

STUDENT PROJECT: WOMEN WORKING IN BOTANIC GARDENS
GLOBALLY – CAREER BARRIERS AND OPPORTUNITIES IN
HORTICULTURE AND SCIENCE

Kathryn J. Braithwaite¹

ABSTRACT

This paper represents a condensed account of a thesis produced during the author's studies at the Royal Botanic Gardens, Kew. The body of work represents the findings from a study into the current status of the barriers and opportunities for women working in botanic gardens. The research makes a global assessment of the careers of women working presently in botanic horticulture and science, from the perspective of those women working in the industry. A survey of 29 questions was produced and distributed to over 800 botanic gardens. With responses from women working across the globe, the report measures and correlates qualitative and quantitative data from participants, assessing areas such as their educational history, opportunities in their workplace, perceived barriers and hopes for the future. The survey produced 573 responses, with women participating from all parts of the globe from the USA to Yemen, New Zealand to Brazil. The report includes an introduction, methodology, a short literature review, the significant findings and conclusions arising from the data.

INTRODUCTION

Working within a botanic garden can offer an exciting and vibrant career option, with a wide range of avenues through which to traverse and progress. Both horticulture and science denote an industry that has a history of male domination and a range of associated stereotypes.

Is Horticulture a suitable occupation for women? ... Fashion, the tyrant, and the near relative of want, has excluded woman from many channels of usefulness, and often compelled her to walk the downward road to degradation. Shall these influences continue to exist when her labour and society are needed in many positions of life where at present she is seldom admitted? Would not the very presence of women in horticultural society be a benefit to the profession? For out of respect for the ladies some of us would be more gentlemanly in our deportment, and more civil in all of our dealings with each other. We think that it would have this desirable effect, at least it is well worthy of a trial.

(Barry *et al.*, 1853–1874).

1. Kathryn Braithwaite is a student on the Kew Diploma C50.
Address: School of Horticulture, Royal Botanic Gardens, Kew, Surrey TW9 2AB, UK.
Email: k.braithwaite@kew.org

The ruminations of the gentlemen of the establishment some 150 years ago and the trial seem to have worked. Or have they? Does gender affect success positively or negatively, or is it a neutral entity? Are botanic gardens a haven for the advancement of careers for women, reflecting developments in society, or an arena for subservience and tokenism? As we progress into the future, will botanic gardens maintain their relevance? What role will women play in this evolving story?

As with much of world history, the history of botanic gardens has generally been a construct of perspectives from the rich, the powerful and those in positions of leadership. This will not be overlooked in this work, but rather than just delving into books of ideas gone by, this is a focused study of women's careers in the present. Throughout the research process, not a singular comprehensive assessment of the barriers to and opportunities for women working in botanic gardens has arisen. Leading female gardeners, garden designers, landscape architects, plantswomen, entrepreneurs, botanists, taxonomists and herbaria associates from the far reaches of the globe have all previously been evaluated. The successes of these women have been documented in detail, whereas the constraints and prejudices that women face in their careers have not been discoursed thoroughly. This work aims to produce an interwoven story describing the complex dynamics of the politics, social influences, culture, finances, education, children and the professional development of women working at this moment in time, as a collective element.

Though legislation is in place throughout many countries the adjustments in cultural attitudes required to support these changes are evidently not in place in many industries. In western countries we may take legislation for women's rights as a given, but how are women affected globally in anti-female, non-democratic societies? To discuss the experiences of barriers and opportunities for women working in botanic gardens is as relevant today as it was 150 years ago. This work has created a voice and a forum, producing a dialogue of hope, passion, fear, suppression, joy and excellence in the workplace.

LITERATURE REVIEW

A study produced in 2012, on behalf of Lantra and English Heritage, entitled *Cultivating Skills in Historic and Botanic Gardens: Careers, Occupations and Skills Required for the Management and Maintenance of Historic and Botanic Gardens*, gives some insight into the careers of both men and women working in gardens across the UK (E3 Marketing, 2012). The study allows some relevant finding about the distribution of the workforce but is limited in its scope for examination of women in the workplace.

The Catalyst study of 2013, *Women in Male-Dominated Industries and Occupations in U.S. and Canada*, suggests "non-traditional or male-dominated industry or occupation contains 25% or less women in total employment. While women have made headway into certain industries and occupations, there is still a great gap between women and men in many industries and occupations" (Catalyst, 2013).

The finding from the report *Maximising Women's Contribution to Future Economic Growth* (Women's Business Council, 2013) highlights more of the cultural issues as

well as statistical information: “Despite making up 46% of the overall UK workforce, government figures show that women hold just 15.5% of jobs in STEM (Science, Technology, Engineering and Maths) fields. In engineering, this figure drops – along with my jaw – to as low as 9%”. Roma Agrawal, one of the only female engineers to work on the Shard project, discusses her experiences: “It can be uncomfortable on site – with Page 3 cut-outs from *The Sun* plastered on the walls and people staring because you’re a woman ... But you have to let it wash over you,” she says. “Find confidence and earn respect by preparing well and knowing your stuff. I’ve worked hard, and can now walk on site without feeling intimidated” (Women’s Business Council, 2013).

In January 2007, the World Bank put in place a Gender Action Plan, the aims of which were to improve women’s economic opportunities as a matter of policy and to assist individual women in entering and competing in the marketplace. The evidence from developing countries shows little access for women in botanic gardens; however, production horticulture offers women an opportunity to create an income source. For example, the economy of Kenya is based on agriculture, with crops such as tea, coffee, fruit, vegetables, cut flowers etc. These products are exported all over the world and make up around 60 per cent of the country’s exports. However, women are not seeing a fair exchange of reward for their output: “African women create 80 percent of the food production, get 10 percent of the income but only 1 percent of the assets” (World Bank, 2008).

METHODOLOGY

My clear intention was to create a forward-looking and contemporary body of research giving a voice to every woman. It was important to consult the women whose experiences and thoughts would allow an insight into their current career status, barriers and opportunities. The scope of the survey encompassed female horticulture and science staff working in any botanic garden globally. The bulk of this document represents a sociological study using online survey techniques to collect qualitative and quantitative data. In addition, however, it aims to give a forum for the stories of the women involved. There were three very specific phases to collecting the data, outlined as follows.

The survey questions

As the most important aspect of the project, the survey questions had to be exacting. The twenty-nine questions were established over a period of six months under the guidance of both female and male colleagues. It was evident, as this development period progressed, that to make the survey a success with honest and insightful responses it was imperative to create a safe forum for women to communicate their thoughts on the subject and produce a body of research that is neither leading nor biased. Some of the information required could be deemed sensitive and as such methods were used to create a safe setting for responses which included:

- *identifying information* – understanding that some women in more influential roles may not want to give both their job title and the name of the garden they work in, as they may feel unable to offer completely honest answers in this context. Therefore, a question like ‘what is your current job title?’ allowed for an optional response.
- *asking the age of a participant* – I am aware that this is a personal question but it became clear that an important part of the study was to try to find links between age, education, success and retention to get a clear picture of where women may be ‘falling out’ of the industry. It was not expected that anyone should provide information they did not feel comfortable supplying and as such the survey was created in a manner that allowed woman to leave out personal data without that affecting their participation in the rest of the survey.
- *data protection* – the participant was assured that the information provided would not, under any circumstances, be shared with any third party.

Selecting the communication tool to be used

How could information be elicited on a global scale? It would not have been possible to create this body of research without the use of the internet and associated technology. After assessing a range of online surveying tools (Survey Monkey, Smart Survey and Valued Opinions), a paid programme from Fluid Survey was deemed the most suitable. Fluid Survey allows for the development of a simple, flexible survey format and aids in the visualisation and correlation of the quantitative data (e.g. location, age), allowing more time for the assessment of the textual data. The individual’s qualitative data (e.g. ‘where do you see yourself in five years’ time?’) involved more in-depth analysis, in which the concepts and patterns were extracted without bias.

Promotion of the survey

During the development phase, Botanic Gardens Conservation International (BGCI) became affiliated with the project to support the required promotion. The organisation helped by emailing the promotional letter and survey URL link to its network of 659 membership gardens. I was also able to engage the support of:

- *Horticulture Week* magazine
- Professional Gardeners Guild
- PlantNetwork
- American Public Gardens Association

They promoted the survey through their journals, magazines and newsletters. There was also third-party promotion through vehicles such as Plant Heritage, Facebook and Twitter, and inter-organisational communications.

NOTES ON BIAS

The production and promotion of the survey is where the most potential for bias has arisen, which was due to a number of variables including:

- *language and communication* – for those whose first language was not English, I relied on the use of simple language for survey questions. I hoped that the fact that many people use English as a second language would enable non-native speakers to take part in the survey and that some participants would have an understanding of online translation tools.
- *time* – with the support of BGCI, the survey reached a wide global audience. However, more time and resources would have allowed for a more comprehensive promotional outcome.
- *third-party promotion* – the four organisations that assisted with the promotion of the survey were English speaking, three British and one from the USA. This created a further potential for bias towards English-speaking women.

It is evident from the results that these three situations have had an effect on the locations of responses received.

A conscious decision was made early on that there would be no limitation on who could complete the survey. This created a situation where there may have been 5 or 1,000 responses. It also meant that control was rescinded over who completed the survey and so conceivably this could have included people not working in the industry or male participants.

GENERAL NOTES ON THE RESPONSES RECEIVED

- As previously highlighted, providing a safe forum for participants was imperative for an effective outcome. As such, the complete body of results from 573 participants, which encompasses some 2,000 pages, will not be included in this paper.
- Some participants did not answer all the questions and as such the total number of answers for each question is variable.
- Where location is relevant (for example, where local legislation is a factor), this is made clear and where it is not, no reference to location is made.

SIGNIFICANT FINDINGS OF THE SURVEY

The graphic below illustrates some of the most significant findings of the survey.

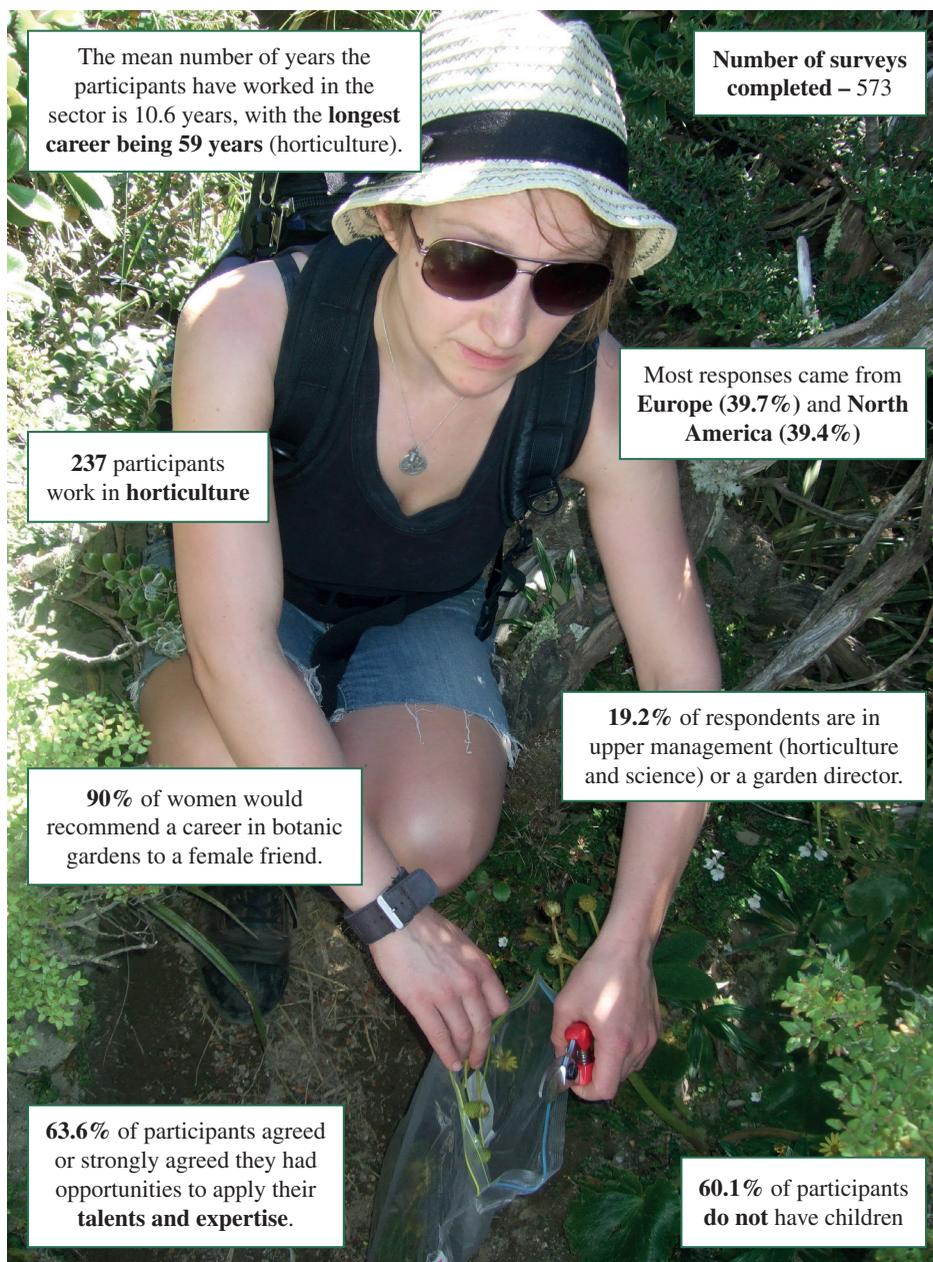


Fig. 1 Summary of significant findings of the survey and the author botanising in New Zealand.
Photo: Rewi Elliot.

GENERAL DEMOGRAPHICS

This is a large-scale global review and as such the minutiae and complexity of each country and the context of each botanic garden cannot be facilitated in this analysis. Responses came from 209 unique garden sites, including those linked to universities and local authorities. The majority of women who responded (34.8%) were in the 34–44 age range. The responses proliferating from other questions suggest that many younger women (18–30) do not or did not see the potential of a career in the industry until later on in life. Many women made a ‘career change’ into botanic horticulture (from varied backgrounds) and science (often from commercial or industrial plant sciences). There is no conclusive evidence to show a link between a participant’s age and her educational achievements, but those changing careers have had to commit to increasing their skill set in their chosen field. Women in science-based roles showed a clearer and more concise trajectory from education to industry than those in horticultural disciplines. However, there is a clear link between higher-ranking positions and advanced educational levels, where higher educational accomplishments are paramount.

GENDER, BARRIERS AND OPPORTUNITIES

The evidence suggests that the opportunities for women to develop a positive career in a botanic garden setting outweigh any negative experiences. The women who participated in the survey appear to be consciously selecting a career in a botanic garden because of a range of benefits including lifestyle, site location, professional development and a tangible career path. The response was overwhelmingly affirmative that organisations are providing their employees with an array of exciting and interesting opportunities to support career progression. Of all the potential negatives seen throughout this survey, it is uplifting to see that 90 per cent of women would recommend that a female friend pursue a career in botanic gardens. The rewards and opportunities outweigh the potential barriers in place.

It is important that we understand why women embark on a career in a botanic garden in order to promote these benefits to the next generation of young women and those looking to change careers. The one overwhelming response (from horticulture and science) when asked why they want to work in a botanic garden was “for the love of plants” and “because it is my dream job”.

In some cases, however, the reality of the workplace is not matching the hopes and perception of what a career in a botanic garden will involve and how organisational culture and politics will affect their potential development. If wages are low, funding is unstable and the fear exists of the consequences of stepping away to have children, we see conflict (both personal and professional) arising. It is revealing that gender is only one of the many barriers that women face in the development of their careers. With turnover at the top of organisations being low and insufficient positions available (commensurate with education and experience), we see overqualified women whose levels of responsibility and leadership do not translate financially or through opportunities.

“Turnover [is a] bigger issue than gender. The Herbarium has been headed by a woman for many decades. The staff are mostly women, but there isn’t much turnover and thus it is hard for most of them to be promoted to more responsible positions. There are opportunities, however the women who hold these positions hold on to them for years. Therefore, advancement of the women under them does not occur.”

However, many felt a sense of being overwhelmed by the influence of men in the workplace, which is very difficult to navigate if it is culturally ingrained in an organisation: *“Male domination – when you as a female achieve things. Men are happy as long as your growth does not supersede theirs.”* There was an almost exact divide between those women who felt they had as much recognition as male peers and those who feel undervalued due to their gender, which is both reassuring and concerning. What is happening that means 114 women do not feel as valued as their male peers and 133 are unsure of their status? Do the statistics represent responses based on fact or a perception from an ingrained sense of female inferiority in the workplace? Whatever the reasoning, almost 45 per cent of women feel they are not being rewarded for their output at the same level as men. Prejudices in the workplace are often supported by a proliferation of cultural norms, where tolerance can support an escalation of discrimination. This situation can represent a barrier or an opportunity, determined by temperamental types (personality traits). When someone is impacted by a barrier, they can be driven to succeed and to reassert a position of power.

CHALLENGES IN THE WORKPLACE

It is gratifying to see that only 9.3 per cent of participants feel they have little or no support in the workplace. The evidence suggests that several of these respondents come from smaller gardens and therefore may be juggling many aspects of the role without guidance. Support can come in many guises and determining how better to provide for these women, in order to prevent staff from becoming disheartened with their work, is essential. For those who feel unsupported, organisations could provide time for engagement with networks, and improved communication with peers and colleagues should be implemented.

There were many challenges raised when discussing career trajectory or inhibitions to job growth, both personal (including anxiety and self-confidence issues, energy levels, fear of public speaking) and professional (job insecurity, poor management, limited opportunities/networks, lack of prestige in horticulture, understaffing and discrimination). There was a general sense that a deficit of resources as a whole (money, time, consumables, knowledge) was inhibiting success and growth.

17.2% of participants felt the biggest challenge that is affecting their career progression was **not knowing what management expected from them.**

MULTI-TASKING AND EXPECTATIONS

One of the biggest challenges women are facing are the impacts associated with *multi-tasking*. Never more so than now, women are expected to balance and manage so many facets of work, family and life. They become so thinly spread that the quality of their work suffers and the impact of physical and mental stress becomes apparent. Many women no longer have a clear job profile and the longer they are employed, the more the boundaries of their role become blurred. But, contradictorily, many women felt this helped expose their capacity for a self-motivated working style and gave them an opportunity to “prove their worth”. Are these multi-tasking skills a good thing or not? Are women in danger of burn-out in their desire to achieve?

The response from two of the many multi-tasking women surveyed:

“Design, propagation, gardening, sourcing plants, coordinating and directing work, leading tours, teaching classes.”

“Co-ordinator, gardener, curator, intern supervisor, volunteer supervisor, education and public programming, researcher.”

Worryingly, current research into the impact of multi-tasking (often perceived to be the perfect skill in a busy workplace) suggests that instead of creating high productivity and quality outcomes it actually has the very opposite effect. Studies show that the distracting process of rapid movement from one task to another has been found to increase the production of the stress hormone cortisol as well as the fight-or-flight hormone adrenalin, which can overstimulate the brain and cause mental fog or scrambled thinking (Levitan, 2015). Should we be looking to rebalance workplace culture as a whole and improve communication – for both men and women – to produce healthier, happier and more effective staff?

55% of women said they are **spread too widely** in too many directions/initiatives/projects

GENDER STEREOTYPING

<p>The most used stereotypes included being</p> <ul style="list-style-type: none"> • labelled as too emotional – 94 women • labelled as too aggressive – 82 women 	<p>The participants highlighted 361 separate incidents of stereotyping based on gender.</p>
---	---

Stereotypes are not only harmful in their own right; they cause damage by fostering prejudice and discrimination. However one assesses the outcomes of this survey, it is very evident that women working in botanic gardens are being subject to negative stereotypes based on their gender. The responses highlight 361 separate incidents of negative verbalisations occurring based solely on gender stereotypes. This question does not elicit whether they were subtle taunts or direct incidents of abuse (reported or unreported), but the insipid nature of stereotyping impacts on confidence and productivity. It is clear that there is still a level of tolerance of this type of behaviour within organisations as a whole, and these incidents are not being managed successfully by the administration, within HR policies or workplace culture. To be undermined and have one's capabilities judged in this way is detrimental to the progress of all women and breeds mistrust and fear. The barriers that stereotypes create have an impact on self-worth, self-esteem and career progression. If a woman is deemed incapable of performing because of a perceived stereotype she may be overlooked unnecessarily. With such a high number of incidents, organisations need to be asking why this is happening and how do we prevent prejudices being tolerated in the workplace?

Only **55%** of women feel they get **the same recognition for their work** as male counterparts do

SPECIFIC GENDER DISCRIMINATION AND WORKPLACE CULTURE

Although responses were generally positive, there were still issues raised regarding improvements that could be made in the area of gender discrimination. The suggestion is that there is greater gender inequality and discrimination within horticulture than in science. For example, *“The council as a whole is very supportive of women staff members. It is the boss of my garden who has difficulties with some female staff.”* The responses highlighted various experiences where potential improvements could be made:

- Introduction of a ‘no tolerance’ policy of sexism and misogyny in the workplace

- Appropriate attention on the part of management paid to office politics, favouritism and harassment
- A change of attitude from older male colleagues: *“If the aging male population retired I would not be a subject of sexual discrimination”*
- Proactive equality and diversity training: *“I feel it is so important in any workplace that all people have an equal chance to thrive and be supported in their career.”*
- Managers speaking strongly and being good role models for equal treatment of men and women in the workplace.

Workplace culture is made up of the values, beliefs, underlying assumptions, attitudes and behaviours shared by a group of people. Culture is a powerful element that shapes job satisfaction, relationships and processes and is especially influenced by the organisation’s founder, executives and other managerial staff because of their role in decision-making and strategic direction. As such, a change of culture needs to be controlled from the top of an organisation, whereby discrimination should not be tolerated. Some thoughts on organisational culture included positives and negatives:

- Administrative staff should be trained in how to be less condescending towards horticulture staff
- There should be more respect for females in positions of authority
- It should be recognised that women are still capable of doing a job when they are pregnant or have children
- The culture has already changed and there are more women currently in leadership roles in our organisation
- The culture of our immediate supervisors includes acceptance of the female staff as equal to the male staff

SKILL RETENTION AND POSITIONS OF LEADERSHIP

Once in the industry, ongoing professional development and creating a secure environment in which women can commit to a long-term position is vital for successful outcomes. With mostly low wages, a lack of secure funding and often limited capacity to move upwards, the retention of highly skilled women becomes harder to achieve. Understanding the importance of attracting women from non-traditional disciplines and professions could be the key to diversifying and energising the industry. There are evident overlaps with the types of work women have had prior to moving into botanic gardens, whereby they have transitioned from one role to another, taking transferable skills with them. There are also those who have made substantial career changes from unconnected spheres, seeking a new challenge or lifestyle change.

Many of the women have found themselves in leadership roles, something that is often difficult to achieve and develops over time as women who have the capacity to lead grow in confidence. There are barriers to overcome and opportunities to grasp. The

qualities it takes to navigate the route towards leadership includes a range of personal and practical skills. Respondents in positions of leadership suggested these attributes are required:

- education and knowledge
- getting a foot in the door
- tenacity and hard work
- proving oneself
- overcoming discrimination and incorrect perceptions
- a thick skin

84.3% of participants felt that **female role models** are important or very important for career advancement

Along with the range of opportunities available for women to take on leadership roles, many women highlighted that there are still issues surround respect and “*not being taken seriously*” linked with low self-confidence and draining enthusiasm.

“I feel as if there are many women in leadership positions in botany, and at botanic gardens in particular. I don’t think they are as respected at the senior ranks as the men are, however. Also, I think [we] have not addressed the internal barriers, imposter syndrome etc. Women have been socialised as subordinate, and therefore may not have the same expectations. I don’t know how different this is for younger women, but I suspect it is still true, even if not as strongly.”

FAMILIES AND CHILDREN

One participant’s thoughts on having children:

“Where do I start!!! Physically, being pregnant and gardening are not going to be easy. The older I get, the more I feel the physical effects of the job and it’s only going to get harder. I think your thirties are a write-off for any investment in you by your employer, just in case you decide not to come back (and if you do, you’ll want flexibility the employer really doesn’t want to give). There’s also the issue about going on maternity leave halfway through a project, and in our garden, if I take more than a week off, then things die. I would worry about entrusting my glasshouses to someone else, and then spend nine months being pregnant and a year of maternity leave worrying about the mess I’d come back to when I wouldn’t have time to work fifteen-hour days sorting it all out again. I know I would never be able to do any real study or training until my children were of an age where they were reasonably self-sufficient, by which time I’d be well into my forties and who wants to invest in a 45-year-old female gardener? This keeps me awake at night now.”

There is a large global discrepancy between the legal allocation of maternity leave (paid and unpaid) and actual provision (childcare vouchers, onsite kindergartens, flexible working hours), which varies from organisation to organisation, with managerial decisions and workplace culture having an impact on a woman being able to maintain career progression and not permanently leave her career once she has children. There is no clear consensus on the issue but there is a sense of fear and worry that the many years of hard work in education and the workplace could dissipate during the time taken off to raise a family. As horticulture is generally a physical role, women face concerns about not being able to perform their duties whilst pregnant and thus lose momentum and prestige. Many women also highlighted the fact that their male partner's career had taken priority over their own.

A young landscape architect from Indonesia suggests:
“*[children] may increase my motivation to be a better person*”.

The issues raised regarding women and children evidently impact everyone within an organisation, whether this is the women deciding if and when to have children, management dealing with the impact of maternity leave or those “*left behind to take up the slack*”. A further unexpected outcome from the survey is the impact of the aging population. This is putting a greater burden on time and finances when women become carers for older relatives as well as raising their children.

ACHIEVEMENTS

The wealth of accomplishments described by the participants are astounding. There is not enough room here to articulate the diverse range of achievements, however each one is a story in its own right. Each respondent has explained how she has achieved success, whether this is personal to her or through building a reputation with colleagues and peers. There are several words that recur frequently throughout the feedback:

- appreciation
- satisfaction
- recognition
- confidence

When people are given the praise they deserve and are appreciated for their efforts, the sense of well-being drives more innovation, more passion and more satisfaction.

Many of the respondents gave very tangible examples of achievements, ranging from small goals (being granted a pesticide application licence) to ambitious projects (a large-scale funding initiative raising millions of pounds for their garden), having papers

published in journals, establishing a volunteering programme, and so on. The main achievements cited include:

- representing the organisation at all levels (advocacy)
- improving systems and communication
- effective management and mentoring
- locating and naming new species
- instigating technological evolution (from GIS mapping to social media)
- increased responsibility and taking that next step up or to the side
- supporting future generations
- increasing finances, funding and prestige for a site
- establishing high-quality science
- reaching educational goals (whether a PhD or a short course)
- industry merit (gold medals at Chelsea or creating a new garden experience)
- personal goals (building confidence or developing as a public speaker)
- being the ‘first female’ in the organisation to achieve a particular goal

FINANCES AND FUNDING

Simply put, the women surveyed want a more appropriate financial reimbursement for their output and to be paid equally to their male counterparts. There were some women who felt that men are/were being paid more for the exact same work. This is very worrying and in this industry where low pay is a continuing issue, further losses in wage based on gender should not be tolerated.

However, it was also evident that an increase in wage or other financial reimbursement was one of the least important barriers to professional success. Participants continually reiterated that the overall pleasure of their efforts comes from simply achieving the goals set out and the lifestyle offered from a career spent working in a botanic garden. Nevertheless, financial frustrations do arise due to the precarious nature of funding – for projects, positions of employment and the gardens as a whole. Women in non-permanent positions are seeking job security, which is often hard to find and thus creates a transient lifestyle where one must keep moving from garden to garden to achieve any type of security.

IN FIVE YEARS’ TIME ...

This question was included to allow the participants a moment of reflection on how they may want their careers to evolve. The very encouraging picture is that women are genuinely committed to this industry and demonstrate a true passion not just for botanic gardens, but for plants, horticulture, education and science. There were varied responses from the very personal to clearly defined professional goals, from those at the start of their careers to those nearing the end. Each respondent expressed a goal or aspiration that helps drive them and their profession forwards, including:

- being “away from paperwork!”
- raising kids and gardening at home
- moving away from this garden to something new (global/travel)
- taking over a higher leadership position (moving up)
- being a great deal better paid
- finding a permanent position with job security
- starting or finishing education (PhD, Masters, diploma)
- becoming the Director – “the boss”
- starting my own business
- slowing down, leading an easier lifestyle and protecting myself physically
- being “right here! My work satisfaction is high”

Many women are looking forward to retiring, with one woman remarking “[I’m] very aged, but hopefully [I’ll] still be here” and others looking to change role and location to be in an environment more suited to aging (for example, out of the city). One comment highlighted the passing of time and the baton of botany from one generation to the next: “at 87, I have left so many ‘seedlings’ to be fertilised and grown by future gardeners, [I] am sure horticulture will survive”.

GLOBAL DIVISIONS

During this period of research it has become clear that there is a division between the roles of women in developed western countries and developing countries, with culture and class also affecting how and what women can achieve. The subject is immense and as such a great deal more assessment is required, especially with reference to developing countries and how lessons may be learned from other gardens that show evidence of supporting women towards successful careers.

CONCLUSIONS AND RECOMMENDATIONS

Many women in many gardens hold positions of power and leadership. It would be difficult to analyse the findings without an assessment of the role sexism plays in the industry, but for many women gender seems to have little or no impact on opportunities in the workplace. There are more obvious concerns that affect all staff throughout the organisations. Globally, we see that some gardens have the luxury of more progressive legislation and organisational culture that is inclusive of all. Many participants, however, have been impacted by the damaging effect of perception and the insinuation that gender has a negative effect on their ability to perform tasks. The biggest barrier, however, would seem to be the decision of when and if to have children and how this will affect future career opportunities. Many of the outcomes are not specific only to women working in botanic gardens, but offer lessons for all organisations. The attitude of society and the deeply institutionalised assumption that women cannot both have children and work,

as well as an infrastructure which lacks the flexibility to accommodate women's needs, particularly as regards motherhood, are creating barriers for women to excel. As primary caregivers, many women find themselves unable to balance their family life and their career. The sweeping consensus, whether working in horticulture or science, is that all women seek fairness, equality, respect and appropriate rewards for their output. Most women move into this sector to engage with plants, improve their lifestyle and “*give something back*”, with some hoping to get to the top and others happy merely to have employment in a job they love.

It is very difficult to make clear conclusions for the industry as a whole, due to the large-scale nature of the survey and the complex context of each garden. Some recommendations, however, would be:

- To make simple, practical changes – for example, work clothes that fit and lighter machinery, which are often overlooked and would help accommodate women more in male-dominated sections of the garden, such as arboriculture and grounds work.
- That having children should not be the end of a woman's career, but should allow her a new insight into her role. Equality of legislation such as maternity leave and improved practical provision would help women stay relevant and engaged whilst raising their children.
- Where possible, to find the correct balance between men and women in the workforce. The evidence shows that women need to be managed in different ways from men and this should be acknowledged.
- For peers and managers, both male and female, to show more positivity and support. Where discrimination and prejudices based on gender are creating barriers (physical or psychological), educational workshops should be provided and complete intolerance from the top of an organisation should be shown.
- To give women a job with security that offers pay and other rewards commensurate with their experience, education and effort.
- To increase prestige for the role of the horticulturist, both organisational and as an advocate to develop societal perceptions of being ‘just a gardener’.
- To create a culture of safety – confidence is an issue for many women. They need to feel safe in their environment in order to excel in their work. Derogatory comments and behaviour should not be tolerated in any circumstances. This should be implemented from the top down, and where required men should be encouraged and educated further to support their female colleagues.

FINAL THOUGHTS

There was a vast amount of data collected and the scope of the study was potentially too wide for clear analysis. There would appear to be an opening for a further body of work that includes men and would allow for greater understanding of the intricate nature of men and women working together and thus allow the perspective of male colleagues to

be heard. It is my intention, beyond this dissertation, to continue my research in order to refine this body of work.

REFERENCES

- BARRY, P., DOWNING, A.J., SMITH, J.J., MEAD, P.B., WOODWARD, F.W. & WILLIAMS, H.T. (1853–1874). *The Horticulturist, And Journal Of Rural Art And Rural Taste*. James Vice Jr., New York.
- CATALYST (2013). Women in male-dominated industries and occupations in U.S. and Canada. Available online: www.catalyst.org/knowledge/women-male-dominated-industries-and-occupations-us-and-canada (accessed February 2015).
- E3 MARKETING (2012). *Cultivating Skills in Historic and Botanic Gardens: Careers, Occupations and Skills Required for the Management and Maintenance of Historic and Botanic Gardens*. Lantra, Coventry.
- LEVITAN, D.J. (2015). Why the modern world is bad for your brain. *The Guardian*. Available online: www.theguardian.com/science/2015/jan/18/modernworld-bad-for-brain-daniel-j-levitin-organized-mind-information-overload (accessed February 2015).
- WOMEN'S BUSINESS COUNCIL (2013). Maximising women's contribution to future economic growth. Available online: <http://womensbusinesscouncil.dcms.gov.uk/the-full-report/> (accessed July 2015).
- WORLD BANK (2008). Ready For Work – Increasing economic opportunities for adolescent girls and young women. Available online: <http://siteresources.worldbank.org/INTGENDER/Resources/ReadyforWorkfactsheet.pdf> (accessed August 2015).

