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ORIGINAL RESEARCH

Understanding gendered experiences in academic health sciences: a grounded theory study on leadership and continuing professional development

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Abstract

Introduction: In order to improve equity amongst leadership roles for all genders, it is important for health professions educators to better understand the intersection of gender and leadership. This study aimed to understand how gender affects leaders in health sciences and their engagement in developing themselves further within their career by exploring: 1) Their engagement with continuing professional development; 2) Their motivations for continued learning; 3) The benefits/consequences of their careers.

Methods: A Constructivist Grounded Theory approach was used to investigate this domain. Eligible leaders in health sciences were invited for one-on-one virtual interviews that were transcribed and analyzed by our research team. The data were examined initially in a constant comparative method with reflexive journaling and subsequently examined through axial coding for further themes.

Results: Eighteen qualitative interviews were analyzed. Themes pertaining to support systems, sponsorship/mentorship, and a lack of discourse surrounding gendered constraints were identified at the intersection between gender, academic leadership, and CPD within healthcare education.

Conclusion: Our findings provide insight on the gender gap and its implications on healthcare leaders' motivations in their role, as well as engagement in continuing professional development.

Comprendre les expériences liées au genre dans les sciences de la santé universitaires : une étude fondée sur la théorie du leadership et du développement professionnel continu

Résumé

Contexte : Afin d'améliorer l'équité entre les rôles de leadership pour tous les genres, il est important que les formateurs en sciences de la santé comprennent mieux l'intersection entre le genre et le leadership. Cette étude visait à comprendre comment le genre affecte les leaders dans les sciences de la santé et leur engagement à se perfectionner dans leur carrière en explorant : 1) leur engagement dans le développement professionnel continu ; 2) leurs motivations pour continuer à apprendre ; 3) les avantages/conséquences de leur carrière.

Méthodes : Une approche constructiviste fondée sur la théorie a été utilisée pour étudier ce domaine. Les leaders admissibles dans le domaine des sciences de la santé ont été invités à participer à des entretiens virtuels individuels qui ont été transcrits et analysés par notre équipe de recherche. Les données ont d'abord été examinées à l'aide d'une méthode comparative constante avec journalisation réflexive, puis examinées à l'aide d'un codage axial pour dégager d'autres thèmes.

Résultats : Dix-huit entretiens qualitatifs ont été analysés. Des thèmes liés aux systèmes de soutien, au parrainage/mentorat et à l'absence de discours sur les contraintes liées au genre ont été identifiés à l'intersection entre le genre, le leadership académique et le développement professionnel continu dans l'enseignement des soins de santé.

Conclusion : Nos résultats fournissent des informations sur l'écart entre les sexes et ses implications sur les motivations des dirigeants du secteur de la santé dans leur rôle, ainsi que sur leur engagement dans le développement professionnel continu.

Introduction

Learning new content has never been more important in healthcare settings. In the wake of the COVID-19 pandemic, there has been a steep learning curve faced by all individuals involved—ranging from frontline clinicians to experienced leaders within academic health sciences centers.[1] To date, little research has been done in the field of healthcare education on gender identity and its impacts on continuing professional development or professional learning.[2,3] Clearly, academic work in medicine and health sciences can be greatly affected by gender identities,[4] and as such we sought to understand how gender might play a role in how academic leaders engage in their own continuing professional development. Our study aimed to explore the questions:

1. How do leaders in medicine engage and stay motivated in continuing professional development?
2. What is the motivation for leaders in academic health science centers to engage in upgrading their skills and knowledge?
3. How does engaging in formal opportunities for professional development impact the trajectory of an individual's career advancement?

Continuing professional development (CPD) encompasses not just the activities undertaken to further enhance and update one's professional abilities and medical proficiency in knowledge and skills throughout the progression of one's career, but also in areas such as management, team collaboration, communication with others, technology, teaching, and accountability.[1,5–7] CPD goals and topics are typically covered through formal learning opportunities in the form of supervision, courses, webinars, workshops, and conferences with a variety in length, depending on the complexity and format.[8] CPD training and education has been shown to improve quality of patient care, recruitment, decrease employee turnover intention, and increase job retention.[9,10] CPD referred to in this paper includes faculty development as it pertains to leadership within a healthcare education context.

Gender refers to the socio-cultural, political, and economical roles individuals take on and goes beyond biological sex; which refers to 'male' or 'female' characteristics determined at birth.[11,12] In an academic health sciences (AHSCs) setting, inclusivity of all genders is crucial in redressing inequalities that are present in leadership and continuing professional development (CPD).[13,14] However, women still undoubtedly face challenges and constraints in these fields that prevent them from furthering their academic career.[4,15-17] Traditional discrepancies between women and men in clinical medicine have dropped dramatically over recent years. Although women medical students increased from 5% to 56% between 1960 and 2016,[18] women still only account for less than 15% of the top executive positions such as full professors and other leadership positions.[19] Evidently, there still exists a massive disparity in women's representation in academic medicine compared to men.[20-25] Attaining chair positions can be difficult and unfair due to the lack of resources available for women including mentorship and career advice.[15,26]

Methods

Research paradigm

We chose to use a constructivist paradigm because the intersection of leadership and gender is highly influenced by an individual's experiences within their context and society. We felt a constructivist paradigm would allow the researchers to honor the idiosyncrasies and experiences of our participants. In this study, Constructivist Grounded Theory we chose to engage in the process of developing a theoretical framework which encapsulates gender as an impact factor on healthcare leaders' professional development.[27]

Research team

Reflexivity considerations. All members of the research team bring diverse lived experiences as racialized individuals working in healthcare or scientific fields at McMaster University, with four out of five identifying as women. Our positionality shaped how we approached this research, particularly in examining leadership experiences through an intersectional lens.

For many team members, this was their first research project focused on for many of the team individual leadership experiences. As we engaged with participants' narratives, we became increasingly aware of how our own identities influenced our interpretations—both in recognizing systemic barriers and in reflecting on the opportunities available to us. The meaningful themes explored shed light on the underrepresentation of women in leadership, providing valuable insights into gender disparities and dynamics. These insights served as a guiding framework for the team, shaping their learning journey. A member of our team, a racialized man and faculty member at the university, acknowledges the privileges he holds within the institution, including access to a strong network of sponsors, stable employment, and flexibility to pursue leadership opportunities. The principal investigator, a multidisciplinary designer, brought a unique perspective to the project, while the senior author, a racialized woman in a high-level leadership role, interpreted participants' statements

through her lived experiences in academic leadership. Our collective engagement with the research highlighted the systemic barriers to inclusion in leadership, particularly in how training opportunities are accessed and perceived. Recognizing our own positionality allowed us to critically analyze these dynamics, ensuring that our interpretations remained informed by both our personal experiences and the voices of the participants.

Participants

Inclusion and exclusion criteria. Participants eligible for inclusion in the study were required to be a minimum of 18 years of age and hold a leadership or professional role that is formally recognized within a healthcare or health sciences education setting, such as assistant/associate professor, department head, manager, dean, etc. Individuals who had retired or anticipated retiring within the next year were excluded from participation.

Ethics approval and reporting standards

All procedures performed in studies involving human participants were in accordance with the ethical standards of the Hamilton Integrated Research Ethics Board [No. 14386]. Additionally, informed consent was obtained from all individual participants included in the study. Verbal consent was obtained from all participants prior to their virtual interview and a signed copy of the consent form was returned prior to initiation of interview by email for the participant's records. All data collected was deidentified and various measures taken to protect the contents of the data collected in this study (i.e. password protected files and encrypted MacDrive) with access provided only to the research team. The Standards for Reporting Qualitative Research checklist were adhered to for reporting.

Data collection and processing

Our interview format promoted the development of rapport, facilitated the discussion of sensitive and personal topics, and allowed time for deeper reflection and elaboration. To develop the questions for the participant interviews, we used a semi-structured style and reflective approach. The process began with a review of existing literature on leadership, CPD, and gender dynamics subsequently identifying key themes that aligned with the study's objectives. Our team then engaged in collaborative discussions to refine and structure the questions, ensuring they were open-ended and would encourage thoughtful responses. We made final adjustments for clarity and relevance, rigorously ensuring that the interview would yield insightful data. See Appendix A for the interview guide. To recruit participants, team members sent emails to invite senior leaders within McMaster University's Health Sciences Faculty to engage in a pre-screening demographic survey. From this pool of potential participants, we invited those who met the eligibility criteria to partake in an audio-recorded online interview via Zoom (Zoom Video Communications, San Jose, CA, USA). To ensure the quality and consistency of data collection—especially given that multiple team members conducted individual interviews—we adhered to a standardized interview protocol and held regular team meetings to discuss each interview's outcomes. These meetings allowed us to compare observations, address discrepancies, and ensure a shared understanding of emerging themes, overall enhancing the reliability and coherence of the data collected.

The authors audio-recorded, transcribed verbatim, and securely transferred the transcripts to a professional contracted transcriptionist through a password-protected data transfer method. The authors then deidentified transcripts and coded them for analysis. As an additional step, each participant was sent their written transcript to review for completeness and resonance.

Data analysis

Our research team used institutionally approved Google Drive (Google Inc., Mountainview, California, USA) to engage in document sharing to facilitate qualitative analysis process. Additionally, we ensured data collection and analysis were concurrent to generate an emerging understanding of the research questions. See Table 1 for details of our process.

We performed a close line-by-line reading for the primary coding of the data, followed by a secondary coding process where similar codes were aggregated under larger categories. We then further analyzed these categories for common sub-concepts. The research team reviewed and discussed their individual coding processes until consensus was reached on the primary and secondary codes.

Table 1. Stages of Framework and Purpose. We utilized this framework by following the stages below.

Stage	Purpose
Sensitizing Concepts	Identify key frameworks and theories that may inform the coding and conceptual work within the study
Codes	Identifying anchors that allow the key points of the data to be gathered
Concepts	Collections of *codes* of similar content that allows the data to be grouped
Categories	Broad groups of similar *concepts* that are used to generate a theory
Theory	A collection of *categories* that detail the subject of the research

The protocol–coding process involved utilizing insights from the qualitative interviews. First, we engaged in coding text and theorizing. In Constructivist Grounded Theory, the search for a theory starts with the very first line of the very first interview that one codes.[27] We coded small chunks of the text coded line-by-line, identifying useful concepts marking key phrases. Another chunk of text was then taken, and the above-mentioned steps were continued. The next step involved theorizing, which included pulling concepts together and thinking about how each individual concept could be related to a larger, more inclusive idea. Alongside our iterative data collection and analysis procedures, our investigatory team engaged in memoing, the process by which a researcher writes running notes on each of the concepts being identified.[27] The running notes constituted an intermediate step between coding and the first draft of the completed analysis. Memos are field notes about the concepts and insights that emerge from the observations and contribute to theory building.

Finally, we engaged in integrating, refining and writing about our new theories. Once we identified the initial coding categories, the next step was to link them to refined insights constructed around central theories that hold the concepts together.[27] This stage is reminiscent of the axial coding phase from classical grounded theory approaches as described by Glaser & Strauss.[28]

Finally, given that data collection and analysis were concurrent, informational, and thematic, the presence of redundancy was assessed regularly and the number of interviews was largely driven by the quality and richness of data. When the transcripts yielded no new themes or codes, we deemed that we had reached theoretical sufficiency.

Results

The interview recruitment process resulted in a total of 18 qualitative interviews (10 women, eight men) from which we identified prominent codes and theories using the protocol-coding process described above. Table 2 below presents the demographic data of the recruited participants, the majority of whom reside in Hamilton, Ontario.

The average age of female participants was 46.7 years, while male participants had a mean age of 51.5 years. Two-thirds (66.7%) of participants identified as Caucasian, with the remaining identifying as of Asian descent. Most participants held a Master's degree, while the rest were evenly distributed between a Doctoral degree or other professional qualifications (e.g., MD, BSN, DDM). Of the 18 participants, 11 held a primary professional role, and 10 reported engaging in a CPD activity within the past six months.

Table 2. Demographic data of consented participants. Participants were asked to complete a pre-screening demographic survey.

	Study Participants (n = 18)			
Gender	Number		%	
Woman	10		52.63	
Man	8		42.11	
Mean Age in Years	Mean	SD	Min	Max
Woman	46.7	10.1	29	61
Man	51.5	8.7	39	62
Total Sample	48.8	9.6	29	62
Ethnicity/Race	Number		%	
Caucasian/White	12		66.7	
South Asian	3		16.7	
East Asian	1		5.6	
Southeast Asian	1		5.6	
Other	1		5.6	
City/Region	Number		%	
Hamilton	10		55.6	
Halton Region	3		16.7	
Greater Toronto Area	2		11.1	
Niagara Region	2		11.1	
Kitchener-Waterloo Region	1		5.6	
Highest Level of Education Achieved	Number		%	
Master's degree (graduate)	8		44.4	
Doctoral degree (graduate)	5		27.8	
Other (MD, BSN, DDM, etc.)	5		27.8	
Current Leadership Roles	Number		%	
Holds one main role	11		61.1	
Holds multiple concurrent roles	6		33.3	
Does not hold any leadership roles	1		5.6	
Recent Participation in CPD Activity	Number		%	
Yes	15		83.3	
Past 1-6 months	10		66.7	
Past 7-12 months	5		33.3	
None	3		16.7	

We separated findings into two major categories, common themes and gendered themes.

Common Themes

We identified three common themes: perceptions and motivations of successful leadership, the joys and challenges leaders face in continuing professional development, and the importance of academic sponsorship.

Individual factor: perceptions and motivations of successful leadership. Similar ideas and visions were shared amongst interviewed leaders regarding what constitutes an effective and successful leader. Empathy was seen as an extremely valuable trait and participant (P1, Man) emphasized its importance during the interview:

> *"The leader that lacks empathy will be either very, very ineffective or out of a position very quickly [...] if I don't have empathy for the demands that a project places on team members then I am going to really miss the mark about how to use the resources necessary" (P1, Man)*

> *However, empathy should arrive naturally, but does not always occur, and was thought to be dependent on a leader's character. As one participant stated: "it is difficult [to learn], it is more of an innate characteristic [...] there are ways to promote empathy but I think it has to be part of the person. (P6, Woman)*

Leaders in AHSCs were also motivated to engage in upgrading their skills and knowledge through external factors, such as being held accountable/responsible to others:

> *I have certain resources and certain responsibilities and certain accountability. My job is to help provide the necessary resources, the necessary information and to support the necessary work of that core group to achieve the goals that we have all collectively decided upon. (P1, Man)*

Alternatively, internal driving factors such as desire to further personal knowledge was clearly evident in participants who continued to engage in self-learning. A woman participant (P2) highlighted: "But I started to pursue a couple of online courses so I can formalize my knowledge in this field [...] to hopefully make myself more employable in the future."

Individual factor: joys of leadership-related CPD. Participants shared similar joys of leadership and continuing professional development, such as developing meaningful relationships with peers and staying passionate throughout the CPD journey.

This was seen as a motivating factor for leaders from both genders. Three participants remarked:

I certainly think that we shouldn't ever stop being curious and creative and trying to think in different ways. (P2, Woman)

And so, within that role the leadership that I take on is to try to connect people who are very passionate [...] I try to have them present so that they can share their story with everyone. (P3, Woman)

[As a leader I] try to help people to develop their maximum potential. I think that is my job as a chair is to have vision for the department and help individuals in that department reach their potential (P9, Man)

Individual factor: challenges of leadership. Challenges and struggles participants experience include lack of formal training, burnout due to over assignment of roles, and time commitment. Women tended to remark more on their lack of formal training prior to roles and how this may have caused them to experience more stress in their roles. Men tended to speak about the lack of time to engage in leadership-related CPD. The following three quotes highlight some of these pressures:

I hadn't ever received any formal training prior to starting this role [...] and I think a lot of senior leaders at any institution could use formal leadership training. (P2, Woman)

And I think that is adding to a lot of the stress and factors that relate to burnout with their clinicians who have just so many responsibilities because they might be clinicians, [...] they also take on some other roles and they are expected to publish and teach, [...] just a lot of stress. (P3, Woman)

I am too busy. [...] I find it hard to spare two or three days to go to a conference. (P8, Man)

Systems factor: academic sponsorship & culture. In our participant pool, academic sponsorship was often mentioned as a motivating factor for engaging in leadership-related CPD. Academic sponsorship refers to the support provided by individuals at higher levels of leadership to those entering the world of academia with little or no support, through their ability to access unique opportunities and engage with key decision-maker.[29] At times, leaders found that sponsors would encourage them to engage in upgrading their skills by nominating them for activities, and at times to simply suggest that they apply. In our study, we did not find there was perceived to be a gendered layer of how sponsors related to our participants due to gender differences. One participant (P3, Woman) stated that through sponsorship, she realized that accelerating one's career in leadership was a combination of a number of skills: "I would say that it was a combination of skills and networking"

Academic sponsorship was deemed by our participants as essential, and the absence of it was noted in that it precluded their ability to gain access to leadership roles regardless of how much continuing professional development they completed. One participant stated:

...academia in general [feels] very bureaucratic, hierarchical. You know, very individualistic in some ways, just the whole process of promotions. The whole process of appointment... I think it puts an archaic and undue focus on individual achievement and accomplishment in a way that feels competitive, inefficient. And I think that my own preference would be to see a more flexible collaborative non-hierarchical, non-bureaucratic process to support academics, academic leadership and people leading. You know with more of a focus on collaboration and team. (P18, Woman)

Being overlooked by sponsors seemed to be a demotivating factor for engaging in leadership itself. Another participant described that it often felt like a waiting game for a sponsor to come along to assist in his career trajectory. While this was viewed as separate from his own continuing professional development activities that he elected to do in the meantime, the lack of sponsorship was demotivating him from engaging in leadership roles all together:

But in all of the leadership positions, people are tapping somebody else on the shoulder to apply for a leadership position. So, I felt my shoulder was not tapped for about ten years now. (P14, Man)

Consequently, individuals like this participant (P14, Man) may be negatively motivated by the lack of sponsorship to apply, achieve, and develop as leaders.

Gendered themes

The gendered themes identified included five or more codes from the participant interviews and facilitated discussions centered around the impact of gender on continuing professional development engagement and uptake in AHSCs centers. Notable gendered themes included: gendered constraints based on preconceptions, lack of women mentorship, and the importance of support systems.

Systems factor: lack of women mentors. Most women participants emphasized the importance of passing it forward by taking on the role of a mentor for women new to academia. Men participants also emphasized the importance of mentorship but did not feel the same level of conviction or duty to the role as the women in our study.

> *So, living through adversity, leadership fundamentals, coaching and mentoring. And so, I am doing all of those so that I can learn to do it for myself but then also pass that on to the postdoctoral fellows so they will also become great leaders. (P2, Woman)*

> *I lead by example by mentoring them [junior physicians] and by also supporting what they do. (P1, Man)*

Systems factor: the importance of support systems. Support for leaders in medicine, both through the form of peer and institutional support, is crucial for engaging and staying motivated in continuing professional development. Interviewees felt support systems within the field of AHSC to be lacking for those experiencing gender biases, prejudice, and societally imposed hierarchies. Having peers who are generous with their ideas and emotionally supportive was identified as a motivating factor for leaders, and one that not every individual had the privilege of experiencing. This is evident in the way that women participants describe support when compared to men participants:

> *I think of myself as quite privileged or maybe lucky to actually have a lot of good support with the people that I work with. (P3, Woman)*

> *And so, I feel supported and that I have been given the appropriate freedom to exercise what I need to do from above. (P1, Man)*

> *When those ahead of you or those who you directly report to express trust. And then, can show you that trust… I know that they can show you that they express a certain amount of confidence in your ability. I find that very empowering, right? And it motivates you to prove that that trust and confidence is well-placed, right? So that drives a certain level of motivation. (P19, Woman)*

Institution factor: gender identity & alignment with institution. Gender identity also affects institutional support and alignment of values within the work culture within the institution, playing a large role in leaders' motivation as well. Interviewees felt institutions to be slow-changing and outdated with regards to gender equity and its impacts on career development as well as leadership:

> *I would say that institutions are very conservative. They are slow to adopt change. (P1, Man)*

> *I felt like I was somewhat manipulated or to cover up for the instability of that site… In an immature way, it was pointed out that the main campus was actually [under] my leadership. So, yeah, disappointing. And also, I think it was kind of gaslighting. Very manipulative. (P14, Woman)*

Societal factor: gendered constraints based on preconceptions. Gender constraints continued to be perceived by our participants as being perpetuated at the higher levels of academia and were viewed to impact critical career decisions for women and gender minorities, as evident through participants who shared negative views on climbing the leadership ladder. This led to various manifestations on how individuals viewed themselves as leaders, and more importantly, how they engaged in continuing professional develop of their leadership skills. Some of our participants highlighted this in their statements:

I think some challenges come in as you go higher and higher because you know there is more at stake... there are typically fewer women and other equity deserving groups at higher levels. And so, you start to feel more and more isolated. (P6, Woman)

And if you don't have that empathy and that focus on creativity and an appreciation of people or things then I don't know if that space always feels safe for people to be creative in. (P4, Woman)

Further, women felt the need to portray traditional gendered traits encompassing responsibilities related to home and family life and how this precluded their ability to engage in continuing professional development. Family and time constraints were identified as barriers to women engaging in continuing professional development especially after childbirth and during caregiving years. One participant (P5, Woman) stated, "I was actually involved in doing some end-of-life care at that point for a family member. And I couldn't take that on my plate doing extra training on top of starting a new role."

Despite a greater societal push for equity, diversity and inclusion (EDI) in the workplace, little discourse around gender and its impacts on professional development occurs within the field of AHSCs. One man (P8) stated in our study: "I am a white male with a great deal of privilege...that has been very much to my advantage... So, I think that has been very helpful in terms of my own career direction." Whereas in contrast, a woman (P11) participant stated: "It is very obvious to me that there are very few women at upper levels of leadership. Just look around the boardroom there are not a lot of women at the upper levels. So, there is work to be done for gender inclusion."

Disconnect between Learning and Leading

An interesting observation was that although we did prompt participants to think about how their leadership-related continuing professional development was linked to career progression, few were able to see a direct linkage. We observed no themes that connected these two concepts, though generally the gendered nature of certain non-work tasks (e.g. caregiving) were noted as a barrier to both leadership and learning.

Discussion

This study succeeded in raising insightful perspectives on the intersection between gender, leadership, and continuing professional development. Our findings highlighted the continued prevalence of the gender gap in academia and its influence on health science leaders' motivations in their role as well as continuing professional development. Participants of all genders shared similar visions about the joys and challenges of taking on leadership roles as well as the core traits required to be an effective leader. However, remaining cognizant of the influence that various patriarchal, economic and historical systems hold over the contextualization of our findings, there were significant thematic differences appreciated between participants of varying gender identities. The notable themes identified included: gendered constraints based on preconceptions, lack of women mentorship, and the importance of support systems. In this discussion, we aim to contextualize some of the gendered themes that we discerned in our data within the broader literature base. Interestingly, few say a direct line between the lack of opportunity for continuing professional development and career advancement.

Social role theory and its role in gendered constraints

Upon reflection after results, we found that Social Role Theory was an apt theory that could intersect well with our findings. In our study, the gendered constraints were a powerful theme that many remarked upon. The findings of our study lend further evidence that gender inequality is still present, even in fields such as academic healthcare. This finding is worrisome, as the literature is key that these gendered constraints can continue to harm women and gender diverse individuals, both mentally and physically.[4,16,30,31] Aside from the identification of extrinsic factors such as discrimination and a lack of resources that continue impacting women's participation in leadership roles, there has been minimal research completed on understanding the core reasons behind women in health sciences lacking

confidence in leading, seeking out less opportunities, and being less motivated to become leaders and continue their professional development. Our findings provide some insight into this and may be better contextualized within social role theory and stereotype threat.

Wong and colleagues emphasize the prominence of the "stereotype threat," which is a psychological threat that appears when a high-functioning group underperforms as a result of negative stereotypes that are applied to them.[4,19] Women often fear being seen through a negative or stereotypical lens that is diminishing and centered around lowered expectations; thus, it is this fear of being stereotyped that can interfere with a woman's performance by increasing anxiety and triggering distractions.[4,32] Stereotype threat has also been shown to interfere with performance by triggering physiological arousal and stress that can contribute to the draining of finite cognitive resources, subsequently causing less concentration on tasks at hand. Women may also end up confining to stereotype threat unconsciously and perceive actions as the norm. Moreover, perceptions of sex differences are further magnified by the social roles that men and women occupy. Eagly and Wood describe social role theory as widely shared gender stereotypes develop from the labor division based on gender in society.[33] Social role theory then justifies why traits such as assertiveness and self-confidence are attached to men while women are believed to partake in more communal behaviors such as kindness and caring for others.[34]

In our study, participants highlighted the continued presence of restrictive societal and organizational norms within current health science leadership systems, contributing to the continued perpetuation of gender-based stereotypes within the workplace and the ongoing pressure for women to operate in systems primarily tailored to traditionally man's gender role.[35] Additionally, assertiveness and self-confidence are often viewed as positive leadership traits, thus the gendered social norms and organizational structures, described by social role theory, further emphasize the negative impact that social constructs have on women's pursuit for leadership positions as well as their sense of authority and success within leadership positions held in the world of health sciences and beyond. When combined with the social role theory, our study findings also shed light on the potential and nuanced reasonings behind the underlying mechanisms in women's reluctance to pursue leadership roles and engage in professional development opportunities. By contextualizing these dynamics within social role theory and stereotype threat, we gain insight into how deeply ingrained societal perceptions and expectations contribute to the perpetuation of gender disparities. Addressing these beliefs and dismantling gendered constraints necessitates a multifaceted approach that challenges stereotypes, promotes inclusivity, and fosters environments conducive to the equitable participation of all genders in leadership and professional advancement.

The importance of support systems as institutional factors to help

Due to the family and time constraints women already face, there is a need for the development of more support networks and flexible CPD opportunities focused on managerial, confidence, and communication systems.[4,15] Engagement in CPD also provides women with the ability to develop support networks through the facilitation of greater socialization and group discussions.[26,36,37] Training programs should also aim to put women in contact with mentors, peers, and other support systems so as to allow further self-discovery and career development.[24] Given that gender bias in the work environment and classroom is often caused by lack of emotional and institutional support, implementing more women-directed social support systems into leadership and CPD will positively affect women's decisions and ability to partake in such activities.[15]

Lack of women mentorship as a manifestation of society & systems barriers

Another type of support that our participants highlighted was mentors. Mentors are individuals who provide guidance for career development and psychosocial support and are critical for achieving high levels of success in all organizations.[38] O'Brien highlighted a lack of women mentors within the

workplace and continued perpetuation of gender-based barriers when fostering mentoring relationships.[39] Given that mentors have been shown to typically be men of higher status within an organization, it can often be difficult for women to identify with or see themselves in the same leadership.[34] This difference in gender representation amongst mentors ultimately results in women employees lacking access to information networks, facing negative stereotypes, and experiencing workplace discrimination. The stark contrast between the experiences of health science leaders amplifies the need for more women and gender-diverse mentors to guide future employees and alleviate the fear of leading, as mentoring can be viewed as its own form of leadership and career development.

Family and time constraints as a societal constraint

Women in our study reported that they continue to face strong societal and patriarchal expectations pertaining to their traditional gender-roles and responsibilities at home. These gendered and family-based expectations are often heightened after childbirth or during periods of caregiving, thus resulting in significant time constraints that form barriers for women hoping to continue engaging in the workplace and with continuing professional development opportunities. Globally, women of different health professions, have expressed the difficulty to balance family life and career,[4] including finding time to engage in mentorship.[29,40-43] Many working mothers struggle to balance continuing their learning and career development while taking care of their child. This struggle can result in the loss of motivation to participate in CPD, and it is even common to see women drop out of learning opportunities due to the burden of family responsibility and household management.[4,44]

Proposed conceptual framework for leadership development with gender-based considerations

With all the above themes considered, our team therefore proposes a new conceptual framework for considering how educational developers and leaders may wish to conceptualize gender-based impacts on continuing professional development of leaders. According to Varpio et al.,[45] a conceptual framework is at times a justification for why a given study may be conducted, describing the known knowledge and gaps. In our context, we would apply the conceptual framework definition presented by Bordage et al. where it is used as a lens from which to view the world.[46] Figure 1 shows a conceptualization of the factors that enable or interfere with the full engagement of leaders in their CPD, layering on the effects of social roles and other gender-related pressures.

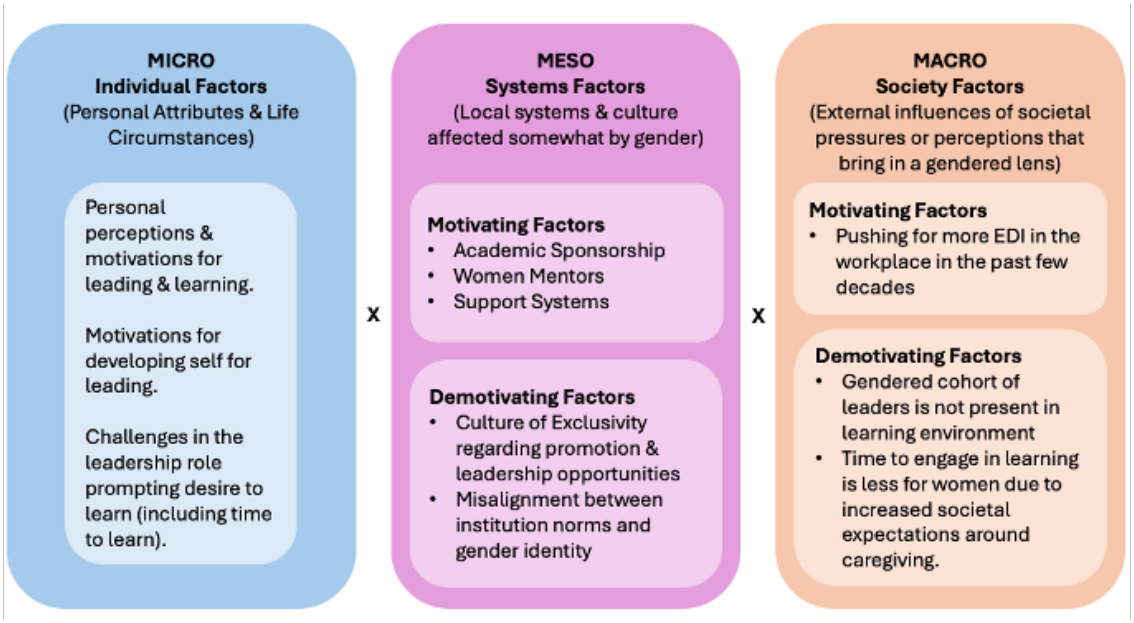

Figure 1 Our conceptual framework showing how micro, meso, and macro factors multiplye to motivate or demotivate individuals based on gendered issues or influences.

Limitations

The present study has several limitations that must be considered when interpreting the results. Firstly, although we involved leaders from across various professions within academic healthcare, all our participants were from a single institution. Since leadership and leadership training is often contextual, this may limit the transferability of our results to other contexts where there has been a broader investment in leadership training and a rich academic leadership ecosystem.

Additionally, we did not necessarily define the term 'Continuing Professional Development' but found that due to the proximity of the researchers engaged in this project and their affiliation with the McMaster Office of Continuing Professional Development that all interviewees aligned their definitions and allusions to CPD with the programming affiliated with this Office.

Also, the full effect of the societal hierarchy on leadership and the uptake of continuing professional development was not explored. The present study only focused on gender differences, whereas consideration of additional complexities such as ethnicity, sexual orientation, and socioeconomic status may have yielded a more in-depth perspective and analysis. Furthermore, major tools such as equal opportunity recruitment, workshops, and seminars consisting of gender sensitive topics may be very helpful in guiding women to reach their full potential as academic leaders.

Finally, because of both the small sample size and single institutional nature of our study, we did not feel that it would be possible to provide insights into the titles and specific roles of the leaders who participated. Since there would only be one to two of each type of leader, listing which roles they held would allow those within the institution to easily identify the individuals. In the future, a multicentre version of this study with many more participants would allow for better reporting of the nature of the academic leaders' roles.

Conclusion

With the level of gender diversity in the field of academic health sciences steadily rising, it is more important now than ever before to work towards closing the gender gap within this part of the professional world. Our study's findings provide important insight on how the gender gap influences healthcare leaders' motivation in their roles and continuing professional development; thus, the results of our study can be used to start national and global discourse amongst leaders and professionals in AHSCs on the importance of motivating women and gender-diverse individuals to start viewing learning as a life-long activity. Limited access to CPD opportunities can reinforce gender inequities in academic leadership, while well-designed CPD initiatives can serve as a catalyst for closing the gender gap. How CPD participation differs by gender and the impact of tailored CPD programs on career advancement in healthcare can be further explored. As for women representation in mentorship, methods such as introducing women role models, having open discussions, and creating interdisciplinary teams of stakeholders in CPD activities will aid in facilitating women mentorship.[4,36,39] Future research should explore specific barriers and facilitators influencing gender equity in academic leadership and professional development within healthcare. Key questions remain regarding the systemic challenges that hinder women's professional advancement, the effectiveness of existing leadership training programs, and the role of institutional policies in fostering inclusivity. Addressing these gaps moving forward will be essential in developing targeted strategies to close the long-standing gap in academic health sciences.

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