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**‘Climbing the Fire Service Ladder of Success – A Matter of
Perceptions’**

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This study investigates the perceptions of managers within the British Fire Service in relation to the values placed on various managerial attributes required to work within strategic management. The research examines whether these perceptions are a contributing factor to the lack of progression made by female firefighters into positions of strategic management.

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PLEASE NOTE THAT ONE APPENDIX HAS BEEN OMMITTED FROM THIS DISSERTATION DUE TO THE CONFIDENTIAL NATURE OF THE CONTENTS.

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Executive Summary

This study investigates the perceptions of managers within the British Fire Service in relation to the values placed on various managerial attributes required to work within strategic management. The research examines whether these perceptions are a contributing factor to the lack of progression made by female firefighters into positions of strategic management.

Interpretivism is proposed as the epistemological positioning of the study as it examines whether meaning can be applied to the social reality of Fire Service managers. The methodology primarily uses an inductive approach examining general patterns that emerge from the data. From an ontological perspective, constructionism is the view taken, because the Fire Service is continually in a state of flux and during this research some of the Fire Services involved were changing from a rank based structured to one organised around roles. A multi-strategy approach was adopted using quantitative and qualitative methods allowing for triangulation in terms of data analysis. This type of approach ensured both data sources were used to provide a greater understanding of the complex nature of perceptions.

The literature review indicated a numbers of studies have been completed comparing and contrasting the managerial styles of men and women. The Fire Service is an under-utilised arena for study and, as a traditionally male-dominated occupation, it provides an interesting backdrop for the comparison of perceptions across genders. The literature further indicates the perceptions of supervisory/middle managers and strategic managers' offer opportunities for research. The literature review indicates that the genders have differing perceptions of the relative importance of specific managerial attributes and individual progression into strategic management. This research examined whether these perceptions are a contributing factor to the glass ceiling that exists for female operational firefighters and managers within the Fire Service and.

It emerged during the research that male and female managers have similar perceptions as to the managerial attributes required to gain promotion to strategic management. However 2 of the managerial attributes utilised in the data collection recorded levels of statistical significance between the genders in terms of the importance applied to each.

The result for strategic thinking illustrated that female managers felt this was more important than male managers. In contrast however male managers felt that the inclusion of sub-ordinates within the decision making process was more important than female managers.

When examining the perceptions of these managers in terms of what they thought strategic managers felt important there were several key differences highlighted during the statistical analyses. The managerial attributes of empathy, emotional stability and creative thinking were felt by female managers not to be important in the opinions of strategic managers. The final managerial attribute that recorded statistical significance was that of decision making based on appropriate and adequate information. Female managers scored this attribute as more important in the opinion of strategic managers than their male colleagues.

On comparison male managers across the management tiers had differing views as to the importance placed upon categories of managerial attributes. The results from the research show that male supervisory/middle managers had different views as to the importance of 50% of the managerial categories when compared to the scores applied by the strategic managers.

A number of barriers to the progression of females emerged during the research including differences in leadership styles, prejudice, the low numbers of female within the occupation and lack of access to old-boy networks. This study concludes that there are differences across the genders and the managerial tiers within the Fire Service as to the importance of specific managerial attributes required to work at a strategic management level. There are also barriers to the progression of female firefighters and as such a glass ceiling does exist for female uniformed officers within the British Fire Service.

Chapter 1 Introduction

Women in management have been subject to a number of studies over the past 30 years with which have attempted to determine a difference in leadership and management style between genders. Although some women have progressed into management tiers within private and public organisations inequalities still exist within some occupations (EOC 2004). Wajcman (1998 p.1) states:

“As we approach the end of the twentieth century, men continue to monopolise the elite levels of corporate power in almost all regions of the world. While the legitimacy of patriarchy has been eroded, it is far from being rendered obsolete. The material and institutional structures of patriarchy are still largely intact.”

This study examines the issue of, ‘glass ceilings’, within a public sector organisation focussing on the view that perceptions of uniformed managers create inequalities and therefore have a direct effect on the number of uniformed females that achieve strategic managerial levels. The public sector organisations providing the backdrop to this research are the British Fire Services and due to the low number of female officers this study will examine managerial perceptions from a national perspective.

1.1 Research Background

Although the British Fire Service has been operating for a number of years and has been involved in modernisation efforts the recent industrial action thrust the Fire Service and the manner in which it operates into the public arena. In 2004 the publication of the Fire and Rescue Services Act (FSRA 2004) resulted in further changes for individual Fire Services in both general and specific terms which have been and continue to be implemented.

1.1.1 The British Fire Service - Past

The Great Fire of London in 1666 was the catalyst to the establishment of the Fire Service with individual services forming linked to differing property insurers (Segers 1989). In 1667 the first of these insurance companies providing fire cover was formed by Dr. Barbon in London who in 1680 set up the ‘Fire Office’ with a group of friends (Lloyd-Elliot 1992). In 1688 King James II granted a charter under which the Fire Office was incorporated and by 1827 the General Fire Engine Establishment had combined the fire insurance companies into one (Segers 1989). These fore-runners to the modern Fire Service only dealt with fires in property insured by their companies and had no life saving role. Outside of London the

majority of large cities followed the set example; although within rural parts of the country no specific arrangements were available to individual houses or property owners (Segers 1989). In 1947 following WWII there was a marked change from this type of fire provision when the Fire Services Act placed a statutory responsibility upon local government to provide an efficient fire service to protect life and property from fire and render humanitarian services. This resulted in the formation of 50 services across England and Wales (appendix 1) with shift patterns providing fire cover according to the regulations laid down by the 1947 Act. The Fire Services reported to a Minister of Fire in the Home Office and Her Majesty's Fire Service Inspectorate (HMFSI) who dealt with the efficiency of individual services and eventually this role was extended to include Finance, Best Value, and Equal Opportunities. The Fire Services Act remained in place with the Fire Service Discipline Regulations and the Grey Book Conditions of Service as the only guides to local government for providing a Fire Service until the FRSA 2004.

1.1.2 The British Fire Service - Present

Following the FRSA 2004 the Fire Service is now controlled by the ODPM with the HMFSI having a limited advisory capacity relating only to operational aspects. There are still 50 services through England and Wales each providing fire cover as the service sees fit which is a marked move away from the prescriptive Fire Services Act 1947 which stipulated specific appliance numbers and attendance times. In 1870 an article posted within *Fireman* (a journal written almost exclusively for a male readership) stated (Lloyd-Elliot 1992 p.190):

"Whether women will generally take to this occupation of extinguishing fire is doubtful, although there is no question that they often exhibit a courage and sang froid when houses they inhabit are on fire. On the other hand, they do sometimes go off in hysterics."

In 2004 33,585 firefighters served nationally within the uniformed wholetime shift pattern; comprising of 32,892 male and 693 female officers across the individual services, equating to a 2% female representation (ODPM 2005). One service employed no female firefighters and only 50% of the services employ more than 10 female firefighters (ODPM 2005). In relation to uniformed managers only 36 of the 50 Fire Services have women working within these roles with the first female firefighter having joined the London Fire Brigade in 1983 (Lloyd-Elliot 1992). The Fire Service was set targets by the Home Office in 1998 following the production of 2 reports into equality and diversity within the occupation relating to female representation and ethnic group representation with the occupation (APU FireWorks

2003). The key milestones set were 9% of the uniformed wholetime operational workforce to be female by 2004 and 15% by 2009 (ODPM 2004).

Within the Fire Service there is a hierarchical structure with all operational managerial positions being attained through a single-tier entry system (Appendix 2). Individuals join the operational side of the service as a firefighter and then with the appropriate skills and experience can gain progression to the higher levels through a system of Assessment and Development Centres. As individuals move up the rank structure they become removed from the operational aspects and are involved in the management of the organisation, they only attend larger incidents to manage operations. Recently the production of role-maps for the Fire Service detail the skills and attributes required to work within all ranks and are designed to assist in explaining the requirements of the differing managerial levels within the service.

1.1.3 The British Fire Service - Future

In conjunction with the FRSA 2004 the ODPM issue an annual National Framework containing indications and guidelines dictating the future of the Fire Service within England and Wales. The National Framework also illustrates the manner in which the ODPM expects each Fire Service to operate including the regionalisation of a variety of functions incorporating vehicle maintenance, training, and human resources (National Framework 2005). The most visible of these projects nationally is the regionalisation of Fire Control Centres which will be in place by 2008.

The management structure of the Fire Service is undergoing changes being driven nationally designed to flatten the hierarchy into 3 broad management tiers; supervisory management, middle management and strategic management within which are 7 roles (appendix 2). There is also a move towards multi-tier entry allowing appropriately skilled individuals access to the fire service with Durham and Darlington most recently appointing a female non-uniformed/non-operational Chief Executive.

1.2 Research Questions

The reason behind the British Fire Service being chosen for this study relates to the simple fact that although women have served in an operational capacity for the past 23 years, across the country no female has achieved an operational rank assigned to strategic management within any of the Fire Services. In 1999 the HMFSI conducted a thematic

review into Equality and Fairness and found that overall the service was institutionally sexist and with an overwhelmingly collective view that women did not belong in the operational side of the Fire Service. Following this review individual Fire Service's introduced measures to promote the inclusion and recruitment of women linked to the Home Office targets relating to the percentages of women in operational roles. Despite these measures there are still relatively low numbers of women working within an operational capacity and even less at managerial levels (table 1).

These statistics suggest that the prevalent opinion is that women are not capable of being either firefighters or managers within the Fire Service and as such this research will examine the managerial issue. The researcher is interested in determining whether a contributing factor to the lack of female progression within the Fire Service is the perceptions of individual officers including both female and male views. Accordingly the research questions have been formulated to capture this and are stated as follows:

RQ1. Will female and male supervisory/middle managers have different perceptions as to the attributes required to gain promotion to strategic management levels?

RQ2. Will female and male supervisory/middle managers have different perceptions of the importance placed by strategic management on specific managerial attributes?

RQ3. Will male supervisory/middle managers have similar views to male strategic managers as to the managerial attributes required to operate within a strategic managerial role?

The primary research for this study was conducted through: -

- a) The use of questionnaires for female and male managers serving within the British Fire Service and occupying the same ranks. The questionnaire was adapted from one designed by Wood (2003) and is intended to measure perceptions of the managerial traits deemed vital to managing at a strategic level. The management attributes are assigned to the categories of delegation, conflict management, coaching and development, personal organisation/time management, communicating, personal adaptability, problem analysis/decision making and finally personal qualities.
- b) Semi-structured in-depth qualitative interviews with strategic managers from a number of Fire Services that have supported the quantitative research.

The majority of studies examining the different management styles of female and male managers utilised quantitative methods which are pre-defined by specific dimensions. The resultant studies are consequently limited because they do not reflect in-depth the underlying perceptions of the individuals involved. This study will use both a quantitative and qualitative approach in an attempt to provide a greater understanding of the perceptions relating to managerial attributes within the Fire Service.

1.3 Research Aim and Objectives

In summary the aim of this research is to examine the perceptions of managers within the British Fire Service using a quantitative questionnaire survey supported by empirical research within organisations and to then determine whether these perceptions promote a 'glass ceiling' for female uniformed officers within the British Fire Service.

The aim of the research will be achieved by completing the following objectives: -

- a) A review and critique of the literature relating to women in management, to determine terms of reference, to examine these issues relating to women within uniformed occupations and to determine the managerial attributes required to work within strategic managerial positions.
- b) The second objective is to conduct primary research consisting of: -
 - i) Questionnaires on female/male officers within the British Fire Service to determine their perceptions of specific managerial attributes.
 - ii) Semi-structured in-depth qualitative interviews of strategic managers within a number of Fire Services.
- c) Finally the third objective is to interpret, analyse and present the findings and to draw conclusions from the research.

Chapter 2 Literature Review

2.1 Introduction

In this chapter the literature surrounding organisational glass ceilings, factors limiting women's progression into management and the attributes considered important for strategic managers will be reviewed and analysed. To structure the chapter definitions of glass ceilings will be discussed followed by the three perspectives proposed by Omar and Davidson (2001) for use when examining organisational 'glass ceilings'. Firstly the gender-centred perspective relates the low representation of women in management to internal factors namely personality traits and behaviours (Fagenson 1993; Parker & Fagenson 1994). Secondly the social system perspective relates the low representation to social factors embedded within organisations including basic beliefs about gender and their appropriate roles within society (Alder & Izraeli 1994; Acker 1990). Finally the organisational perspective proposes greater opportunities have been afforded to men because of organisational cultures and characteristics (Fagenson 1990; Riger & Galligan 1980). These perspectives will be discussed and then examined in relation to traditional uniformed organisations. The final section will examine the managerial attributes considered important for an individual to utilise within strategic management.

The Sex Discrimination Act 1976 was introduced to prevent the unfair treatment of women at work and 45 years before that, women won the right to vote. McDonald (2004 p.307) states:

"By 1911 women constituted 19% of employers and proprietors and 20% of administrators and higher professionals".

In 2005 the Equal Opportunities Commission (EOC) stated it would take 40 years for women to gain the same managerial sway within the FTSE 100 companies as men with only 11% of FTSE directors being female (The Independent 8th March 2005). The EOC in 2004 stated that the occupations of the military and police have further inequalities with women occupying 1% of senior positions in the armed services and 7% in the police force.

2.2 Glass Ceilings

Organisational 'glass ceilings' were discussed in the mid 1980's when the Wall Street Journal described (Wajcman 1998 p.80):

"A set of invisible barriers obstructing women's promotion opportunities in management and impeding the upward mobility of women beyond the middle levels".

Morrison and von Gilow (1990 cited in Sczesny 2003 p.353) agree with this definition including other groups by stating:

"This phenomenon is called the glass ceiling to describe a barrier so subtle that it is transparent yet so strong that it prevents women and minorities from moving up the management hierarchy".

Auster (1993) proposed that the glass ceiling is not one ceiling or even one wall but is varied in relation to its position and includes pervasive forms of gender control invisible in nature.

2.3 Gender-centred perspective

Powell and Graves (2003) propose factors that perpetuate this invisible barrier starting with personality traits and gender identity formed within society linking to the gender-centred perspective. The deficit theory Wilson proposed (1998 p.397) states:

"That women have insufficient of what it takes to be a manager, be that intellect, physical and mental stamina, and ambition or leadership skills".

Davidson and Burke (1994) offer similar reasons suggesting these include the differences between men and women specifically women's attitudes, behaviours and skills.

Social identity is formed at a young age along with the traits displayed by men and women as Wood and Eagly (2002 cited in Sczesny 2003) propose, differing genders fit different roles within society. Powell and Graves (2003) indicate society believes men have high masculine traits such as independence, aggression and dominance all of which considered traits needed to be a successful manager (Mattis 1995; Schein 1973; Mavin 2001). Powell and Butterfield (2002) propose these differences lead to a difference in aspirations between genders therefore individuals with a high concentration of masculine traits, typically men; will aspire to strategic management positions. Kanter (1977 p.22-23) argues the view that masculine traits being vital to the role of the manager have been legitimised over time by stating:

“this masculine ethic elevates the traits assumed to belong to some men to necessities for effective management: a tough minded approach to problems; analytic abilities to abstract and plan; a capacity to set aside personal, emotional considerations in the interest of task accomplishment; and a cognitive superiority in problem solving and decision making”.

Within organisations an issue relating to women in management is the perception of skills attributed to the genders. Women are perceived as having soft skills such as emotional intelligence, interpersonal skills and empathy whereas men, have hard skills such as aggression and self confidence. Viewed this in the context of strategic management women are marginalised because those skills believed vital to succeed are hard skills (Stanford et al 1995; Kanter 1977; Hall-Taylor 1997). Eichenbaum and Orbach (1982) support the emotional skill utilised by female managers and suggest that women not only empathise with the moods of others but also recognise and anticipate mood changes.

When examining what makes an effective manager in today’s business world arguments surround the issue of androgyny (Powell & Graves 2003; Kark 2003; Wilson 1995; Rosener 1990). Androgynous management utilises female and male traits integrated into a single management style providing managers with a range of skills (Wajcman 1998). Women are using to their advantage traits traditionally viewed inappropriate for managers, by creating a style of management that allows for interaction (Rosener 1990). A number of studies directly measured the effectiveness of male and female managers as Powell and Graves (2003 p.151) state:

“The evidence clearly refutes the stereotypes that men are better leaders and that better leaders are masculine. Effective leadership today requires a combination of traditionally feminine (individualised consideration), sex-neutral (inspirational motivation, charisma) and masculine (contingent rewards) behaviours. Women exhibit more of these behaviours than do men”.

Peters and Kabacoff (2002) found fewer differences between strategic male and female managers than between those individuals within lower managerial positions. The study concluded with two differences between women who have broken through the glass ceiling and the average female manager; they think more strategically and they are willing to take more risks (Peters & Kabacoff 2002).

Gender research examining the differences between men and women from a behavioural position has been criticised from a theoretical and pragmatic view, because it is normally based on single-sex studies thus the paradigm of gender differences is reinforced (McGregor & Tweed 2001). Although behavioural traits have been attributed to gender, some women have broken through the glass ceiling demonstrating that the traditional style of command and control used by men is not the only way to succeed (Rosener 1990). Still and Chia (1995) report that further research comparing and contrasting genders in the same sample is required before a clear understanding of the differences and similarities in management styles can be formed.

2.4 Societal perspective

The second perspective considers the societal view of the role that women play, becoming a parent and having to support a family (Larwood & Gutek 1987). Powell & Graves (2003) propose that traditionally a woman's place in society was to stay at home, have children and to look after the house. Alvesson & Due Billing (1997 p.54) state:

“Women’s roles therefore include to bear children; to feed them and other members of the family; to clothe people; to care for the small, the sick, the elderly and the disabled; to be responsible for the education of children; and to take care of the home.”

Two world wars opened up the employment market for women, creating a change in the view that a woman's place was in the home (Powell & Graves 2003). Although the media portrayed a woman's responsibility linked to domesticity, employment figures refuted this with the number of female managers rising from 13% in 1931 to 33% in 2001 (Hakim 1996; EOC 2003). Individual expectations of gender, result in women taking supporting roles within organisations and not leadership roles (Eagly 1987). This view of women playing a nurturing role links to the proposal made by Mavin (2001) who stated that the choice made by women in management to have children is not viewed in a positive manner by organisations. Tharenou et al (1994 p.925) took this proposal further and found during a study of managerial advancement that:

“Being a spouse and parent reduces a woman’s work experience and in turn her training and development”.

Liu and Wilson (2001) in their study of male managers determined that men found it difficult to view women in roles other than child-rearing and spousal support. These findings support earlier research stating that women were viewed as casual workers who

left the workforce once they married or had children (O'Leary 1997 cited in Liu & Wilson 2001). More recently Williams (2004) expanded this issue during research on stereotyping and stated:

"While some women stand nose pressed against the glass ceiling, many working mothers never get near it. What stops them is the maternal wall".

This 'maternal wall' relates to the fact that managers and co-workers mentally view pregnant women and new mothers as having traits not conducive to business (Williams 2004). This links to the observation that domestic commitments or future ones mean women cannot be viewed as committed professionals (Spencer & Podmore 1987). Research has shown there are no differences between the commitment of men and women at work and in fact if women choose a long-term career, they reduce the responsibilities of family and ensure that any interruptions to work are short-term (Gold & Pringle 1989; Homans 1987; Powell et al 1985; Wajcman 1998).

2.5 Organisational cultural perspective

The final perspective examines the issues surrounding characteristics and cultures within organisations and the impact this has on women's opportunities. Rutherford (2001 p.373) describes organisational culture as:

"The symbols, beliefs and patterns of behaviour of organisational members. It is expressed in the management style, work philosophies, language and communication, dress, physical artefacts, informal socialising and temporal structuring of work and in the gender awareness and expression of sexuality."

Mills (1998) proposed that organisations have gendered cultures meaning, that culture is cast integrally and invisibly around gender which Itzin (1995) supports by connecting the masculinity of organisational culture to the gender inequalities in society today. Itzin (1995) proposes this results in the formation of a culture at work which supports the development of men rather than women. Olsson and Walker (2004) propose that culture at an executive level is a male domain supported by practices which sustain masculine identities and place women at a disadvantage. The development of a gendered culture is a major hurdle to women entering strategic management because the norms, structures and inbuilt power balances orientate towards men (Mann 1995; Still 1994). Wajcman (1998 p.49) states:

“Although there are diverse historical and contemporary expressions of masculinity and femininity, the culture of organisations is predominately male.”

Collinson and Hearn (2001 p.153) support this cultural view and propose that organisations can be considered mini-patriarchies and that:

“Men’s power in organisations is maintained through unification with each other.”

It is the symbolism of masculine images fusing with managerial competency that creates a culture and environment that marginalizes women (Wajcman 1998).

Omar and Davidson (2001) propose women’s opportunities within gendered organisations are influenced by the social and institutional systems embedded in the organisation. It is expected that individuals fitting the cultural norm will be offered opportunities and then developed in post, these individuals being men and not women (Powell & Graves 2003; Mann 1995). Wajcman (1998) proposes that male managers act in a manner preserving male culture and promoting gender inequalities throughout organisations. This is supported by Wright & Baxter (1995 cited in Wajcman 1998 p.32) who explain that:

“This under-representation of women in positions of authority, especially high levels of management, is not simply an instance of gender inequality; it is probably a significant cause of inequality.”

Some women have penetrated strategic management who according to Kanter (1977) can be viewed as tokens within the structure. Kanter (1977) first described a token as an individual belonging to a social group that constitutes less than 15% of the workforce. Liu and Wilson (2001) suggest where the ratio of men to women is approximately 85:15 these individuals are tokens who are more visible and subject to greater performance pressure within their chosen occupation. An important development opportunity for these individuals is the use of a mentor who provides vital developmental experience as well as provision of support, guidance and friendship. Risks associated with acting as a mentor to a token may include the perception of the relationship by others, and as the majority of strategic managers are male this may be viewed as a reason not to act as a mentor to a female manager (Powell & Graves 2003).

Linked to organisational culture are those traits thought to be required to be successful which in turn leads individuals to choose their job paths against their perceived beliefs. Boldry et al (2001) proposed when gender traits required by leaders are masculine in

nature and linked to specific occupations, they result in a devaluation of female leaders within that occupation. When looking at differing occupations some are classed as masculine and some as feminine in nature, thus reinforcing the existing organisational culture (Powell & Graves 2003). The result of this culture is a high percentage of women entering female intensive occupations and men entering male intensive occupations. This strengthens the prevailing culture supporting the view that individuals with the correct gender are seen as the most qualified for the position (Wajcman 1998). When examining a typically hierarchical organisation from a historical view the development of large bureaucratic organisations occurred with women in mainly low-grade clerical work generally defined as sub-ordinate to men (Wajcman 1998). Historical research has shown the structure of organisations leads to a bureaucratic career defined in terms of male experiences leading to a male orientated culture (Savage & Wicks 1992).

The social dominance theory proposes that men are more likely than women to be attracted to an organisation that is hierarchical in nature (Pratto 1996 cited in Boldry et al 2001). Kanter (cited in Wajcman 1998) proposes that the fate of women in organisations is down to the structure that exists. Maddock (1993) argues that the rapid change experienced by organisations has resulted in women's workplace contributions becoming more visible. It is further argued that as organisations react to change and become hierarchically flatter, team working will become more important thus allowing women greater access to strategic management (Omar & Davidson 2001). This will further lead to a change in cultural terms as the management style utilising an inclusive nature will become the norm, this being the typical style of a woman (Cooper & Lewis 1999; Mintzberg 1996; Rosener 1990). Heilman (1997 cited in Tharenou 1999 p.119) disagrees with this concept proposing that:

“Sex stereotyping is worse under certain conditions, which arise more severely as one moves toward the top of organisations. These include when women are numerically scarce.”

Wicks and Bradshaw (1999) support Heilman's view and propose that organisational culture favours maleness and encourages their members to adopt specific gender identities conforming to sex-biased values. This means the issues of gender and organisational culture are exceptionally difficult to separate.

2.6 Uniformed Services

Grube-Farrell (2002) proposes that traditionally, uniformed services include the Police Force and the Military and for this discussion the literature relating to these occupations has been reviewed and analysed. Grube-Farrell (2002 p.332) states:

“Women continue to be under-represented in these occupations, largely as a result of such barriers as bias, stereotyping, and tokenism; the existence of hostile workplace climates and the influence of workplace cultures.”

To provide structure and to link this section to earlier ones the following areas will be examined separately in relation to uniformed occupations; firstly the gender-role perspective; secondly the biological/societal perspective associated with leadership and finally the cultural perspective.

2.6.1 Gender-role perspective in uniformed services

As previously discussed some occupations are classed as masculine in nature (Powell & Graves 2003) and this is apparent within uniformed services (Youngman 2001; Beaumont 2000; Campbell 2002). Grube-Farrell (2002 p.340) expands this by stating:

“Police, firefighting, corrections and the military are all occupations concerned with protecting and serving the community. The work occurs in dirty, dangerous, violent, uncontrolled environments and involves managing life-and-death situations. The chief job skills-the use of authority, physical strength, and verbal aggression-are characteristically male, not female.”

Resulting from this stereotypically view will be a limited number of females applying as Simon and Akabas (1993 p.301) explain:

“No occupations have been more effective in excluding and discouraging women from joining than the uniformed services.”

Boyce (2003 p.1) supports this statement explaining that in relation to the military:

“Military leaders, when selecting or promoting other soldiers to be leaders, may look for personal attributes thought to be more characteristic of men than women. More men than women may be perceived as having leadership potential and thus be given more opportunities to exhibit leadership.”

Although the stereotypical view of women and the occupations they pursue are changing, women entering the workforce is having an effect on their employment. Powell and Graves (2003) suggest that discrimination still occurs in uniformed services which can arise before individuals enter the recruiting office and they attributes it to the way in which individuals assign the gender role through society. Boldry et al (2001) support this view and suggest that during the evaluation of an individual for a military role, a woman seen as lacking the pre-requisite masculine traits will be viewed as unfit for service. Through socialisation, the media and culture, individuals automatically characterise specific occupations to gender and because of this during selection:

“Male applicants are likely to be preferred over females for male-intensive job (Powell & Graves 2003 p.84).

Within a uniformed occupation the individuals considered to be successful in terms of leadership display typically masculine characteristics such as independence and self-confidence (Boldry et al 2001). Pounder and Coleman (2002) support this view and indicate in specific circumstances leadership is defined as masculine and one of these situations is serving in the military.

The view of society is changing and this is reflected within uniformed occupations as Wilson (2000 p.63) proposes:

“The archaic definition that the military equates to masculinity is giving way to one that sees successful performance of the mission regardless of the sex of those who perform it and leadership, as the key components of our nation’s security.”

This links to the view which suggests the public at large consider leadership as about uniting and motivating people rather than about control and power (Wilson 2000). Powell & Graves (2003) indicate that more women are now interested in traditionally masculine occupations which is a direct result of the large numbers of women entering the workforce. Recent studies have also indicated that with time, individuals working for female leaders have their perceptions of masculinity and leadership changed (Karau & Eagly 1999; Kolb 1999).

2.6.2 Societal/Biological perspective in Uniformed Services

Leading, in a strategic role within the private and public sector has behavioural traits and personality characteristics associated with it. Within uniformed occupations an additional characteristic required is that of physical fitness (Grube-Farrell 2002). Laszlo (1990)

proposes that a disadvantage for women within the military is the high level of physical fitness required during basic training. Ishaq and Hussain (2004) examining women within the British Armed Services found that a large number of male and female respondents felt the military was a male-only preserve. The single biggest reason behind this view was that women were not physically equipped to be a soldier (Ishaq & Hussain 2004). This view is supported by evidence that policy-makers have been pre-occupied by the issue of women entering combat roles and following recent tests women are unable to serve in combat units (Dandekar & Mason 2001). Dandekar and Mason (2001 p.229) further observe that:

“Women continue to be excluded from those roles where their physiological or presumed psychological differences from men are believed significant or where the perception of such difference is held likely to undermine operational effectiveness.”

Grube-Farrell (2002 p.339) agrees with these findings but also states that:

“It is true that not all women are able to do these jobs – women are disadvantaged in physical strength, particularly upper-body strength. Some women, however, do have the necessary physical strength and aptitude and a variety of performance measures have established this fact.”

This indicates that physical fitness although a barrier to some is not for all and may therefore not be a major contributing factor to the limited number of women entering strategic management within traditional uniformed services.

2.6.3 Organisational cultural perspective in Uniformed Services

Cox (1993) proposed that organisations portray three distinctive types of diversity culture; the monolithic organisation, the plural organisation and finally the multicultural organisation. The monolithic organisation is characterised by the majority of employees coming from the same group i.e. white males; whereas the plural organisation is slightly more heterogeneous as steps have been taken to promote diversity, and finally the multicultural organisation is more diverse as they are inclusive (Cox 1993). Powell and Graves (2003 p.228) propose that when examining in detail the nature of monolithic organisations:

“The diversity culture of monolithic organisations conveys a straightforward message to employees and potential job applicants: We do not particularly welcome diversity.”

This view continues into strategic management with Powell and Graves (2003) indicating that where the composition of the strategic management team is biased towards one gender, this influences women's views within the organisation. Women working in an environment with a lack of females in key roles are more likely to invoke gender stereotypes and devalue their own abilities (Powell & Graves 2003). When examining these views in the context of traditional uniformed services it is clear that the statistics indicate a strategic management culture biased toward men (EOC 2004). The resultant culture is one women find difficult to penetrate let alone gain positions of strategic management which may result in a cultural shift and promotion of diversity (Baigent 1996).

Examining the culture of the police Metcalfe and Dick (2002) found many barriers to women progressing through the rank structure, the most visual being the gendering of the organisation promoting and supporting masculine values and characteristics. These findings are similar to other studies which propose uniformed services have cultures promoted by individuals who share backgrounds, values and a shared definition of their masculinity (Damiano 1999; Floren 1998; O'Donohue 1997; Martin 1991 all cited in Grube-Farrell 2002).

The issue of tokens has an implication on women integrated into a male dominated occupation because the leaders in place are indoctrinated with the prevailing culture. These leaders have little experience of a gender-mixed workforce and struggle to provide an all-inclusive nature (Grube-Farrell 2002). This results in negative experiences for the tokens because the general belief is that women are not suitable for these uniformed occupations (Metcalfe & Dick 2002).

2.7 Leadership and Managerial Attributes

Many authors have studied management and leadership to determine the factors that influence an individual's success (Horner 1997; Okechuku 1994; Wood & Vilkinas 2005). Ghiselli (1971 cited in Okechuku 1994 p.80) defines:

“Managerial talent as those traits and abilities which are important in determining the extent to which an individual will be successful in performing the many and varied functions of the manager. Managerial talent can be a broad human quality, perhaps made

up of specific abilities and traits. Individuals who possess these abilities and traits to greater degrees will do better as managers than will those who possess them to lesser degrees.”

Horner (1997) proposed the studies into leadership identified several categories that captured the essence of leadership; firstly that leaders were born and not made (Bernard 1974 cited in Horner 1997), and secondly that leadership qualities could in fact be taught (Saal & Knight 1988 cited in Horner 1997). The next approach to leadership examined the situational view proposing that different circumstances required different skills (Saal & Knight 1988 cited in Horner 1997). Horner (1997) indicates that the body of work surrounding leadership identifies many ways of leading. Schein (1985) suggests that organisational culture is one factor influencing the effectiveness of a leader linking this to the organisational culture perspective.

When examining the attributes considered important for a leader to possess a number of studies have been completed identifying various traits and abilities (Wyse & Vilkinas 2004; Manning & Robertson 2002; Burke & Collins 2001; Horner 1997; Spinks & Wells 1995; Okechuku 1994). These studies illustrate the variety of attributes considered vital to an effective and visionary leader. Manning and Robertson (2002) concluded there were five facets to leadership; communicating the vision, wide based thinking, interpersonal skills, personal traits and finally macro issues such as networking and team-working. Drew (1995 cited in Horner 1997) and Temme (1995 cited in Horner 1997) agree with these attributes but highlight the importance of managing conflict and team development. Kolb (1995 cited in Horner 1997) stated that leaders must also be willing to stand behind their team and support them. Wilson and Wellins (1995) support the attributes discussed although they categorise them under the headings of tactical and strategic skills required by modern organisations.

In a study completed by Timizi (2002) a framework identifying six dimensions to leadership emerged including the ability to lead and encourage change, the ability to recognise and show appreciation for team members achievements, an understanding of the welfare of team members and the creation of an environment conducive to working as well other traits previously discussed (Timizi 2002). When analysing the literature regarding the gender of the attributes discussed during this section much contemporary

research would link these traits to either men or women but not both (Stanford et al 1995).

Boyatzis (1982) indicated following extensive research that for individuals to progress through the managerial layers there were six skill clusters required. These skill clusters had differing importance dependent on the individual's position within the organisation but there were some minimal skills all leaders must possess if they were to start moving up the organisational ladder (Boyatzis 1982). These skill clusters link to those discussed previously and include the people skills cluster; the visioning-inspiring cluster; the entrepreneurial cluster; the implementing cluster; the specialised knowledge cluster and finally the perceptual objectivity cluster (Boyatzis 1982). Within these individual clusters are skills such as communication, developing others and the use of unilateral power when necessary (Boyatzis 1982).

More recent studies have examined the perceptions of individuals within different management positions and the analysis of individuals within specific roles (Conger et al 1999 cited in Wood & Vilkinas 2005; Oshagbemi & Gill 2003; Vinnicombe & Singh 2003). Several other studies have been completed examining the leadership styles of the genders which detail a distinct difference between the sexes (Vinnicombe & Singh 2002). Women are described as using 'transformational' styles based on mutual trust and an appreciation for the value individual team members bring whereas, men use a traditional contrasting style referred to as 'transactional' which relies on power and formal authority (Rosener 1990; Vinnicombe & Singh 2002). Another field of study has shown that women working within a male-dominated environment tend to adopt the stereotypically masculine leadership styles (Ibarra 1999; Eagly & Johnson 1990). When examining men entering female-dominated fields it appears that male managers are not influenced in the same way as women (Eagly & Johnson 1990). Vinnicombe and Singh (2002) suggest that it is not only the individual management style that are important but also the perceived styles of successful managers. Prospective managers evaluate how they compare to those individuals who are successful and if the perceived criteria is based on male stereotypes, this can result in women withdrawing from the competition (Vinnicombe and Singh 2002). These perceptions can inhibit the progress of women into management roles specifically from lower management into middle and strategic positions (Vinnicombe and Singh 2002).

Just as important as the perceptions of the leaders are the perceptions of strategic managers because these individuals have the power to promote and directly affect the progress of managers within an organisation. Fagenson (1993) proposes these perceptions are key to determining and understanding the reasons behind the limited success women have had in attaining strategic managerial levels. Lewis and Fagenson-Eland (1998) propose that up until this date no research had been completed contrasting leader's self-perceptions with their supervisors' perceptions and that this was a key area of future study. Kanter (1977) proposed it was likely these individuals occupying positions of power perceived greater opportunities for their advancement than others, thus resulting in individuals at lower levels perceiving limited opportunities. As women have experienced management at lower levels it is likely that they perceive less advancement opportunities than men (Fagenson 1993). Kawakami et al (2000) suggest that gender stereotypes are a contributing factor when examining the effectiveness of individuals in managerial positions, however it is the perceptions associated with these stereotypes that may explain the limited numbers of women in strategic management.

2.8 Summary of Literature Review

Glass ceilings exist within organisations and those considered traditionally uniformed are no different to those within the private sector (Boyce 2003; Grube-Farrell 2002). The glass ceiling can be defined as the barrier that exists within an organisation which results in low numbers of women penetrating managerial layers; these barriers include organisational culture, gender stereotypes and preconceived roles for the different sexes (Powell and Graves 2003; Wajcman 1998; Davidson and Burke 1994).

When examining traditional uniformed occupations a number of factors contribute to these barriers ranging from the societal view of women to the psychological limits of the gender. A large amount of research has been carried out on the gendering of leadership and managerial traits and the view that the sexes manage differently is a theme that has received much attention (Stanford et al 1995; Vinnicombe & Singh 2002). Within these occupations women have to consider how their management style fits with the successful leaders established within the organisation. This is because there are very few female role models who have influenced organisational perceptions on what makes a successful manager. Vinnicombe and Singh (2002) suggest that although the glass ceiling may well be moving up in some organisations, it is still an influencing factor on the perceptions of

women as they are exposed to male role models and therefore feel the need to fit to the organisations' standard. Considering the perceptions of those individuals operating within strategic management is also vital, as these people have direct influence on those below them (Vinnicombe and Singh 2002).

For an organisation to be successful it needs quality leadership at all levels including strategic management. Although for women to progress within an occupation considered masculine in nature the perception maybe that they have to conform to the stereotype displayed by the majority (Wood 2003). There is a large amount of research indicating men and women in managerial positions do perceive things differently (Baack et al 1993; Witt & Nye 1992; Kisch & Ryan 1991 all cited in Wood 2003) and this may be explained by Hind and Baruch (1997 p.284) who state that:

“Women’s experiences of the inequalities of the workplace have led to differing perceptions of career development and opportunities and to lower expectations.”

The study of leadership has been ongoing with a variety of theories and models determining the attributes considered important for an individual to be successful in role. However the overarching view of a leader is an individual who can influence others to achieve success for the organisation (Bass 1985; Archbold 2004). In the changing and dynamic world of business and the role of the strategic manager, views of the skills required are evolving, skills which now include character and not just technique (Wood & Vilkinas 2005).

2.8.1 The literature review in the context of this research

The British Fire Service fits the definition of a monolithic organisation given by Cox (1993) because it is predominately occupied by white males (table 1). When the number of female officers are compared to male officers through the differing ranks it is clear in percentage terms all of the women serving in a uniformed capacity would be considered a token under Kanter's (1977) definition (see table 1). In relation to the number of women that have progressed through the rank structure into a position considered strategic it is clear that although women have served in the British Fire Service since 1982 none have progressed to the top tier of management.

The literature has indicated a difference between the perceptions of male and female managers in relation to the attributes required to work within strategic management. This

study will focus on the perceptions of individuals as a reason behind the limited number of uniformed women within strategic management roles in the British Fire Service. The Fire Service in general provides an ideal opportunity to examine these proposed differences between men and women, in a male-dominated uniformed occupation that has yet to see a woman from an operational uniformed position becoming Chief Fire Officer. Although a number of pieces of research have been conducted previously within the Fire Service, these have focussed on the reasons behind the lack of women entering the service rather than their lack of progression (Siann 2000; Shuttleworth 2000; Wood 1998; Richards 1996).

As the literature indicates a difference between male and female views of strategic managerial attributes, the first research question will explore these proposed differences.

RQ1. Will female and male supervisory/middle managers have different perceptions as to the attributes required to gain promotion to strategic management levels?

The literature also proposes differences in the perceptions of the required attributes in terms of strategic managers compared to other managers, this theory will also be explored.

RQ2. Will female and male supervisory/middle managers have different perceptions of the importance placed by strategic management on specific managerial attributes?

As the statistics have indicated the uniformed section of the Fire Service is a male-dominated arena, combining this with the view illustrated within the literature that male managers have similar opinions as to the managerial attributes required to operate within a strategic role, a final research question can be established.

RQ3. Will male supervisory/middle managers have similar views to male strategic managers as to the managerial attributes required to operate within a strategic managerial role?

In summary this research will examine the issue of the glass ceiling within the British Fire Service, and explore whether the differences in perceptions, are a key factor behind the

disparity in terms of numbers of female officers nationally within managerial positions. The results of this research will be forwarded onto 'Fire Works' a national project receiving European funding and national backing from individual Fire Services, which is aimed at assessing and improving the recruitment, retention and promotion of women and people from minority ethnic communities in the Fire Service.

Table 1 Male/Female Uniformed Officers Nationally 2003-2004 (ODPM 2005)

Managerial Level	Ranks	Role	Male Officers	%	Female Officers	%
None	Firefighter (FF)	Firefighter	21155	97.20%	610	2.80%
Supervisory	Leading Firefighter (LFF)	Crew Manager (CM)	3888	98.93%	42	1.07%
Supervisory	Sub Officer (Sub O)	Watch Manager (WM)	3504	99.45%	23	0.65%
Middle Management	Station Officer (Stn O)	Station Manager (SM)	2530	99.415	15	0.59%
Middle Management	Assistant Divisional Officer (ADO)	Station Manager (SM)	939	99.90%	1	0.10%
Middle Management	Divisional Officer III (DO III)	Group Manager (GM)	120	100%	0	0%
Middle Management	Divisional Officer II (DO II)	Group Manager (GM)	389	94.49%	2	0.51%
Middle Management	Divisional Officer I (DO I)	Group Manager (GM)	72	100%	0	0%
Strategic Management	Senior Divisional Officer (SDO)	Area Manager (AM)	113	100%	0	0%
Strategic Management	Assistant Chief Fire Officer (ACFO)	Brigade Manager (BM)	84	100%	0	0%
Strategic Management	Deputy Chief Fire Officer (DCFO)	Brigade Manager (BM)	50	100%	0	0%
Strategic Management	Chief Fire Officer (CFO)	Brigade Manager (BM)	48	100%	0	0%

Chapter 3 Research Methodology

This chapter will discuss the research philosophy, the research methodology and the research methods employed during this study.

3.1 Research Philosophy

The aim of this research is to explore the perceptions of managers within the Fire Service examining the attributes thought vital for an individual to work effectively within strategic management.

It is vital that the research philosophy, methods and findings analysis support the exploration of these perceptions, in order to determine whether they are a contributing factor to the establishment of a glass ceiling paradigm with the Fire Service. Bryman and Bell (2003) indicate management research is closely tied to a vision of how management reality should be examined. Some authors that feel management research has lost touch with the concerns of practitioners. Research is done to answer questions posed by theoretical considerations proposing there is a relationship between theory and research, and this relationship relates to whether the research is deductive or inductive in nature (Bryman & Bell 2003).

Black (1999) proposes that a deductive approach assumes specific situations can be matched to a theory. Popper (1961) proposes that the advantage of the deductive approach is that the theory and hypotheses direct the observation taking place. This can also be a disadvantage because the approach limits the research as it does not take into account reality (Popper 1961).

Black (1999 p.8) defines an inductive approach as:

“a process by which observations are made (possibly casually at first), data collected, general patterns are recognised and relationships are proposed.”

A criticism of this approach relates to subjectivity and interpretation, as the theory that has been developed can never really be tested or replicated.

The literature review indicated several theories relating to the issue of glass ceilings, and the attributes required to operate within strategic management, although research of this

nature has not previously been conducted within the Fire Service. An inductive research strategy is deemed appropriate for this research, although, as the research methods section within this chapter will illustrate, there will be some deductive methods utilised.

3.2 Epistemological and Ontological Considerations

Bryman and Bell (2003) indicate that epistemology and ontology are key influences on business research; this section will outline the various key aspects of these approaches and detail those appropriate to this study.

3.2.1 Epistemology

Epistemology relates to what can be regarded as acceptable knowledge within a discipline, in the case of management research this relates to whether the business world can be explored using principles applied to the natural sciences (Bryman & Bell 2003). There are three key positions that can be taken when examining the epistemology of a study; positivism, realism and Interpretivism.

The term positivism is used differently by various writers and is classed deductive in nature because it tests theories, Punch (1998 p.28) suggests it is difficult to define:

“Its main ideas are the belief that objective accounts of the world can be given and that the function of science is to develop explanations in the form of universal laws – that is, to develop nomothetic knowledge.”

Bryman and Bell (2003) propose five key principles associated with this position which support Punch (1998) -

- The phenomena and knowledge determined by the senses may only be considered genuine knowledge.
- The purpose of theory is to generate hypotheses which can be tested.
- Knowledge is determined by the gathering of fact which creates the basis of law.
- Science must be conducted in an objective and value free manner.
- A clear distinction exists between scientific and normative statements and scientists believe in the former.

Many authors have different views of the characterisation of social sciences and there has been a move away from positivism towards other epistemological positions. Realism mutes that reality can be independent from the senses and is accessible to a researcher through

various tools and theoretical speculations. Realism shares some features with positivism, with a belief that data collection and its subsequent explanation within both the natural and social world can be similar. There is also a view that there is an external reality which researchers direct their attention towards (Bryman & Bell 2003). Realism is further broken into two major forms; empirical realism suggesting that reality can be understood, and critical realism proposing the only way to recognise reality is through the understanding of the structures which generate events within the social world (Bryman & Bell 2003).

Interpretivism contrasts the positivist approach and indicates that the social world can not be understood without an understanding of the meaning of social action that occurs amongst people (Bryman & Bell 2003). Weber (1947) proposes a vital link between the explanation and understanding of social action when examining the social world, and suggests that external factors have no meaning for those involved in the interpretation of social action. Linking this epistemological position to theory this approach is inductive in nature as it takes observations and applies them to social meanings.

Within the context of this research the epistemological positioning taken is one of interpretivism as the study is examining individual perceptions. The basic premise of this research is that meaning can be applied to the social reality of managers within the Fire Service and can be understood and explained.

3.2.2 Ontology

Social ontology is concerned with the social entities and Bryman and Bell (2003 p.19) propose that:

“The central point of orientation here is the question of whether social entities can and should be considered objective entities that have a reality external to social actors, and whether they can and should be considered social constructions built up from the perceptions and actions of social actors.”

Two positions are frequently associated with ontology; objectivism and constructionism.

Objectivism proposes that social phenomena is external to those actors within the social world and they are unable to influence these external factors as they are separate from the individuals involved. In an organisation this position implies that the rules, regulations and hierarchical nature involved means individuals do not have an influence on the way things are done.

Constructionism is an alternative view proposing that social phenomena and their meaning are continually in a state of flux because of the individuals involved within this social world. In this position the view of the organisation is one which provides general understandings and not rules within which individuals must operate.

Within the Fire Service a distinct hierarchy exists in which individuals operate, and linked with this structure is a clear culture akin to that of the military. Individuals were keenly aware of the role they played in terms of the rank they occupied and the expectations placed upon them. Within the modernising Fire Service this hierarchy is in a state of flux and the emerging culture is being produced by the interaction of those individuals involved. This research takes a constructionism approach because of the interpretation of perceptions being undertaken.

3.3 Research Design

Within the research design is the determination of the strategy to be employed which can be classed as quantitative, qualitative or mixed. Having examined the epistemological viewpoint of this research it is important that the research design and methods discussed later underpin the philosophical standpoint.

Quantitative research is defined by Punch (1998 p.4) as being:

“Empirical research where the data are in the form of numbers...”

Bryman & Bell (2003) propose four preoccupations researchers have when using a quantitative method: -

- **Measurement** – this allows for differences in perceptions between differing participants to be analysed consistently and detected accurately,
- **Causality** – this allows researchers to explain why things are the way that they are,
- **Generalisation** – through the use of a representative sample the findings can be attributed across the population,
- **Replication** – by ensuring the research can be reproduced the researcher removes the possible lack of objectivity and inclusion of personal values into the research findings.

Some of the major criticisms of this type of research design include the following (Burns 2000);

- At no stage does the research differentiate people and the social institutions from the real world,
- The measurement process does not take into account the fact that human beings are more complex than inert matter,
- The processes involved are too defined resulting in the plethora of environmental forces being ignored,
- The analysis of the findings is static and does not reflect the link between the variables and people's lives demeaning individuality and our ability to think,
- Quantitative research becomes an end in itself rather than a method for exploring and understanding human behaviour.

Qualitative research is defined by Burns (2000 p.11) as:

“Placing stress on the validity of multiple meaning structures and holistic analysis, as opposed to the criteria of reliability and statistical compartmentalisation of quantitative research.”

Punch (1998) suggests that qualitative research is complex and continually changing, resulting in a term encompassing a large variety of methods. From an ontologically position qualitative research is described as constructionist because the social world is a result of the interaction between individuals, and there are a number of preoccupations ascribed (Bryman & Bell 2003): -

- Interpreting the social world through those individuals studied,
- The use of description to emphasise the context of the research,
- An emphasis placed upon the issue of process within every-day life,
- A flexible approach to research with limited structural processes,
- Concepts and theories are ground within the data.

Burns (2000) suggests limitations associated with this method which include; validity, reliability, the subjectivity involved, the time constraints involved for both data collection and analysis is considerable and finally that the presence of a researcher can have an effect on the subjects.

To provide a structure that underpins this research, a multi-strategy approach will be employed combining quantitative and qualitative methods to examine the issue of perceptions. Although this indicates the research will be deductive and inductive in nature it will be a combination of the two allowing specific research tools to be assigned to specific aspects of the research. There are arguments against this multi-strategy approach; namely the implication that both types of research design are fixed in their epistemological/ontological approach and that the two methods can not be integrated because they exist within differing paradigms (Bryman & Bell 2003). The use of a quantitative method to facilitate the secondary qualitative approach allows for gaps within the research to be filled in terms of reality. This also reduces the issue of generality that is levelled against a qualitative approach. For this research the approach employed is 'triangulation' meaning that each research method supports the findings of the other (Hammersley 1996). A number of researchers have successfully utilised this approach and stated that the qualitative data served to 'flesh out' the quantitative data providing far more information than a single method would have produced (Kanter 1977; Truss 2001; Wajcman & Martin 2002).

There are 5 different types of research design that can be employed; the experimental design, the cross-sectional design, the longitudinal design, the case study design and finally the comparative design. As the research utilises a multi-strategy approach it could be stated that the research design will also be multi-approach as it fits into the definitions of a cross-sectional and case study design. Although the Fire Service could be considered one unit, as it is comprised of 50 different services the quantitative aspect of this study will be cross-sectional in nature because it is exploring the sample at a single point in time. Bryman and Bell (2003) explain the data on the variables in question are collected simultaneously through the use of a questionnaire. The qualitative aspect will be a case study type design as it is exploring these variables at a later date, allowing for the complexities of the Fire Service to be examined in more detail. Punch (1998 p.150) proposes that:

"The case study aims to understand the case in depth, and in its natural setting, recognising its complexity and its context. It also has a holistic focus, aiming to preserve and understand the wholeness and unity of the case."

3.4 Sampling Strategy

The population of the Fire Service nationally equates to 11,820 wholetime uniformed personnel occupying managerial positions, which reduces to 83 female and 11,737 male officers (ODPM 2005). This means that there must be a form of sampling strategy employed allowing the research to provide some generalisation to the findings. In relation to the research theories being employed the quantitative methods are deductive in nature because the attributes deemed necessary within the literature review are being explored. The qualitative methods being utilised are inductive in nature because the findings will be applied to the literature on completion of the interviews. As there are only 36 Fire Services with women in uniformed managerial positions the study is restricted to these 36 organisations should they all participate.

3.4.1 Sampling Strategy – Quantitative Research

As the population of female officers is relatively low quantitative research using all of these individuals will be employed however in the case of the male participants a representative sample will be used. This sample will accurately reflect the female sample in terms of numbers and distribution across the rank structure. To gain access to the sample groups each Chief Fire Officer will be contacted requesting support for this research (appendix 4). This request will include full details of the research, the methods employed, and once approval has been received contact will be made with the services' Human Resource Departments. This contact will give full explanations in written format detailing the manner in which each service should pass on the questionnaire to appropriate candidates.

Both samples could be categorised as non-probability convenience samples because of the manner in which they have been selected. There will be some randomisation in relation to the male sample as it will be down to the discretion of the Human Resources Departments to select the participants rather than the researcher. This will result in a total of 160 postal questionnaires being sent out to those Fire Services employing female officers in managerial roles should they all agree to participate. In respect of the issue of sampling error for this research which according to Bryman and Bell (2003) is the difference between the sample and the population that arise through an insufficient sampling frame this will be reduced by the simple fact that 36 of the Fire Services nationally will be involved.

Ader and Mellenbergh (1999) define non-response as:

“The phenomenon that elements of the selected sample do not provide the requested information or that the provided information is unusable.”

In order to minimise the effect of non-response Dillman (1978) suggests a 3-phase approach to ensure a high rate of return and aspects of this approach will be utilised during the study. Initially a pack including an explanatory cover letter (appendix 5), the questionnaire survey (appendix 3) and a 1st class self-addressed envelope will be sent out to each individual as selected by the Human Resources Departments. Each Fire Service allocated an individual responsible for the distribution of the packs and at the end of January direct contact was made with these individuals to determine whether more packs were required. Prior to the initial mailing a pilot study was completed to ensure the questionnaire design would not act as a barrier and contribute to non-response.

3.4.2 Sampling Strategy – Qualitative Research

For the qualitative research a maximum of 4 Fire Services will be selected following a direct request from the researcher for volunteer organisations to participate, and a maximum of 3 strategic officers will be interviewed from each service. In this instance it is clear that some of the sample will be selected by the researcher meaning that the sample is categorised as a non-probability convenience sample, although those officers that participate may be determined by the CFO of their Fire Service. Bryman (1989) suggests that in the field of business research this type of sample is very common although it must be understood that there are limitations to using a convenience sample relating to the generalisation of the findings to the remainder of the population. In this study the sample is utilised to support and provide further in-depth information to the quantitative data.

3.5 Research Methods

During this study both quantitative and qualitative methods will be employed and for the ease of the reader these will be described in separate sections. Kanter (1977 p.337) suggests that: -

“a combination of methods.....emerges as the most valid and reliable way to develop understanding of such a complex social reality as the corporation.”

3.5.1 Quantitative Methods

Quantitative research utilises methods emphasising the importance of data collection and data analysis. It uses a deductive approach testing the relationship between theory and

research linking it to the epistemological position of positivism which views social reality as external reality objective in nature (Punch 1998).

For this aspect of the research a postal questionnaire which is self-administered will be utilised (appendix 3). The questionnaire will be adapted from one used in previous research (Wood 2003) of this nature and consent has already been given for this adaptation to occur. The survey will be designed to examine perceptions of behavioural and attitudinal items that have been identified as important for strategic managers. These items will be measured using a Likert style ratings scale and Burns (2000) suggests that advantages of using this scale are, the ease of preparation, that validity is ensured and reliability is high. These factors result in most researchers use a version of this type of scale. The disadvantages are described as the lack of individual ranking in terms of favourableness and the meaning applied to the individual responses. Through the use of triangulation the results from the survey will be collated and compared to the findings from the semi-structured interviews.

A pilot study will be carried out on completion of the questionnaire design within Cheshire Fire Service to ensure changes to questions and layout can be made prior to the research commencing. Gill and Johnson (2002) suggest a pilot study gives the researcher an opportunity to practise their interview skills and the design of the questionnaire can be concluded.

3.5.2 Qualitative Methods

Qualitative research emphasises words and uses description rather than data measurement. The relationship between the theory and the research is inductive in nature with the emphasis being placed on the generation of theories to explain individuals' interpretation of their social reality. This links qualitative research to the epistemological position of constructionism with social reality constantly changing (Bryman & Bell 2003). Semi-structured interviews will form the basis of the qualitative methods used with open questions based on the survey utilised. The questions will relate to specific categories of attributes detailed within the questionnaire with candidates being asked to explore their perceptions of these attributes (appendix 8). Burns (2000) proposes a number of advantages of this method including the rapport generated during face-to-face

communications, the language used by the interviewee is their own and the perspective of the interviewee is provided.

There are some considerations when conducting qualitative interviewing including the position of those being interviewed in comparison to the interviewer, accessing these individuals and the time taken to complete the interview (Burns 2000). In order to minimise these issues it is proposed to interview a small sample number of managers from volunteer Fire Services who are representative of the quantitative sample and are also representative of the strategic management tier. In total 12 individuals will be interviewed from the Fire Services listed below with each interview recorded to ensure an accurate analysis process.

Participating Fire Services: -

- Staffordshire Fire and Rescue Service
- East Sussex Fire and Rescue Service
- Mid and West Wales Fire and Rescue Service
- Wiltshire Fire and Rescue Service

3.6 Data Validity

Bryman and Bell (2003) propose that when evaluating business and management research there are three criteria that must be fulfilled; reliability, replication and validity.

Reliability means a piece of research can be repeated and in quantitative research this relates to whether a measure is stable and consistent. The simplest means of ensuring a measure is stable is through testing and retesting where a high correlation would be expected between the results. LeCompte and Goetz (1982) suggest this is a difficult criterion to achieve during qualitative research because times change, although a method adopted to improve reliability involves conducting replicated research in a similar manner to the original.

Zikmund (1991) proposes that validity is vital to researchers and ensures that accurate measurement is taken addressing the issue of whether a measure or indicator has measured what it was supposed to. Within quantitative research a number of types of validity have been identified by writers; face validity, concurrent validity, predictive validity, construct validity and convergent validity (Burns 2000; Zikmund 1991). Mason (1994)

proposes that in qualitative research the issue of validity refers to measuring what you say you are going to measure. LeCompte and Goetz (1982) break this criterion into internal validity; the link between the observations and the theory that is developed, matched and applied and external validity; the extent to which the research findings can be applied across social settings.

Replication means the measures used can be repeated by another researcher and is closely linked to reliability (Burns 2000). When considering the questionnaire approach replication is relatively easy, conversely with semi-structured interviews this could be considered problematic. To increase the potential for determining replication, concept cards will be produced during the analysis of the qualitative research which may aid subsequent researchers by providing detailed information on the study. Concept cards are a means of identifying similar themes between the interviews and allows for concepts to be developed (Prasad 1993). By using concept cards similarities within individual answers can be compared along with the value of the concept determined by the frequency of its occurrence.

It is important to understand the link between these criteria as Bryman and Bell (2003) indicate; a measure which is not reliable is not valid and could therefore not be considered suitable to be replicated.

3.7 Research Analysis

Quantitative research is set in the numerical analysis of information and as such this aspect of the research will use STATISTICA as the analysis tool. Bryman and Bell (2003) indicate there is a tendency for the data analysis phase to be considered separate from the data collection however, it is vital that an understanding of this analysis takes place prior to the collection of data. This includes techniques to be utilised, how the questionnaire is designed and how the coding frame is applied. The first step that needs to be taken is a consideration of the type of variable included within the questionnaire including (Bryman & Bell 2003): -

- **Interval/Ratio Variables** –occur where the distance between the categories are identical and the category can be rank-ordered.
- **Dichotomous Variables** –occur where the data has only 2 categories.

- **Ordinal Variables** –occur where the categories can be rank ordered but the distance between the categories is not equal.
- **Nominal Variables** - occur where the categories can not be rank ordered.

Various statistical analyses will be used to provide tabular and graphical representation of the statistics to support the information obtained during the qualitative research. This approach includes univariate and bivariate analysis which allows for differing groups of variables to be analysed and compared. This statistical analysis will form the building blocks on which to examine the qualitative research as it will illustrate areas of statistical significance. This significance will provide sign-posts ensuring the qualitative data is examined from a similar perspective however the analysis of qualitative research proves a more challenging prospect.

There are a number of techniques that can be utilised to analyse this aspect of the study. Bryman and Bell (2003) discuss analytic induction and grounded theory narrative analysis. Grounded theory is defined as (Strauss & Corbin cited in Bryman & Bell 2003 p.428): -

“Theory that was derived from data systematically gathered and analysed through the research process. In this method, data collection, analysis, and eventual theory stand in close relationship to one another.”

To provide a robust analysis process the interview transcripts will be coded to link into the themes identified through the questionnaire. These will then be transferred onto concept cards (Prasad 1993) ensuring important concepts and themes within the data are identified, a process classed as iterative in nature because theory is developed from the recorded data (Bryman & Bell).

3.8 Ethics

The issue of ethics is important because of the potential controversial nature of the findings and the impact they may have on the participants. Diener and Crandall (1978) propose four ethical principles for researchers to consider: -

- **Whether there is any harm to the participants** – in any circumstances this is unacceptable because it is normally considered physical harm; this includes damage to future career progression, stress and damage to the participant’s self-esteem. In the case of this research the issue relating to future career progression is the most likely harm an individual would experience. To prevent this occurring complete

confidentiality will be maintained with only the researcher having access to the raw data and all information being generalised within the findings thus assuring anonymity.

- **Whether there is a lack of informed consent** – this relates to the amount of information potential participants are given prior to their involvement. This allows the individual to make an informed consent as to whether they wish to be involved or not. In this case a cover letter will be included within the questionnaire pack explaining the aim, objectives of the study and the potential use of the findings by ‘FireWorks’. ‘FireWorks’ is a working group examining equality and diversity within the Fire Service and is currently working on the recruitment and retention of women into the Fire Service.
- **Whether there is an invasion of privacy** - this issue involves the rights of individuals to their own privacy and values. Bryman and Bell (2003 p.544) indicate that the Market Research Society guidance is clear in that:

“the objectives of any study do not give researchers a special right to intrude on a respondent’s privacy nor to abandon normal respect for an individual’s values.”

In this case perceptions and values are being examined and therefore complete confidentiality and anonymity will be maintained as stated above. In respect of data protection the only personal information requested relates to gender, age, and living arrangements. Once the research is complete the only records that will be maintained will relate to the statistical analysis of the raw data.

- **Whether deception is involved** – this relates to the research being presented as something which it is not. In this study information will be given relating to the purpose, nature and use of the findings to each individual concerned.

In summary the individuals that will be contacted for this research will be assured complete confidentiality and anonymity through the voluntary nature of the questionnaire aspect of the study. In respect of the interview stage this will be purely voluntary with candidates being able to refuse to answer questions and withdraw at any time. With respect to the first of the principles stated by Diener and Crandall (1978) there is the potential for the researcher to experience some career progression difficulties following the release of the findings. In this case the researcher has the full support of their employer and will be involving Staffordshire Fire and Rescue Service personnel within the research.

Chapter 4 Findings and Analysis

To provide structure to this chapter an overview of the research methodology will be presented including the data collection procedures and analysis followed by the primary research findings being presented and analysed.

The primary research was conducted within the British Fire Service and involved 26 of the 50 services nationwide with a multi-strategy approach used as discussed in the research methodology chapter. The data was collected using the stages listed and then analysed using a triangulation procedure aligning the quantitative and qualitative data giving a more in-depth analysis.

- a) Quantitative and qualitative data was collected through questionnaires distributed to 102 female and male Fire Service managers.
- b) Semi-structured interviews were conducted with 12 male uniformed strategic managers serving within several of the fire services utilised for the quantitative process.
- c) The data from both aspects of the research was analysed to provide answers to the 3 research questions.

To analyse the quantitative data 'Statistica' a statistical package was utilised allowing validity, reliability, and statistical significance to be determined which will be presented in tabular and graphical form where appropriate. Data collected from the interviews was analysed to produce concept cards and citations will be used linking to generic concepts developed from the analysis of the questionnaire qualitative data (Prasad 1993).

To ensure anonymity strategic managers' names will be coded ensuring the research conforms to the ethics discussed earlier. The quantitative data associated with the strategic managers will be presented in the form of descriptive statistics maintaining individual anonymity. The remainder of the chapter is separated into the findings and analysis of the primary research divided into quantitative data analysis and qualitative data analysis.

4.1 Quantitative Data

The data collected for the quantitative analysis was obtained through questionnaire sent to 102 managers serving in 26 fire services. Forty-seven questionnaires were returned giving a response rate of 46% which according to Mangione (1995 cited in Bryman & Bell 2003) is

classified as not acceptable. This response rate may be viewed as not acceptable however many published articles and studies achieving response rates ranging from 30-94% have been identified (Mitchell 1985 cited in Bryman & Bell 2003). This indicates that although the response rate is relatively low this was to be expected as a convenience sample was used (Bryman & Bell 2003).

To ensure validity and reliability of the quantitative data a number of statistical analyses were completed including descriptive statistics examining mean and standard deviations, Cronbach's Alpha and split-half reliability. Cronbach's Alpha was chosen because it is a commonly used test for scale reliability thus ensuring the measures produce consistent results (Blaikie 2004). Blaikie (2004) proposes that a result between 0 and 1 with a high value indicates a high level of consistency among the items concerned, appendix 7 (p.108-113) illustrates the results from this statistical analysis. A Cronbach's Alpha value of 0.921438 relating to research question 1, 0.943779 relating to research question 2 and 0.811580 relating to the data proposing barriers to females' progression into strategic management were determined; these values all conform to Blaikie's (2004) description of a high level of consistency.

To examine the statistical significance of the quantitative data differing analysis tools were utilised. A t-test for independent samples in a group format was used giving an initial impression of the potential for significance between the genders. Balnaves and Caputi (2001) propose the t-test is a way of comparing means between the populations involved and that a null hypothesis is being tested which suggests that there is no difference between the populations. In this statistical analysis the value determined indicates whether the pattern generated is significant (Blaikie 2004). The level of statistical significance refers to the relationship between the variables within the population from which the sample was taken and the convention amongst the majority of business researchers is that the maximum level of statistical significance is set at $p < 0.05$ (Bryman & Bell 2003). For this research statistical significance is set at $p < 0.05$ meaning there are fewer than 5 chances in 100 that the sample shows a relationship when there is not one. To support the findings from the t-test and to examine the data utilising a non-parametric analysis the Mann-Whitney U test and Wald-Wolfowitz test were utilised. The Mann-Whitney U test was used as Blaikie (2004) suggested because this is an appropriate test to use when members of two separate categories can be ranked in terms of the score on the same variable.

4.1.1 Demographic and Service Analysis

Of the questionnaires returned the ages and roles of these individuals were varied however in terms of gender response there was a 51% female and a 49% male response rate (table 2).

Table 2 – Questionnaire response breakdown

Gender	Age	Role Crew Manager	Role Watch Manager	Role Station Manager	Role Group Manager+	Row Total
Male	<30	2	0	0	0	2
Male	30-34	1	1	1	0	3
Male	35-39	0	1	4	0	5
Male	40-44	1	1	4	1	7
Male	45-49	2	1	0	1	4
Male	50+	0	1	0	1	2
Male Total		6	5	9	3	23
Female	<30	0	0	0	0	0
Female	30-34	6	3	1	0	10
Female	35-39	1	4	1	2	8
Female	40-44	0	3	2	1	6
Female	45-49	0	0	0	0	0
Female	50+	0	0	0	0	0
Female Total		7	10	4	3	24
Overall Total		13	15	13	6	47

Examining the length of individuals' service illustrates statistical significance between the genders completing the survey with table 3 showing results from the Mann-Whitney U test and figure 1 illustrating questionnaire observations. Comparing these statistics to the quantitative data from the strategic managers there is a substantial difference in respect of the length of service completed by the different groups (table 4).

Table 3: Length of service

Mann-Whitney U Test Total years service by variable Gender										
Red Marked tests are significant at p <.05000										
	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z	p-level	Valid N male	Valid N female	2*1sided Exact p
Total Yrs	682.0000	446.0000	146.0000	2.766584	0.005665	2.766904	0.005659	23	24	0.005094

Figure 1: Length of service

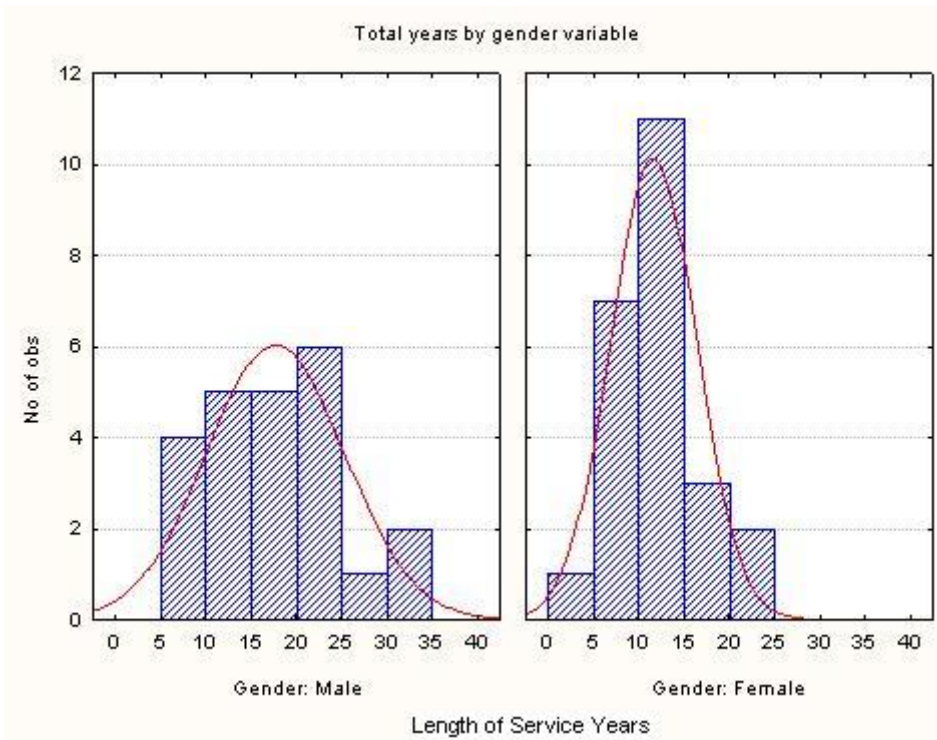


Table 4: Role and gender length of service

	Supervisory & Middle Managers Female	Supervisory & Middle Managers Male	Strategic Managers Male
Mean Yrs service	11.55	17.59	29.91

In respect of having a mentor it can be seen in table 5 that 30 of the 47 supervisory/middle manager respondents never experienced a mentor equating to 63.8% of the sample population. In the strategic manager interviews it was clear that although the mentoring process was mainly informal the majority of these managers experienced having a mentor (appendix 9).

Table 5: Mentoring

Summary Frequency Table Supervisory/Middle Managers Mentoring				
Gender	Mentoring Never mentored	Mentoring Positive	Mentoring Very positive	Row
Male	15	5	3	23
Female	15	6	2	23
All Groups	30	11	5	46

This research is examining the issue of the perceptions affecting individual access into strategic management and 61.7% of the sample population indicated they aspired to gain such a position during their career, table 6 illustrates this breakdown.

Table 6: Entry into strategic management

Summary Frequency Table Aspire to gain a strategic management role				
Gender	Role	Strategic Yes	Strategic No	Row
Male	Crew Manager	3	3	6
Male	Watch Manager	4	1	5
Male	Station Manager	7	2	9
Male	Group Manager +	1	1	2
Total		15	7	22
Female	Crew Manager	4	2	6
Female	Watch Manager	6	4	10
Female	Station Manager	1	1	2
Female	Group Manager +	3	0	3
Total		14	7	21
Column Total		29	14	43

4.1.2 Quantitative Data Research Question 1

Research question 1 examines the perceptions of the genders within supervisory and middle management in relation to the attributes required to gain promotion to strategic management. Within the questionnaire (appendix 3) respondents were asked to score 40 managerial attributes in relation to their importance using a Likert style scale described within the research methodology chapter.

The data was analysed using the Mann-Whitney U, the Wald-Wolfowitz test and the t-test with the full results in appendix 7 (p.114-115 & 118-121). When examining specific attributes the Wald-Wolfowitz test results indicate statistical significance relating to the level of importance placed on some of these attributes as detailed in table 7. Statistical significance can be seen in the attributes of subordinate inclusion within the decision making process and strategic thinking. In terms of strategic thinking the results show that the female respondents rate this attribute higher in terms of importance than their male counterparts.

Table 7: Wald-Wolfowitz Test Management Attribute by Gender

Wald-Wolfowitz Runs Test Management Attributes by variable Gender Red Marked tests are significant at p <.05000										
	Valid No Male	Valid No Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
Inclusion of subordinates in decision-making	23	24	3.826087	3.791667	2.21632	0.026671	2.068770	0.038568	32	28
Strategic thinking	22	24	4.136364	4.250000	2.40334	0.016247	2.253944	0.024200	32	29

Comparing these results to those discussed within the literature review these findings conflict with the suggestion made by Rosener (1990) that female managers view the use of inclusion as key to their management style. This inclusion is an aspect of the transformational style of leadership, however the mean scores show that male respondents recorded results closer to the score of important in comparison to their female counterparts. In the next chapter this issue will be explored in relation to the expectations placed upon female managers within a monolithic organisation.

4.1.3 Quantitative Data Research Question 2

Research question 2 examines whether the genders have different perceptions as to the importance placed on specific managerial attributes by strategic managers. The same 40 managerial attributes utilised within the questionnaire were used however the emphasis was on what the respondent felt strategic managers would consider important. The data was analysed utilising the t-test, the Mann-Whitney U test and the Wald-Wolfowitz and the full results can be seen in appendix 7 (p.116-117 & 122-125). A number of different attributes recorded statistical significance during the varying techniques utilised with table 8 illustrating the results from the t-test and table 9 the results from the Mann-Whitney U test.

Table 8: T-test independent samples management attribute by Gender

T-tests for independent samples; Grouping: Group 1: Female Group 2: Male Red Marked tests are significant at p <.05000											
	Mean Female	Mean Male	t-value	df	p	Valid N Female	Valid N Male	Std. Dev. Female	Std. Dev. Male	F-ratio variances	P variances
SM empathetic	2.375000	3.304348	-3.27747	45	0.002023	24	23	0.824226	1.105144	1.797818	0.170076
SM Emotionally stable	3.130435	3.739130	-2.04014	44	0.047367	23	23	0.967863	1.053884	1.185654	0.693116

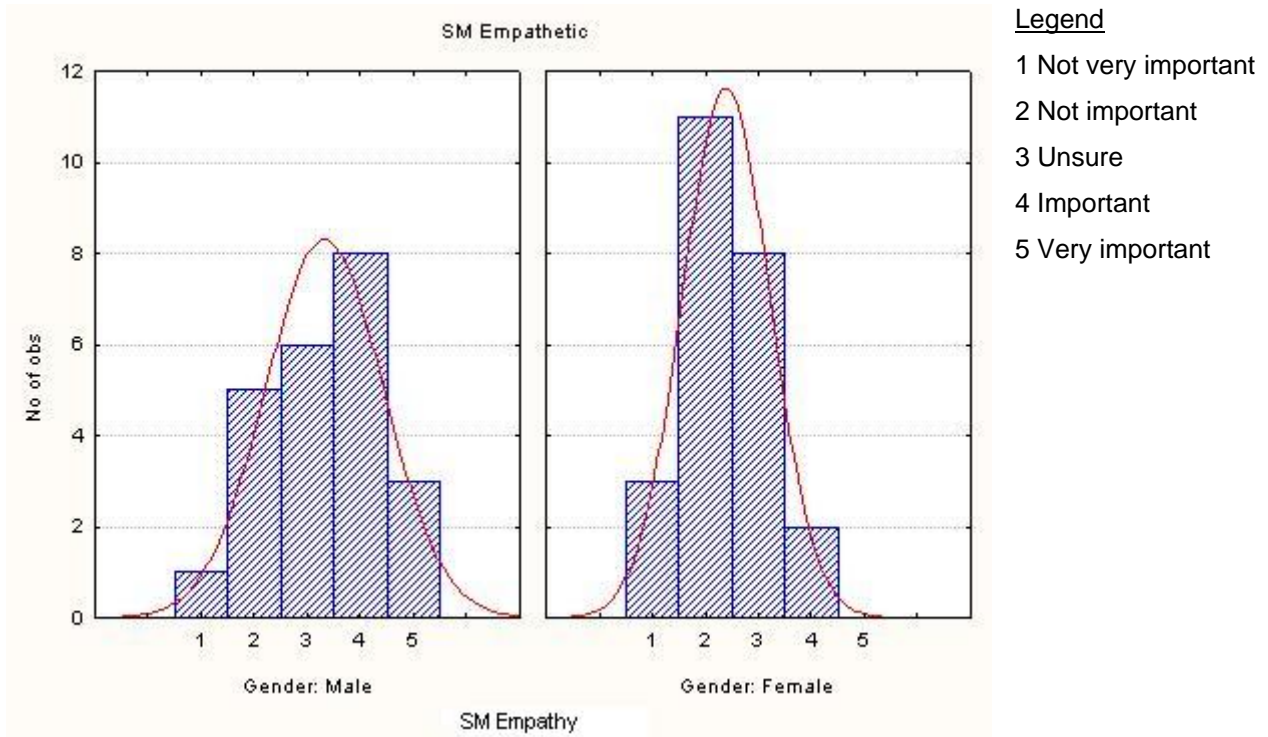
Table 9: Mann-Whitney U test Management Attribute by Gender

Mann-Whitney U Test SM Management Attribute by variable Gender Red Marked tests are significant at p <.05000										
	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z adjusted	p-level adjusted	Valid N Male	Valid N Female	2*1sided Exact p
SM Creative thinking	642.5000	485.5000	185.5000	1.92597	0.054109	2.03904	0.041447	23	24	0.053534
SM empathetic	684.0000	444.0000	144.0000	2.80915	0.004968	2.92235	0.003474	23	24	0.004416
SM Emotionally stable	634.0000	447.0000	171.0000	2.05412	0.039965	2.15759	0.030960	23	23	0.040221

Although the attributes of empathy and emotional stability have recorded statistical significance within 2 tests the attribute of creative thinking also approaches statistical significance within the t-test. The statistics demonstrate that in the view of the female respondents strategic managers do not place importance on the managerial attributes of empathy, emotional stability or creative thinking. Empathy according to the literature is an attribute linked to female managers as discussed within the literature review (Stanford et al 1995; Kanter 1977; Hall-Taylor 1997; Powell and Graves 2003; Rosener 1990; Vinnicombe & Singh 2002).

When the p-level is compared between empathy, emotional stability and creative thinking it is clear that the greatest statistical significance is evident within the managerial attribute of empathy. The p-level of 0.003 indicates a very low risk of an error occurring in terms of the statistical significance being obtained by chance (Hosker 2002). It is important to understand that the p-level indicates the confidence a researcher can have with their findings and when examining figure 2 the differences in the views of the genders is clear. When taking this into account along with the p-level, female managers do perceive male strategic managers as placing no importance on empathy as an attribute required at their level. This links closely with the opinions stated within the literature review of Eichenbaum and Orbach (1982) who proposed that women utilise more emotional skill in managing the workforce than their male counterparts.

Figure 2: Strategy Management Empathy



The final attribute with statistical significance is decision-making based on appropriate and adequate information. Table 10 illustrates a p-level of 0.01 meaning there is less than a 1 chance in 100 that these results were recorded by chance.

Table 10: Wald-Wolfowitz test Management Attribute by Gender

Wald-Wolfowitz Runs Test SM Management Skills by variable Gender Red Marked tests are significant at p <.05000										
	Valid N Male	Valid N Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
SM Decision making based on adequate and appropriate information	22	24	4.045455	4.083333	2.70213	0.006890	2.552738	0.010688	33	28

4.1.4 Quantitative Data Research Question 3

Research question 3 examines whether male supervisory/middle managers place similar importance on the attributes required to work within strategic management as that of strategic managers. The same 40 managerial attributes were utilised however to facilitate

the interviews these attributes were placed into categories as determined during the literature review as listed below and detailed in appendix 6:-

- Delegation Skills
- Conflict Management
- Coaching and development
- Personal Organisation and time management
- Communications
- Personal Adaptability
- Problem Analysis and Decision Making
- Personal Qualities

During the interview candidates (all male), were asked to rank each of these categories using the Likert-style scale utilised within the questionnaire and the results compared with supervisory and middle managers can be seen in table 11. As the mean scores illustrate there are differences between the levels of importance placed upon the different attribute categories across the varying levels of management represented. As a way of comparison the mean scores from the female managers has been included within the table. Although this research question is specifically looking for any similarities between the male managers regardless of managerial tier it is interesting to view both the similarities and differences between the management tiers regardless of gender.

Table 11: Management Attributes within Categories Mean Scores

Summary Frequency Table Mean Scores Management Attributes Categorised					
Category	Female Supervisory Manager	Male Supervisory Manager	Female Middle Manager	Male Middle Manager	Male Strategic Manager
Delegation Skills	3.86	3.88	4.10	3.94	4.58
Conflict Management	3.46	3.70	4.18	3.77	4.33
Coaching and developing	2.98	3.30	3.52	3.72	4.41
Personal Organisation and Time Management	3.81	3.65	3.91	3.90	4.66
Communications	3.12	3.06	3.71	3.74	4.91
Personal Adaptability	3.87	3.78	4.14	4.13	4.33
Problem Analysis and Decision Making	3.79	3.57	3.95	3.88	4.5
Personal Qualities	3.00	3.36	3.43	3.60	4.25

There are differences in terms of the mean score applied and to determine statistical significance in terms of difference the Mann-Whitney U test was run. The results in table 12

illustrate significance in relation to the categories of delegation skills, coaching and developing, personal organisation, communication and problem analysis/decision making. The full results are in appendix 7 (p.126) and the low p-levels of personal organisation, communication and problem analysis/decision making indicate differences in terms of the views of male managers across the management tiers.

Table 12: Managerial categories across managerial tiers

Mann-Whitney U Test By variable Managerial Tiers Red Marked tests are significant at p <.05000										
	Rank Sum	Rank Sum	U	Z	p-level	Z	p-level	Valid N	Valid N	2*1sided
Delegating	354.5000	275.5000	78.5000	-2.06777	0.038663	-2.17759	0.029438	23	12	0.037338
Coaching	349.5000	280.5000	73.5000	-2.24153	0.024992	-2.37035	0.017772	23	12	0.023421
Personal Org	304.0000	326.0000	28.0000	-3.82276	0.000132	-3.89122	0.000100	23	12	0.000038
Communication	289.0000	341.0000	13.0000	-4.34405	0.000014	-4.45526	0.000008	23	12	0.000001
Problem Analysis & Decision Making	301.5000	293.5000	48.5000	-3.00913	0.002620	-3.05884	0.002222	22	12	0.001802

The p-levels indicate it is unlikely these results appeared by chance and these levels of statistical significance do indicate a difference between the managerial tiers in relation to these managerial attribute categories.

4.1.5 Barriers to females progression

As well as the perceptions of the managerial attributes required to work within strategic management the researcher was interested in the perceived barriers to the progression of women into strategic levels. Several of these barriers were discussed in the literature review and range from leadership styles to prejudice and the questionnaire candidates were asked to score 10 potential barriers using a Likert-style scale. Interview candidates were asked what they perceived may act as a barrier to women’s progression. The full statistical analysis can be seen in appendix 7 (p.127-128) however detailed within table 13 are those potential barriers where statistical significance was identified. These will be discussed in conjunction with the qualitative answers from the questionnaires and the interviews within the qualitative analysis section.

Table 13: Potential barriers to women’s progression

Mann-Whitney U Test
Potential reasons for non-progression by variable Gender
Red Marked tests are significant at p <.05000

	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z adjusted	p-level	Valid N Male	Valid N Female	2*1sided Exact p
leadership	464.0000	664.0000	188.0000	-1.87276	0.061102	-2.00253	0.045228	23	24	0.062173
Few numbers	433.0000	695.0000	157.0000	-2.53249	0.011326	-2.67243	0.007531	23	24	0.010726
Old-boys network	434.0000	694.0000	158.0000	-2.51121	0.012032	-2.58679	0.009688	23	24	0.011439

Wald-Wolfowitz Runs Test
Potential reasons for non-progression by variable Gender
Red Marked tests are significant at p <.05000

	Valid N Male	Valid N Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
Prejudice	23	23	2.739130	3.391304	2.38573	0.017046	2.236620	0.025312	32	28

The results illustrate 4 barriers having statistical significance in relation to the views of the individuals involved in the research. When examining the mean score applied to each of the barriers listed; prejudice, leadership, lack of females within the service and leadership styles, female respondents score the barriers higher in terms of agreeing with them as having the potential to restrict women’s access to strategic management. Figures 3, 4, 5 and 6 represent graphically the scores applied to the barriers identified and illustrate the difference in scores between the genders.

Figure 3: Barrier Few Numbers

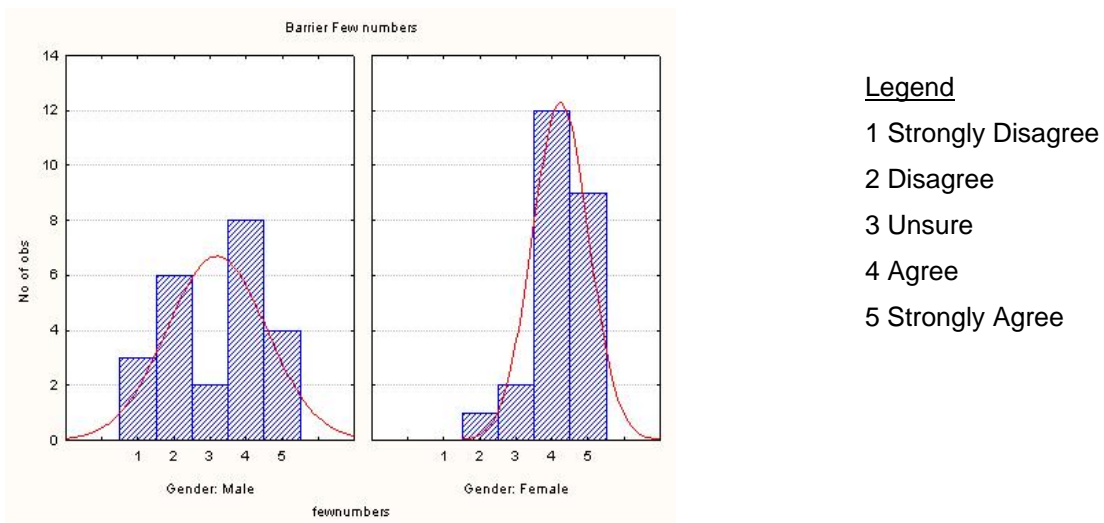


Figure 4: Barrier Old-boys network

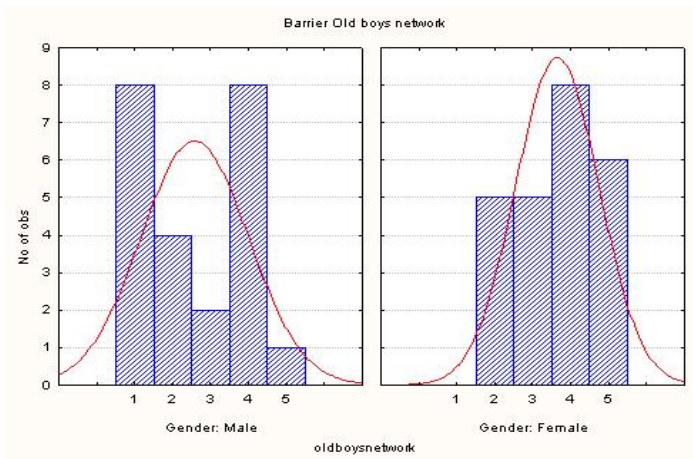
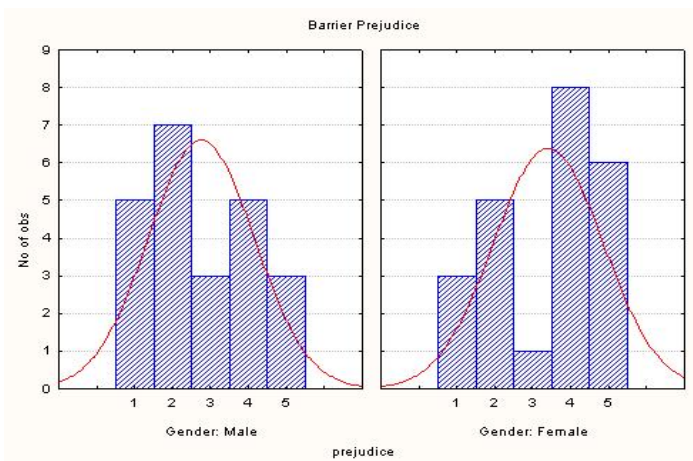


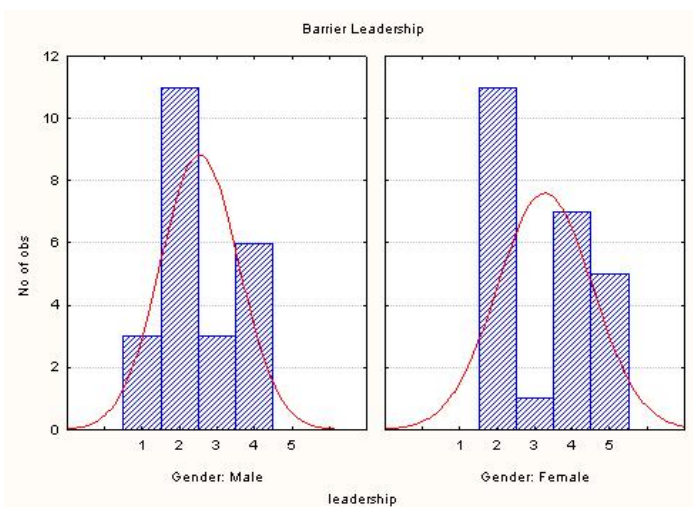
Figure 5: Barrier Prejudice



Legend

- 1 Strongly Disagree
- 2 Disagree
- 3 Unsure
- 4 Agree
- 5 Strongly Agree

Figure 6: Barrier Leadership Styles



Although these findings and analyses have examined the differences in perceptions between the genders there are some managerial attributes which have a similar level of importance placed upon them. Hosker (2002) indicates that when examining normal distribution it is expected that the peak of a bell curve which is normally symmetrical represents the maximum frequency. Therefore half of the results from the population will fall to the left and half to the right of the peak. If the maximum frequency is nearer one end of the graph than the other it is said to be skewed and this can be either positive or negative (Hosker 2002). This issue will be mentioned further within the recommendations section.

4.2 Qualitative Data

The data for the qualitative analysis was collected through the questionnaires and semi-structured interviews with 12 strategic uniformed managers serving within 4 Fire and Rescue Services. The services involved were Staffordshire, Wiltshire, East Sussex and Mid and West Wales and were chosen because each service requested to participate within the qualitative phase of the research. To determine generic themes concept cards as discussed within the research methodology were formulated from the questionnaire answers and themes developed from the interviews (appendix 9 & 10). To structure this section the demographic findings will be discussed, the perceptions of strategic managers will be discussed in comparison to those of middle managers and finally the perceived barriers to female's progression will be discussed.

4.2.1 Demographic and Service Analysis

Table 4 illustrates that the strategic managers interviewed have been employed within the fire service for 2 ½ times more than the female managers involved. This may be attributed to the fact that it was not until the early 1990's that females were actively recruited. As one strategic manager proposed *"certainly in this organisation until 1992 there were no women firefighters. Another individual felt it was slightly later for his service and explained "I suppose 10/12 years ago women really started to join the fire service."* One strategic manager indicated a direct link to the targets set by the government and said *"it was not until the mid 90's when women started joining and the documentation the targets and diversity I & II came out that the fire service actively well did I see much change in the service"*. The impact of this perceived late entry by women into the fire service will be

discussed further in conjunction with the perceived barriers to females' progression within the service.

When exploring the impact of having a mentor the results from the survey illustrated that 63.8% of the respondents had not experienced a mentor. However the majority of the strategic managers had experienced mentoring either informally or formally. One strategic manager explained *"at that point I then had the opportunity of a mentor although I would not describe it with that term the relationship was very much that of a bit of coaching and that sort of thing"*. Several of the strategic managers felt the same in terms of the process by which they recognised a mentoring relationship as one stated *"I have been mentored informally by the CFO and by 2 previous ACFO's but nothing formally. They came about through excellent working relationships with these people"*. Two of the strategic managers commented they had mentors appointed on a formal basis during their attendance on the Brigade Command Course. One stated *"I had a mentor appointed during the command course process who was That was a formal arrangement with paperwork, projects and deadlines for me and we met from time to time to examine my progress"*. However the other strategic manager had a contrasting view to the appointment process explaining *"I had a mentor appointed on the brigade command course but it was very dictatorial in that they were not a person I would have chosen as in true fire brigade fashion they chose themselves"*. Discussed within the literature review Powell and Graves (2003) suggest having a mentor can be a vital key development opportunity which will be mentioned within the recommendations section.

To determine whether individuals aspired to achieve positions within strategic management this question was asked within the questionnaire and the results illustrate that 61.7% of the sample did wish to gain this position at some stage. Comparing this to those aspirations of the strategic managers there are differences. One of the strategic managers described his transition through management as being *"an evolutionary process"* a view supported by another individual who stated *"all I wanted to do was ride the red fire engine and the things that went with that. I had no aspirations to do anything else"*. Another individual felt as he progressed through the rank structure his decision-making in terms of career progression changed. He described *"when I joined the service I had no more aspirations than that and really I think that once I got to Station Manager and then ADO my moves were a bit more calculated whereas previously I did not really consider them that carefully"*.

4.2.2 Strategic Manager Perceptions

Section 4.1.3 presented the statistical analysis of the differences in managerial perceptions using a quantitative format. To gain a more in-depth answer the researcher asked the interview candidates to describe what middle managers felt was important. Overall the strategic managers found this a difficult question to answer as one individual explained *“it is difficult to put myself in that position I can only refer to how I was when I was a middle manager and what I thought was important at that time”*. This view was supported by another manager who stated *“I don’t really know what they think is important I mean well it is probably very hard for themso that was a hard question because I do not know what they think”*.

Various answers were given by the strategic managers with the majority of them explaining what they thought made an effective strategic manager rather than trying to explore what they thought middle managers felt. However some generic concepts did emerge during the interviews including the view from 3 of the interviewees, that middle managers do not understand what is required at a strategic level. One manager explained *“I would say then that most middle managers do not have an understanding of the attributes required by a strategic manager”*. A view supported by another individual who stated *“well what they actually think and what they should think are probably two different matters.”* However a final manager stated *“I do not think there is enough training for middle managers to take the next step into strategic management”*. The results in table 12 indicate the differences between the male managers involved within the study.

Strategic thinking was described by 6 of the strategic managers as an attribute they felt all middle managers would consider vital for a strategic manager. One manager described *“they will know that I have to think strategically, outside of the box and not worry about the detail”*. Although one of the 6 managers does support the idea that middle managers appreciate the need to think strategically he suggests that in terms of political awareness this is not the case. He explained *“I would guess that strategic thinking would be well I do wonder if they see that there is a bigger world other than this office and that is about interacting with politics and other major partners”*. This view of the lack of political awareness was another concept that emerged during the interviews. This was described by one manager *“I don’t suggest for one minute that most middle managers think that having a political understanding/awareness is one of those bits they need to get to strategic*

management. It is key to survive at strategic management level but I am not sure how many middle managers actually understand that". The development of this theme again highlights the difficulty these managers had in determining the views of their middle managers.

One strategic manager had no difficulty in explaining what he thought middle managers perceived as key and described *"2 way communication ability, ability to make decisions from the information available, ability to manage a team, good planner, good organiser, probably looking for the good of the organisation and the people within that organisation...the ability to see the wider picture rather than just the individual area or department and not just in the brigade but also the bigger picture outside you know the political, industrial issues that affect the service"*.

Overall the generic themes that emerged from the analyses of the interviews showed that the strategic managers felt it difficult to explore the perceptions of their middle managers, although an ability to think strategically was seen as a given. When comparing the results from the statistical analysis (table 12) to that of the qualitative data the lack of concrete opinions from the strategic managers corresponds with the mean scores of supervisory/middle managers. This suggests that the strategic managers do not know what their middle managers perceive as being important. Supervisory/middle managers are also unclear as to those attributes required to operate within strategic management levels in the opinion of the strategic managers interviewed.

Although there is a disparity between the perceptions of the different managerial levels in terms of the attributes and their importance there are some generic views between the management tiers. These views relate to the work experience necessary for an individual's progression through the service. A theme developed through the concept cards indicates that a variety of exposure to different areas and departments is key. One supervisory manager described it as *"very important as a strategic manager to have exposure to a range of opportunities e.g. ops, fire safety, CFS, FSHQ to be considered for promotion."* A view supported by a middle manager who explained *"access and exposure to future role requirements e.g. strategic planning, appropriate partnership involvement, technical courses relating to role"*. A strategic manager also proposed that *"in this organisation we do look at people exploring different departments through the service."* This was expanded by

another strategic manager who explained *“I actually think they need exposure to a variety of different areas and they need exposure in within especially as the service is going more and more into prevention rather than protection fire safety is vital but I think that in order to be a well-rounded strategic manager the more exposure and experience an individual has of all areas of the service the better”*.

As well as wide work experience project exposure/partnership work was also considered important for a manager’s transition into strategic levels. A middle manager defined it as *“partnership work - for local action e.g. life project driving campaigns. National involvement practitioner’s forum, project work at local level”*. This view was supported by another individual who felt that key to project work was political exposure saying *“projects where co-ordination across organisational boundaries is required and interaction at political level”*. These views were supported by several strategic managers with one describing *“I think it’s important for officers to be involved in either the working parties at sort of station manager level very much to be involved on the project working groups and to progress through to chair the project work streams as they you sort of get through to group manager”*. Another strategic manager stated *“project exposure is helpful and probably a good thing to have under your belt as most things you are dealing with now are on a medium and long term basis so that will assist you in those terms now. So if you are looking at 3, 5 or 10 year terms it would be a disadvantage not to have any project management skills”*.

The role-maps discussed earlier are widely available and are viewed by 4 of the strategic managers as providing middle managers with clear direction as to the attributes required by strategic managers. One individual explained *“the role-maps and PQA’s have made it easy for people to identify what is required of them to step up.”* An opinion supported by the statement *“I think the PQA’s are a foundation that one can access and build on”* made by another strategic manager. Although this strategic manager supported this view he felt that in respect of risk-critical skills these were not accounted for and said *“I think that the PQA’s and role maps have both yes and no helped to explain things if you take the risk critical aspect out of it. I have real concerns about the process within the IPDS and the role maps in that there are very few opportunities to assess someone’s ability to manage in terms of crisis management”*.

These views contrast with 6 of the strategic managers who felt the role maps were no help in explaining the skills required to work within strategic management. One strategic manager explained *“the PQA framework has not clarified anything for them and in fact I think it has muddied the waters.”* This opinion was supported by a strategic manager recently involved in applying for promotion who stated *“having just spent 3 weeks putting together an application form based against the PQA’s I do not think that the new framework has helped explain things I found it really difficult to be honest..... it must be twice as hard for the middle managers without the experience that I have got”*.

4.2.3 Qualitative analysis of barriers to female progression

The quantitative analyses of the barriers restricting the progress of women into strategic management illustrated statistical significance was present in the barriers of prejudice, the lack of numbers within supervisory/middle management, access to old boys’ networks and leadership styles. Those managers completing the questionnaire were asked to detail any other barriers they felt limited the progress of females. The use of the concept cards highlighted 2 generic themes to these barriers, the lack of women in the fire service generally and the time it takes to gain promotion. A one middle manager explained *“if there were more women in the Fire Service more would be managers, but we cannot force women to join.”* This view was supported by another middle manager who felt *“the main reason may be the % of women in the job as a whole”*. One individual however felt it was a combination of factors involving the numbers within the service combined with the length of service. This manager stated *“consideration needs to be given to the % of females in the service and the length of time it takes to reach strategic management level”*.

Eight strategic managers felt the lack of numbers overall was a major barrier to women’s progression. One described *“well I think the first thing is probably the numbers that you are talking about and the percentage of women in the fire service is still fairly low.”* This was confirmed by another who stated *“weight of numbers must be oneeverything being an equal playing field you are probably up against odds of 10 – 1 so it must be very difficult I think. So to have a fair crack at it the proportion is not there, there is not a level playing field”*. Although agreeing with this view another strategic manager felt the reasons went deeper explaining *“how can we be in a situation where no women have got beyond that? Really it starts to suggest the proverbial glass ceiling”*. However one strategic manager felt there were no barriers to women’s progression and stated *“I am not so sure if there are*

barriers in the way there are glass ceilings that can perhaps be broken along the way but I do not think there are actual barriers". In contrast to this statement another felt "why are they still significantly under-represented at strategic levels? It is aligned to the fact that we recruit very small numbers of females and so the pool to promote from is still very small".

The second theme to the potential barriers is the culture within the fire service and society in terms of the public's perceptions of what a firefighter and subsequently a manager should be like. One supervisory manager explained *"the fire service is still and always will be in some people's eyes a man's world"*. A middle manager described *"the overall culture of the Fire Service does not support women in strategic roles"*. Out of the 12 strategic managers 8 expressed the view that culture was a barrier to women's progression however several of these managers felt societal culture posed a barrier to women even before they joined the service. This was summed up by one strategic manager who said *"women do not see this as a career for them. You talk to women on the streets and they say it is a man's job and they do not want to do it I speak to women who tell me women should not do it as it is a man's job..... I think the big problem is that there is still the perception out there in the big wide world that this is a job for white males"*. One of the strategic managers had conducted research within his local service area examining why women did not want to join the fire service. He described these barriers as being *"societal pressures that prevented them joining and the impact of boyfriends, brothers, fathers and they had the view that women should not do that job"*. When referring to the culture within the fire service strategic managers felt this broke into 2 concepts; acceptance into the occupation followed by progression through the rank structure. One strategic manager explained *"I think that the whole thing to me is about fitting-in to a culture which requires suppression of perhaps personal qualities and ambition....the under-represented firefighter is suppressed they have to work twice as hard to get noticed, they have to fit in to the culture"*. This links to another strategic manager who stated *"the fire service is still well it is still dinosaur breeding ground we don't recruit dinosaurs we recruit able young people but we put them onto a fire station and we turn them onto a watch and in 2 years we have turned them into dinosaurs. In my view the biggest barrier to recruitment of women and others is the watch and the barrier to progression of good people is the watch, it has turned into a male rugby club. It is not an approachable place for females"*. In relation to progression one strategic manager explained *"I can think of senior managers in my career that would never accept that a woman could do a senior job in the fire service."* This view was supported by another

individual who explained *“at strategic levels I suppose people often promote in their own image people that are like me they operate like me and they are like me so they are comfortable with that and so promote them”*. According to one strategic manager however culture is no longer a barrier *“I think that now is more than the right time for women to get on and culturally now I think our minds are more open and the people on the other side of the concrete glass ceiling we are open to more challenge.”*

Culture in organisational and societal respects was not examined as part of the research questions. Within the literature review it is discussed as posing specific barriers to women and as part of the recommendations section the issue of culture will be mentioned (Eagly 1987; Boldry et al 2001; Powell & Graves 2003; Olsson & Walker 2004; Mann 1995; Still 1994).

A number of solutions were proposed by the strategic managers interviewed which could be utilised to overcome some of the barriers discussed. These included educating the public in greater detail as to the role of the firefighter. One manager explained *“I think though if they knew that we go out into the community and we fit some detectors and talk to groups and knew the full spectrum of what we do then we would probably get a greater uptake so educational and awareness through PR and communication at school levels and upwards I mean I don’t think there is an early enough age to start.”* A second solution to the issue of recruitment is the use of appropriate recruiting literature as explained by one manager *“we actively promoted for women to join the service and we have led that from the top to be honest through the training department and with our advertising which has been done on an all Wales basis. We have put the face of women onto that of a firefighter as well as people from ethnic backgrounds on our recruiting literature.”* This recruiting solution was expanded with one individual stating that *“from an advertising point of view letting people know through the TV and media with more services together.”*

When comparing the results from this research to that of Wood (2001) there are similarities in terms of some of the attributes considered important by the genders and those which recorded statistical significance. In terms of the value placed on these attributes this research has recorded opposing results to those determined by Wood (2001). In Wood’s (2001) research perceived charisma which included variables such as likeability and personality recorded significant differences across the genders. Female respondents felt

that male strategic managers valued these management attributes. In this research the variables of empathy and emotional stability were felt by the female managers to be unimportant to strategic managers. In this regard there are some contrasts between the findings of the different pieces of research.

Chapter 5 Conclusions and Recommendations

This chapter will initially consider conclusions from the research findings presented in the previous chapter followed by recommendations for future research. This chapter will be structured around the research questions with an additional section examining conclusions relating to the barriers faced by females joining the fire service and seeking progression.

5.1 Research Question 1: *Will female and male supervisory/middle managers have different perceptions as to the attributes required to gain promotion to strategic management levels?*

The research findings suggest that although there are some managerial attributes that female and male managers have differing views on (table 7); out of the 40 attributes scored there was statistical significance between only 2 of the listed attributes. These attributes are the inclusion of sub-ordinates within the decision-making process and the use of strategic thinking. The research indicates the perceptions between female and male managers are not as different as the literature suggested. Powell and Graves (2003) proposed that monolithic organisations which the fire service can be aligned to, do not welcome diversity and as such a question to be raised would be whether women adopt similar styles to their male counterparts, because of the lack of support their individual management style gets in the workplace. This links to the view that when women work within a male-dominated occupation they are less likely to use gender stereotypes and adopt those of the dominant group within the organisation (Ibarra 1999; Eagly & Johnson 1990). Women working within management tiers in male dominated occupations conform to leader stereotypes described by Powell and Graves (2003) as masculine in nature because men dominate the top ranks of management. In the view of Wajcman (1998) there are very little differences between the genders in terms of their management styles and in fact the similarities far outweigh the differences. The issue of female leadership styles being suppressed would be a potential opportunity for research in the future.

In conclusion the findings relating to research question 1 indicate that female and male supervisory/middle managers have similar perceptions as to the managerial attributes required to gain promotion to strategic management.

5.2 Research Question 2 *Will female and male supervisory/middle managers have different perceptions of the importance placed by strategic management on specific managerial attributes?*

The research findings indicate some differences in the perceptions of managers in terms of the attributes deemed important by strategic managers. When examining the 40 managerial attributes there are 4 that recorded statistical significance; empathy, emotional stability, creative thinking and decision-making based on appropriate and adequate information. Empathy as an attribute is seen by female managers as having little or no importance in the opinions of strategic managers whereas female managers utilise this skill within their managerial style (Stanford et al 1995; Kanter 1977; Hall-Taylor 1997). The findings in tables 8, 9 and figure 2 illustrate that the views of male and female managers in relation to the use of empathy are very different and the importance placed upon them varies. However the paradigm that has to be considered with is that specific managerial attributes link to the public and business domain and as such may well be viewed by managers in these terms rather than by a critical independent analysis of the context in which they are used.

In terms of the use of empathy, an attribute considered feminine in nature, an understanding of human nature is more relevant now in the world of employment and business than ever before. Overall emotional intelligence is a field of study that has not been researched in the fire service.

In conclusion the findings relating to research question 2 indicate that female and male supervisory/middle managers have differing perceptions as to the importance placed upon specific managerial attributes by strategic managers.

5.3 Research Question 3 *Will male supervisory/middle managers have similar views to male strategic managers as to the managerial attributes required to operate within a strategic managerial role?*

The results in table 11 illustrate the perceptions of supervisory and middle managers in terms of the managerial attributes required to work within strategic management are

similar. This research question was specifically examining the perceptions of male managers however table 11 shows that the different managerial tiers regardless of gender do have similar perceptions relating to some of the managerial categories listed.

When comparing the results from the strategic managers there are clear differences between these individuals and supervisory/middle managers. The results indicate that supervisory/middle male managers generally apply scores of unsure to important to the managerial attributes identified whereas the strategic managers categorise the same attributes as important to very important. Examining the results in table 12 illustrates differences between the views of supervisory/middle managers and strategic managers. Statistical significance was recorded in 50% of the managerial attribute categories clearly illustrating the different levels of importance placed upon managerial attributes by the differing management tiers. Although there is a system defining the roles, managerial attributes and qualities required by a strategic manager it appears that lower managerial levels do in fact not have an in-depth understanding of what is required to work within strategic management.

The literature review indicated that male managers would have similar perceptions however it has been found that in this research there are differences in opinions and perceptions.

In conclusion the findings relating to research question 3 indicate that male supervisory/middle managers and strategic managers have different perceptions as to the managerial attributes required to operate within a strategic management role.

5.6 Barriers to female's progression

The research has highlighted a number of barriers to the progression of female firefighters with the ambition to progress to higher levels of management. The biggest barriers to female progression are seen to be a combination of the lack of overall numbers of women in the Fire Service, the length of time women have been actively recruited into the occupation and the length of time it takes to gain a position of strategic management. Unless initial recruitment is addressed women will not have equal

representation at any level within the fire service. The Home Office in setting targets has challenged the Fire Service to open up its doors to all groups within society, however this has not yet had the effect of equal representation within the workforce (table 1).

Linked to the recruitment of females into the service is the issue of societal and cultural beliefs in terms of the occupation not being for women. Using the media portrayed image of a firefighter as a man rescuing a woman from a burning building it is easy to see why women do not view being a firefighter as an occupation for them.

Finally there is the issue of organisational culture which according to the strategic managers is another barrier to women joining and progressing within the service. This research did not examine the issue of culture and as such there will be a recommendation within section 5.5 indicating the need to critically examine organisational culture within the Fire Service.

In conclusion there are a number of barriers that exist which all contribute to the formation of a glass ceiling within the British Fire Service and these need to be eliminated before women are equally represented throughout the service.

5.7 Issues for consideration and recommendations

There are a number of areas this research has indicated merit further analysis and consideration.

- The impact of a monolithic organisation on female managers' management style within the context of the Fire Service merits further research. This research should also look at the impact of the stereotypes utilised by female managers within a male dominated environment.
- The use of emotional intelligence by the managers within the Fire Service and the importance placed upon it is another area of research to be considered. This provides an opportunity to explore the different managerial styles across varying roles within an organisation that is becoming less hierarchical in nature. The importance being placed

on inclusion and team work within the Fire Service would provide an interesting context in which this research could be undertaken.

- Further research into the differences between the views of male managers across the managerial roles merits further consideration.
- This research primarily investigated the differences between the perceptions of the managers involved. There is merit in further research being conducted that relates to the similarities between managers within the Fire Service which may result in good practice being identified through the potentially skewed nature of the results.
- The recruitment of females into the Fire Service and the potential barriers to their progression is a final area that could be considered for future research. A number of solutions could be considered to the recruitment problem which includes education at school level, appropriate recruitment literature, the use of the national media for recruiting campaigns, multi-tier entry and formal mentoring schemes.

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APPENDIX 1

MAP OF THE BRITISH FIRE SERVICES

Map of the British Fire Service



APPENDIX 2

RANK STRUCTURE WITHIN THE BRITISH FIRE SERVICE

Rank Structure within the British Fire Service

Rank Structure	Grade	Management Level	New Role Structure
Firefighter		N/A	Firefighter
Leading Firefighter		Supervisory	Crew Manager (CM)
Sub Officer		Supervisory	Watch Manager (WM)A
Station Officer		Supervisory	Watch Manager (WM) B & Station Manager (SM) A
Assistant Divisional Officer		Middle	Station Manager (SM) B
Divisional Officer	III	Middle	Group Manager (GM) A
Divisional Officer	II	Middle	Group Manager (GM) B
Divisional Officer	I	Middle	Group Manager (GM) B
Senior Divisional Officer		Strategic	Area Manager (AM)
Assistant Chief Fire Officer		Strategic	Brigade Manager (BM)
Deputy Chief Fire Officer		Strategic	Brigade Manager (BM)
Chief Fire Officer		Strategic	Brigade Manager (BM)

APPENDIX 3

QUESTIONNAIRE SURVEY

ID: _____

SURVEY ON PERCEPTIONS OF STRATEGIC MANAGEMENT CHARACTERISTICS

This survey should take approximately 30 minutes to complete. Your co-operation is very much appreciated. Please tick the appropriate boxes, or circle the appropriate numbers. (Please ignore the small numbers; they are for coding purposes only). Please return the completed questionnaire in the stamped, addressed envelope provided within two weeks.

PART 1 - DEMOGRAPHICS:

1. Are you - 1

Male ¹ Female ²

2. How old are you? 2

Under 30 ¹ 40-44 ⁴ 55-59 ⁷
30-34 ² 45-49 ⁵ 60-64 ⁸
35-39 ³ 50-54 ⁶ 65 and over ⁹

3. Educational Qualifications: 3

What is the highest level of formal education that you have obtained?

None ¹ University Undergraduate Degree ⁴
O Levels/CSE/GCSE ² University Postgraduate Degree ⁵
A Levels ³ Other (Please specify) ⁶

4. If you have a degree, what was your degree and your subject? e.g. (BA (Hons) Sports Studies) 4-7

5. Which best describes your living arrangements? 8

Single (including divorced, separated, widowed) ¹
Couple (married or partnership) ²
Other _____ ³

6. What role do you operate at within your Fire Service? 9

Crew Manager ¹ Group Manager ⁴
Watch Manager ² Area Manager ⁵
Station Manager ³ Brigade Manager ⁶

PART 2 - CAREER FACTORS:

7. **How long have you worked in the Fire Service?** 10-13

[] [] years [] [] months

8. **How many Fire Services have you worked for in your career?** [] [] 14

9. **If you have served within more than one Fire Service did you have to geographically relocate for the advancement of your career?** 15

Yes []¹ No []²

10. **What effect has your most significant mentoring relationship had on your career within the Fire Service?** 16

Never had a mentor []¹ No effect []⁴
 Very negative []² Positive []⁵
 Negative []³ Very Positive []⁶

11. **Does your Fire Service have a Performance Appraisal policy?** 17

Yes []¹ No []²

12. **If yes, how frequently does your supervisor conduct Performance Appraisals with you?** 18

3 monthly []¹ Annually []³
 6 monthly []² Other (please describe) []⁴

13. **How effective do you think your Fire Service's Performance Appraisals are in general for giving you:** 19-20

	Very Ineffective		Very Effective		
• accurate feedback about work:	1	2	3	4	5
• constructive suggestions for performance improvement:	1	2	3	4	5

Please elaborate on the effectiveness/non-effectiveness of these Performance Appraisals

14. Do you feel every middle manager in this Fire Service gets the same opportunity for advancement? ²¹

Yes []¹ No []²

15. If no, who gets the opportunities, who doesn't, and why? ²²

PART 3 - PROMOTION:

16. How many years is it since you had a significant promotion within your current Fire Service, or through changing jobs? ²³

Less than 1 year []¹ Between 3-5 years []³
Between 1-2 years []² More than 6 years []⁴

Please describe what you define as a significant promotion:

17. If you are not currently a strategic manager within your Fire Service do you want to obtain a strategic management position during your managerial career? (If you are a strategic manager please move onto question 20) ²⁴

Yes []¹ No []²

18. How confident are you that this will happen? ²⁵

1 _____ 2 _____ 3 _____ 4 _____ 5 _____
Not confident Confident Very Confident

19. How soon do you feel this will happen? Within... 26

One year	[] ¹	Between 6-10 years	[] ⁴
Between 1-2 years	[] ²	More than 10 years	[] ⁵
Between 3-5 years	[] ³	Never	[] ⁶

20. Do you perceive that ongoing development is necessary for you to achieve promotion? (e.g. short courses, technical training, leadership seminars etc.) 27

Yes []¹ No []²

21. In your opinion, what types of work experience or task assignments are important in order to be considered for promotion? (Please describe) 28

22. Have you received these types of work experience or task assignments in the past, either in a previous organisation, or in the current organisation? 29

Yes []¹ No []²

23. Are you currently enrolled in a course or training related to your work? 30

Yes []¹ No []²

Please specify type: _____

24. Do you think you have received sufficient training in your current position? 31

Yes []¹ No []²

Please elaborate:

PART 5 - WORKPLACE PARTICIPATION:

25. **Specific managerial/behavioural attributes have been cited as playing an important role for the progression of an individual from middle management into strategic management. How important DO YOU THINK the following managerial characteristics are to achieving promotion to strategic management within your Fire Service. This question is about what YOU THINK is important.**

		Not very important	Not importan	Unsure	Important	Very important	
25.1	Ability to delegate to subordinates	1	2	3	4	5	32
25.2	Assigning of responsibilities to subordinates	1	2	3	4	5	33
25.3	Use of effective performance management techniques	1	2	3	4	5	34
25.4	Resolution of conflict between sub-ordinates	1	2	3	4	5	35
25.5	Taking unpopular decisions	1	2	3	4	5	36
25.6	Ability to use constructive criticism	1	2	3	4	5	37
25.7	Able to gain agreement from others	1	2	3	4	5	38
25.8	Provision of positive and negative feedback to subordinates	1	2	3	4	5	39
25.9	Provision of challenging assignments to subordinates	1	2	3	4	5	40
25.10	Shows appreciation for significant achievements made by subordinates	1	2	3	4	5	41
25.11	Makes good use of time	1	2	3	4	5	42
25.12	Sets priorities for self and organisation	1	2	3	4	5	43
25.13	Effective use of time saving technology	1	2	3	4	5	44
25.14	Educational qualifications and intelligence	1	2	3	4	5	45
25.15	Powerful allies	1	2	3	4	5	46
25.16	Informs others of decisions	1	2	3	4	5	47
25.17	Uses active listening	1	2	3	4	5	48
25.18	Ensures up-to-date information available to all	1	2	3	4	5	49

25.19	Includes sub-ordinates in decision-making process	1	2	3	4	5	50
25.20	Informs people of up-coming changes and vision	1	2	3	4	5	51
25.21	Has effective written communication skills	1	2	3	4	5	52
25.22	Able to deal with demands calmly	1	2	3	4	5	53
25.23	Copes effectively with time and pressure constraints	1	2	3	4	5	54
25.24	Responds positively to work demands	1	2	3	4	5	55
25.25	Deals with mistakes constructively	1	2	3	4	5	56
25.26	Able to deal with change effectively	1	2	3	4	5	57
25.27	Able to solve problems	1	2	3	4	5	58
25.28	Provides alternative solutions to problems	1	2	3	4	5	59
25.29	Makes decisions based on appropriate information	1	2	3	4	5	60
25.30	Ability to think creatively	1	2	3	4	5	61
25.31	Ability to think strategically	1	2	3	4	5	62
25.32	Ability to take risks	1	2	3	4	5	63
25.33	Empathetic	1	2	3	4	5	64
25.34	Likeable	1	2	3	4	5	65
25.35	Emotionally stable	1	2	3	4	5	66
25.36	Committed to work long hours	1	2	3	4	5	67
25.37	Persistent/Motivated/Enthusiastic	1	2	3	4	5	68
25.38	Able to cope with criticism	1	2	3	4	5	69
25.39	Has a sense of humour	1	2	3	4	5	70
25.40	Displays consistency between words and actions	1	2	3	4	5	71

26. **Specific managerial/behavioural attributes have been cited as playing an important role for the progression of an individual from middle management into strategic management. What level of importance do you think STRATEGIC MANAGERS place on the following managerial attributes? This question is about what you believe STRATEGIC MANAGERS are looking for.**

		Not very important	Not important	Unsure	Important	Very important	
26.1	Ability to delegate to subordinates	1	2	3	4	5	72
26.2	Assigning of responsibilities to subordinates	1	2	3	4	5	73
26.3	Use of effective performance management techniques	1	2	3	4	5	74
26.4	Resolution of conflict between subordinates	1	2	3	4	5	75
26.5	Taking unpopular decisions	1	2	3	4	5	76
26.6	Ability to use constructive criticism	1	2	3	4	5	77
26.7	Able to gain agreement from others	1	2	3	4	5	78
26.8	Provision of positive and negative feedback to subordinates	1	2	3	4	5	79
26.9	Provision of challenging assignments to subordinates	1	2	3	4	5	80
26.10	Shows appreciation for significant achievements made by subordinates	1	2	3	4	5	81
26.11	Makes good use of time	1	2	3	4	5	82
26.12	Sets priorities for self and organisation	1	2	3	4	5	83
26.13	Effective use of time saving technology	1	2	3	4	5	84
26.14	Educational qualifications and intelligence	1	2	3	4	5	85
26.15	Powerful allies	1	2	3	4	5	86
26.16	Informs others of decisions	1	2	3	4	5	87
26.17	Uses active listening	1	2	3	4	5	88
26.18	Ensures up-to-date information available to all	1	2	3	4	5	89

26.19	Includes sub-ordinates in decision-making process	1	2	3	4	5	90
26.20	Informs people of up-coming changes and vision	1	2	3	4	5	91
26.21	Has effective written communication skills	1	2	3	4	5	92
26.22	Able to deal with demands calmly	1	2	3	4	5	93
26.23	Copes effectively with time and pressure constraints	1	2	3	4	5	94
26.24	Responds positively to work demands	1	2	3	4	5	95
26.25	Deals with mistakes constructively	1	2	3	4	5	96
26.26	Able to deal with change effectively	1	2	3	4	5	97
26.27	Able to solve problems	1	2	3	4	5	98
26.28	Provides alternative solutions to problems	1	2	3	4	5	99
26.29	Makes decisions based on appropriate information	1	2	3	4	5	100
26.30	Ability to think creatively	1	2	3	4	5	101
26.31	Ability to think strategically	1	2	3	4	5	102
26.32	Ability to take risks	1	2	3	4	5	103
26.33	Empathetic	1	2	3	4	5	104
26.34	Likeable	1	2	3	4	5	105
26.35	Emotionally stable	1	2	3	4	5	106
26.36	Committed to work long hours	1	2	3	4	5	107
26.37	Persistent/Motivated Enthusiastic	1	2	3	4	5	108
26.38	Able to cope with criticism	1	2	3	4	5	109
26.39	Has a sense of humour	1	2	3	4	5	110
26.40	Displays consistency between words and actions	1	2	3	4	5	111

27. A number of factors have been used to explain why the numbers of women achieving **STRATEGIC MANAGEMENT** positions within organisations is limited. Several of these explanations are listed below how strongly do you agree/disagree with these reasons?

		Strongly Disagree	Disagree	Unsure	Agree	Strongly Agree	
27.1	Different leadership styles	1	2	3	4	5	112
27.2	Inadequate educational qualifications	1	2	3	4	5	113
27.3	Low commitment	1	2	3	4	5	114
27.4	Low in confidence	1	2	3	4	5	115
27.5	Low motivation	1	2	3	4	5	116
27.6	Leaving to have families	1	2	3	4	5	117
27.7	Prejudice	1	2	3	4	5	118
27.8	Too few women in middle/supervisory management	1	2	3	4	5	119
27.9	Unavailable for relocation	1	2	3	4	5	120
27.10	Unable to access old-boys networks	1	2	3	4	5	121
27.11	Other (Please describe)						122

28. In general, do you believe that when more women take up management as a career, they will be represented equally in strategic management positions? ¹²³

Yes []¹ No []³
 Don't know []²

If no, why? _____

29. Do you think that the introduction of multi-tier entry into the Fire Service will increase the number of females joining the service? ¹²⁴

Yes []¹ No []²

If no, why? _____

30. Please indicate the extent of your satisfaction with the following:

		Highly Dissatisfied	Dissatisfied	Unsure	Satisfied	Highly Satisfied	
30.1	Your job overall	1	2	3	4	5	¹²⁵
30.2	Your career progress to date	1	2	3	4	5	¹²⁶
30.3	Your future promotion prospects	1	2	3	4	5	¹²⁷

31. OPTIONAL QUESTION

**Would you please identify the Fire Service you work for?
This information is not essential for the research and will remain confidential.**

32. OPTIONAL QUESTION

Would you be prepared at some future date to be interviewed about the outcome of this questionnaire, is so please provide contact details below. This information is not essential for the research and will remain confidential.

THANK YOU FOR YOUR VALUABLE CO-OPERATION.

APPENDIX 4

COVERING LETTER TO CHIEF FIRE OFFICERS

Dear Sir,

I am a Station Manager with Staffordshire Fire and Rescue Service and am currently undertaking the final year of an MBA with the University of Central Lancashire. As part of the final assessment process I am required to complete a 20,000 word research dissertation on a management topic of my choice. Within the business world in both public and private sector organisations there are limited numbers of female managers working within a strategic position. The research that I am completing will explore whether perceptions of management attributes are a contributing factor in the limited number of strategic female managers within the British Fire Service. My population for this research consists of female and male managers that joined the service at the wholtime operational firefighter role and have progressed to their current positions.

In order to complete my study I will be undertaking both quantitative and qualitative research in the form of a questionnaire survey supported by in-depth semi-structured interviews at a later stage. As such I would like to ask for your permission to send your Human Resources department a number of questionnaires to be forwarded on to the female officers that serve within your authority and also to a similar number of male officers. This will allow me to compare, contrast and analyse the views of different officers across the British Fire Service. The APU project 'FireWorks' has expressed an interest in the findings of my research as well as some female academics working within the Women in Management arena. I am hopeful that this study will not only be a published piece of academic work but will also provide some answers as to the reasons behind the limited number of female officers that achieve the higher managerial levels within the British Fire Service.

I look forward to your response to my request and hope that you will be able to support my research. Should you require any further information please do not hesitate to contact me either through my email address or work phone number as stated above. Thank you in anticipation.

Yours sincerely,

APPENDIX 5

COVERING LETTER WITH QUESTIONNAIRES

Dear Colleague,

I am a Station Manager with Staffordshire Fire and Rescue Service and am currently undertaking the final year of an MBA with the University of Central Lancashire. As part of the final assessment process I am required to complete a 20,000 word research dissertation on a management topic of my choice. The research that I am completing will explore whether the perceptions of management attributes are a contributing factor in the limited number of strategic female managers within the British Fire Service. This situation reflects private sector organisations in which there are also a limited number of female managers working within strategic managerial positions.

This research will explore the perceptions of both male and female managers who joined the Fire Service at the role of firefighter and have since progressed into managerial positions. As well as comparing the views of female and male managers I am also examining the difference in perceptions between supervisory, middle and strategic managers.

I have been provided with statistics from the ODPM for each Fire Service relating to the numbers of both male and female wholetime operational personnel up-to the 31st March 2004. From these statistics you have been identified as a potential candidate for inclusion in my research. In terms of your participation this simply means completing and returning the enclosed questionnaire survey.

I can assure you of 100% confidentiality as there is no requirement for you to identify yourself or answer any questions should you not wish to. The mailing address on the SAE enclosed is my personal address and all of the information on the questionnaire is only accessible by myself. When the results of the questionnaire are analysed they are done so using a computer-based statistical analysis programme which combines answers to give percentages and **NOT** individual results. Once the answers have been input from your questionnaire it will be destroyed thereby maintaining your privacy and confidentiality. The results of the questions included in the survey that require a text answer will be presented in an anonymous format within the final dissertation and will be combined with other individual's answers to develop generic views and **NOT** individual ones.

'FireWorks' the national project examining female recruitment and retention in the British Fire Service as well as several management academics have expressed an interest in my research findings. I would like to provide them with my results but again these will be generic in nature and **NOT** consist of individual results or views. I am also hopeful that my research findings will be published in both Fire Service and Management Journals thus in the future providing some explanation to the lack of female strategic managers that entered the Fire Service as a firefighter and progressed through the role structure.

As there are several management academics interested in my research this may promote future studies which will examine perceptions of managers within the British Fire Service in more detail. Should you wish to be involved at a later stage there is an optional question at the end of the survey for you to complete.

I would like to take this opportunity to thank you in advance of the receipt of your completed questionnaire as without your involvement I would not be able to complete either my research or the final stage of my studies.

Yours sincerely

APPENDIX 6

MANAGEMENT ATTRIBUTES AS CATEGORIES

Management Attributes by Categories

1. Delegating
 - Delegate enough work to your sub-ordinates
 - Assign responsibilities to your subordinates
 - Utilise effective performance management techniques
2. Conflict management
 - Resolve conflict between subordinates
 - Take unpopular decisions
 - Ability to use constructive criticism
 - Able to get agreement from others
3. Coaching and developing
 - Provide positive and negative feedback to subordinates
 - Provide challenging assignments
 - Show appreciation for effective performance/significant achievements
4. Personal Organisation and time management
 - Make good use of your time
 - Set priorities for self and organisation
 - Efficient use of time saving technology
 - Educational qualifications & Intelligence
 - Has powerful allies
5. Communicating
 - Inform people of decisions
 - Use active listening
 - Encourage sub-ordinates to contribute to decision-making process
 - Ensure up-to-date information available
 - Inform people of up-coming changes and organisational vision
 - Effective written communication skills
6. Personal adaptability
 - Deals with demands calmly
 - Cope with pressure and time constraints
 - Responds positively to work demands
 - Deal with mistakes constructively
 - Able to cope with change effectively
7. Problem analysis and decision making
 - Defines problems
 - Proposes alternative solutions
 - Makes decisions based on adequate/appropriate information
 - Creative thinker
 - Ability to think strategically
 - Ability to take risks
8. Personal qualities
 - Empathetic
 - Likeable
 - Emotionally stable
 - Committed to work long hours
 - Persistent/ Motivation/Enthusiastic
 - Able to cope with criticism
 - Sense of humour
 - Consistency between words and actions

APPENDIX 7

QUANTITATIVE DATA ANALYSIS

Descriptive Statistics Internal Validity					
	Valid N	Mean	Minimum	Maximum	Std. Dev.
Gender	47	1.510638	1.000000	2.000000	0.505291
Age	47	3.212766	1.000000	6.000000	1.196665
Education	46	3.478261	2.000000	6.000000	1.573942
Living	47	1.936170	1.000000	2.000000	0.247092
Role	47	2.255319	1.000000	4.000000	1.010125
Tens years	36	1.361111	1.000000	3.000000	0.592948
Single years	40	4.300000	1.000000	9.000000	2.681370
Tens months	7	1.000000	1.000000	1.000000	0.000000
Single months	37	4.594595	1.000000	9.000000	2.985702
number	47	1.276596	1.000000	3.000000	0.497914
Relocation	15	1.666667	1.000000	2.000000	0.487950
Mentoring	46	2.500000	1.000000	6.000000	2.094968
Appraisals	47	1.212766	1.000000	2.000000	0.413688
Frequency	38	3.105263	1.000000	4.000000	0.648886
Feedback	38	2.815789	1.000000	4.000000	0.982420
Suggestions	38	2.736842	1.000000	4.000000	1.057386
Advancement	47	1.468085	1.000000	2.000000	0.504375
Promotion	46	2.456522	1.000000	4.000000	1.004579
Strategic	43	1.325581	1.000000	2.000000	0.474137
Confidence	33	3.060606	1.000000	5.000000	1.058873
Timescales	29	3.965517	2.000000	6.000000	1.209568
Training	45	1.000000	1.000000	1.000000	0.000000
Type received	47	1.255319	1.000000	2.000000	0.440755
Enrolment	47	1.531915	1.000000	2.000000	0.504375
Sufficient training	47	1.468085	1.000000	4.000000	0.620346
Delegation	47	4.255319	2.000000	5.000000	0.569824
Assign responsibilities	47	4.297872	2.000000	5.000000	0.656569
Performance management	47	4.191489	3.000000	5.000000	0.612844
Conflict resolution	47	4.234043	2.000000	5.000000	0.839585
Un-popular decisions	47	4.042553	2.000000	5.000000	0.690225
Use of constructive criticism	47	4.234043	2.000000	5.000000	0.786096
Gain agreement from others	47	3.808511	2.000000	5.000000	0.850532
Feedback positive & negative	47	4.212766	2.000000	5.000000	0.805853
Challenging work	47	3.468085	2.000000	5.000000	0.776028
Shows appreciation for achievements	47	4.382979	1.000000	5.000000	0.795454
Good use of time	47	4.234043	1.000000	5.000000	0.982737
Sets priorities self/organisation	47	4.319149	2.000000	5.000000	0.725510
Uses time saving technology	47	3.787234	2.000000	5.000000	0.858111
Intelligence & qualifications	47	3.191489	1.000000	5.000000	1.013781
Powerful allies	47	3.234043	1.000000	5.000000	1.305719

Informs others of decisions	47	4.170213	2.000000	5.000000	0.731857
Active listen	47	4.297872	2.000000	5.000000	0.906855
Information timely & available	47	4.255319	2.000000	5.000000	0.736268
Inclusion of subordinates in decision making	47	3.808511	1.000000	5.000000	0.969946
Informs of vision & changes	46	4.130435	2.000000	5.000000	0.718291
Written skills	46	3.913043	2.000000	5.000000	0.783896
Deals with demands calmly	46	4.195652	2.000000	5.000000	0.718627
Copes with pressure	46	4.152174	2.000000	5.000000	0.759163
Responds positively to work demands	46	4.152174	2.000000	5.000000	0.595068
Deals with mistakes constructively	46	4.043478	2.000000	5.000000	0.868115
Deals with change effectively	46	4.326087	2.000000	5.000000	0.668476
Problem solver	46	4.065217	2.000000	5.000000	0.646432
Alternative solutions	46	4.043478	2.000000	5.000000	0.514523
Decision making	46	4.195652	2.000000	5.000000	0.542405
Creative thinking	46	3.500000	2.000000	5.000000	0.960324
Strategic thinking	46	4.195652	1.000000	5.000000	0.687008
Risk taker	46	3.195652	1.000000	5.000000	0.957301
empathetic	46	3.782609	1.000000	5.000000	0.986870
likeable	46	3.021739	1.000000	5.000000	0.999758
Emotion stable	46	4.000000	2.000000	5.000000	0.760117
Committed to Long hours	46	2.869565	1.000000	5.000000	1.087478
Persistent/motivated/enthusiastic	46	4.173913	2.000000	5.000000	0.569770
Copes with criticism	46	4.195652	2.000000	5.000000	0.618944
Sense of humour	46	3.608696	1.000000	5.000000	1.163868
Consistent between words and actions	46	4.282609	1.000000	5.000000	0.910752
SM Delegation	47	3.936170	1.000000	5.000000	0.894531
SM Assign responsibilities	47	3.744681	1.000000	5.000000	0.943354
SM Performance management	47	4.085106	2.000000	5.000000	0.775432
SM Conflict resolution	47	3.595745	2.000000	5.000000	1.116274
SM Un-popular decisions	47	4.106383	1.000000	5.000000	0.960843
SM Use of constructive criticism	47	3.680851	2.000000	5.000000	0.911434
SM Gain agreement from others	47	3.425532	1.000000	5.000000	1.156168
SM Feedback positive & negative	47	3.510638	2.000000	5.000000	0.975178
SM Challenging work	47	3.319149	1.000000	5.000000	0.862413
SM Shows appreciation for achievements	47	3.148936	1.000000	5.000000	1.160561
SM Good use of time	47	3.978723	2.000000	5.000000	0.896597
SM Sets priorities self/organisation	47	4.170213	2.000000	5.000000	0.842335
SM Uses time saving technology	47	3.723404	1.000000	5.000000	1.155368
SM Intelligence & qualifications	47	3.574468	1.000000	5.000000	1.137210
SM Powerful allies	47	3.617021	1.000000	5.000000	1.482553
SM Informs others of decisions	47	3.404255	1.000000	5.000000	1.135582
SM Active listen	47	3.234043	1.000000	5.000000	1.067561
SM Information timely & available	47	3.595745	1.000000	5.000000	1.135582

SM Inclusion of subordinates in decision making	47	2.851064	0.000000	5.000000	1.179143
SM Informs of vision & changes	47	3.297872	1.000000	5.000000	1.196279
SM Written skills	47	3.723404	1.000000	5.000000	0.925535
SM Deals with demands calmly	47	3.851064	1.000000	5.000000	0.833503
SM Copes with pressure	47	3.936170	1.000000	5.000000	0.918511
SM Responds positively to work demands	47	4.063830	1.000000	5.000000	0.818383
SM Deals with mistakes constructively	47	3.744681	1.000000	5.000000	0.943354
SM Deals with change effectively	47	4.191489	1.000000	5.000000	0.850532
SM Problem solver	47	4.191489	1.000000	5.000000	0.850532
SM Alternative solutions	47	3.893617	1.000000	5.000000	1.005075
SM Decision making	46	4.065217	1.000000	5.000000	0.771785
SM Creative thinking	47	3.404255	1.000000	5.000000	1.035449
SM Strategic thinking	47	4.106383	2.000000	5.000000	0.960843
SM Risk taker	47	3.063830	1.000000	5.000000	1.091554
SM empathetic	47	2.829787	1.000000	5.000000	1.069725
SM likeable	47	2.382979	1.000000	5.000000	1.011954
SM Emotion stable	46	3.434783	1.000000	5.000000	1.046734
SM Committed to Long hours	47	3.978723	1.000000	5.000000	1.052727
SM Persistent/motivated/enthusiastic	47	4.063830	2.000000	5.000000	0.734381
SM Copes with criticism	47	3.680851	1.000000	5.000000	1.065392
SM Sense of humour	47	2.574468	1.000000	5.000000	1.137210
SM Consistent between words and actions	47	3.489362	1.000000	5.000000	1.177181
leadership	47	2.893617	1.000000	5.000000	1.202064
Education qualifications	47	1.744681	1.000000	5.000000	0.820076
commitment	47	1.595745	1.000000	5.000000	0.741900
Low confidence	47	2.468085	1.000000	5.000000	1.230960
Low motivation	47	1.744681	1.000000	5.000000	0.920021
families	47	2.872340	1.000000	5.000000	1.172456
prejudice	46	3.065217	1.000000	5.000000	1.436078
Few numbers	47	3.702128	1.000000	5.000000	1.214315
Unavailable for relocation	47	2.680851	1.000000	5.000000	1.023769
Old-boys network	47	3.106383	1.000000	5.000000	1.355088
Equal representation	47	1.808511	1.000000	3.000000	0.850532
Multi-tier	46	1.152174	1.000000	2.000000	0.363158
Job overall	47	3.893617	1.000000	5.000000	0.937945
career	47	3.723404	1.000000	5.000000	1.036342
Future promotion	47	3.276596	1.000000	5.000000	1.136396

Cronbach's alpha, full scale: .92144 Standardized alpha: ---
 Corr. 1st & 2nd half: .774208 Attenuation corrected: .897839
 Split-half reliability: .872736 Guttman split-half: .871116

	Summary	Summary
No. Items	20	20
Mean:	80.47826	77.91304
Sum:	3702.000	3584.000
Std. Dv.	9.027708	8.323530
Variance	81.49952	69.28116
Alpha	.8722596	.8524575
ITEMS 1:	Delegation	Written skills
2:	Assign responsibilities	Deals with demands calmly
3:	Performance management	Copes with pressure
4:	Conflict resolution	Responds positively to work demands
5:	Un-popular decisions	Deals with mistakes constructively
6:	Use of constructive criticism	Deals with change effectively
7:	Gain agreement from others	Problem solver
8:	Feedback positive & negative	Alternative solutions
9:	Challenging work	Decision making
10:	Shows appreciation for achievements	Creative thinking
11:	Good use of time	Strategic thinking
12:	Sets priorities self/organisation	Risk taker
13:	Uses time saving technology	empathetic
14:	Intelligence & qualifications	likeable
15:	Powerful allies	Emotion stable
16:	Informs others of decisions	Committed to Long hours
17:	Active listen	Persistent/motivated/enthusiastic
18:	Information timely & available	Copes with criticism
19:	Inclusion of subordinates in decision making	Sense of humour
20:	Informs of vision & changes	Consistent between words and actions

Cronbach's alpha, full scale: .94378 Standardized alpha: ---
 Corr. 1st & 2nd half: .768852 Attenuation corrected: .850705
 Split-half reliability: .869323 Guttman split-half: .869296

	Summary	Summary
No. Items	20	20
Mean:	72.38636	72.86364
Sum:	3185.000	3206.000
Std. Dv.	11.93630	12.06299
Variance	142.4752	145.5159
Alpha	.8904939	.9172694
ITEMS 1:	SM Delegation	SM Written skills
2:	SM Assign responsibilities	SM Deals with demands calmly
3:	SM Performance management	SM Copes with pressure
4:	SM Conflict resolution	SM Responds positively to work demands
5:	SM Un-popular decisions	SM Deals with mistakes constructively
6:	SM Use of constructive criticism	SM Deals with change effectively
7:	SM Gain agreement from others	SM Problem solver
8:	SM Feedback positive & negative	SM Alternative solutions
9:	SM Challenging work	SM Decision making
10:	SM Shows appreciation for achievements	SM Creative thinking
11:	SM Good use of time	SM Strategic thinking
12:	SM Sets priorities self/organisation	SM Risk taker
13:	SM Uses time saving technology	SM empathetic
14:	SM Intelligence & qualifications	SM likeable
15:	SM Powerful allies	SM Emotion stable
16:	SM Informs others of decisions	SM Committed to Long hours
17:	SM Active listen	SM Persistent/motivated/enthusiastic
18:	SM Information timely & available	SM Copes with criticism
19:	SM Inclusion of subordinates in decision making	SM Sense of humour
20:	SM Informs of vision & changes	SM Consistent between words and actions

Cronbach's alpha, full scale: .81158 Standardized alpha: ---
 Corr. 1st & 2nd half: .577836 Attenuation corrected: .801822
 Split-half reliability: .732441 Guttman split-half: .719007

	Summary	Summary
No. Items	5	5
Mean:	10.41304	15.39130
Sum:	479.0000	708.0000
Std. Dv.	3.429131	4.368973
Variance	11.75894	19.08792
Alpha	.7076538	.7338910
ITEMS 1:	leadership	families
2:	Education qualifications	prejudice
3:	commitment	Few numbers
4:	Low confidence	Unavailable for relocation
5:	Low motivation	Old-boys network

T-tests for independent samples; Grouping: Gender Group 1: Female Group 2: Male

	Mean Female	Mean Male	t-value	df	p	Valid N Female	Valid N Male	Std. Dev. Female	Std. Dev. Male	F-ratio variances	P variances
Delegation	4.250000	4.260870	-0.06466	45	0.948731	24	23	0.442326	0.688700	2.424242	0.039985
Assign responsibilities	4.333333	4.260870	0.37468	45	0.709656	24	23	0.564660	0.751809	1.772727	0.180398
Performance management	4.250000	4.130435	0.66454	45	0.509734	24	23	0.737210	0.457697	2.594340	0.028873
Conflict resolution	4.250000	4.217391	0.13167	45	0.895829	24	23	0.846990	0.850482	1.008264	0.982094
Un-popular decisions	3.958333	4.130435	-0.85195	45	0.398751	24	23	0.806450	0.548083	2.165022	0.074798
Use of constructive criticism	4.333333	4.130435	0.88242	45	0.382238	24	23	0.761387	0.814881	1.145455	0.747736
Gain agreement from others	3.625000	4.000000	-1.53300	45	0.132276	24	23	0.969648	0.674200	2.068478	0.093191
Feedback positive & negative	4.250000	4.173913	0.32040	45	0.750146	24	23	0.846990	0.777652	1.186275	0.691427
Challenging work	3.500000	3.434783	0.28512	45	0.776861	24	23	0.780189	0.787752	1.019481	0.961407
Shows appreciation for achievements	4.416667	4.347826	0.29362	45	0.770395	24	23	1.017955	0.486985	4.369444	0.000965
Good use of time	4.208333	4.260870	-0.18127	45	0.856969	24	23	1.102533	0.864312	1.627205	0.258051
Sets priorities self/organisation	4.458333	4.173913	1.35568	45	0.181966	24	23	0.588230	0.834058	2.010471	0.103349
Uses time saving technology	3.791667	3.782609	0.03578	45	0.971616	24	23	0.832971	0.902347	1.173511	0.705167
Intelligence & qualifications	3.166667	3.217391	-0.16965	45	0.866043	24	23	1.090140	0.951388	1.312955	0.526259
Powerful allies	3.083333	3.391304	-0.80522	45	0.424927	24	23	1.138904	1.469048	1.663789	0.232924
Informs others of decisions	4.208333	4.130435	0.36131	45	0.719559	24	23	0.883627	0.548083	2.599232	0.028569
Active listen	4.416667	4.173913	0.91577	45	0.364670	24	23	0.880547	0.936734	1.131691	0.769307
Information timely & available	4.375000	4.130435	1.14212	45	0.259445	24	23	0.769670	0.694416	1.228484	0.632214
Inclusion of subordinates in decision making	3.791667	3.826087	-0.12031	45	0.904777	24	23	0.883627	1.072473	1.473107	0.362819
Informs of vision & changes	4.291667	3.954545	1.61846	44	0.112712	24	22	0.550033	0.843873	2.353838	0.048512
Written skills	4.000000	3.818182	0.78242	44	0.438161	24	22	0.780189	0.795006	1.038343	0.925360
Deals with demands calmly	4.208333	4.181818	0.12363	44	0.902171	24	22	0.721060	0.732664	1.032445	0.935852

Copes with pressure	4.166667	4.136364	0.13375	44	0.894209	24	22	0.761387	0.774317	1.034253	0.932628
Responds positively to work demands	4.041667	4.272727	-1.32658	44	0.191492	24	22	0.624094	0.550482	1.285326	0.566599
Deals with mistakes constructively	4.000000	4.090909	-0.35131	44	0.727029	24	22	0.834058	0.921132	1.219697	0.640609
Deals with change effectively	4.291667	4.363636	-0.36121	44	0.719668	24	22	0.690253	0.657952	1.100598	0.829522
Problem solver	4.083333	4.045455	0.19639	44	0.845208	24	22	0.583592	0.722250	1.531639	0.320455
Alternative solutions	4.041667	4.045455	-0.02466	44	0.980435	24	22	0.464306	0.575473	1.536178	0.317144
Decision making	4.125000	4.272727	-0.92118	44	0.361981	24	22	0.612372	0.455842	1.804688	0.178465
Creative thinking	3.500000	3.500000	0.00000	44	1.000000	24	22	0.884652	1.057850	1.429894	0.403789
Strategic thinking	4.250000	4.136364	0.55608	44	0.580976	24	22	0.531610	0.833550	2.458541	0.038415
Risk taker	3.208333	3.181818	0.09280	44	0.926484	24	22	0.931533	1.006473	1.167367	0.714962
empathetic	3.833333	3.727273	0.36057	44	0.720144	24	22	0.816497	1.162174	2.025974	0.102248
likeable	3.166667	2.863636	1.02754	44	0.309783	24	22	0.916831	1.082126	1.393081	0.438584
Emotion stable	4.041667	3.954545	0.38462	44	0.702373	24	22	0.750604	0.785419	1.094918	0.828475
Committed to Long hours	2.750000	3.000000	-0.77540	44	0.442252	24	22	1.032094	1.154701	1.251701	0.598287
Persistent/motivated/enthusiastic	4.083333	4.272727	-1.12962	44	0.264757	24	22	0.583592	0.550482	1.123913	0.791966
Copes with criticism	4.166667	4.227273	-0.32844	44	0.744138	24	22	0.481543	0.751622	2.436282	0.040360
Sense of humour	3.791667	3.409091	1.11671	44	0.270179	24	22	1.020621	1.296849	1.614545	0.264883
Consistent between words and actions	4.416667	4.136364	1.04375	44	0.302301	24	22	0.775532	1.037187	1.788609	0.177053

T-tests for independent samples; Grouping: Group 1: Female Group 2: Male

Red Marked tests are significant at $p < .05000$

	Mean Female	Mean Male	t-value	df	p	Valid N Female	Valid N Male	Std. Dev. Female	Std. Dev. Male	F-ratio variances	P variances
SM Delegation	3.875000	4.000000	-0.47484	45	0.637197	24	23	1.075922	0.674200	2.546739	0.032012
SM Assign responsibilities	3.666667	3.826087	-0.57492	45	0.568210	24	23	0.916831	0.984063	1.152038	0.737578
SM Performance management	4.250000	3.913043	1.50976	45	0.138095	24	23	0.675664	0.848155	1.575758	0.286089
SM Conflict resolution	3.458333	3.739130	-0.85962	45	0.394555	24	23	1.178767	1.053884	1.251038	0.602307
SM Un-popular decisions	4.208333	4.000000	0.73940	45	0.463507	24	23	1.062367	0.852803	1.551857	0.306949
SM Use of constructive criticism	3.875000	3.478261	1.51250	45	0.137399	24	23	0.797414	0.994053	1.554002	0.300935
SM Gain agreement from others	3.125000	3.739130	-1.86906	45	0.068132	24	23	1.295897	0.915393	2.004127	0.107997
SM Feedback positive & negative	3.250000	3.782609	-1.92608	45	0.060426	24	23	1.032094	0.850482	1.472678	0.367864
SM Challenging work	3.291667	3.347826	-0.22085	45	0.826211	24	23	0.806450	0.934622	1.343125	0.487426
SM Shows appreciation for achievements	2.875000	3.434783	-1.68576	45	0.098764	24	23	1.075922	1.199473	1.242851	0.608048
SM Good use of time	3.958333	4.000000	-0.15756	45	0.875505	24	23	0.907896	0.904534	1.007448	0.988626
SM Sets priorities self/organisation	4.291667	4.043478	1.00998	45	0.317906	24	23	0.907896	0.767420	1.399609	0.433972
SM Uses time saving technology	3.875000	3.565217	0.91729	45	0.363880	24	23	1.153916	1.160959	1.012245	0.974724
SM Intelligence & qualifications	3.333333	3.826087	-1.50523	45	0.139251	24	23	1.239448	0.984063	1.586395	0.283514
SM Powerful allies	3.750000	3.478261	0.62397	45	0.535801	24	23	1.326978	1.647852	1.542088	0.309374
SM Informs others of decisions	3.500000	3.304348	0.58623	45	0.560652	24	23	1.215838	1.063219	1.307692	0.532385
SM Active listen	3.125000	3.347826	-0.71146	45	0.480471	24	23	0.946963	1.191206	1.582369	0.281719
SM Information timely & available	3.541667	3.652174	-0.33025	45	0.742742	24	23	1.178767	1.112274	1.123136	0.787954
SM Inclusion of subordinates in decision making	2.625000	3.227273	-1.88626	44	0.065871	24	22	1.055524	1.109776	1.105438	0.811241
SM Informs of vision & changes	3.250000	3.347826	-0.27742	45	0.782726	24	23	1.259745	1.152416	1.194940	0.678923
SM Written skills	3.708333	3.739130	-0.11280	45	0.910687	24	23	0.907896	0.963771	1.126873	0.776964

SM Deals with demands calmly	3.875000	3.826087	0.19900	45	0.843158	24	23	0.679674	0.984063	2.096257	0.084653
SM Copes with pressure	3.875000	4.000000	-0.46238	45	0.646034	24	23	0.850192	1.000000	1.383459	0.445143
SM Responds positively to work demands	4.041667	4.086957	-0.18766	45	0.851990	24	23	0.750604	0.900154	1.438176	0.393069
SM Deals with mistakes constructively	3.708333	3.782609	-0.26709	45	0.790618	24	23	0.858673	1.042572	1.474201	0.361907
SM Deals with change effectively	4.250000	4.130435	0.47771	45	0.635172	24	23	0.607919	1.057628	3.026738	0.010821
SM Problem solver	4.333333	4.043478	1.17267	45	0.247100	24	23	0.701964	0.975997	1.933155	0.123816
SM Alternative solutions	4.041667	3.739130	1.03231	45	0.307444	24	23	0.907896	1.096167	1.457742	0.375848
SM Decision making	4.083333	4.045455	0.16447	44	0.870113	24	22	0.653863	0.898532	1.888400	0.140492
SM Creative thinking	3.125000	3.695652	-1.94500	45	0.058040	24	23	0.991814	1.019571	1.056755	0.894502
SM Strategic thinking	4.291667	3.913043	1.36297	45	0.179673	24	23	0.907896	0.996040	1.203596	0.661618
SM Risk taker	3.166667	2.956522	0.65567	45	0.515374	24	23	1.129319	1.065076	1.124274	0.786130
SM empathetic	2.375000	3.304348	-3.27747	45	0.002023	24	23	0.824226	1.105144	1.797818	0.170076
SM likeable	2.125000	2.652174	-1.83035	45	0.073826	24	23	0.797414	1.152416	2.088578	0.086174
SM Emotion stable	3.130435	3.739130	-2.04014	44	0.047367	23	23	0.967863	1.053884	1.185654	0.693116
SM Committed to Long hours	4.041667	3.913043	0.41494	45	0.680161	24	23	1.082636	1.040675	1.082269	0.855451
SM Persistent/motivated/enthusiastic	4.166667	3.956522	0.98024	45	0.332208	24	23	0.701964	0.767420	1.195187	0.673571
SM Copes with criticism	3.583333	3.782609	-0.63685	45	0.527446	24	23	1.100066	1.042572	1.113333	0.803790
SM Sense of humour	2.291667	2.869565	-1.78226	45	0.081456	24	23	0.858673	1.324742	2.380165	0.044164
SM Consistent between words and actions	3.291667	3.695652	-1.18114	45	0.243753	24	23	1.197068	1.145536	1.091993	0.839041

Mann-Whitney U Test Management Attributes by variable Gender variable
Marked tests are significant at $p < .05000$

	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z adjusted	p-level adjusted	Valid No Male	Valid No Female	2*1sided Exact p
Delegation	570.0000	558.0000	258.0000	0.38307	0.701671	0.47215	0.636821	23	24	0.712141
Assign responsibilities	548.0000	580.0000	272.0000	-0.08513	0.932162	-0.09671	0.922958	23	24	0.941197
Performance management	516.0000	612.0000	240.0000	-0.76613	0.443599	-0.87808	0.379903	23	24	0.453537
Conflict resolution	545.0000	583.0000	269.0000	-0.14897	0.881577	-0.16650	0.867765	23	24	0.891031
Un-popular decisions	573.5000	554.5000	254.5000	0.45755	0.647276	0.54569	0.585280	23	24	0.650245
Use of constructive criticism	511.5000	616.5000	235.5000	-0.86190	0.388745	-0.96762	0.333236	23	24	0.392237
Gain agreement from others	611.0000	517.0000	217.0000	1.25560	0.209261	1.40263	0.160728	23	24	0.215333
Feedback positive & negative	529.0000	599.0000	253.0000	-0.48947	0.624508	-0.54362	0.586703	23	24	0.635114
Challenging work	545.5000	582.5000	269.5000	-0.13833	0.889980	-0.15555	0.876386	23	24	0.891031
Shows appreciation for achievements	490.5000	637.5000	214.5000	-1.30881	0.190601	-1.48138	0.138507	23	24	0.192485
Good use of time	542.5000	585.5000	266.5000	-0.20217	0.839781	-0.22325	0.823345	23	24	0.841290
Sets priorities self/organisation	504.5000	623.5000	228.5000	-1.01087	0.312081	-1.11540	0.264679	23	24	0.315215
Uses time saving technology	545.5000	582.5000	269.5000	-0.13833	0.889980	-0.15276	0.878590	23	24	0.891031
Intelligence & qualifications	557.0000	571.0000	271.0000	0.10641	0.915259	0.11155	0.911180	23	24	0.924440
Powerful allies	590.0000	538.0000	238.0000	0.80869	0.418692	0.83057	0.406219	23	24	0.428404
Informs others of decisions	512.0000	616.0000	236.0000	-0.85126	0.394628	-0.96514	0.334474	23	24	0.404086
Active listen	506.0000	622.0000	230.0000	-0.97895	0.327608	-1.08159	0.279437	23	24	0.336154
Information timely & available	491.0000	637.0000	215.0000	-1.29817	0.194231	-1.45729	0.145036	23	24	0.199898
Inclusion of subordinates in decision making	572.5000	555.5000	255.5000	0.43627	0.662642	0.49412	0.621221	23	24	0.665518
Informs of vision & changes	464.5000	616.5000	211.5000	-1.15447	0.248307	-1.33139	0.183062	22	24	0.250962
Written skills	486.0000	595.0000	233.0000	-0.68169	0.495436	-0.86140	0.389018	22	24	0.506040

Deals with demands calmly	512.0000	569.0000	259.0000	-0.109950	0.912449	-0.125848	0.899853	22	24	0.921950
Copes with pressure	511.5000	569.5000	258.5000	-0.120945	0.903735	-0.134847	0.892733	22	24	0.904679
Responds positively to work demands	562.5000	518.5000	218.5000	1.000544	0.317048	1.241125	0.214561	22	24	0.320291
Deals with mistakes constructively	539.0000	542.0000	242.0000	0.483779	0.628543	0.531381	0.595155	22	24	0.639471
Deals with change effectively	530.0000	551.0000	251.0000	0.285870	0.774978	0.322080	0.747393	22	24	0.785454
Problem solver	512.5000	568.5000	259.5000	-0.098955	0.921174	-0.125326	0.900265	22	24	0.921950
Alternative solutions	527.5000	553.5000	253.5000	0.230895	0.817397	0.334132	0.738280	22	24	0.819143
Decision making	542.0000	539.0000	239.0000	0.549749	0.582492	0.720124	0.471449	22	24	0.593399
Creative thinking	524.0000	557.0000	257.0000	0.153930	0.877665	0.166123	0.868060	22	24	0.887453
Strategic thinking	511.0000	570.0000	258.0000	-0.131940	0.895032	-0.160991	0.872101	22	24	0.904679
Risk taker	515.5000	565.5000	262.5000	-0.032985	0.973687	-0.034804	0.972236	22	24	0.973947
empathetic	517.0000	564.0000	264.0000	0.000000	1.000000	0.000000	1.000000	22	24	1.000000
likeable	481.5000	599.5000	228.5000	-0.780644	0.435012	-0.818633	0.412997	22	24	0.438673
Emotion stable	500.5000	580.5000	247.5000	-0.362835	0.716729	-0.405022	0.685462	22	24	0.719301
Committed to Long hours	545.5000	535.5000	235.5000	0.626714	0.530847	0.653763	0.513265	22	24	0.534406
Persistent/motivated/enthusiastic	555.0000	526.0000	226.0000	0.835619	0.403370	1.063477	0.287567	22	24	0.413211
Copes with criticism	545.5000	535.5000	235.5000	0.626714	0.530847	0.748918	0.453907	22	24	0.534406
Sense of humour	475.5000	605.5000	222.5000	-0.912584	0.361462	-0.952482	0.340853	22	24	0.364942
Consistent between words and actions	477.5000	603.5000	224.5000	-0.868604	0.385064	-0.959007	0.337556	22	24	0.388630

Wald-Wolfowitz Runs Test
Management Attributes by variable Gender
Red Marked tests are significant at $p < .05000$

	Valid No Male	Valid No Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
Delegation	23	24	4.260870	4.250000	-1.02968	0.303163	0.882131	0.377707	21	19
Assign responsibilities	23	24	4.260870	4.333333	1.92123	0.054704	1.773680	0.076117	31	29
Performance management	23	24	4.130435	4.250000	-0.43950	0.660302	0.291951	0.770324	23	21
Conflict resolution	23	24	4.217391	4.250000	0.44577	0.655760	0.298229	0.765528	26	24
Un-popular decisions	23	24	4.130435	3.958333	-0.43950	0.660302	0.291951	0.770324	23	20
Use of constructive criticism	23	24	4.130435	4.333333	-0.14441	0.885180	-0.003139	0.997495	24	21
Gain agreement from others	23	24	4.000000	3.625000	0.74086	0.458776	0.593320	0.552968	27	23
Feedback positive & negative	23	24	4.173913	4.250000	0.74086	0.458776	0.593320	0.552968	27	24
Challenging work	23	24	3.434783	3.500000	0.44577	0.655760	0.298229	0.765528	26	24
Shows appreciation for achievements	23	24	4.347826	4.416667	-1.61986	0.105264	1.472312	0.140938	19	17
Good use of time	23	24	4.260870	4.208333	1.33105	0.183175	1.183500	0.236612	29	25
Sets priorities self/organisation	23	24	4.173913	4.458333	-0.73459	0.462592	0.587041	0.557177	22	20
Uses time saving technology	23	24	3.782609	3.791667	-0.43950	0.660302	0.291951	0.770324	23	19
Intelligence & qualifications	23	24	3.217391	3.166667	-0.43950	0.660302	0.291951	0.770324	23	21
Powerful allies	23	24	3.391304	3.083333	1.03595	0.300224	0.888410	0.374321	28	26
Informs others of decisions	23	24	4.130435	4.208333	0.74086	0.458776	0.593320	0.552968	27	23
Active listen	23	24	4.173913	4.416667	0.15068	0.880225	0.003139	0.997495	25	24
Information timely & available	23	24	4.130435	4.375000	0.15068	0.880225	0.003139	0.997495	25	22
Inclusion of subordinates in decision making	23	24	3.826087	3.791667	2.21632	0.026671	2.068770	0.038568	32	28
Informs of vision & changes	22	24	3.954545	4.291667	0.01299	0.989635	-0.136406	0.891501	24	22

Written skills	22	24	3.818182	4.000000	-0.28580	0.775029	0.136406	0.891501	23	20
Deals with demands calmly	22	24	4.181818	4.208333	2.10455	0.035332	1.955150	0.050566	31	28
Copes with pressure	22	24	4.136364	4.166667	-0.28580	0.775029	0.136406	0.891501	23	22
Responds positively to work demands	22	24	4.272727	4.041667	1.20817	0.226984	1.058769	0.289706	28	26
Deals with mistakes constructively	22	24	4.090909	4.000000	2.10455	0.035332	1.955150	0.050566	31	28
Deals with change effectively	22	24	4.363636	4.291667	0.01299	0.989635	-0.136406	0.891501	24	22
Problem solver	22	24	4.045455	4.083333	0.61058	0.541479	0.461182	0.644669	26	22
Alternative solutions	22	24	4.045455	4.041667	1.20817	0.226984	1.058769	0.289706	28	24
Decision making	22	24	4.272727	4.125000	0.90937	0.363154	0.759975	0.447270	27	26
Creative thinking	22	24	3.500000	3.500000	1.20817	0.226984	1.058769	0.289706	28	24
Strategic thinking	22	24	4.136364	4.250000	2.40334	0.016247	2.253944	0.024200	32	29
Risk taker	22	24	3.181818	3.208333	-1.18218	0.237134	1.032787	0.301704	20	18
empathetic	22	24	3.727273	3.833333	-0.28580	0.775029	0.136406	0.891501	23	20
likeable	22	24	2.863636	3.166667	-0.58460	0.558820	0.435200	0.663418	22	19
Emotion stable	22	24	3.954545	4.041667	0.61058	0.541479	0.461182	0.644669	26	25
Committed to Long hours	22	24	3.000000	2.750000	1.20817	0.226984	1.058769	0.289706	28	23
Persistent/motivated/enthusiastic	22	24	4.272727	4.083333	0.01299	0.989635	-0.136406	0.891501	24	21
Copes with criticism	22	24	4.227273	4.166667	0.31178	0.755204	0.162388	0.871001	25	23
Sense of humour	22	24	3.409091	3.791667	1.20817	0.226984	1.058769	0.289706	28	26
Consistent between words and actions	22	24	4.136364	4.416667	1.20817	0.226984	1.058769	0.289706	28	26

Mann-Whitney U Test
SM Management Attribute by variable Gender
Marked tests are significant at $p < .05000$

	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z adjusted	p-level adjusted	Valid No male	Valid No female	2*1sided Exact p
SM Delegation	553.0000	575.0000	275.0000	0.02128	0.983021	0.02385	0.980976	23	24	0.991592
SM Assign responsibilities	580.5000	547.5000	247.5000	0.60652	0.544170	0.66912	0.503418	23	24	0.547607
SM Performance management	487.5000	640.5000	211.5000	-1.37265	0.169862	-1.51465	0.129862	23	24	0.171437
SM Conflict resolution	587.5000	540.5000	240.5000	0.75549	0.449955	0.79080	0.429062	23	24	0.453537
SM Un-popular decisions	497.0000	631.0000	221.0000	-1.17048	0.241810	-1.26649	0.205339	23	24	0.248685
SM Use of constructive criticism	495.5000	632.5000	219.5000	-1.20240	0.229210	-1.36084	0.173566	23	24	0.231591
SM Gain agreement from others	626.0000	502.0000	202.0000	1.57482	0.115298	1.64795	0.099363	23	24	0.118450
SM Feedback positive & negative	630.0000	498.0000	198.0000	1.65995	0.096925	1.77041	0.076659	23	24	0.099399
SM Challenging work	565.0000	563.0000	263.0000	0.27666	0.782043	0.29976	0.764362	23	24	0.792163
SM Shows appreciation for achievements	627.0000	501.0000	201.0000	1.59611	0.110466	1.67176	0.094573	23	24	0.113443
SM Good use of time	557.5000	570.5000	270.5000	0.11705	0.906822	0.12872	0.897581	23	24	0.907716
SM Sets priorities self/organisation	490.0000	638.0000	214.0000	-1.31945	0.187020	-1.43897	0.150159	23	24	0.192485
SM Uses time saving technology	503.0000	625.0000	227.0000	-1.04279	0.297047	-1.10472	0.269280	23	24	0.305067
SM Intelligence & qualifications	615.0000	513.0000	213.0000	1.34073	0.180009	1.38882	0.164890	23	24	0.185272
SM Powerful allies	537.0000	591.0000	261.0000	-0.31922	0.749559	-0.33315	0.739022	23	24	0.759843
SM Informs others of decisions	523.5000	604.5000	247.5000	-0.60652	0.544170	-0.62933	0.529134	23	24	0.547607
SM Active listen	593.5000	534.5000	234.5000	0.88318	0.377140	0.92320	0.355905	23	24	0.380597
SM Information timely & available	567.5000	560.5000	260.5000	0.32986	0.741505	0.34255	0.731934	23	24	0.743832
SM Inclusion of subordinates in decision making	597.5000	483.5000	183.5000	1.77019	0.076696	1.83700	0.066210	22	24	0.076559
SM Informs of vision & changes	562.0000	566.0000	266.0000	0.21281	0.831472	0.21947	0.826285	23	24	0.841290

Mann-Whitney U Test
 SM Management Attribute by variable Gender
 Red Marked tests are significant at $p < .05000$

	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z adjusted	p-level adjusted	Valid N Male	Valid N Female	2*1sided Exact p
SM Written skills	566.0000	562.0000	262.0000	0.29794	0.765749	0.33249	0.739518	23	24	0.775956
SM Deals with demands calmly	557.0000	571.0000	271.0000	0.10641	0.915259	0.12056	0.904038	23	24	0.924440
SM Copes with pressure	582.5000	545.5000	245.5000	0.64908	0.516285	0.73721	0.460995	23	24	0.519797
SM Responds positively to work demands	571.0000	557.0000	257.0000	0.40435	0.685958	0.45539	0.648829	23	24	0.696472
SM Deals with mistakes constructively	574.5000	553.5000	253.5000	0.47883	0.632059	0.54149	0.588173	23	24	0.635114
SM Deals with change effectively	559.0000	569.0000	269.0000	0.14897	0.881577	0.16387	0.869831	23	24	0.891031
SM Problem solver	511.0000	617.0000	235.0000	-0.87254	0.382916	-0.95983	0.337140	23	24	0.392237
SM Alternative solutions	512.0000	616.0000	236.0000	-0.85126	0.394628	-0.91814	0.358548	23	24	0.404086
SM Decision making	521.5000	559.5000	259.5000	0.09895	0.921174	0.11752	0.906446	22	24	0.921950
SM Creative thinking	642.5000	485.5000	185.5000	1.92597	0.054109	2.03904	0.041447	23	24	0.053534
SM Strategic thinking	487.5000	640.5000	211.5000	-1.37265	0.169862	-1.47465	0.140307	23	24	0.171437
SM Risk taker	520.5000	607.5000	244.5000	-0.67036	0.502626	-0.70023	0.483783	23	24	0.506165
SM empathetic	684.0000	444.0000	144.0000	2.80915	0.004968	2.92235	0.003474	23	24	0.004416
SM likeable	621.0000	507.0000	207.0000	1.46842	0.141992	1.55745	0.119364	23	24	0.146068
SM Emotion stable	634.0000	447.0000	171.0000	2.05412	0.039965	2.15759	0.030960	23	23	0.040221
SM Committed to Long hours	528.5000	599.5000	252.5000	-0.50011	0.616996	-0.52739	0.597921	23	24	0.620131
SM Persistent/motivated/enthusiastic	512.5000	615.5000	236.5000	-0.84062	0.400564	-1.00457	0.315104	23	24	0.404086
SM Copes with criticism	580.0000	548.0000	248.0000	0.59588	0.551256	0.64406	0.519536	23	24	0.561778
SM Sense of humour	612.0000	516.0000	216.0000	1.27688	0.201644	1.32959	0.183655	23	24	0.207514
SM Consistent between words and actions	603.5000	524.5000	224.5000	1.09599	0.273083	1.16541	0.243855	23	24	0.275914

Wald-Wolfowitz Runs Test
SM Management Attributes by variable Gender
Marked tests are significant at $p < .05000$

	Valid N Male	Valid N Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
SM Delegation	23	24	4.000000	3.875000	-1.02968	0.303163	0.882131	0.377707	21	19
SM Assign responsibilities	23	24	3.826087	3.666667	-0.73459	0.462592	0.587041	0.557177	22	19
SM Performance management	23	24	3.913043	4.250000	-0.14441	0.885180	-0.003139	0.997495	24	22
SM Conflict resolution	23	24	3.739130	3.458333	-0.73459	0.462592	0.587041	0.557177	22	20
SM Un-popular decisions	23	24	4.000000	4.208333	0.74086	0.458776	0.593320	0.552968	27	24
SM Use of constructive criticism	23	24	3.478261	3.875000	1.03595	0.300224	0.888410	0.374321	28	24
SM Gain agreement from others	23	24	3.739130	3.125000	1.33105	0.183175	1.183500	0.236612	29	28
SM Feedback positive & negative	23	24	3.782609	3.250000	-0.43950	0.660302	0.291951	0.770324	23	21
SM Challenging work	23	24	3.347826	3.291667	0.74086	0.458776	0.593320	0.552968	27	24
SM Shows appreciation for achievements	23	24	3.434783	2.875000	-1.61986	0.105264	1.472312	0.140938	19	18
SM Good use of time	23	24	4.000000	3.958333	-0.73459	0.462592	0.587041	0.557177	22	21
SM Sets priorities self/organisation	23	24	4.043478	4.291667	-0.43950	0.660302	0.291951	0.770324	23	22
SM Uses time saving technology	23	24	3.565217	3.875000	0.74086	0.458776	0.593320	0.552968	27	25
SM Intelligence & qualifications	23	24	3.826087	3.333333	0.15068	0.880225	0.003139	0.997495	25	22
SM Powerful allies	23	24	3.478261	3.750000	-1.32477	0.185250	1.177221	0.239108	20	17
SM Informs others of decisions	23	24	3.304348	3.500000	1.92123	0.054704	1.773680	0.076117	31	27
SM Active listen	23	24	3.347826	3.125000	-0.14441	0.885180	-0.003139	0.997495	24	22
SM Information timely & available	23	24	3.652174	3.541667	0.15068	0.880225	0.003139	0.997495	25	22
SM Inclusion of subordinates in decision making	22	24	3.227273	2.625000	0.61058	0.541479	0.461182	0.644669	26	23

SM Informs of vision & changes	23	24	3.347826	3.250000	0.15068	0.880225	0.003139	0.997495	25	22
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Wald-Wolfowitz Runs Test
SM Management Skills by variable Gender
Red Marked tests are significant at $p < .05000$

	Valid N Male	Valid N Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
SM Written skills	23	24	3.739130	3.708333	-0.43950	0.660302	0.291951	0.770324	23	20
SM Deals with demands calmly	23	24	3.826087	3.875000	-0.73459	0.462592	0.587041	0.557177	22	20
SM Copes with pressure	23	24	4.000000	3.875000	0.44577	0.655760	0.298229	0.765528	26	23
SM Responds positively to work demands	23	24	4.086957	4.041667	1.62614	0.103922	1.478590	0.139251	30	26
SM Deals with mistakes constructively	23	24	3.782609	3.708333	-0.14441	0.885180	-0.003139	0.997495	24	20
SM Deals with change effectively	23	24	4.130435	4.250000	-1.02968	0.303163	0.882131	0.377707	21	20
SM Problem solver	23	24	4.043478	4.333333	1.03595	0.300224	0.888410	0.374321	28	24
SM Alternative solutions	23	24	3.739130	4.041667	0.44577	0.655760	0.298229	0.765528	26	22
SM Decision making	22	24	4.045455	4.083333	2.70213	0.006890	2.552738	0.010688	33	28
SM Creative thinking	23	24	3.695652	3.125000	-0.43950	0.660302	0.291951	0.770324	23	21
SM Strategic thinking	23	24	3.913043	4.291667	0.74086	0.458776	0.593320	0.552968	27	25
SM Risk taker	23	24	2.956522	3.166667	0.74086	0.458776	0.593320	0.552968	27	23
SM empathetic	23	24	3.304348	2.375000	-1.61986	0.105264	1.472312	0.140938	19	18
SM likeable	23	24	2.652174	2.125000	-0.73459	0.462592	0.587041	0.557177	22	20
SM Emotion stable	23	23	3.739130	3.130435	-0.29822	0.765538	0.149108	0.881468	23	20
SM Committed to Long hours	23	24	3.913043	4.041667	0.15068	0.880225	0.003139	0.997495	25	21
SM Persistent/motivated/enthusiastic	23	24	3.956522	4.166667	1.03595	0.300224	0.888410	0.374321	28	25
SM Copes with criticism	23	24	3.782609	3.583333	-0.14441	0.885180	-0.003139	0.997495	24	21

Kolmogorov-Smirnov Test
Variable Managerial tiers
Red Marked tests are significant at $p < .05000$

	Max Neg	Max Pos	p-level	Mean Supervisory/Middle Managers	Mean Strategic Managers	Std. Dev.	Std. Dev.	Valid N	Valid N
Delegating	-0.539855	0.000000	$p < .025$	4.217391	4.583333	0.421741	0.514929	23	12
Conflict Management	-0.416667	0.039855	$p > .10$	4.119565	4.333333	0.481885	0.651339	23	12
Coaching	-0.416667	0.000000	$p > .10$	3.985507	4.416667	0.486985	0.514929	23	12
Personal Org	-0.666667	0.000000	$p < .005$	3.765217	4.666667	0.495992	0.492366	23	12
Communication	-0.916667	0.000000	$p < .001$	4.014493	4.916667	0.637453	0.288675	23	12
Personal Adaptability	-0.181818	0.166667	$p > .10$	4.209091	4.333333	0.553697	0.492366	22	12
Analysis+Decisions	-0.621212	0.083333	$p < .005$	3.863636	4.500000	0.495045	0.904534	22	12
Personal Qualities	-0.424242	0.030303	$p > .10$	3.698864	4.250000	0.663302	0.753778	22	12

Mann-Whitney U Test
Variable Managerial tiers
Red Marked tests are significant at $p < .05000$

	Rank Sum	Rank Sum	U	Z	p-level	Z	p-level	Valid N	Valid N	2*1sided
Delegating	354.5000	275.5000	78.5000	-2.06777	0.038663	-2.17759	0.029438	23	12	0.037338
Conflict Management	385.0000	245.0000	109.0000	-1.00782	0.313542	-1.05392	0.291919	23	12	0.326927
Coaching	349.5000	280.5000	73.5000	-2.24153	0.024992	-2.37035	0.017772	23	12	0.023421
Personal Org	304.0000	326.0000	28.0000	-3.82276	0.000132	-3.89122	0.000100	23	12	0.000038
Communication	289.0000	341.0000	13.0000	-4.34405	0.000014	-4.45526	0.000008	23	12	0.000001
Personal Adaptability	377.0000	218.0000	124.0000	-0.28830	0.773117	-0.30393	0.761179	22	12	0.790011

Analysis+Decisions	301.5000	293.5000	48.5000	-3.00913	0.002620	-3.05884	0.002222	22	12	0.001802
Personal Qualities	334.5000	260.5000	81.5000	-1.81989	0.068776	-1.82928	0.067358	22	12	0.068309

Mann-Whitney U Test
Potential reasons for non-progression by variable Gender
Red Marked tests are significant at $p < .05000$

	Rank Sum Male	Rank Sum Female	U	Z	p-level	Z adjusted	p-level	Valid N Male	Valid N Female	2*1sided Exact p
leadership	464.0000	664.0000	188.0000	-1.87276	0.061102	-2.00253	0.045228	23	24	0.062173
Education qualifications	500.5000	627.5000	224.5000	-1.09599	0.273083	-1.20091	0.229789	23	24	0.275914
commitment	580.0000	548.0000	248.0000	0.59588	0.551256	0.67445	0.500027	23	24	0.561778
Low confidence	514.5000	613.5000	238.5000	-0.79805	0.424840	-0.82773	0.407824	23	24	0.428404
Low motivation	550.0000	578.0000	274.0000	-0.04256	0.966050	-0.04668	0.962769	23	24	0.974780
families	553.5000	574.5000	274.5000	0.03192	0.974534	0.03337	0.973380	23	24	0.974780
prejudice	472.5000	608.5000	196.5000	-1.49390	0.135202	-1.53537	0.124694	23	23	0.136218
Few numbers	433.0000	695.0000	157.0000	-2.53249	0.011326	-2.67243	0.007531	23	24	0.010726
Unavailable for relocation	469.5000	658.5000	193.5000	-1.75572	0.079138	-1.84852	0.064529	23	24	0.079053
Old-boys network	434.0000	694.0000	158.0000	-2.51121	0.012032	-2.58679	0.009688	23	24	0.011439

Wald-Wolfowitz Runs Test
 Potential reasons for non-progression by variable Gender
 Red Marked tests are significant at $p < .05000$

	Valid N Male	Valid N Female	Mean Male	Mean Female	Z	p-level	Z adjusted	p-level	No. of runs	No. of ties
leadership	23	24	2.521739	3.250000	-1.91495	0.055500	1.767402	0.077162	18	16
Education qualifications	23	24	1.565217	1.916667	0.44577	0.655760	0.298229	0.765528	26	25
commitment	23	24	1.608696	1.583333	1.33105	0.183175	1.183500	0.236612	29	25
Low confidence	23	24	2.304348	2.625000	-0.73459	0.462592	0.587041	0.557177	22	19
Low motivation	23	24	1.782609	1.708333	-1.91495	0.055500	1.767402	0.077162	18	14
families	23	24	2.869565	2.875000	-0.43950	0.660302	0.291951	0.770324	23	20
prejudice	23	23	2.739130	3.391304	2.38573	0.017046	2.236620	0.025312	32	28
Few numbers	23	24	3.173913	4.208333	-0.14441	0.885180	-0.003139	0.997495	24	22
Unavailable for relocation	23	24	2.434783	2.916667	-0.43950	0.660302	0.291951	0.770324	23	20
Old-boys network	23	24	2.565217	3.625000	-1.32477	0.185250	1.177221	0.239108	20	17

APPENDIX 8

INTERVIEW QUESTIONS

MBA Qualitative Semi-structured Interview Questions

- Could you please give a brief introduction to your career history and your current role within your service?
Include number of services worked for, possible relocation, use of mentors, qualifications and training history
- What work experience or project exposure do you feel is important and relevant to the potential progression of managers within the service?
- As a strategic manager within the Fire Service could you detail those managerial attributes you feel you utilise and were important to your progression within the service?
- Which attributes do you think that middle managers feel are important for the transition of a manager to a strategic role?
- If I grouped managerial attributes into several categories namely delegation skills, conflict management, coaching/developing, personal organisation, communicating, personal adaptability, problem analysis/decision making and finally personal qualities can you please rank them for me in terms of relative importance and explain briefly what you think each category contains? (e.g. under the category of personal organisation may come time management and use of time saving technology.)
- According to Home Office statistics up-to 31st March 2004 no female managers that joined the uniformed operational side of the service have progressed to a strategic management position. Could you please give your personal opinion as to why this is the situation and how the Fire Service can improve the recruitment of females into the uniformed operational roles?
- A number of reasons are promoted as being a barrier to women's promotion (e.g. leadership styles) which do you think may inhibit female managers' progression?

APPENDIX 9

QUESTIONNAIRE SURVEY CONCEPT CARDS

In your opinion, what types of work experience or task assignments are important in order to be considered for promotion (Please describe)

Survey No.	Male	Survey No.	Female
4	Fire Safety legislation, risk assessment etc	1	1. Shadowing 2. Development courses before promotion not 12 months after
6	Academic and also being pro-active in the change and development of the service	2	Secondment into different references involvement in projects
8	Projects which have both worth and meaning	3	Temporary in the role you aspire, or a mentor in the role you aspire to obtain advising you on what you should do
9	Experience such as temporary is useful in determining whether you have the potential to carry out new role. It depends on your view of promotion as a reward or just to put the right people with the right qualifications for the specific role as to the importance of competence in existing role.	12	Management of people, managing effective teams, project management
10	Management skills, H & S training, discipline training, organisational over-view	16	Depends what area movement is taken e.g. Ops, FS etc
11	A variety of work experiences, training, policy & procedures etc	17	Responsibility in the role, shadowing person in role, specific task assignments
13	Project management (lead)	18	To complete a voluntary Personal Development Record
15	Station Management	20	Partnership work - for local action e.g. life project driving campaigns. National involvement practitioners forum, project work at local level
19	Role related experience and knowledge of brigade policies i.e. health & safety, equal opps	27	Mentoring others, working on new initiatives e.g. CFS, attending in-houses courses
21	Experience in role applying for. Educational qualifications required for role	28	A wide and varied knowledge of both management and operational issues
23	Ones that are relevant to the role you want to be promoted to	29	Across the range management of a work group, project management, secondments to partner organisations
26	Projects where co-ordination across organisational boundaries is required and interaction at political level lectures	32	Tasks to suit the job you apply for. A management course might be good
30	Temporary promotion, project work, task and finish work within the organisation	33	Being in the right place at the right time. Working on the latest trendy project at BHQ helps. Being a non operational staff member
31	Integration with industry, local government etc. To have	36	Involvement with IRMP, liaison with outside

	understanding of various working practices particularly with the modernisation agenda		organisations/government
35	Temporary promotion	38	Strategic projects and opportunities to work in a variety of departments
37	Temporary promotion in the rank/role applied for, relevant courses prior to promotion not after promotion	43	Those that are directly linked to the rolemap. Assignments that broaden your experience and ability to perform to a strategic level
39	Operational courses e.g. hazmat, DIM, SMMI, CMMI are most important followed by support courses e.g. fire safety, CFS etc	44	Opportunity to explore different departments to work at a higher level in development
40	Access and exposure to future role requirements e.g. strategic planning, appropriate partnership involvement, technical courses relating to role	45	Temporary promotions & proper structured evaluations of that temporary promotion
41	Structured workplace in and out of the FRS development opportunities. To be supported by appropriate coach with a long-term mentor	46	Willingness to perform within paper shuffling departments
42	It is very important as a strategic manager to have exposure to a range of opportunities e.g. ops, fire safety, CFS, FSHQ to be considered for promotion		

Key themes

Work experience across various departments and functions

Project exposure across partnerships and the fire service

Temporary promotion within the fire service

Other barriers to females' progression

Survey No.	Male	Survey No.	Female
6	Number of women moving up through the service is limited because of the number in the service (e.g. when I joined there are only a few females)	1	Just not as many woman: men ration to meet numbers % in the Fire Service
9	The main reason may be the % of women in the job as a whole.	2	The overall culture of the Fire Service does not support women in strategic roles
21	If there were more women in the Fire Service more would be managers, but we cannot force women to join	28	There are less women in a traditionally male-dominated service to go for promotion. Hopefully this will change in time due to more women joining the service
26	We need to attract more women into the service	29	Fear of organisation towards taking on the unknown
37	Too few women in any positions within the service	33	Low numbers of women in the fire service limited middle management posts available to women with children e.g. flexi-duty systems are a problem
41	Societal norm is currently such that genuine measurement is difficult. That is access to the service is relatively new to this group and therefore numbers are to small as comparator with the male group	36	Family commitments generally
		41	Consideration needs to be given to the % of females in the service and the length of time it takes to reach strategic management level. At present there is no fast tracking or multi tier entry

Key themes

Lack of women in the fire service overall

Culture within both society and fire service

In general do you believe that when more women take up management as a career they will be represented equally in strategic management positions?

Survey No.	Male	Survey No.	Female
8	Prejudice and too few women in middle/supervisory management	2	Not in the Fire Service perhaps in other organisations
10	I believe existing managers will continue to secure the influential jobs	32	They are still not as firefighters and crew managers
21	Only when the numbers in the service increase it is not about promoting all women to managers but the best candidates	42	I don't feel that level of representation now so why would it be any different higher up
23	Possibly maybe given preferential treatment	44	The fire service is still and always will be in some people's eyes 'a man's world'
35	Too few women in the job unless they force women into higher positions it will not happen		
37	Until numbers increased across the board equally this will be difficult		
39	The actual number of women will always be less than males so the % in ranks will be the same		

Key themes

Number of women in the fire service

Cultural issues within the fire service

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