

“From nude calendars to tractor calendars”: the perspectives of female executives on gender aspects in the North American and Nordic forest industries

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Abstract: Increasing gender diversity is no longer just the right thing to do, but also the smart thing to do. Although there is general literature about gender diversity and the perspectives of females in top management and leadership, there are, however, very few forest sector specific studies. This exploratory study utilizes interviews to better understand how female executives in North America and the Nordic countries of Finland and Sweden perceive the impact of the situation of gender diversity in the forest industry. Respondents also provide career advice for young females entering or considering entry into the industry. Female executives in both regions agree that although the forest sector is still seen as a male-oriented industry, there are signs of increasingly positive attitudes regarding industry and company culture towards the benefits of greater gender diversity; however, the described changes represent an evolution, not revolution. Interestingly, despite the status of Nordic countries as leaders in bridging the gender gap, respondents from this region believe that there is significant progress yet to be made in the forest industry, especially at the entry level. With respect to career development, North American respondents suggested that young females should consider sacrificing their social life and leisure time activities, whereas Nordic respondents instead emphasized personal supports or using exit strategy from an unsupportive company or boss.

Key words: gender diversity, leadership diversity, workforce diversity, female managers, female executives.

Résumé : Accroître la diversité des sexes n'est plus seulement la bonne chose à faire, mais plutôt la chose intelligente à faire. Cependant, bien qu'on traite de la diversité des sexes et de la possibilité pour les femmes d'occuper des postes de cadre supérieur et de direction dans la littérature générale, il existe très peu d'études spécifiques au secteur forestier. Cette étude exploratoire utilise des entrevues pour mieux comprendre comment les femmes dans des postes de cadres en Amérique du Nord et dans les pays nordiques, tels que la Finlande et la Suède, perçoivent l'influence de l'égalité des sexes dans l'industrie forestière. Les répondantes prodiguent aussi des conseils de carrière aux jeunes femmes qui entrent ou envisagent d'entrer dans l'industrie. Les femmes cadres des deux régions conviennent que, même si le secteur forestier est toujours considéré comme une industrie à prédominance masculine, il y a des signes qui démontrent des attitudes de plus en plus positives en ce qui a trait à la culture des entreprises et du secteur envers les bénéficiaires d'une plus grande diversité des sexes. Cependant, les changements décrits représentent une évolution et non une révolution. Étonnamment, malgré le statut des pays nordiques en tant que chefs de file en matière de réduction de la disparité entre les sexes, les répondantes de cette région croient que des progrès significatifs restent à faire dans le secteur forestier, particulièrement au premier échelon d'emploi. En ce qui concerne le développement professionnel, les répondantes nord-américaines indiquent que les jeunes femmes devraient envisager de sacrifier leur vie sociale et leurs loisirs, tandis que les répondantes des pays nordiques ont plutôt mis l'accent sur le support personnel ou l'utilisation d'une stratégie de retrait face à une compagnie ou un patron qui offre peu de soutien. [Traduit par la Rédaction]

Mots-clés : diversité des sexes, diversité de leadership, diversité de la main-d'œuvre, femmes gestionnaires, femmes cadres.

1. Introduction

Change is happening, one funeral at a time [during a discussion of gender issues in Finnish forestry — Sari Pynnönen, doctoral candidate, University of Helsinki]

In society, gender diversity is generally presented as a preferred social norm, based on both ethical considerations and legislative demands; however, the benefit of gender diversity also can be considered based on economic or competitive benefits. Increasing

the proportion of women in the workforce can significantly boost the economy (PwC 2016). From a business perspective, gender diversity in top management positions can enhance corporate performance by improving problem-solving due to creativity, innovation, and incorporation of different perspectives (Kakabadse et al. 2015; Daily and Dalton 2003). Greater female representation in top management can indirectly raise the value of a company by having stronger compliance with ethical principles (Isidro and Sobral 2015), and through their real and symbolic representa-

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tions, women in top management positions may improve the legitimacy and trustworthiness of the company to stakeholders (Perrault 2015).

Continuous efforts to increase gender diversity have resulted in some positive outcomes such as more women in education, paid employment, and top management positions (World Bank 2013). Based on global studies, women hold 15% of executive board seats (Deloitte 2016) and 24% of senior roles (Lagerberg 2016). Although these numbers are growing, the rates are too small to reach gender parity, even over a decade (Lagerberg 2016). Women suffer greater economic exclusion, with an average of 15%–20% less earnings than men (Statistics Finland 2018; Statistics Sweden 2016; U.S. Bureau of Labor Statistics 2017).

In the forest sector, job and career prospects for young people are extremely positive, especially given the “graying” phenomenon of the existing workforce (Hansen et al. 2016). Employee turnover through retirement also presents a significant opportunity for the industry to increase the diversity of its workforce. Recently, the government of Canada, through The Canadian Institute of Forestry/Institut Forestier du Canada (CIF/IFC), announced an initiative to create a National Action Plan to promote gender equity in the forest sector. Believing that gender diversity is a smart thing to do, CIF/IFC states that more young females entering the forest sector will increase Canada’s economic competitiveness in the global market (Canadian Institute of Forestry 2018). A more diverse forest sector workforce is believed to positively impact the ability of the industry to move into a more competitive future (Hansen et al. 2016).

Although there is general literature about gender diversity and the role of females in top management and leadership, there are very few forest sector specific studies. Most gender research in forestry is done in developing countries, related to understanding resource management to support gender equitable policies and practices (e.g., Center for International Forestry Research (CIFOR) 2018). Instead, in the more developed countries such as in the Nordic region, gender studies in forestry are varied from forestry professionals (Lidestav and Sjölander 2007) to women as entrepreneurs (Follo et al. 2017; Appelstrand and Lidestav 2015), the gendered business case (Johansson and Ringblom 2017; Umaerus et al. 2013, 2019), organizational innovation (Lindberg et al. 2016), women’s networks (Andersson and Lidestav 2016), and men’s resistance to gender equality interventions (Johansson et al. 2017) to the most recent, women’s experience with respect to sexual harassment (Johansson et al. 2018).

An exploratory study of gender diversity within the boards of directors and corporate executive teams of the largest top 100 global forest sector companies in North America, Europe, and Oceania finds that a more gender-diverse top management team is associated with higher financial performance (Hansen et al. 2016); however, a higher level of gender diversity in boards of directors is not found to be associated with financial performance. This may be because the real impact of gender diversity on groups often only occurs when the situation is free of tokenism. For example, according to Konrad et al. (2008), three or more female representatives on executive teams are needed to make any difference.

At the individual level, in the Nordic region, a personal support system is identified as important to support female career development in the forest industry (Baublyte 2017). Nevertheless, culture-specific issues such as sauna and hunting traditions promote exclusion and can be a challenge for females in their career development. These activities potentially exclude women from discussing crucial business decisions or sharing important information.

This exploratory study utilizes elite interviews to answer the following research questions. (i) What are the perceptions of female executives on the current situation with respect to gender diversity in the forest industry? (ii) How do female executives

think the forest industry could be made more attractive to women? (iii) What advice do current female executives have for young females entering the forest industry to have a good career?

In the remainder of the paper, we first provide a background, followed by a theoretical background, a description of the methods employed in the study, results, and a discussion. We then provide insights regarding potential paths forward.

2. Contextual background

2.1. Current situation

Although women make up nearly half of the labor force in North America (U.S. Bureau of Labor Statistics 2018; Statistics Canada 2018) and the Nordic region (Statistics Finland 2018), they only hold 37%–39% of management positions (Statistics Canada 2018; U.S. Bureau of Labor Statistics 2016). Furthermore, despite the fact that more women hold college degrees and work full time, women’s salaries are 15%–20% lower than men (Statistics Finland 2018; Statistics Sweden 2016; U.S. Bureau of Labor Statistics 2017; Moyser 2017).

Based on the Global Gender Gap Index that measures gender-based gaps in countries every year, Finland has a higher rank than the other three countries of interest in this study: Sweden, Canada, and the United States (US) (World Economic Forum 2018). Surprisingly, the US ranks lower than some of the considerably less economically developed countries such as Rwanda, Nicaragua, or Namibia, each with GDP less than 0.1% of total GDP in the US (World Bank 2018).

There are, however, positive developments regarding gender gap improvement in the US. A national campaign to increase the percentage of women on US company boards to 20% or greater by the year 2020 reported that the 2020 Gender Diversity Index among Fortune 1000 companies was achieved in 2017, three years ahead of the goal (2020 Women on Boards, 2018 Gender Diversity Index Key Findings, <https://www.2020wob.com/companies/2020-gender-diversity-index>). Nevertheless, smaller or more recently established companies, which are not listed on Fortune 1000, may still be less gender diverse.

2.2. Industry image

The forest sector is generally considered to be a mature industry, characterized by producing mature products (Hansen et al. 2013) with high price volatility of markets (Pätäri et al. 2017), lacking innovativeness (Bull et al. 2015; Leavengood and Bull 2014; Stendahl and Roos 2008; Crespell et al. 2006), and focusing on a low-cost production orientation (Hansen et al. 2013; Toppinen et al. 2013; Hansen and Juslin 2011).

With respect to gender diversity, the forest sector is generally perceived as a male-dominated industry and this view is supported by global statistics on the forest industry related workforce (Lawrence et al. 2017; Food and Agriculture Organization of the United Nations (FAO) 2006). However, there is a lack of research on how the people who are working in the forest sector perceive the industry, except for one study based on the views of Finnish and Swedish female leaders (Baublyte 2017).

Given dramatic changes such as global demand and market shifts because of globalization, digitalization, financial crises, and climate change pressure, the forest industry must find a way to face the issues of increasing production costs, rising environmentalism, and rapid technology transfer. Solutions for these issues have been recognized by several authors to also include diversity management (Table 1).

Low workforce diversification is a key concern in the transition to a forest bioeconomy, which should be addressed in recruitment (Lawrence et al. 2017). Compared with North America, the forest sector in the Nordic region is often considered more innovative (Hansen 2010) and tends to have a more positive attitude towards the concept of a bioeconomy (Näyhä 2012).

Table 1. Recommended solutions for renewal of the forest industry.

Solutions	Authors
Diversity management	Baublyte 2017; Lawrence et al. 2017; Hansen et al. 2016
Innovation management	Hansen et al. 2014; Hansen 2010; Crespell and Hansen 2008a; Wagner and Hansen 2005
Innovativeness for competitiveness	Crespell and Hansen 2008b; Hansen et al. 2007; Crespell et al. 2006; Hovgaard and Hansen 2004
Sustainability management	Toppinen et al. 2016; Panwar et al. 2006; Kärnä et al. 2003
Technology advancement	Larasatie et al. 2018; Panwar et al. 2012; Meil et al. 2007

3. Theoretical background

3.1. Gender diversity effects

Gender diversity has been highly encouraged in recent years. For instance, The United Nations Sustainable Development Goals for 2030 call out achieving gender equality and empowerment of women (The United Nations 2017). Simultaneously, schools of thought on strategies to enhance gender diversity such as gender mainstreaming as a transformative strategy with three approaches — inclusion, reversal, and displacement — have been proposed (Squires 2005). Accordingly, women should be treated equally to men and have the same right to work and gain promotions. Gender diversity in leadership is not only just the “right thing to do”, but also a smart thing to do. For example, female directors more consistently make fair decisions in high-risk situations such as when competing interests are at stake (Bart and McQueen 2013), which may lead to greater firm performance.

Despite this encouragement, however, meta-analysis on gender diversity studies has resulted in conflicting findings on the effects on group and company performance (Pletzer et al. 2015; Post and Byron 2015; Bell et al. 2011). On one side, diversity improves decision-making capacity, but on the other side, it can increase in-group conflicts (Erhardt et al. 2003).

Mixed findings in the literature may lead to an assumption that the relationship between increased gender diversity and company performance is contextual (Hansen et al. 2016). There is also a possibility that a work group has a lack of ability to maximize the potential of diversity by not recognizing different perspectives (Webber and Donahue 2001) or by using information based on their common knowledge and leaving out details (Gigone and Hastie 1993). Group composition should draw out the different knowledge and skills represented and then extract them to arrive at a more creative problem solution. Both group leadership and individual members should develop their capacity to elaborate and exchange information cognitively within groups. Looking into companies, the CEO or chairperson is considered a pivotal figure to incorporate diverse views into decision-making processes (Kakabadse et al. 2015; Pletzer et al. 2015).

3.1.1. The advantages of better gender diversity

The most commonly mentioned diversity benefit is improved managerial decision-making. Men and women tend to have distinct perspectives and experiences, resulting in different knowledge and information. Therefore, diverse groups tend to process information in a greater range of ways and more deeply than homogenous groups (Dahlin et al. 2005). Because upper echelons theory (Hambrick and Mason 1984) implies that the idiosyncrasies of top managers are powerful enough to influence strategic planning, it is argued that diverse top management teams (TMT) will result in better company performance and innovation (Talke et al. 2010). Gender diversity is linked with cognitive diversity in which increasing the number of female top managers can result in lower risks and better performance (Perryman et al. 2016). More female representation in the TMTs is also associated with better collective problem-solving skills because of creativity, innovation, and incorporation of different perspectives (Kakabadse et al. 2015; Daily and Dalton 2003).

Furthermore, better gender balance in TMTs promotes a better understanding of the market by reflecting the diversity of the marketplace through a better match between employees and potential customers, thereby increasing companies' ability to penetrate their markets and result in better performance (Campbell and Mínguez-Vera 2008). In addition, the likelihood of voluntary sustainability actions in firms increases when there are more women in the TMTs, which has also been interpreted as a sign that women are more in tune with the marketplace (Ben-Amar et al. 2017).

3.1.2. The potential problems of increased gender diversity

Gender diversity can also trigger more in-group conflicts, as well as social identity salience (Tajfel and Turner 1979) that fosters in-group and out-group formation (Hewstone et al. 2002). This distinctiveness can lead to behavioral disintegration and interpersonal conflicts (i.e., task and emotional conflict) (Li and Hambrick 2005) and breaking groups into subgroups (Lau and Murnighan 1998). Emerging subgroups may impair communication through biased attention and influence (Bhappu et al. 1997).

For men, gender identity salience is positively related to relationship conflict (Randel 2002), which can negatively impact work performance (Chrobot-Mason et al. 2009). In addition, a male-dominated management team may create in-group and out-group distinctions, resulting in disadvantaged treatment for female managers (Schwab et al. 2016) such as less pay (e.g., U.S. Bureau of Labor Statistics 2018) or a situation in which women are less likely to be promoted (Gorman and Kmec 2009; Metz and Tharenou 2001).

3.2. Critical mass and tokenism

Interactions in a group depend on the size of the subgroups (Kanter 1977). To have more influence, which can affect changes, a subgroup should reach a certain threshold or critical mass. When it comes to women in management teams, three females are considered as a critical threshold, while one and two females may exist largely as tokens (Konrad et al. 2008). Due to masculine leader stereotypes (Koenig et al. 2011), these token females may be marginalized in TMTs (Kanter 1977), which may hinder team performance. Companies should go beyond tokenism to experience the real benefits of gender diversity (Bear et al. 2010), to have better firm organizational innovation (Torchia et al. 2011), and to improve firm performance (Schwab et al. 2016).

3.3. Homosociality

As a theory of preference relations with the same gender, homosociality is initially used to explain why males dominate powerful positions in social institutions (Lipman-Blumen 1976). Despite the critique that homosociality is merely based on sex role theory (Tallberg 2003), this concept is in line with homosocial reproduction theory to describe the belief that managers are selected based on social criteria due to a high pressure for social certainty and conformity (Fawcett and Pringle 2000; Kanter 1977).

To obtain a senior management position, the candidate should have competencies and characteristics that are defined by existing board members (Holgersson 2013). Because the majority of board members are males, this practice naturally gives better chances to men (Holgersson 2013) and may exclude women (Kanter

1977); however, this may not be true for all men in general. The men that do not meet the expected social behavior may also be excluded (Tallberg 2003).

Homosociality is also perpetuated in the TMT hiring process. Usually conducted as an informal process, selection lacks objectivity and relies on personal networks (Fawcett and Pringle 2000) in addition to headhunter services (Baublyte 2017). Based on this argument, men will have more benefits because of masculine senior management cultures and traditional career assessments (Fawcett and Pringle 2000). Men will be more likely to be hired because they have more access to job vacancy information and personal endorsement.

3.4. “Queen bee” phenomenon

In a male-dominated organization, the challenge for young females not only may come from male peers, but also can be from senior women. Instead of promoting women’s development and mentoring young women, these female leaders, who are adjusted to the masculine culture, may distance themselves from other women (Kanter 1977) and give preferential treatment to men (Kaiser and Spalding 2015). This practice is called a “queen bee” phenomenon (Derks et al. 2016).

To be successful in a male-dominated work setting, queen bees disassociate themselves from their gender and have masculine self-presentation, underline dissimilarities, and distance themselves from other women (Derks et al. 2011) by claiming that they are more masculine (Faniko et al. 2016). Interestingly, the queen bees only distance themselves from junior women and not from women who are considered as successful as they are (Faniko et al. 2016). Above all, perhaps the most disadvantageous effect from this phenomenon is that the queen bees legitimize the current gender hierarchy, resulting in gender inequality status quo in their organizations (Derks et al. 2016).

4. Methods

Potential participants were identified from an annual listing by PricewaterhouseCoopers, which includes the top 100 global pulp, paper, and packaging companies. The targeted individuals were female executives in each company in North America (US and Canada) and in the Nordic region (Finland and Sweden) at the starting time of data collection in the Northern Hemisphere’s fall of 2016 to spring of 2017.

Based on company websites, we found 26 female executives in top management teams in 14 US and Canadian forest sector companies and 32 female executives in top management teams in eight Finnish and Swedish forest sector companies. The female executives have professional roles that varied from human resources, communication, and sustainability management to legal affairs divisions. Interview invitations were emailed to potential respondents, followed by telephone calls and (or) additional emails. In total, 14 North American and 10 Nordic respondents agreed to be interviewed, while others declined, mostly due to lack of time.

In our exploratory study, we used semi-structured interviews to allow for the flexibility to follow up on interesting points. Interviews were conducted face-to-face, by phone, or by Skype. Interview questions covered the topics of atmosphere of the interviewee’s company and forest industry from a gender perspective, their ideas to make the forest industry a more attractive place to work for females, and their advice for young females to have a good career in the forest industry.

To engage with the female executives, we used a specific type of specialized focused interview called elite interview (Dexter 1970). Before conducting interviews, the researchers reviewed gender diversity related information of each company to have a provisional analysis. This step is beneficial to avoid the possibility of misunderstanding concepts and excessive personal bias as the result of the interview is the respondents’ definition of the situation (Berry 2002).

Interviews in North America were conducted during 2016, whereas interviews in the Nordic countries of Finland and Sweden were conducted between April and November of 2017. Interviews were conducted in English and ranged from 15 min to 1 h in length. All interviews were then transcribed and thematized.

Coded analysis was conducted in three cycles (Miles et al. 2013). The first coding cycle focused on three themes (atmosphere, attractiveness, and advice) based on our research questions 1–3. The first theme, atmosphere, aimed to describe the general atmosphere in the respondent’s companies and general forest industry with respect to women in the workforce and identify the changes that have occurred in the industry. The objective of the second theme, attractiveness, was to elicit thoughts from respondents on how to make the forest industry a more attractive workplace to women. The third theme, advice, aimed to recognize career advice from interviewees for young females who are entering the forest industry. The second coding cycle was done after we found patterns, grouping the earlier themes from the first cycle into a smaller number of themes for all interview questions. A third cycle was conducted specifically to identify diversity efforts undertaken in the companies (Table 2).

5. Results

The results are organized according to the primary themes: atmosphere, attractiveness, and advice. It should be noted that all quotations in the results section come directly from the interviews, with the region provided after the quote.

5.1. General atmosphere of forest industry

Respondents frequently claimed that the atmosphere of the forest sector has been historically known as male-oriented and male-dominated, with characteristics of a chauvinistic and masculine culture. At times, the forest industry has not been “female friendly” and women have been “underrepresented”. Examples of male-oriented culture include nude calendars, sexist jokes, and “boys’ club” activities such as hunting, fishing, and golf. One respondent used the word “Neanderthalic” when describing the forest industry.

Nevertheless, almost all of the respondents agreed that there are positive changes in the industry towards more diverse and inclusive workplaces; however, respondents indicated that this change is slow, claiming it to be more of an “evolution, not a revolution.” To “take on less of a male-oriented kind of culture, [there is a requirement of a] critical mass of women” in leadership, suggesting that more women at the management level means a more female-friendly working environment.

I think it’s definitely better [now], A) because there are more women engineers, B) because there’s more that have been recruited, hired, and now in senior leadership positions. (North America)

When I first started the jargon was different, and it was much more acceptable to make sexist jokes, it was much more common that you could find nude calendars when travelling around the country... [now] a nude calendar has been changed to be a tractor calendar. (Nordic region)

Many positive changes towards diversity have happened because of company-level initiatives. The managements of respondents’ companies believe that diversity is good for their business and therefore put strong focus on diversity when they recruit. By having a more diverse workforce, global companies can have a better understanding of the needs of their diverse customers.

[my company] has probably more diversity because we’ve actually had it as a very significant focus. It’s on our score cards as leaders of continuing to hire and look for the diversity and the goal of trying to match the diversity of our communities. (North America)

Table 2. Emerging themes.^a

First-cycle coding			
Primary themes	Secondary themes	Second-cycle coding	Third-cycle coding
Atmosphere	<ol style="list-style-type: none"> 1. Diversity and females–males ratio in the company and different business divisions or seniority levels 2. Company culture 3. Changes in the industry and company 4. Industry image and characteristics 5. Changes in society 6. Diversity efforts 7. Benefits of diversity 8. Supports 9. Personal stories 10. Exploring opportunity, movement between job positions 11. Behavior, image, stereotypes 12. Characteristics, personality, ambitiousness, goals 13. Issues 14. Education 	<ol style="list-style-type: none"> 1. Industry image 2. Changes 3. Diversity 4. Culture 5. Supports 6. Opportunity 7. Personal stories 8. Individual characteristics 9. Stereotypes 10. Perspectives 	<ol style="list-style-type: none"> 1. Industry image 2. Changes 3. Diversity 4. Culture 5. Support 6. Opportunity 7. Personal stories 8. Individual characteristics 9. Stereotypes 10. Perspectives 11. Diversity efforts
Attractiveness	<ol style="list-style-type: none"> 1. Culture 2. Opportunity 3. Personal stories 4. Education 5. Environment 6. Supports 7. Perspective 		
Advice	<ol style="list-style-type: none"> 1. Education 2. Finding a niche 3. Behavior, image, stereotypes 4. Characteristics, personality, ambitiousness, goals 5. Exploring opportunity, movement between job positions 6. Supports 7. Positive understanding, perspectives 8. Issues 		

^aQuestions from both regions are similar with minor differences.

Why diversity? Because diversity is a good business. We are a global company, ... diversity perspective should reflect the society and the diverse customer base we have. So, I think diversity means better business, you make better decisions because you have more diverse thought in the company. (Nordic region)

Some companies have encouraged a more diverse and inclusive workplace through training and courses for their employees. A company in North America conducts diversity training leading to a better understanding that people have different styles to accomplish tasks. A Nordic company has its employees join a gender equality course to raise awareness of a diverse and inclusive workplace.

Over the years we've got more diversity and more diversity training and more opportunity to interact with different levels where there are different styles to accomplish tasks. (North America)

We have recently had a course, everybody went through it, gender equality course, which I think has raised the awareness. It's not just about not making sexist jokes, it's trying to include everybody and accepting our differences. I think that jargon in the company has improved and everyone understands better that both women and men should be included in the conversations and make them feel at home. (Nordic region)

One Nordic respondent suggested that changes in society play a significant role leading to a more diverse workforce. Other respondents mentioned examples of societal changes such as more dual-income families and more women as breadwinners. However, not all respondents were positive about the evolution of the

industry. There are some indicators that the upstream value chain of forestry has the most room for improvement.

A lot of companies have stood still as far as women and haven't done anything progressive. (North America)

The business side has changed a lot to positive, but the wood supply and forestry side are not moving ahead. (Nordic region)

Still lagging behind. It [forestry side of business] hasn't changed much and I'm not seeing a lot of light in there. (Nordic region)

Most respondents in both regions agreed that a higher level of gender diversity primarily exists in corporate offices and not so much in manufacturing facilities due to their remote location and required shift work. Most women are found in office work (administration) and business divisions. Generally, increasing diversity at mills is seen to be more challenging because the plant and mill work is not viewed as appealing to females.

We are recruiting obviously more women than we used to do earlier. The only thing is that we do not have so many female applications for mill positions, for instance, supervisor positions in mills. We also have apprentice programs in some of the pulp mills, and there also we do not have that many female applicants for some reason. (Nordic region)

One of my mentees in the [management development] program started at a mill or a plant and then came to corporate and then did not want to go back to a mill or a plant because the life style change. (North America)

Regarding gender expectations, there were differences between regions. North American respondents expressed their concern that gender still matters in the forest industry workforce, especially when it comes to leadership. An example of this case is male and female CEOs in the industry functions may be treated differently. In contrast, Nordic respondents considered that the environment in their countries support female leadership.

... when you go to industry functions, ... men interact differently ..., they treat [my female CEO] differently than male CEOs. So, there is definitely, in my opinion, a gender bias in this industry. (North America)

I think we have very good climate for women, especially female leaders. (Nordic region)

5.2. How to improve forest industry attractiveness for females

Although views on the atmosphere of the forest industry can be interpreted to be somewhat negative, respondents have positive views regarding the potential for making the industry appear more attractive to young females as potential employees. Considering the fact that “the forest sector is not the sexiest industry”, there is a suggestion to promote the industry by doing a “better job [of] telling [the] sustainability story” and to “focus on the environmental side and social perspectives”. Modernizing the industry image could be done by reshaping company missions to be “future-oriented” and “linked to the bioeconomy”.

Reaching a critical mass of females in leadership positions was discussed by Nordic respondents. Having more women in leadership may attract young females because these female executives break the cultural stereotype barriers and tend to have more empathy for women on achieving work-life balance.

When there is a big enough portion of females, critical mass in the management, then it will be so much easier for any other females who want to do the same path. (Nordic region)

... accept that people have a life, where work is one part and private life is other part. I think the balance is very important. And perhaps female leaders have it easier to see it and respect it. (Nordic region)

Although the forest industry is still perceived to be male-dominated, the respondents mentioned that there is huge potential for women to have a solid career in this industry. In the US, the graying workforce presents a good opportunity for those entering the workforce (Hansen et al. 2016).

There are so many opportunities, there are so many retirements, and [the forest industry] is the core of American business. (North America)

Interestingly, Nordic respondents' thoughts were not as positive as their North American counterparts. Women were often considered to receive different treatment and career path as the male employees in their early career.

... make sure that the young women who enter the sector stay there. And to do that we need to make sure that they have the prerequisites and are treated with the respect that they deserve. Because I think that in the lower ranking positions is where you find most sexism. (Nordic region)

[Females] don't have the same path that the guys have. When they got in, they get their “godfathers” that support them to the next level, support for giving the additional education. They [reference to males] seem to have an easier path. (Nordic region)

5.3. Advice for females entering the forest industry

In contrast to the general similarity that is found in previous sections, respondents had a variety of views regarding females and their career success after entering the industry. The most

common advice by respondents in both regions was having a good boss—leader, mentor, and network. The interviewees also voiced that it is important to have a good education to find a niche to make young females more competitive in the workplace.

... when you have a good boss, he or she will support you and will enable you to have a career. (Nordic region).

Find a mentor that can help you understand the technical side of the industry, as well as general leadership so you can understand the group or team that you work [with]. (North America)

Building a good network of key individuals is really important. (North America)

Educate yourself and do your studies well. But then of course find something special, your niche that would help you find your way in. What I was studying wasn't mainstream back then and it helped me. (Nordic region)

While Nordic respondents focused on the external factors such as the need for good family support systems, their North American colleagues mostly mentioned internal factors such as the importance of personal characteristics in the career journey of a female.

I think my biggest advice would be that home front discussions if you are married, discuss with your husband, how do you go on with double careers, because both going at the same time, then wanting to have a family, it's a bit difficult, then at least you need help. (Nordic region)

... so I have these little initials that I called PIE that is performance, image, and exposure ... performance is what matters, work really hard, make an 'A' ... you need to do whatever you've been asked to do and work hard to meet or exceed those business commitments. The I, is the image of what it is you're aspiring to do, so if you are aspiring to be a leader you need to get a good understanding, what are the unwritten rules of what kind of work looks like and the behavior that is expected ... then the E stands for exposure which is, having people recognize and see you and your work getting exposed to people so that you get new opportunities ... (North America)

According to one Nordic respondent, at some point in her career, she wore only black or blue trousers. She felt that a brighter colored skirt would change the attitudes of male colleagues towards her. Similarly, other respondents stated that “the females cannot be as female as they want to be” and “if they want to get along with the traditional forestry guys, they almost need to grow a mustache” (Nordic region). In contrast, a respondent suggested the young females should represent “who they are, not a gender. And that they don't perpetuate the stereotypes of gender” (North America).

In North America, young female employees need to be open-minded to exploring the opportunities and willing to relocate, as their male peers would do. Building a career in the forest industry will benefit from moving around, including willingness to work in mills. For women, working in mills could be a hurdle due to their remote location and shift work. Therefore, several respondents suggested that women should consider sacrificing their social life and leisure time activities to have a good career. However, Nordic respondents felt differently. Instead of making sacrifices, the young females are recommended to change their boss, or jobs, or even their company. Below are some examples of advice for young females entering the industry.

Don't come with preconceived ideas, have your mind wide open to opportunities. (North America)

If you are going into the forestry business, be willing to relocate, not think that you're going to get the most senior job to start. You have to be very flexible to start as far as

where you are going to live and the ability to take lateral positions to get ahead. So you can't always be moving up. Sometimes you have to move sideways. We always say that working in the forestry business is more like a jungle gym than a ladder, and sometimes you have to take a side step to get up to the top. (North America)

There are some required sacrifices, but you gotta find what works for you. (North America)

If you have a bad boss, change jobs, don't stick with a bad leader. (Nordic region)

Recognize that the company is very old-fashioned and [if the young females] cannot change it, then [they] have to change the company because [they] are wasting [their] time. (Nordic region)

A contrasting opinion came from North America respondents about the "glass-ceiling" phenomenon. In general, the early stages of a career are crucial because that is when young females are able to move faster from one position to another. Movement will be slower when they reach a later point in their career. This may imply that a glass-ceiling phenomenon still exists in the forest industry; however, one respondent disagrees with this statement.

But at the kind of two-three year point, they will begin to slow down a little bit, then at the five year-seven year point they begin to slow down a little bit more because they are getting farther up the food chain. (North America)

[There is] no glass ceiling in forestry anymore, [as long as] you find the right company that fits with your personal values and your integrity and make sure you do the best you can every day. (North America)

6. Discussions and conclusions

Based on the interview results, there are three major findings to be discussed: masculine environment in the forest industry and its effects on women; support systems for work-family balance for attracting young females to the forest industry; and "sacrifice versus exit" strategy advice for young females entering or considering entry into the industry.

6.1. Masculine environment

Consistent with global statistics on the forest industry related workforce (Lawrence et al. 2017; FAO 2006), respondents from both North American and Nordic regions perceive the forest industry to be male-oriented and male-dominated. Women have been underrepresented because historically, working in the forest industry has been associated with physical strength and difficult, sometimes dangerous, workplace conditions in remote rural areas. This harsh environment has been perceived "too heavy for women" (and only suitable) "for real men" (Follo 2002, p. 301), and therefore has developed as a blue-collar masculinity and "macho-masculinity" workplace culture (Johansson and Ringblom 2017).

At the management level, the absence of women may be because of homosocial reproduction practice when senior managers, most or all of whom are men, hire males as a reflection of their own images (Tallberg 2003). Men's homosociality has created a masculine environment influencing work organization and knowledge transfer. Gendered construction on forest-related knowledge will recognize men as the voice that imposes exclusion of women in the workplace and may cause the assumption that female professionals lack the technical skills to do their job until they prove otherwise (Johansson et al. 2018; Andersson and Lidestav 2016). To be accepted and earn respect from their male colleagues, female professionals have been socially forced to adapt to male norms (Johansson et al. 2018) and to adjust their behavior and image to match the standards that are set by males. For example, these female professionals may adapt a masculine communication style (von Hippel et al. 2011) and even distance

themselves from femininity, including limiting their interaction with other females (Wright 2016).

Although there are positive changes in the industry towards more gender-diverse and inclusive workplaces, the respondents indicated that the movement is slow. These slow changes may be culture-based where traditional perceptions about gender roles and what men or women do in organizations still remain deep. There is a strong assumption that males are the breadwinners and a concern about females' loyalties between their family and job (Kanter 1977). If there is a higher level of gender diversity in the companies, it typically exists in corporate offices where women are found in office work (administration) and business divisions. This finding is similar to a global report from the FAO (2006). It seems that more than a decade later, women are still stereotyped into specific roles in the forest sector. To take a place and avoid being a token, women need to find special niches such as expert and knowledge work (Brandth and Haugen 1998).

The other possible cause of slow changes is women's restricted access to networks in the forest sector (SweGov 2004 in Andersson and Lidestav 2016). Women's networks have been formed within and outside companies, including formal organizations to be acknowledged and addressed by authorities. These networks provide gender-specific social support and private information such as company cultures and attitudes toward women (Yang et al. 2019). However, while women's networks are beneficial to make women visible and counter homosociality practice, there is an opinion that separate organizations may challenge societal norms (Andersson and Lidestav 2016) and can define women as the outsiders in a male-dominated industry because it may be seen to only represent women's interests (Brandth et al. 2004).

To boost change towards more gender-diverse and inclusive workplaces, respondents suggested that it is necessary to reach critical mass of women in leadership positions, which is believed can create a more female-friendly working environment. Women are typically seen as more empathic. Accordingly, they are often expected to clear the way and to mentor young females in the industry. Nevertheless, because the forest sector is a male-dominated industry, there is a possibility of the queen bee phenomenon that could hinder the career advancement of young females. Women leaders might create distance from their female juniors as a response to gender discrimination and social identity threat in their companies (Derks et al. 2016). In addition, it is argued that a critical mass of women in the forest industry would not make a difference due to the social context influence of professionalism (Storch 2011).

To attract young talent, respondents identified a need to modernize the industry's image. The forest industry needs to focus on its important role in the sustainable future and offer solutions for the modern world. For example, the industry can use its role in the bioeconomy for a more sustainable future economy (Lawrence et al. 2017) and in urban-living innovation such as using engineered wood products for constructing tall wood buildings (Larasatie et al. 2018).

6.2. Work-family balance

More flexible working hours and place of work to find the balance between work and family life is important for attracting young females to the forest sector. This issue was mentioned because women still tend to bear the bigger burden with respect to domestic household responsibilities (e.g., Duchin et al. 2018). This work-family balance challenge might be a reason why it is difficult to find women to work in manufacturing facilities in rural areas.

North American executives pointed out the importance of family care (childcare and (or) eldercare) availability options and having flexibility in maternity leave and (or) paternity leave. However, Nordic respondents generally placed less emphasis on these topics of childcare and maternity leave and (or) paternity leave,

which may be due to differences in societal contexts. The Nordic countries, which are considered to be at the forefront in gender equality, have created a society in which men and women more equally participate in the workforce and sharing the housework and childcare responsibilities. Parental leave in the Nordic welfare state is often considered as the best model in the world. This situation is in contrast with parental leave in the US. With the U.S. Family and Medical Leave Act, new parents are protected to keep their job for up to 12 weeks, but the act does not mandate pay (U.S. Department of Labor 2018).

Women's greater family responsibilities have been identified as the major cause of the gender earning gap in the US (Goldin et al. 2017), with a perception that when female workers become mothers, they will be less engaged at work (Ladge and Little 2019). Although working mothers are socially respected, at the same time, they may be disliked and stigmatized as selfish because they are perceived as trying to increase their power and status (Brescoll and Uhlmann 2015) and abandoning the "Motherhood Mandate" of child bearing and child rearing (Russo 1976). These females need to justify why they are working outside their home with a socially acceptable reason. When working mothers rise to top management positions and take the breadwinner role, they may be labeled "ultramacho" (Ladge and Little 2019, p. 140) and are more likely to face marital instability (Byrne and Barling 2017).

In terms of the work-family balance, male leaders are generally in a better situation than their female peers. The more successful the males are, the more likely it is that they will find a spouse and have a family (Hewlett 2002). For example, a nationwide survey about the lives of highly educated and high-earning US women reveals that half of these women are childless and nearly 7 out of 10 are unmarried (Hewlett 2002).

6.3. Sacrifice vs. exit strategy

Despite the status of Nordic countries as leaders in bridging the gender gap, respondents from this region believe that there is significant progress yet to be made in the forest industry, especially at the entry level. However, this might not be the case once women reach top positions. These opinions are in contrast to those of respondents in North America. While they have a more positive view on young females entering the industry because of many opportunities created by the graying workforce, North American female executives indicate that the glass-ceiling phenomenon still exists.

These contextual aspects may affect how female executives in both regions give different advice to young females entering the industry. Interestingly, North American respondents focused more on internal factors such as personal characteristics, while Nordic respondents emphasized external factors such as the need for good family support or using an exit strategy from an unsupportive company or boss. To have a progressive career, North American respondents suggested young females should consider sacrificing their social life and leisure time activities, which reflects "old school" attitudes. In contrast, Nordic respondents felt that instead of making sacrifices, young females should change their boss, their job, or even their company. Moreover, their responses implied that having a good educational background might help to enter the industry and facilitate obtaining a good position, but to succeed, young females should also constantly learn and develop their skills, move between functions, and go abroad to get international experience.

7. Future pathways for research

There are limitations to this study because of the relatively small number of respondents, partly due to a very small population of female leaders in the forest industry in the studied countries. It is possible that those female executives declining to respond had a slightly different perspective or were simply less interested in the topic. If the participants are assumed as those

who are most interested in gender issues, the findings provide some indication of the thinking of those who are also potentially best informed about these issues.

Because the population in this research is very small, it would be valuable to conduct similar studies covering a wider demographic area and (or) with females in middle management, not only in the TMTs. Coverage of small-to medium-scale forest sector companies, which may lack formal mechanisms to deal with diversity aspects, could also make a valuable contribution. The nature of the companies, for example, family-owned companies, might also bring different perspectives in the realm of gender diversity than publicly owned companies as in this study.

A potential limitation is related to respondents' experiences and knowledge. We have respondents with varied work experiences in the forest industry from several decades to only a few months that may lead to different perspectives. Limited experience in their position by some of our respondents impacted their responses. Also, their willingness to share their intimate experiences with our interviewers is likely varied.

Based on findings from this study, there is considerable space for gender-related research in the forest sector. One example is in exploring, in more a comparative manner, men's homosociality, which contributes to a masculine environment. Within this kind of environment, what are the male executives' perspectives with respect to working with females as colleagues in the TMT? This context may also shape what employees in this male-dominated industry think of females as their leaders, compared with males. Looking to the bigger picture, this study about gender diversity in leadership in the forest industry can be compared with other similar studies in perceived male-dominated industries such as the automotive or IT (information and technology) industries.

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References

- Andersson, E., and Lidestav, G. 2016. Creating alternative spaces and articulating needs: challenging gendered notions of forestry and forest ownership through women's networks. *For. Policy Econ.* 67: 38–44. doi:10.1016/j.forpol.2016.03.014.
- Appelstrand, M., and Lidestav, G. 2015. Women entrepreneurship — a shortcut to a more competitive and equal forestry sector? *Scand. J. For. Res.* 30(3): 226–234. doi:10.1080/02827581.2015.1011408.
- Bart, C., and McQueen, G. 2013. Why women make better directors. *Int. J. Business Governance and Ethics*, 8(1): 93–99. doi:10.1504/IJBE.2013.052743.
- Baublyte, G. 2017. Gender diversity in Swedish and Finnish forest industry companies: challenges and enablers. University of Helsinki, Helsinki, Finland.
- Bear, S., Rahman, N., and Post, C. 2010. The impact of board diversity and gender composition on corporate social responsibility and firm reputation. *J. Bus. Ethics*, 97(2): 207–221. doi:10.1007/s10551-010-0505-2.
- Bell, S.T., Villado, A.J., Lukasik, M.A., Belau, L., and Briggs, A.L. 2011. Getting specific about demographic diversity variable and team performance relationships: a meta-analysis. *J. Manage.* 37(3): 709–743. doi:10.1177/0149206310365001.
- Ben-Amar, W., Chang, M., and McLikenny, P. 2017. Board gender diversity and corporate response to sustainability initiatives: evidence from the Carbon Disclosure Project. *J. Bus. Ethics*, 142(2): 369–83. doi:10.1007/s10551-015-2759-1.
- Berry, J.M. 2002. Validity and reliability issues in elite interviewing. *Political Science & Politics*, 35(4): 679–682. doi:10.1017/S1049096502001166.
- Bhappu, A.D., Griffith, T.L., and Northcraft, G.B. 1997. Media effects and communication bias in diverse groups. *Organ. Behav. Hum. Decis. Process.* 70(3): 199–205. doi:10.1006/obhd.1997.2704.
- Brandth, B., Follo, G., and Haugen, M.S. 2004. Women in forestry: Dilemmas of a separate women's organization. *Scand. J. For. Res.* 19(5): 466–472. doi:10.1080/02827580410019409.
- Brandth, B., and Haugen, M.S. 1998. Breaking into a masculine discourse.

- Women and farm forestry. *Sociologia Ruralis*, **38**(3): 427–442. doi:10.1111/1467-9523.00087.
- Brescoll, V.L., and Uhlmann, E.L. 2005. Attitudes toward traditional and non-traditional parents. *Psychol. Women Q.* **29**(4): 436–445. doi:10.1111/j.1471-6402.2005.00244.x.
- Bull, L., Hansen, E., and Jenkin, B. 2015. Maximising the potential of Australia's forests — collaborating and innovating to realise the opportunity. Lynea Advisory, Melbourne, Australia.
- Byrne, A., and Barling, J. 2017. When she brings home the job status: Wives' job status, status leakage, and marital instability. *Organization Science*, **28**(2): 177–192. doi:10.1287/orsc.2017.1120.
- Campbell, K., and Mínguez-Vera, A. 2008. Gender diversity in the boardroom and firm financial performance. *J. Bus. Ethics*, **83**(3): 435–451. doi:10.1007/s10551-007-9630-y.
- Canadian Institute of Forestry. 2018. Canadian Institute of Forestry announces an initiative to promote gender equity in Canada's forest sector [news release]. Available from <https://www.cif-ifc.org/2018/11/canadian-institute-of-forestry-announces-an-initiative-to-promote-gender-equity-in-canadas-forest-sector/>.
- Center for International Forestry Research (CIFOR). 2018. Forests and gender. Available from <https://www.cifor.org/gender/> [accessed 1 December 2018].
- Chrobot-Mason, D., Ruderman, M.N., Weber, T.J., and Ernst, C. 2009. The challenge of leading on unstable ground: triggers that activate social identity faultlines. *Human Relations*, **62**(11): 1763–1794. doi:10.1177/0018726709346376.
- Crespell, P., and Hansen, E. 2008a. Managing for innovation: insights into a successful company. *For. Prod. J.* **58**(9): 6–17.
- Crespell, P., and Hansen, E. 2008b. Work climate, innovativeness, and firm performance in the US forest sector: in search of a conceptual framework. *Can. J. For. Res.* **38**(7): 1703–1715. doi:10.1139/X08-027.
- Crespell, P., Knowles, C., and Hansen, E. 2006. Innovativeness in the North American softwood sawmilling industry. *For. Sci.* **52**(5): 568–578.
- Dahlin, K.B., Weingart, L.R., and Hinds, P.J. 2005. Team diversity and information use. *Acad. Manage. J.* **48**(6): 1107–1123. doi:10.5465/amj.2005.19573112.
- Daily, C.M., and Dalton, D.R. 2003. Women in the boardroom: a business imperative. *J. Bus. Strategy*, **24**(5). doi:10.1108/jbs.2003.28824eaf.002.
- Deloitte. 2016. Women in the boardroom. 5th edition. Available from <https://www2.deloitte.com/global/en/pages/risk/articles/women-in-the-boardroom5th-edition.html> [accessed 1 December 2018].
- Derks, B., Ellemers, N., van Laar, C., and de Groot, K. 2011. Do sexist organizational cultures create the queen bee? *Br. J. Soc. Psychol.* **50**(3): 519–535. doi:10.1348/014466610X525280.
- Derks, B., Van Laar, C., and Ellemers, N. 2016. The queen bee phenomenon: why women leaders distance themselves from junior women. *Leadersh. Q.* **27**(3): 456–469. doi:10.1016/j.leafqua.2015.12.007.
- Dexter, L.A. 1970. Elite and specialized interviewing. Northwestern University Press, Evanston, Illinois.
- Duchin, R., Simutin, M., and Sosyura, D. 2018. The origins and real effects of the gender gap: evidence from CEOs' formative years. doi:10.2139/ssrn.3171292.
- Erhardt, N.L., Werbel, J.D., and Shrader, C.B. 2003. Board of director diversity and firm financial performance. *Corporate Governance*, **11**(2): 102–111. doi:10.1111/1467-8683.00011.
- Faniko, K., Ellemers, N., and Derks, B. 2016. Queen bees and alpha males: are successful women more competitive than successful men? *Eur. J. Social Psychol.* **46**(7): 903–913. doi:10.1002/ejsp.2198.
- Fawcett, R., and Pringle, J.K. 2000. Women CEOs in New Zealand: Where are you? *Women in Management Review*, **15**(5/6): 253–260. doi:10.1108/09649420010343122.
- Follo, G. 2002. A hero's journey: young women among males in forestry education. *J. Rural Stud.* **18**(3): 293–306. doi:10.1016/S0743-0167(02)00006-2.
- Follo, G., Lidestav, G., Ludvig, A., Vilkriste, L., Hujala, T., Karppinen, H., Didot, F., and Mizaraite, D. 2017. Gender in European forest ownership and management: reflections on women as 'new forest owners.' *Scand. J. For. Res.* **32**(2): 174–184. doi:10.1080/02827581.2016.1195866.
- Food and Agriculture Organization of the United Nations (FAO). 2006. Time for action: changing the gender situation in forestry. Available from http://www.unece.org/fileadmin/DAM/timber/docs/publications-other/Time%20for%20Action_Gender%20and%20Forestry.pdf [accessed 1 December 2018].
- Gigone, D., and Hastie, R. 1993. The common knowledge effect: information sharing and group judgment. *J. Pers. Soc. Psychol.* **65**(5): 959–974. doi:10.1037/0022-3514.65.5.959.
- Goldin, C., Kerr, S.P., Olivetti, C., and Barth, E. 2017. The expanding gender earnings gap: evidence from the LEHD-2000 Census. *Am. Econ. Rev.* **5**: 110–114. doi:10.1257/aer.p20171065.
- Gorman, E.H., and Kmec, J.A. 2009. Hierarchical rank and women's organizational mobility: glass ceilings in corporate law firms. *Am. J. Sociol.* **114**(5): 1428–1474. doi:10.1086/595950.
- Hambrick, D.C., and Mason, P.A. 1984. Upper echelons: the organization as a reflection of its top managers. *Acad. Manage. Rev.* **9**(2): 193–206. doi:10.2307/258434.
- Hansen, E. 2010. The role of innovation in the forest products industry. *J. For.* **108**(7): 348–353.
- Hansen, E., Conroy, K., Toppinen, A., Bull, L., Kutnar, A., and Panwar, R. 2016. Does gender diversity in forest sector companies matter? *Can. J. For. Res.* **46**(11): 1255–1263. doi:10.1139/cjfr-2016-0040.
- Hansen, E., and Juslin, H. 2011. Strategic marketing in the global forest industries. 2nd ed. Corvallis, Oregon.
- Hansen, E., Juslin, H., and Knowles, C. 2007. Innovativeness in the global forest products industry: exploring new insights. *Can. J. For. Res.* **37**(8): 1324–1335. doi:10.1139/X06-323.
- Hansen, E., Nybakk, E., and Panwar, R. 2014. Innovation insights from North American forest sector research: a literature review. *Forests*, **5**(6): 1341–1355. doi:10.3390/f5061341.
- Hansen, E., Panwar, R., and Vlosky, R. 2013. Understanding and managing change in the global forest sector. In *The Global Forest Sector: Changes, Practices, and Prospects*. Taylor & Francis, Boca Raton, Florida. pp. 18–29.
- Hewlett, S.A. 2002. Executive women and the myth of having it all. *Harvard Business Review*. Available from <https://hbr.org/2002/04/executive-women-and-the-myth-of-having-it-all> [accessed 1 December 2018].
- Hewstone, M., Rubin, M., and Willis, H. 2002. Intergroup bias. *Annu. Rev. Psychol.* **53**(1): 575–604. doi:10.1146/annurev.psych.53.100901.135109.
- Holgersson, C. 2013. Recruiting managing directors: doing homosexuality Gender Work Organ. **20**(4): 454–466. doi:10.1111/j.1468-0432.2012.00595.x.
- Hovgaard, A., and Hansen, E. 2004. Innovativeness in the forest products industry. *For. Prod. J.* **54**(1): 26–33.
- Isidro, H., and Sobral, M. 2015. The effects of women on corporate boards on firm value, financial performance, and ethical and social compliance. *J. Bus. Ethics*, **132**(1): 1–19. doi:10.1007/s10551-014-2302-9.
- Johansson, K., Andersson, E., Johansson, M., and Lidestav, G. 2017. The discursive resistance of men to gender-equality interventions: negotiating "unjustness" and "unnecessity" in Swedish forestry. *Men Masc.* **22**(2): 177–196. doi:10.1177/1097184X170706400.
- Johansson, M., Johansson, K., and Andersson, E. 2018. #Metoo in the Swedish forest sector: testimonies from harassed women on sexualised forms of male control. *Scand. J. For. Res.* **33**(5): 419–425. doi:10.1080/02827581.2018.1474248.
- Johansson, M., and Ringblom, L. 2017. The business case of gender equality in Swedish forestry and mining — restricting or enabling organizational change. *Gender, Work & Organization* **24**(6): 628–642. doi:10.1111/gwao.12187.
- Kaiser, C.R., and Spalding, K.E. 2015. Do women who succeed in male-dominated domains help other women? The moderating role of gender identification. *Eur. J. Soc. Psychol.* **45**(5): 599–608. doi:10.1002/ejsp.2113.
- Kakabadse, N.K., Figueira, C., Nicolopoulou, K., Yang, J.H., Kakabadse, A.P., and Özbilgin, M.F. 2015. Gender diversity and board performance: women's experiences and perspectives. *Hum. Resour. Manage.* **54**(2): 265–281. doi:10.1002/hrm.21694.
- Kanter, R.M. 1977. Some effects of proportions on group life: skewed sex ratios and responses to token women. *Am. J. Sociol.* **82**(5): 965–990. doi:10.1086/226425.
- Kärnä, J., Hansen, E., and Juslin, H. 2003. Social responsibility in environmental marketing planning. *Eur. J. Mark.* **37**(5/6): 848–871. doi:10.1108/030905603104465170.
- Koenig, A.M., Eagly, A.H., Mitchell, A.A., and Ristikari, T. 2011. Are leader stereotypes masculine? A meta-analysis of three research paradigms. *Psychol. Bull.* **137**(4): 616–642. doi:10.1037/a0023557.
- Konrad, A.M., Kramer, V., and Sumru, Erkut. 2008. Critical mass: the impact of three or more women on corporate boards. *Organizational Dynamics*, **37**(2): 145–164. doi:10.1016/j.orgdyn.2008.02.005.
- Ladge, J.J., and Little, L.M. 2019. When expectations become reality: work–family image management and identity adaptation. *Acad. Manage. Rev.* **44**(1): 126–149. doi:10.5465/amr.2016.0438.
- Lagerberg. 2016. Women in business: turning promise into practice. Available from <https://www.grantthornton.global/en/insights/articles/women-in-business-2016/> [accessed 1 December 2018].
- Larasatie, P., Guerrero, J.E., Conroy, K., Hall, T.E., Hansen, E., and Needham, M.D. 2018. What does the public believe about tall wood buildings? An exploratory study in the US Pacific Northwest. *J. For.* **116**(5): 429–436. doi:10.1093/jofore/fvy025.
- Lau, D.C., and Murnighan, J.K. 1998. Demographic diversity and faultlines: the compositional dynamics of organizational groups. *Acad. Manage. Rev.* **23**(2): 325–340. doi:10.5465/amr.1998.533229.
- Lawrence, A., Spinelli, R., Toppinen, A., and Salo, E. 2017. What are the implications of the bioeconomy for forest-related jobs? In *Towards a sustainable bioeconomy: assessment and the way forward*. Edited by G. Winkel. European Forest Institute, Joensuu, Finland. pp. 108–117.
- Leavengood, S., and Bull, L. 2014. Innovation in the global forest sector. In *The Global Forest Sector: Changes, Practices, and Prospects*. Taylor & Francis, Boca Raton, Florida. pp. 377–404.
- Li, J., and Hambrick, D.C. 2005. Factional groups: a new vantage on demographic faultlines, conflict, and disintegration in work teams. *Acad. Manage. J.* **48**(5): 794–813. doi:10.5465/amj.2005.18803923.
- Lidestav, G., and Sjölander, A.E. 2007. Gender and forestry: a critical discourse analysis of forestry professions in Sweden. *Scand. J. For. Res.* **22**(4): 351–362. doi:10.1080/02827580701504928.
- Lindberg, M., Andersson, E., Andersson, L., and Johansson, M. 2016. Organizational innovation for gender equality in forestry and mining. In *Research Handbook on Gender and Innovation*. Edward Elgar Publishing, Cheltenham, U.K. pp. 170–186.
- Lipman-Blumen, J. 1976. Toward a homosocial theory of sex roles: an explana-

- tion of the sex segregation of social institutions. *Signs*, **1**(3): 15–31. doi:10.1086/493272.
- Meil, J., Wilson, J., O, Connor, J., and Dangerfield, J. 2007. An assessment of wood product processing technology advancements between the CORRIM I and II studies. *For. Prod. J.* **57**(7/8): 83.
- Metz, I., and Tharenou, P. 2001. Women's career advancement: the relative contribution of human and social capital. *Group Organ. Manag.* **26**(3): 312–342. doi:10.1177/1059601101263005.
- Miles, M.B., Huberman, A.M., and Saldana, J. 2013. *Qualitative data analysis: a methods sourcebook*. 3rd ed. SAGE Publications, Thousand Oaks, California.
- Moyser, M. 2017. Women and paid work. Available from <https://www150.statcan.gc.ca/n1/pub/89-503-x/2015001/article/14694-eng.htm> [accessed 1 December 2018].
- Näyhä, A. 2012. Towards bioeconomy: a three-phase Delphi study on forest biorefinery diffusion in Scandinavia and North America. *In Jyväskylä Studies in Business and Economics*, No. 117.
- Panwar, R., Vlosky, R., and Hansen, E. 2012. Gaining competitive advantage in the new normal. *For. Prod. J.* **62**(6): 420–428. doi:10.13073/FPJ-D-12-00104.1.
- Panwar, R., Rinne, T., Hansen, E., and Juslin, H. 2006. Corporate responsibility. *For. Prod. J.* **56**(2): 4–12.
- Pätäri, S., Arminen, H., Albareda, L., Puumalainen, K., and Toppinen, A. 2017. Student values and perceptions of corporate social responsibility in the forest industry on the road to a bioeconomy. *For. Policy Econ.* **85**: 201–215. doi:10.1016/j.forpol.2017.10.009.
- Perrault, E. 2015. Why does board gender diversity matter and how do we get there? The role of shareholder activism in deinstitutionalizing old boys' networks. *J. Bus. Ethics*, **128**(1): 149–165. doi:10.1007/s10551-014-2092-0.
- Perryman, A.A., Fernando, G.D., and Tripathy, A. 2016. Do gender differences persist? An examination of gender diversity on firm performance, risk, and executive compensation. *J. Bus. Res.* **69**(2): 579–586. doi:10.1016/j.jbusres.2015.05.013.
- Pletzer, J.L., Nikolova, R., Kedzior, K.K., and Voelpel, S.C. 2015. Does gender matter? Female representation on corporate boards and firm financial performance — a meta-analysis. *Edited by Rodrigo Huerta-Quintanilla*. *PLoS One*, **10**(6): e0130005. doi:10.1371/journal.pone.0130005.
- Post, C., and Byron, K. 2015. Women on boards and firm financial performance: a meta-analysis. *Acad. Manage. J.* **58**(5): 1546–1571. doi:10.5465/amj.2013.0319.
- PwC. 2016. International Women's Day: PwC women in index. Available from <https://www.pwc.com/gx/en/psrc/assets/pwc-women-in-work-2016.pdf> [accessed 1 December 2018].
- Randel, A.E. 2002. Identity salience: a moderator of the relationship between group gender composition and work group conflict. *J. Organ. Behav.* **23**(6): 749–766. doi:10.1002/job.163.
- Russo, N.F. 1976. The motherhood mandate. *J. Social Issues*, **32**(3): 143–153. doi:10.1111/j.1540-4560.1976.tb02603.x.
- Schwab, A., Werbel, J.D., Hofman, H., and Henriques, P. 2016. Managerial gender diversity and firm performance: an integration of different theoretical perspectives. *Group Organ. Manag.* **41**(1): 5–31. doi:10.2139/ssrn.3161617.
- Squires, J. 2005. Is mainstreaming transformative? Theorizing mainstreaming in the context of diversity and deliberation. *Social Politics*, **12**(3): 366–388. doi:10.1093/sp/jxi020.
- Statistics Canada. 2018. 2016 Census Topic: Labour. Available from <https://www12.statcan.gc.ca/census-recensement/2016/rt-td/lab-tra-eng.cfm> [accessed 1 December 2018].
- Statistics Finland. 2018. Gender equality. Available from http://www.tilastokeskus.fi/tup/tasaarvo/index_en.html [accessed 1 December 2018].
- Statistics Sweden. 2016. Women have lower salaries, incomes and pensions than men. *Statistiska Centralbyrån*. Available from <http://www.scb.se/en/finding-statistics/statistics-by-subject-area/living-conditions/gender-statistics/gender-statistics/pong/statistical-news/women-and-men-in-sweden-2016/> [accessed 1 December 2018].
- Stendahl, M., and Roos, A. 2008. Antecedents and barriers to product innovation — a comparison between innovating and non-innovating strategic business units in the wood industry. *Silva Fenn.* **42**(4): 659–681. doi:10.14214/sf.239.
- Storch, S. 2011. Forestry professionalism overrides gender: a case study of nature perception in Germany. *For. Policy Econ.* **13**(3): 171–175. doi:10.1016/j.forpol.2010.11.003.
- Tajfel, H., and Turner, J.C. 1979. An integrative theory of intergroup conflict. *In The Social Psychology of Intergroup Relations*. Brooks/Cole Publisher, Monterey, California. pp. 33–47.
- Talke, K., Salomo, S., and Rost, K. 2010. How top management team diversity affects innovativeness and performance via the strategic choice to focus on innovation fields. *Research Policy*, **39**(7): 907–918. doi:10.1016/j.respol.2010.04.001.
- Tallberg, T. 2003. *Networks, organisations and men: concepts and interrelations*. Swedish School of Economics and Business Administration, Helsinki, Finland.
- The United Nations. 2017. Goal 5: Sustainable Development Knowledge Platform. Available from <https://sustainabledevelopment.un.org/sdg5> [accessed 1 December 2018].
- Toppinen, A., Lähinen, K., and Holopainen, J. 2016. On corporate responsibility. *In Forests, Business and Sustainability*, Earthscan Forest Library. Routledge, Taylor & Francis Group, London, New York. pp. 70–90.
- Toppinen, A., Wan, M., and Lähinen, K. 2013. Strategic orientations in the global forest sector. *In Global Forest Sector: Changes, Practices and Prospects*. Taylor & Francis, Boca, Florida. pp. 405–428.
- Torchia, M., Calabrò, A., and Huse, M. 2011. Women directors on corporate boards: from tokenism to critical mass. *J. Bus. Ethics*, **102**(2): 299–317. doi:10.1007/s10551-011-0815-z.
- Umaerus, P., Lidestav, G., Eriksson, L.O., and Nordin, M.H. 2013. Gendered business activities in family farm forestry: from round wood delivery to health service. *Scand. J. For. Res.* **28**(6): 596–607. doi:10.1080/02827581.2013.793385.
- Umaerus, P., Nordin, M.H., and Lidestav, G. 2019. Do female forest owners think and act 'greener'? *For. Policy Econ.* **99**: 52–58. doi:10.1016/j.forpol.2017.12.001.
- U.S. Bureau of Labor Statistics. 2016. 39 percent of managers in 2015 were women. *The Economics Daily (TED)*. Available from <https://www.bls.gov/opub/ted/2016/39-percent-of-managers-in-2015-were-women.htm> [accessed 1 December 2018].
- U.S. Bureau of Labor Statistics. 2017. Women in the labor force: a databook. Available from <https://www.bls.gov/opub/reports/womens-databook/archive/women-in-the-labor-force-a-databook-2015.pdf> [accessed 1 December 2018].
- U.S. Bureau of Labor Statistics. 2018. Labor force statistics from the current population survey. Available from <https://www.bls.gov/cps/cpsaat39.htm> [accessed 1 December 2018].
- U.S. Department of Labor. 2018. Family and medical leave act — Wage and Hour Division (WHD). Available from <https://www.dol.gov/whd/fmla/> [accessed 1 December 2018].
- vonHippel, C., Wiryakusuma, C., Bowden, J., and Shochet, M. 2011. Stereotype threat and female communication styles. *Pers. Soc. Psychol. Bull.* **37**(10): 1312–1324. doi:10.1177/0146167211410439.
- Wagner, E.R., and Hansen, E.N. 2005. Innovation in large versus small companies: insights from the US wood products industry. *Management Decision*, **43**(6): 837–850. doi:10.1108/00251740510603592.
- Webber, S.S., and Donahue, L.M. 2001. Impact of highly and less job-related diversity on work group cohesion and performance: a meta-analysis. *J. Manage.* **27**(2): 141–162. doi:10.1016/S0149-2063(00)00093-3.
- World Bank. 2013. Gender at work. Available from http://www.worldbank.org/content/dam/Worldbank/Event/Gender/GenderAtWork_web2.pdf [accessed 1 December 2018].
- World Bank. 2018. World Bank open data. Available from <https://data.worldbank.org/> [Accessed 1 December 2018].
- World Economic Forum. 2018. Global Gender Gap Index 2017. *In Global Gender Gap Report 2017*. Available from <http://wef.ch/2xzVWff>.
- Wright, T. 2016. Women's experience of workplace interactions in male-dominated work: the intersections of gender, sexuality and occupational group. *Gen. Work Organ.* **23**(3): 348–362. doi:10.1111/gwao.12074.
- Yang, Y., Chawla, N.V., and Uzzi, B. 2019. A network's gender composition and communication pattern predict women's leadership success. *Proc. Natl. Acad. Sci. U.S.A.* **116**(6): 2033–2038. doi:10.1073/pnas.1721438116.