

The wildfire within: gender, leadership and wildland fire culture

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Abstract. This article examines findings from a 2016 study on gender and leadership within the British Columbia Wildfire Service (BCWS), Canada. The study utilised action research to facilitate an in-depth conversation among wildland firefighters about gender and leadership, and to explore participant-derived actions steps within the BCWS towards a perceived ideal future(s). The study found widespread occurrences of gender discrimination in the day-to-day practice of leadership, and that gender made a difference for wildland firefighters' experiences of normative workplace culture. In their practice of leadership, participants described a trade-off between gender diversity and excellence. The article concludes that the practice of leadership within wildland fire must include open dialogue about, and strategic engagement with, gendered cultural norms within the workplace in order to dispel myths and latent beliefs, and support what firefighters in this study defined as 'excellent leadership'.

Additional keywords: action research, Canada, social justice, workplace culture.

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Introduction

There is a growing focus on gendered workplace culture, gender discrimination and sexual harassment among academics and practitioners within the international wildland fire community, as evidenced through emergent discussions at conferences and in interagency working groups (Henderson and Robinson 2015; Montano *et al.* 2015; Reimer 2016a, 2016b; Reimer *et al.* 2016; Canadian Interagency Forest Fire Centre (CIFFC) 2018). In particular, studies of gender and firefighting internationally describe an analogous hypermasculine culture and gendered norms within wildfire management (Enarson 1984; Desmond 2007; Pacholok 2013; Eriksen *et al.* 2016; Eriksen and Waitt 2016; Reimer 2017; Eriksen 2018), metropolitan fire departments (Childs 2006; Wright 2008; Baigent 2016; Ericson and Mellström 2016) and volunteer firefighters (Yarnal *et al.* 2004; Maleta 2009; Ainsworth *et al.* 2014) alike. A survey of the wildland fire profession (Association for Fire Ecology (AFE) 2016; $n = 342$) revealed that 24% of respondents had personal experiences of sexual harassment; 44% reported personal experiences of gender discrimination; and most chose not to report these occurrences within their workplaces. Ultimately, the study described sexual harassment and gender discrimination as endemic issues within

the profession. The United States Congress (2016) initiated a political response to these issues at a hearing in December 2016 to investigate sexual harassment and gender discrimination in the US Department of Agriculture, including the Forest Service and Parks Service. Public debate and criticism have highlighted gender discrimination and sexual harassment as a critical workplace health and safety issue within wildland fire (Evans 2015; Dotson 2016; Fears 2016; Gilpin 2016; Joyce 2016; Langlois 2016; Reimer 2016a).

In responding to the call for increased engagement from within wildland fire on these issues (Pacholok 2013; Eriksen 2014), the present article shares findings from a 2016 gender and leadership study of the British Columbia Wildfire Service (BCWS) – a provincial wildfire management agency in Canada that is based within the Ministry of Forests, Lands and Natural Resource Operations in the British Columbia provincial government.¹ In 2016, the BCWS employed 1645 people, which included seasonal firefighters and support staff, as well as full-time officers, fire managers and senior leaders. The BCWS does not record gender demographics, but a snapshot was developed by the Provincial Wildfire Coordination Centre utilising existing data for fire deployments for this study (Table 1).

¹The BCWS cover 14 bio-geoclimatic zones ranging from low-fire-frequency landscapes to high-fire-frequency landscapes; wildfire crews (3- or 4-person initial attack, or rappel, or parattack crews, and 20-person unit crews) respond to an average of 2000 wildfires per year in a response area that comprises 94 million ha of combined private and public land (www.bcwildfire.ca, accessed 2 October 2018).

Table 1. British Columbia Wildfire Service (BCWS) demographics 2016

	Total	Female	Male
Auxiliary (seasonal)	1393	345	1048
Regular	252	79	173
Total	1645	424	1221

The BCWS senior leadership set a Strategic Direction for 2012–17 that included the goal of ‘excellent people providing high performance’ (Province of British Columbia 2012). Our study into understanding gender and leadership excellence was intended to support this strategic goal. The research aim was to facilitate an open space for dialogue about gender and leadership among wildland firefighters in the BCWS using an action research engagement (ARE) model – an adaptation within the field of action research (AR) that focuses on creating organisational readiness for change through dialogue (Rowe *et al.* 2013). The ARE model was chosen intentionally as a tool for reducing documented resistance to open dialogue about the sensitive topic of gender in wildland fire (Pacholok 2013; Eriksen 2014). In addition, AR is useful as a ‘practical tool for developing solutions to problems experienced by stakeholders in the context’ of the community being studied (Stringer 2014, p. 10), and is designed to engage participants in a collaborative approach to complex problem solving with enhanced investment in the process of creating organisational change (Reitsma-Street and Brown 2004; Coghlan and Brannick 2005). However, given the existence of hypermasculine culture and gendered norms within wildland fire (Enarson 1984; Desmond 2007; Pacholok 2013; Eriksen *et al.* 2016; Eriksen and Waitt 2016; Reimer 2017; Eriksen 2018), the study utilised a feminist appreciative approach to AR to ensure sensitivity to power relations and systems of domination that might arise during open dialogue about gendered dimensions of wildland fire (Harding 1987; Taylor 1998; Haraway 1991; Hesse-Biber 2012a). The present study also utilised an appreciative approach to AR as a method of working within organisational culture to create a strengths-focused vision for the future, by targeting a process of domination (e.g. sexism) as the problem rather than a specific group of people (e.g. men) (Bushe 1998; Hooks 2000).

The study thus began with the recognition, based in systems theory, that ‘[we] create our world in what we do together’ (Efran *et al.* 2014, p. 11). It asked, ‘How might understanding gender and leadership support excellence in the BCWS?’ This question was supported by four sub-questions: (i) what are the specific experiences of gender and leadership among BCWS firefighters? (ii) What stories of excellence about gender and leadership do BCWS firefighters share? (iii) What opportunities for growth in understanding gender and leadership exist within the BCWS? And (iv) what action steps might be taken that could support gender-responsive leadership in the BCWS?

This article is divided into four parts. The first section provides a theoretical review of the intersection between gender, leadership and wildland fire culture, utilising the concept of ‘rural masculinity’ (Desmond 2007; Bye 2009; Tyler and Fairbrother 2013) to link the performance of masculinities and leadership in

wildland fire culture. The second section outlines the research methods and introduces the use of ARE and ThoughtexchangeTM as tools for gender research and organisational change in wildland fire. The third section presents the study findings via five subsections. Finally, we present the study conclusions, including our reflections and recommendations for change.

Gendered cultural norms within wildland fire

The concept of gender is often linked to the female body and a perceived set of feminine behaviours – as in *gender* equals *women*, and thus excludes men (Hooks 2000, 2004; Kimmel *et al.* 2005; Kimmel 2010, 2015). In contrast, we define gender as a fluid spectrum of behaviours that are co-created by all people interacting together in a system, and as a socially negotiated set of variables that are expressed through constantly changing power relations (Itzin and Newman 1995; Maxfield *et al.* 2010; Pacholok 2013; Eriksen 2014). Given that the study of gender is vast and ever-evolving (for a comprehensive overview, see Pilcher and Whelehan (2017)), and that wildland fire is a field traditionally associated with white (Caucasian), heterosexual men (Pacholok 2013; Eriksen 2014), our discussion of gender focuses on the study of masculinities, and how various expressions of masculinity intersect and interrelate with social constructions of what it means to be ‘a man’ (Kimmel *et al.* 2005). Our study sought to inquire into how, in male-dominated peer groups, including wildland fire, men and women must perform certain types of masculinity in order to achieve social acceptance or personal self-worth (Hooks 2004; Katz 2012; Eriksen *et al.* 2016; Eriksen 2018). Discussions about masculinities in wildland fire (Eriksen and Waitt 2016), disaster management (Enarson and Pease 2016) and society at large (McIntosh 1998; Pease 2010; Kimmel 2015) also encompass the ways that men experience the benefits of invisible privilege as a result of unconsciously participating in a process of domination. This sense of being inherently more powerful reinforces a sense of entitlement among many men, such as the entitlement to leadership positions among male-dominated groups. This informed our inquiry into leadership as a site of interaction between gender-based power relations and organisational culture.

In the rural context where many wildland fires occur, there is a positive conception of ‘rural masculinities [where] masculinity and the relationship between nature and body revolve around bravery, fearlessness, toughness, physical fitness, and an ability to disregard discomfort and pain’ (Desmond 2007; Bye 2009, p. 280). Rural masculinity is also defined by a negative conception of the ‘normative traits’ of femininity: ‘emotional, sensitive, and thin-skinned’ (Bye 2009, p. 282). As evident in studies of firefighters in England, Sweden, Australia and Canada (Pacholok 2013; Baigent 2016; Ericson and Mellström 2016; Eriksen *et al.* 2016), even if most men do not fully embody the perceived positive ideals, their physical bodies still allow them to benefit because of the social power of the male body as a symbol of strength. This association of power with the male body is the result of power relations known as hegemony (Connell and Messerschmidt 2005). ‘Hegemony’ is the way that power within a group is organised and maintained using dominance through a process of cultural norms, myths and stories about the way

things are. It enables the marginalisation of alternative voices and identities, such as women, non-Caucasian or homosexual firefighters (Eriksen and Waitt 2016; Eriksen 2018). This set of power relations causes female bodies and feminine characteristics to be associated with a 'negative' set of characteristics, which are 'less than' the powerful symbols of rural masculinity. Female firefighters known to appropriate models of masculinity in their leadership style (e.g. by being pushy, abrupt and assertive), or who train exclusively for strength to counter perceived weakness of female bodies, are complicit with the hegemonic masculinity of the organisational culture (Eriksen *et al.* 2016). Inquiring into the experiences of male and female leaders in performing masculinity to achieve acceptance as leaders was key to our study.

We define leadership as being socially created through participation in processes of coordinated action (Hersted and Gergen 2013). There is extensive evidence that supports a process, relational approach to leadership as being effective in the actualisation of complex tasks (Wheatley 2005; Hosking 2007; Uhl-Bien and Ospina 2012; Schein 2013), even or perhaps especially in the dynamic, hierarchical and hegemonic masculine environment of wildland fire (Childs *et al.* 2004; Ziegler and DeGrosky 2008). A relational approach to leadership is not widely utilised within wildland fire culture, where leadership has been predominantly built on basic assumptions, shared with much of broader society (Jackson and Parry 2011), of the 'heroic male leader' as a self-contained, rational actor whose independence and power to choose are taken for granted (Uhl-Bien and Ospina 2012). In the present study, understanding leadership as a process involving interrelationships and interdependency between leaders and followers (Hersted and Gergen 2013) provided a lens to inquire into leadership as a site of intersecting gendered cultural norms.

Acceptance or rejection of the leader as 'good' or 'bad' is the result of processes in which both leader and follower identities are mutually created and validated (or invalidated in the case of difference related to gender, race or other identifiers) through repeated interactions (Jackson and Parry 2011). Gendered power relations, which place value on masculinity as strong and femininity as weak, conflate performance of masculinity with 'good' leadership, and determine whether leaders are accepted or rejected by the group (Pacholok 2013; Eriksen 2014). The question of 'good' leadership then becomes more about 'fitting in' amidst the power relations of the cultural norms than it does about achieving objectives or managing risk appropriately. To unpack these power relations and cultural norms requires a better understanding of both wildland fire culture and what we mean when we speak of cultural norms in wildland fire – contributions made in our study to extend existing knowledge.

In the present article, wildland fire culture is defined as a process enacted through competition, self-reliance and skill (Dotson 2016; Orcasitas 2016; Reimer 2016a; USFS 2016). Bonds are created among independent individuals through mutual experiences of physical, mental and emotional hardship

that configure wildland firefighters in a heroic, masculinised ideal, as described above. This does not mean that all wildland firefighters agree with this heroic, masculinised ideal. Rather, they negotiate this ideal as they interact within wildland fire culture. This cultural valuation of masculine–strong and feminine–weak binaries in wildland fire culture can negatively affect the mental health of female leaders (Gardiner and Tiggemann 1999), and the perceived effectiveness of female leaders, especially pertaining to power and risk-taking (Groshev 2002; Fletcher 2004; Maxfield *et al.* 2010). It also affects the ability of female leaders to express themselves in either masculine or feminine ways without experiencing criticism due to the 'hypervisibility' connected to female leadership and criticism focused on identity rather than tactics of female leaders (Maxfield *et al.* 2010; Eriksen *et al.* 2016). It is noteworthy that valuing 'the feminine' as weak does a disservice to both males and females in leadership, as it limits leaders owing to the marginalisation of alternatives within the culture (Eriksen 2014). On the fireline, a choice to manage risk may be presented, but decision-making is constrained when options are associated with either high-risk tolerance–masculinity–strength or low-risk tolerance–femininity–weakness (Maxfield *et al.* 2010).

The intersectionality of gender, the rural masculinity ideal, leadership and wildland fire culture explored above reinforces gendered cultural norms within the wildland fire profession. It is within this context that the study findings presented below should be understood. By unpacking cultural norms, latent beliefs, gendered myths and problematic power relations, the following sections extend practical and theoretical understandings of gender discrimination in the perception and performance of leadership in wildland fire. Our findings point to leadership as a key site of interaction between gendered norms and organisational culture that upholds discriminating traditions and inhibits change.

Methods

This ARE-focused study was conducted during the Canadian fire season from July to October 2016 after review by the Canadian Tri-Council Policy on Ethics (Canadian Institutes of Health Research (CIHR), Natural Sciences and Engineering Research Council of Canada (NSERC), and Social Sciences and Humanities Research Council of Canada (SSHRC) 2014). Building on the idea of the 'wisdom of crowds' (Surowiecki 2004) – that collectives may derive smarter solutions to a problem than individuals, and that wildland firefighting agencies may already have some answers for how to address gender and leadership issues – the study aimed to both engage multiple standpoints and to elicit 'more valid, reliable and diverse construction of realities' (Golafshani 2003, p. 604). This was achieved via two sequential methods of data collection: (i) Thoughtexchange™, and (ii) semi-structured interviews. An inquiry team² was utilised to critically engage with the standpoint of the lead author as a wildland firefighter within the community being studied. This team pilot-tested questions,

²The inquiry team comprised four individuals: Ryan Chapman, Strategic Planning Officer, former unit crew supervisor and New Recruit Boot Camp chair; Andy Low, Wildfire Preparedness Officer and former rappel crew leader; Brandi Burns, Safety and Training Officer and New Recruit Boot Camp chair, former unit crew member and initial attack crew leader; and Kayla Pepper, Fire Information and Communications Officer, who transitioned mid-way through the study into the Canadian Red Cross, Community Planning and Response Coordinator. All were active on Incident Command teams in various roles.

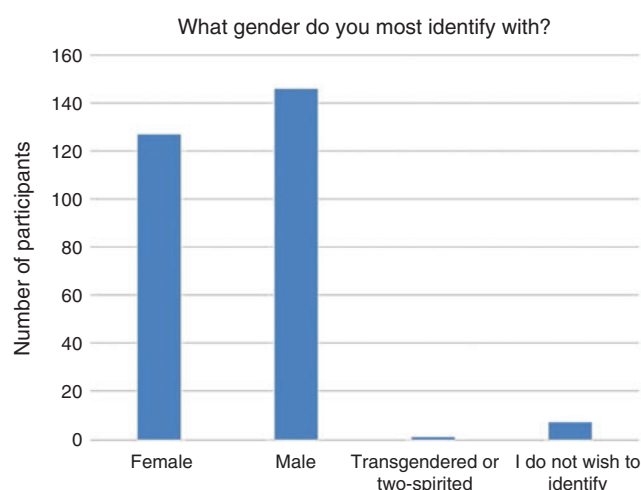


Fig. 1. Thoughtexchange gender demographics.

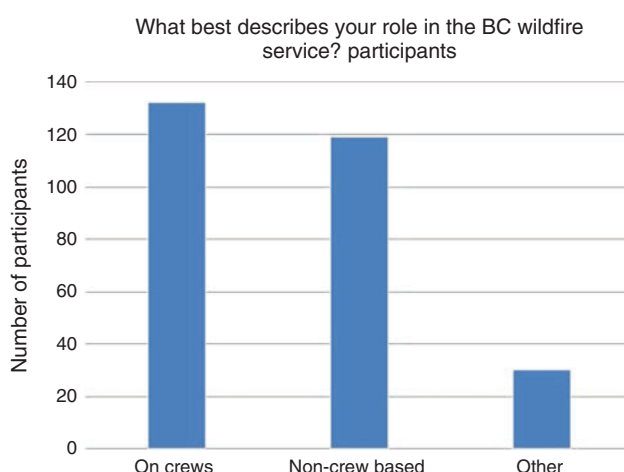


Fig. 2. Thoughtexchange™ participant positional role.

provided feedback during data analysis and served to enhance validity by engaging researcher subjectivity through enhanced reflexivity (Gergen 2000; Hesse-Biber 2012a).

Thoughtexchange™ is a two-part online anonymous dialogue using a short-answer round, which is followed by a participant-based ranking round. It is designed to leverage the intuitive wisdom latent within organisations to generate information about complex problems facing groups (Meadows *et al.* 1972; Surowiecki 2004; Page 2007; Oinas-Kukkonen 2008; Woolley *et al.* 2010; Thoughtexchange™ 2014). As a tool for conducting research on gender in wildland fire, it enabled an anonymous and transparent online conversation about a sensitive and potentially divisive topic. The inclusion criteria for the Thoughtexchange™ was being an active employee of the BCWS and having access to email; an email invitation went out for Rounds 1 and 2 to all staff ($P = 1645$).

Round 1 of Thoughtexchange™ (13–31 July 2016, $n = 104$) asked five questions (Appendix A), and participants could provide three short answers per question with a 300-character limit per answer, so that no one participant could saturate the dataset. Round 2 of Thoughtexchange™ (8–29 August 2016, $n = 199$) was a quantitative round that asked participants to view the anonymous thoughts from Round 1 and rank the data by assigning stars to indicate their agreement. There was no opportunity for original thought sharing during Round 2 because participants were ranking the then-complete dataset of short answers from Round 1. Participants in the ranking round viewed three pages of nine thoughts per question (a total of 27 thoughts per question), generated by a software algorithm so that each thought was viewed the same number of times within the dataset. Each participant had 16 stars to assign per page of nine thoughts. They did not have to use their stars, and the maximum number of stars they could place on a single answer was five.

Out of the total participants ($n = 240$), there were 41 participants who only shared in the first round; 136 participants who only assigned stars in Round 2; and 63 participants who both shared in Round 1 and starred in Round 2. Participants could star thoughts in Round 2 even if they did not participate in Round 1. Additionally, because of the method's guaranteed

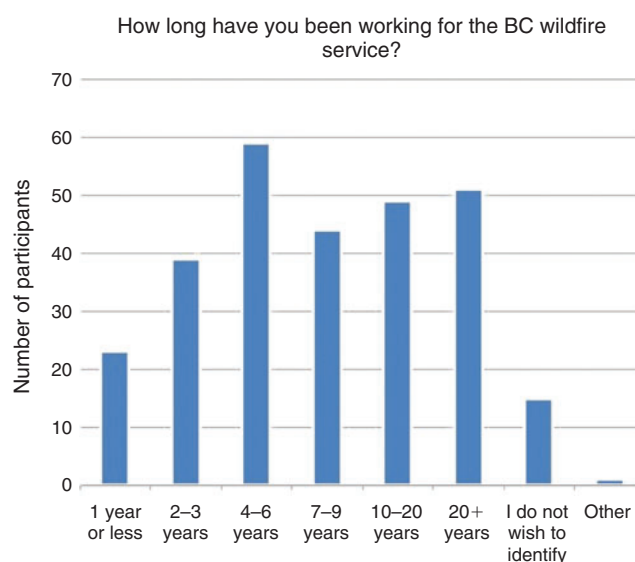


Fig. 3. Thoughtexchange™ participant tenure.

anonymity, specific answers could not be linked to a participant and it is not possible to ascertain which specific participants ranked which answers.

Three types of demographics were collected for the Thoughtexchange™: gender, tenure, and crew or non-crew position within the organisation (Figs 1–3). These demographics, together with representation of the diverse standpoints that emerged in the Thoughtexchange™ data, defined the inclusion criteria for the semistructured interviews, along with a willingness to participate in a more intimate data collection method (Table 2). Semistructured interviews ($n = 5$) examined the validity of themes identified by participants in the Thoughtexchange™ (Appendix B) through in-depth conversations. It enabled participants to engage with socially embedded perspectives and ‘draw on cultural discourses to explain their actions and make them understandable to others’ (Pacholok 2013, p. 22). Inquiry team members assisted in identifying potential

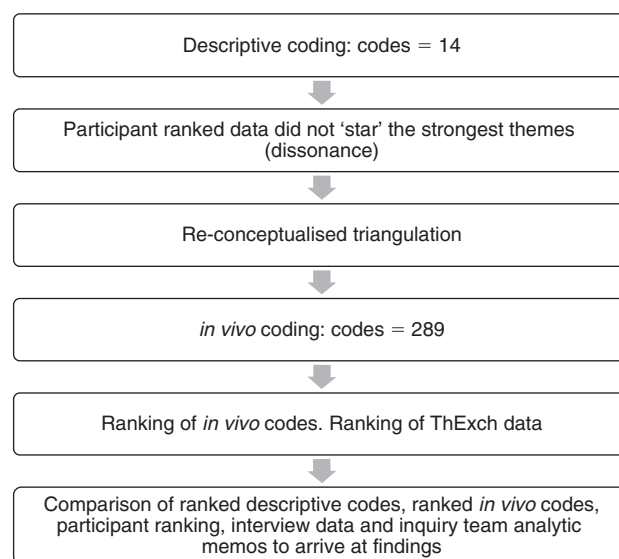
Table 2. Interview participant demographics

Gender	Tenure (years)	Position
Female	15–20	Non-crew
Female	2–4	Crew
Female	2–4	Crew
Male	15–20	Crew
Male	10–15	Non-crew

interview participants whose perspectives and position within the agency might further insights into the Thoughtexchange™ themes. As the interviews aimed to follow up on themes already identified rather than act as a stand-alone data elicitation tool, nine targeted invitations were distributed via email, and five positive responses were received (see limitations outlined below). Participants were given the choice between a phone, Skype or face-to-face interview to enhance their sense of control and connection, and to build trust, as interviews in gender research can be viewed as both an opportunity and a threat (Schwalbe and Wolkomir 2001).

Round 1 of the Thoughtexchange™ was descriptively coded, ranked according to the strength of each code in the data, and then overlaid with participant ranking from Round 2. In this way, utilising Thoughtexchange™ enabled openness to ‘numeric representation’ of qualitative data as ‘a supplemental heuristic to analysis’ (Saldana 2009, p. 49). The process of overlaying the descriptively coded dataset from the Round 1 short answers with participant ranking from Round 2 revealed disagreement between the strongest themes and the strongest participant ranking. In order to investigate this disagreement further, a second cycle of coding occurred that utilised ‘*in vivo* coding’. ‘*In vivo*’, as an analytic tool, means ‘in the words of’ (Saldana 2009) and this type of coding takes the participants’ own words and then codes based on phrases directly quoted from the data (Somekh 1995). Additionally, the concept of triangulation was revisited in the literature on feminist research methods. Though routinely used as a ‘tool of convergence’, it can also be used as a dialectical tool for allowing different types of knowledge to exist in conversation with one another, without needing to reduce the story or value one over the other (Hesse-Biber 2012b, p. 137). Comparing the qualitative datasets (Thoughtexchange™ Round 1 and participant-ranking Round 2) involved a process of ranking and organising of the datasets (Fig. 4). Each participant’s standpoint within the incident command system and crew hierarchies revealed a different set of knowledge about the whole system.

The study was limited by the availability of firefighters during fire season, and access to computers for seasonal firefighters who are not computer-based. Additionally, this study was introduced as research on ‘gender’, which may have attracted or dissuaded participation (Schwalbe and Wolkomir 2001; Yost and

**Fig. 4.** Data analysis process.

Chmielewski 2013). Thoughtexchange™ data provided a breakdown of gender tenure and position but did not provide the ability to correlate thoughts shared with thoughts starred.

Results

In examining how understanding gender and leadership might support excellence in the BCWS, five findings emerged.

Finding one: gender makes a difference in how participants are treated at work

This finding was derived from the study’s first sub-question, which defined gender as the attitudes, feelings and behaviours that a given culture associates with a person’s biological or chosen sex, and inquired whether gender makes a difference in how wildland firefighters in the BCWS are treated at work. The strongest opinion voiced by participants was that ‘gender affects how people are treated’ and that this negatively affects females and, to a lesser extent, males (Th-Exch, I-1, I-3, I-4, I-5).³ The focus on gender discrimination in wildland fire has to date predominantly been on female experiences, and this finding revealed that within the BCWS, male firefighters also experience negative effects of gender discrimination. Within Thoughtexchange™, 51 responses described treatment related to skills and shared how ‘women are often belittled or have their abilities questioned’ and ‘men are presumed competent whereas women need to initially prove competence’ especially in ‘physical or tactical leadership roles’. Women are ‘taken less seriously as leaders’, and ‘most women in leadership have to continuously defend themselves and justify their being in the leadership role’. Men shared challenges with needing to perform an ‘alpha male’ version of masculinity, and to censor emotion.

³Participant responses in this article are referenced as follows: Thoughtexchange™ findings are ‘ThExch’, and numeric representation within the Thoughtexchange™ data set is defined in text. If not otherwise noted, ThExch findings are cited *only* when the two rounds (short-answer and participant-ranking) aligned, meaning the frequency of the phrase occurred in participants’ own words a high number of times in Round 1 and was also ranked highly in Round 2. Where there is difference in Round 1 and Round 2, or when Round 1 high-frequency short answers contained dissonant meanings, there is discussion in the text. Interview participants are coded I-1, etc.

Gender affected both males and females, and 'for females the issue of gender [is] a lose/lose' situation (I-1). Participants described this as acted out in a 'passive aggressive approach' (I-5). Such behaviours are often subtle and hard to define, which may add to the lack of open dialogue about gendered norms within wildland fire. The experience of being a female firefighter was described as 'super lonely [because] you notice the difference and you feel kind of awkward and don't really want to be there' (I-4). 'It hurts to feel like you're not given a certain task or responsibility because maybe you're a female. It's assumed you either can't do it or don't want it' (I-3). No detailed occurrences of sexual assault were disclosed, but participants described constant engagement with sexualised comments, and one shared that they 'still hear sexism and misogyny openly expressed on a regular basis at work' (Th-Exch). Fireline leaders were identified as contributing to negative behaviours concerning gender, and fear was expressed about 'being 'that girl' on the crew who complains' (I-3). 'When you have a bunch of buddies backing each other ... no one's going to speak up even if they're a witness to something' (I-5). At the extreme, there is 'fear of being 'blacklisted' or not chosen or not accepted' (Th-Exch). Fears of rejection based on challenging gendered group norms were expressed by both males and females in interviews and in the Thoughtexchange™.

The experience of being a male firefighter was described as challenging owing to the 'rough and tough [nature of the] culture we work with' (I-1). There was a perception that men 'are pretending to be something that they're not... it's almost like men are always trying to be an alpha male even if they're not an alpha male' (I-5). Expressing emotion was seen as 'weak' (I-5, Th-Exch) and therefore to be avoided: 'there's a lot of times where myself or other guys I've worked with would have wanted to show more emotion... it's not an environment that's conducive to maybe showing that' (I-1). A minority of responses identified the perception of favouritism towards females, and participants shared that some females might feel discriminated against because 'we hire women who consistently underperform' and thus females experience perceived discrimination not due to sexism, but 'because you're terrible at your job' (Th-Exch). The subtle shift of blame is significant, as it represents the cultural hegemony in action. If a female firefighter expresses concerns about discrimination (i.e. she is being treated as 'less than' as a result of her gender expression), the act of speaking out about this treatment is interpreted as confirmation of poor work performance. It is this merry-go-round of cultural normativity, power relations and systemic injustices that makes gender discrimination so difficult to combat.

Finding two: participants valued leaders who provide support, create mutually respectful environments and possess the humility to admit mistakes

This finding was derived from the study's second sub-question, which examined stories shared by BCWS firefighters about perceived leadership 'excellence'. These insights provided a working definition of what perceptions of leadership excellence are, and how gendered cultural norms interact with and inform subjective interpretations of good or ad leadership. It highlighted three leadership themes: support, respect and

acceptance of failure within self and others. Participants did not define 'support' or 'respect' in more nuanced terms. However, 'accepting failure' for leaders meant cultivating an 'understanding of their unique attributes, leading to a self-concept that integrates both their strengths and weaknesses' (Th-Exch). In participant ranking in Round 2, excellent leadership was ranked including 'supportive', 'respectful', 'humble', in that order, and also setting 'clear objectives and set[ting] firm and reasonable expectations' (Th-Exch). A small group of participants felt that gender was not a strong factor in leadership, and that 'personality' (perceived as separate from gendered norms) or skillset played a more prominent role (I-2, Th-Exch).

Gender was discussed by participants in relation to both male and female leaders. 'Really strong females [in leadership make] the work environment always better', but are not going to get 'on top of the tailgate doing that 'rah rah' speech, follow me into battle... and that's what we perceive to be the leader' (I-1). Another participant described a trade-off between being 'really respected as a [female] leader', yet seen as 'maybe not a nice person', vs taking a more 'feminine role or spin on leadership [where] you're not respected as a leader, but you're a 'really great person'' (I-4). Perceived feminine leadership characteristics were also problematic for male leaders. This was explored in greater detail by one interview participant, who said, 'You [have] a lot of uncomfortable men in leadership who probably if they had support in being who they actually are... might be better leaders' (I-5). This sense of having 'to be something that they're not [is] awkward and uncomfortable for them and it shows because they're just – they're kind of squirming in their skin. And then I think that affects how they treat others as well' (I-5). Males in leadership described a pressure to perform specific types of masculinity.

The stories firefighters shared show that although 'excellent' leadership in theory was linked to both feminine and masculine characteristics, it was in practice identified solely with masculinity. It is significant that participants both consciously linked performance of masculine gender norms to excellent leadership, and noted that this may knowingly exclude female leaders from achieving perceived excellence.

Finding three: participants believed workplace performance should not be linked to gender, and that diversity within the workplace is desirable

This finding was derived from the study's third sub-question, focusing on opportunities for growth in understanding gender and leadership within the BCWS as a means of creating change-oriented policies that resonate with firefighter ideals and insights. Participants were asked to describe their ideal future state for gender and leadership and two strong themes emerged in the data. Twenty-two responses identified a future where 'gender doesn't matter' (Th-Exch), a phrase that emerged from participants' own words. Twenty-three responses identified a future where 'equal representation' across genders would create 'an inclusive, high-functioning work environment' where 'all crews have diverse representation' (I-1, I-5, Th-Exch). Participants described that for them, diversity 'makes for better decisions' (Th-Exch) and it 'provide[s] the best product I can put out

in my crew' (I-1). This was linked to sustainability, as one participant explained in detail:

'For me, to have 20 six-foot-four rugby-playing red meat-eating kind of macho guys won't be effective... Diversity means ... you need females. You need the weird nerdy guy. You need the jock. You need the guy who's good on computers. You need the girl who's done forestry school. You need diversity, because if you have a team that's full of the same people, long term, I don't think it's sustainable.' (I-1)

In this quote, diversity, sustainability and excellence are linked in theory, and yet firefighter stories more broadly revealed that in practice, performance of masculinity is valued and reaps social rewards that include perceptions of leadership excellence. Discussion of leadership training also emerged within the data, and participants identified that a 'much more sophisticated understanding of human factors and social relationships in complex decision-making' would be the ideal end state (Th-Exch). This ideal also included leaders seeing 'themselves as facilitators' who are 'equipped with the skills to know potential issues and the tools to be able to solve problems when they arise' (Th-Exch).

This finding demonstrates that participants both value workplace performance as being kept separate from gender, and also want to see an increase in gender diversity within the BCWS leadership (I-1, I-2, I-3, I-5, Th-Exch). These seemingly oppositional perspectives may be pointing to the same future ideal: a wildland fire profession where leadership excellence is freed from compliance with gendered norms, and where diversity flourishes without policy inputs. The challenge for wildland fire agencies is to address the subtle and entrenched gendered cultural norms through actions that resonate with the oppositional ideals described by firefighters in this study.

Finding four: participants suggested action steps that focused on creating conversations about culture

This finding was derived from the study's fourth sub-question, which inquired into possible action steps to support gender-responsive leadership in the BCWS. Three approximately equal strength themes emerged in the data: recommendations (i) to create a conversation about gender in wildland fire; (ii) to examine the hiring and succession planning processes currently in place to ensure that biases are removed; and (iii) to actively support females in leadership. Leadership training was mentioned frequently (I-1, I-2, I-4, I-5, Th-Exch) and specifically, a focus on 'chang[ing] the culture through training' with 'more focus on professionalism and ethics' (Th-Exch). It is significant that firefighters identified the process (cultural norms) by which behaviours are assigned value, rather than identifying or blaming a specific group within the culture for unwanted behaviours.

Participants identified a need for 'collaboration' on addressing gendered norms because then it 'allows people to work as a team and to hear what other people are thinking' (Th-Exch). Additionally, conversations about the broader culture in society were linked to the need for cultural change in how gender is perceived within the BCWS. One participant described 'most people growing up, you know, dad's getting the big piece of chicken and he's the one calling the shots' (I-1). Societal norms

about traditionally male-dominated professions like wildland fire were identified as problematic and seen as a factor in creating the BCWS culture (I-1, I-4, Th-Exch), which may be linked to underlying perceptions from new recruits' cultural upbringing that are brought with them into wildland fire.

Interspersed with comments about equality in hiring and succession, there were also strong statements cautioning against 'quotas,' a term used by participants. The BCWS has never had a preferential hiring practice based on gender (known colloquially as a 'quota'), but other wildland fire agencies have (e.g. the Consent Decree; Brown Harris and Squirrell 2010). The overwhelming theme in the data – with strong agreement in the ranking exercise, was 'do NOT ever go to a quota system' (Th-Exch). One interview participant explained, 'quotas are a chicken-shit way of doing it because ... that means we've failed a hundred times leading up to that point' (I-1). The most meaningful action step was seen to be changing gendered norms within the culture, rather than putting in higher numbers of females. Despite the lack of a formal preferential hiring practice based on gender, participants identified perceptions that females are favoured in an informal 'quota' system (I-3, I-4, Th-Exch). One female participant explained the effects of a perceived quota:

'You have people that say, 'Well they have to hire this many women, so that's why you got the job.' ... from my perspective [it's] the total opposite. You not only work your ass off to get the job, but then you have to listen to somebody tell you that you got the job because they had ... to fill their quota and ... I think that's really unfair.' (I-4).

Participants voiced fear that any organisational engagement with gendered norms will lead to an outcome that includes quotas (I-3, I-4, Th-Exch). However, there is also evidence among participants that 'more women' is a desirable action step (I-5, Th-Exch), to be achieved without resorting to quotas.

Additional action steps focused on recruitment, female mentorship and accountability. 'Recruitment' was defined beyond traditional strategies utilised by the BCWS that focus on university- and high-school-aged youth, expanding to a younger female cohort to foster the belief they could be firefighters, as a way of engaging pre-emptively with societal norms and taking on the burden of proof in dispelling the myth that firefighting is a man's job (I-1, I-4, Th-Exch). Female mentorship of other females also emerged (I-1, I-3, I-4, I-5, Th-Exch), but this was also seen as problematic. At times, female leaders 'aren't very supportive of the women that are working below them' (I-4) or seem 'less approachable' (I-3) than male leaders. Participants identified that this may be due to the performance of masculinity adopted by females in leadership, as a result of the struggle to be seen as competent within the culture (I-4, Th-Exch). 'Accountability' focused on revising reporting structures to protect victims of sexual harassment and gender discrimination (I-2, I-4, I-5, Th-Exch). As one participant expressed, 'Women need to know that it is ok to draw their personal boundaries without fear of social backlash or impacting their career' (Th-Exch). Participants shared that current practices do not provide a safe reporting process but instead create a second wave of victimisation (I-3, I-5, Th-Exch).

This finding highlights an important factor to address in order to change gendered cultural norms within wildland fire: latent

triggers for resentment towards gender minorities. If support for female firefighters is undertaken separately from conscious engagement with gendered cultural norms, the likelihood of increased resentment towards gender minorities is high. Support for females as a gender minority must be paired with actions that engage the latent belief that females are favoured or are to blame for their own experiences of gender discrimination by associating femininity and female bodies with poor work performance.

Finding five: participant-ranked data did not recognise negative experiences affecting females

Within the Round 1 data, experiences of gender difference that were expressed with negative effects towards females numbered 51 (Th-Exch). By comparison, the number of experiences that expressed favouritism towards females numbered 10. Yet during participant ranking, the high volume of negative experiences described by mostly female participants was not assigned a high ranking by the number of stars they received; indeed, many received no stars at all. Instead, a small number of responses that described 'reverse discrimination' and 'preferential treatment' given to women received validation in the Round 2 participant-ranking exercise (Th-Exch). This meant that participants gave a large number of stars to the 10 responses that described favouritism towards females, and gave a low number of stars to the 51 responses that described gender difference with negative effects towards women. The organisational statistics (Table 1) do not support the existence of overt favouritism towards females in leadership. The overall average of females in the BCWS is 24.6%, and fireline leaders are between 5 and 13.5% female – a 10–20% decrease in female representation when compared with the organisational average.

There is no evidence that favouritism towards females as a gender minority is occurring, or that males are discriminated against negatively. However, this belief is one expression of the subtle behaviours that persistently devalue femininity and females in the profession. In practice, local responses to gender discrimination from leaders and managers must consider how the cultural hegemony highlighted by this finding effectively silences and marginalises gender minorities by interpreting their direct challenges of gender-related professional experiences as 'their fault' rather than a result of culturally ingrained systemic injustice.

Conclusions and recommendations

The following five conclusions are derived from the study findings, and summarise the study's contributions in line with the AR process of 'look, think, act' (Stringer 2014). First, the study provides clear insights into the ways that gender discrimination is functioning in leadership within wildland fire, and can be summed up in a belief that 'femininity equals weakness' (look). Second, there is a perceived trade-off between gender diversity and excellence among research participants, meaning that diversity in theory is linked to leadership excellence, but in practice only hypermasculinity is perceived as strength (think). Third, fostering gender diversity requires

transforming leadership practice to include open engagement with gendered cultural norms (think). Fourth, addressing gender discrimination requires cultural change with consideration for latent triggers of male resentment towards gender minorities (act). Fifth, the current culture invalidates the voices of gender minorities – a revelation that indicates the status quo has subtle and built-in defensive mechanisms that make cultural change difficult.

In this study, leadership was revealed to be a key site of interaction between gendered norms and organisational culture within wildland fire. Actions and behaviours that successfully perform hypermasculinity within the culture are perceived as 'good' leadership. Individuals within the profession are supported to cultivate hypermasculine leadership characteristics and suppress feminine characteristics. Males who perform hypermasculine leadership are seen to 'belong' as leaders, which is exclusive of other forms of leadership. Engaging with these gendered cultural norms through dialogue about culture is the primary method for engaging with latent cultural issues like gender discrimination (Senge *et al.* 2004; Senge 2006; Schein 2010, 2013).

How should fire agencies proceed in light of the present study's findings? We offer three recommendations that build on the participant action steps, literature on organisational culture and change, and an expert-interview with a Subject Matter Expert from Operations Honour⁴ – the Canadian Armed Forces approach to creating cultural change related to gender norms.

First, senior leadership must commit to publicly acknowledging gender discrimination as an endemic issue within the profession, and within the organisation. The belief that females are treated favourably and are to blame for their own experiences of gender discrimination (femininity equals weakness) represents a significant disconnect from the body of academic knowledge on this subject (Desmond 2007; Pacholok 2013; AFE 2016; Eriksen and Waitt 2016; Eriksen *et al.* 2016; Eriksen 2018). The challenges of engaging with gender as a sensitive and potentially divisive topic in fire management may, to date, have prevented knowledge transfer into the profession in ways that resonate with firefighters. This needs to be addressed swiftly, in ways that consciously engage with cultural norms and do not trigger latent male resentment towards gender minorities.

Second, fire agencies must cultivate the ability for organisational learning about gendered cultural norms by utilising longitudinal, iterative, dialogue-based research tools, which invite feedback on policy interventions and collect organisational data to measure successes in cultural change over time. The likelihood of unintentionally triggering resentment, and increasing challenges for gender minorities through a 'second wave' of discrimination, is high unless the dialogic processes that can engage with these issues also create self-correcting policies that are flexible to firefighter inputs.

Third, it is important to build partnerships to support the commitment to resolve gender discrimination through organisational learning. In April 2017, the CIFFC hosted a National Forum on Gender and Diversity Issues, and issued a national statement about gender and diversity, signed by all Canadian

⁴<http://www.forces.gc.ca/en/caf-community-support-services/sexual-misconduct.page>, accessed 2 October 2018.

wildland fire agencies (CIFFC 2018). This is a first step, but does not constitute policy change or cite targeted outcomes with public accountability for organisational change. Accountability through shared gender demographics and statistics describing the annual number of gender-based sexual harassment and discrimination reported incidents, as well as gender-based succession data are examples of public and professional measures we believe necessary. To date, these data are not available from any Canadian wildland fire agency. Open information sharing will enhance knowledge transfer and support a swift and effective creation of a cohesive strategy on diversity issues in the wildland fire profession. Increased information, transparency, policy guidance and partnership support make the choice to end gender discrimination through informed decision-making and inclusive leadership both a rational and compelling choice for building a more equitable, efficient and sustainable workforce in the face of a flammable future.

Conflicts of interest

The authors declare no conflicts of interest.

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Appendix A. Thoughtexchange™ questions

The Thoughtexchange™ survey tool aggregates participant answers, which are then posted online for participants to view. All questions except those that specifically say *not to be shared* are included in the *share* stage of this survey tool.

Preliminary questions (not shared with participants)

1. What is your gender?
 - a. Female
 - b. Male
 - c. Transgender/two-spirited
 - d. I do not wish to identify
 - e. Other
2. What best describes your role in the BC Wildfire Service?
 - a. On crews
 - b. Non-crew based
 - c. Other
3. How long have you been working for the BC Wildfire Service?
 - a. 1 year
 - b. 2–3 years
 - c. 4–6 years
 - d. 7–9 years
 - e. 10–20 years
 - f. 20+ years
 - g. I do not wish to identify
 - h. Other

Questions (shared with participants)

1. What do you consider excellent leadership to be? Please share a story of a time that you experienced excellent leadership at the BCWS.
2. Gender is defined as the attitudes, feelings, and behaviours that a given culture associates with a person's biological or

chosen sex. In your opinion, does gender make a difference in how people are treated within the BCWS? Please explain how.

3. What is the best future state you can imagine in terms of gender and leadership in the BCWS?
4. What action steps do you think need to occur for the BCWS to achieve the best future state you can imagine?
5. Do you have any other thoughts you'd like to add?

Appendix B. Interview question schedules

For BCWS participants

1. What has been your experience of gender during your work in wildfire?
2. How do you feel that gender affects your, or others', ability to lead?
3. What is the best future state that you can imagine in terms of gender and leadership in our organisation?
4. In your opinion, what positive action needs to happen in our culture at this time?
5. Do you have any other thoughts you'd like to add?

For subject matter experts

1. Based on your expertise, how have you experienced gender in an incident command environment?
2. Based on your understanding and expertise, how might gender affect people's ability to lead in incident command settings like wildfire?
3. What is the best story of gender and leadership you can imagine in an incident command environment?
4. In your opinion, what would the ideal future look like regarding gender and leadership in incident command environments?
5. Do you have any other thoughts you'd like to add?