sup>1</sup>. However, the retention of female engineers is falling and there has been minimal progress on breaking down vertical segregation in the engi-

neering workplace (Charles, 2004). In the review and critique of the science, engineering and technology (SET) literature, Sappleton & Takruri-Rizk (2008) consider the persisting low representation of women in SET professions and argue that the path or “pipeline” for female progression through SET professions endures an increasing level of attrition at specific points after the entry stage for varied reasons. This is despite over 30 years of equality legislation and the recent introduction of the gender equality duty. We suggest that the ‘double bind’ may be a major contributing factor to this stasis. Women in nontraditional fields like engineering suffer from the likeable-but-incompetent impasse to a greater extent than women in more traditional domains of work because these women have what Glick and Fiske (1999) refer to as a negative (competitive) interdependence with their sector’s in-group, i.e. men.

In this chapter we examine whether women in engineering careers in the UK do indeed suffer from the application of descriptive and prescriptive stereotypes in the workplace, and how, if at all, they are able to circumvent them. In particular, we instigate the factors, such as self-promotion and confidence, which may aid or hinder the progression of women’s careers. After the background literature we present our research methodology. Using focus groups, questionnaires and in-depth interviews with engineers, technical directors and human resources (HR) professionals, we captured the experiences of men and women working in engineering occupations. Next, we present an analysis of the qualitative and quantitative data we collected supported by the research of other scholars in similar fields. We investigate the personality/character that may help female engineers to “get in and on” in the engineering industry. Then, we inspect the perception of the women who do possess the “winning female engineer character” and hence managed to shatter the glass-ceiling and climb up the career ladder. Our findings indicate that confidence and self-promotion should be high

19 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/progression-women-engineers/43212](http://www.igi-global.com/chapter/progression-women-engineers/43212)

## Related Content

---

### Sights Inside the Virtual Engineering Education

Giancarlo Anzelotti and Masoumeh Valizadeh (2010). *Web-Based Engineering Education: Critical Design and Effective Tools* (pp. 160-174).

[www.irma-international.org/chapter/sights-inside-virtual-engineering-education/44734](http://www.irma-international.org/chapter/sights-inside-virtual-engineering-education/44734)

### ISO 14000 Environmental Management System for Sustainable Development and Environment in Business

Ilknur Sayan (2021). *International Journal of Quality Control and Standards in Science and Engineering* (pp. 15-24).

[www.irma-international.org/article/iso-14000-environmental-management-system-for-sustainable-development-and-environment-in-business/286157](http://www.irma-international.org/article/iso-14000-environmental-management-system-for-sustainable-development-and-environment-in-business/286157)

### Impacts of School Administration Autonomy Support on Students' Learning Motivation and Intentions to Drop out of Vocational School

Bui Thi Thuy Hang, Amrita Kaur and Arun Patil (2015). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 1-12).

[www.irma-international.org/article/impacts-of-school-administration-autonomy-support-on-students-learning-motivation-and-intentions-to-drop-out-of-vocational-school/134873](http://www.irma-international.org/article/impacts-of-school-administration-autonomy-support-on-students-learning-motivation-and-intentions-to-drop-out-of-vocational-school/134873)

### Quality of the Student Experience: An International Study

Chenicheri Sid Nair and Mahsood Shah (2012). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 34-40).

[www.irma-international.org/article/quality-student-experience/69790](http://www.irma-international.org/article/quality-student-experience/69790)

### Defining Knowledge Constituents and Contents

Sead Spuzic, Ramadas Narayanan, Megat Aiman Alifand Nor Aishah M.N. (2016). *International Journal of Quality Assurance in Engineering and Technology Education* (pp. 1-7).

[www.irma-international.org/article/defining-knowledge-constituents-and-contents/163287](http://www.irma-international.org/article/defining-knowledge-constituents-and-contents/163287)