Sustainable Earth Reviews

ANALYSIS

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Women's leadership matters in education for planetary health

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Abstract

Women in higher education are in critical positions for preparing future healthcare professionals to support the health of people and the planet. However, women's leadership remains an under-explored area in education for planetary health (EPH) literature. This article articulates, through a review of empirical and theoretical literature, that it is vital to highlight women's perspectives as leaders of EPH. We argue that women are well positioned for developing and delivering EPH, and that exploring women's leadership in EPH will nuance understandings of the gendered challenges that leaders in this field face. We propose that women's leadership in EPH can be enhanced through celebrating role models as well as improving access to partnership, funding, and research opportunities. This article adds women to the agenda of the diverse voices that need to be heard for advancing EPH, inspiring others to join the growing collective of educators partnering for the health of people and the planet.

Keywords Planetary health, Climate and health, Education for planetary health, Women's leadership

Introduction

The field of planetary health has emphasised environmental determinants of health, particularly with regard to how global environmental changes, such as climate change, deforestation,pollution, and extreme weather events, threaten human health [81]. There is a broad range of direct impacts, such as harm from floods and heatwaves, as well as indirect impacts such as increasing the prevalence of infectious diseases, and food insecurity [81]. These climate-health impacts are already increasing the burden on emergency departments, hospital admissions and ambulances services [66]. To illustrate, an overview of 94 systematic reviews on the health effects of climate change found a strong association between heat and stroke, cardiovascular and respiratory-related mortalities [66]. The impacts for the healthcare sector are expected to worsen with ongoing climate change, and therefore require urgent action [5].

Health professionals will be at the forefront of managing and addressing climate-health issues within the sector and broader community. This has been recognised by the World Health Organization [82], the United Nations and its focus on Partnerships for the Sustainable Development Goals [75], many health professionals globally [40, 44], and national medical bodies from around the world [e.g. 1, 3, 14]. Therefore, there is an urgent need to build capacity in our healthcare system.

Universities have a leading role to play in rapidly preparing future healthcare professionals to address climate-health impacts. In addition to managing worsening health outcomes and impacts in communities as well as increased strain on the system, health professionals require adaptive education that develops their capacity to

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act as role models and community leaders in managing climate-health issues [2, 41]. For example, health professionals require knowledge and skills for decarbonising the healthcare sector [17, 23, 28] and influencing climate policy to support social and ecological well-being [25, 31]. As such, higher education has a critical role to play in building not only future health professionals' technical capacity but also their climate change awareness, action, and advocacy skills [27, 30, 32, 33, 47, 54].

There is a growing body of literature on conceptualising, mapping, planning, designing and implementing education for planetary health for students in health professions [12, 27, 37, 52, 59, 73, 78]. The scholarly literature defines education about, and for, the health of people and the planet with a variety of terms, including *sustainable healthcare education* [12, 78], *education for sustainable healthcare* [27, 63], *health-related education for sustainability* [59], and *climate-health education* [37]. These terms tend to vary across health professions (i.e., medicine, nursing and allied health), therefore, this article uses the term *education for planetary health* (EPH) to refer to the broad purpose of this form of education across these various health professions.

Best-practice EPH is multidimensional and transdisciplinary, informed by Indigenous knowledges and the Sustainable Development Goals [74]. EPH aims to support learners' cognitive awareness, empathy and responsibility for planetary health issues and socio-ecological justice [27, 63, 68]. Socio-ecological justice issues emphasised in EPH literature include how settler colonialism and human-centric Western paradigms have driven widespread ecological degradation with disproportionate health impacts for Indigenous peoples [27, 63]. Another socio-ecological justice theme in EPH is the gendered health inequities of planetary crises [27, 61, 64]. For instance, women and pregnant people have been found to be disproportionately affected by extreme weather events, heat stress, poor air quality, as well as food- and water-insecurity and vector-borne diseases [70]. Additionally, drought-related financial hardship and household stress are understood to increase women's risk of gendered violence [19]. In brief, EPH should include socio-emotional concepts to support students' transformative learning and ethical understandings [27]. Developing transformative and transdisciplinary curriculum is complex and requires significant leadership. Therefore, while the focus of the EPH literature has typically been on the *what* and *how* of EPH, attention is slowly turning to *who* is leading the development and implementation of EPH [50, 51].

Health educators leading change for planetary health

The concept of leadership is important in EPH because, while health educators have been increasingly making efforts to develop and implement EPH [49, 65, 80], there is still a lack of EPH globally. This is evident in studies noting a dearth of EPH in coursework across the world, including public health students in Canada [21], health professions students in Latin America [58], dietetics students in Australia [18], as well as medical students in North America [34], the UK [34, 36], Australia [48], and across 112 countries globally, including Cameroon, and Ecuador [57]. Considering the widespread lack of EPH, scholars are calling on health educators to become 'eco-ethical leaders' to seed urgent, large-scale change for EPH [50, 51].

The concept of eco-ethical leadership, in the context of EPH, has been developed through the work of McKimm and McLean [50] and McKimm et al. [51], informed by understandings of leadership as a complex practise of lived experience, self-expression [71], and ethical change-making [8]. Some of the features of eco-ethical leadership in EPH include self-accountability, empathy and transdisciplinary collaboration [50]. In practise, eco-ethical leadership might materialise as health educators co-developing EPH resources and curricula, role modelling pro-environmental behaviours, working for systems change by promoting transdisciplinary partnerships, changing organisational cultures and mindsets in health professions towards socio-ecological perspectives of wellbeing, as well as engaging in relational, collaborative leadership styles [50].

Leadership principles for EPH emphasise the need for bringing together multiple diverse perspectives in developing EPH strategies that are inclusive and equitable [51]. Several articles have covered the vital need for Indigenous leadership in EPH given Indigenous peoples' long held understandings and wisdom of human and nonhuman relationalities [27, 62, 63]. Additionally, youth and students feature as key change-agents in much of the EPH literature since they have been vocal in demanding that EPH urgently be ramped up if they are to properly care for the community in a changing climate [34, 61, 77]. However, women's stories of leading change for EPH have thus far been under-explored in the scholarly literature. One reason for the lack of specific focus on women's leadership in EPH literature may be that its role appears somewhat opaque. Therefore, this article articulates that women's perspectives are valuable because they can shed more light on women's roles in EPH and the challenges for developing EPH. Additionally, we provide suggestions for how these challenges might be addressed to continue advancing EPH.

The importance of women's leadership in education for planetary health

Women's leadership matters for EPH because women are likely playing a leadership role to develop and deliver EPH. Indeed, women already tend to occupy lower ranked, teaching-focused faculty positions. For example, in a study of 15 leading public health institutions in the USA, women occupied around 60% of the junior public health faculty positions, but only approximately 35% of the senior faculty roles [39]. Another study in North America found that within public health academia, women occupied most of the lower ranked faculty positions (54%) and produced significantly less research output than men [43]. Similar findings were evident in samples across several disciplines from Australia [22], New Zealand [15] and the Netherlands [76]. Since both lower research output and lower academic rank are associated with higher teaching-focused and curriculum-development roles in academia [56], women are therefore likely to be performing key roles in teaching, if not leading change for EPH.

Although women are not the only health educators in positions to lead EPH, research has found that women appear to be more concerned and engaged with sustainability and climate-related issues than men. To illustrate, a study of 280 medical, nursing, and physician assistant students at Yale University found that women constituted most of their sample and expressed more desire to action planetary health issues in their healthcare practices [67]. Other studies have shown that women are more likely to recycle and make more eco-friendly purchases [16, 38, 83]. Additionally, a grey literature report on gender differences in public understanding of climate change in the USA found that women perceive climate change risks as higher, more immediate, and more personally affecting than men [4]. As such, women health educators may be more interested and willing to engage in efforts to develop and deliver EPH. Notably, non-binary and gender diverse perspectives are vastly overlooked in the planetary health and EPH literature and more research is needed to illuminate their leadership practices therein.

There are several challenges that leaders in health education face in ramping up EPH. Some of these challenges are characteristic of curriculum change generally, for example the already crowded health curriculum [42], and the time, effort, and iterations necessary for curriculum reform [7, 79]. Some challenges also surround the transdisciplinary nature of EPH, namely the disciplinary silos hindering educators' collaborations to work with academics in other health professions and environmental sustainability fields [68]. Other challenges are more person-centred, such as the lack of health educators' self-efficacy to teach environmental sustainability content [11, 79]. To develop a richer analysis of priority areas to address, leadership principles in EPH emphasise the value of listening to stories of diverse stakeholders.

Indeed, our understandings of some of the challenges for EPH can be further nuanced through women's storytelling and feminist theories. For instance, sharing women's stories can provide a closer look inside what the challenges of transdisciplinary collaboration [68] feel like for women, especially when collaborating with co-workers in disciplines that are typically more dominated by men, such as climate science [29]. Women scholars have practised collective storytelling for understanding how certain academic collaborations can produce specific adversarial atmospheres that affect what women can say and do [72]. Additionally, feminist literature on women's leadership in higher education [6, 13, 46] critiques academic institutions for (re)producing the ideal leader subject as traditionally'masculine', ambitious and heroic. As such, health educators' lack of self-efficacy to teach EPH [11, 79], might be a challenge that is angled in specific ways for women who are trying to lead EPH in academic environments that value what are perceived as confident and authoritative leaders [13]. To that end, exploring women's stories as leaders in EPH can develop insights of the role that gender plays in the challenges for developing EPH.

Finally, while sharing stories can develop collective understandings of how women health educators navigate challenges, sharing stories is also valuable for amplifying role models and inspiring others to become part of leadership efforts in EPH [50]. There are many such role models within the global community of women who have long been working towards climate action and justice [10, 60]. Some of these cohorts of women include Aboriginal women leading anti-mining resistance to protect their land in Australia, such as Jacqui Katona [26, 35]; the Indigenous woman, nurse, health educator, and climate activist in Brazil, Sônia Guajajara [53]; the biologist, Rachel Carson who authored the seminal book *Silent Spring* [20] on the harm of DDT on natural habitats and human health; Wangari Maathai, the first black African woman to win a Nobel Peace Prize, and her conservation campaign mobilising action for tree planting in Kenya [45]; and youth activist, Greta Thunberg leading global school strikes for climate action [55]. Women role models who are making waves can similarly be celebrated for their stories and achievements in EPH to inspire others to join the growing collective of health educators working for planetary health.

Supporting women's leadership in education for planetary health

While women in health education are well positioned for developing and delivering EPH, we argue that there needs to be greater understanding and support for women's

leadership in EPH to explore the challenges they face and amplify their voices. Some such avenues may include exploring opportunities for:

- growing the community of women leaders in EPH through celebrating role models, and enhancing mentoring, peer support and partnership opportunities [9, 69]
- valuing women's achievements and change-agency for planetary health through awards and funding opportunities in EPH [27]
- supporting women-focused organisations, such as Women Leaders for Planetary Health, launched at the 2019 United Nations Climate Summit [24]
- engaging intersectional and eco-feminist theories in further research of how (women) health educators are practising leadership in EPH, and how they feel challenged or supported as leaders in EPH.

Conclusions

Leadership from health professions educators is urgently needed to transform current educational practices and prepare future health professionals in the changing climate. Through the literature, we found that women in higher education are particularly well positioned to practise leadership for EPH and are likely already driving forward or advocating for curriculum reform. However, women's perspectives are presently under-explored in the EPH literature. As such, little is known about their experience of making curricular change and how best to support their integration of EPH. Additionally, several challenges stand in the way of health educators' capacity to make the swift changes for EPH that are required, such as transdisciplinary collaboration and reported lack of self-efficacy to teach EPH. As such, further research is vital to understanding avenues to amplify women's leadership in EPH such as promoting partnership and funding opportunities, supporting women-focused organisations, celebrating women role models to inspire others in joining the growing community of health educators working for planetary health, and engaging intersectional and eco-feminist theories in EPH research.

Abbreviation

EPH Education for planetary health

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J.A.: Conceptualisation, Investigation, Writing—Original Draft Preparation, Writing—Review & Editing; S.H.: Conceptualisation, Supervision (lead), Writing—Review & Editing; M.S.: Conceptualisation, Supervision, Writing—Review & Editing; A.R.: Conceptualisation, Supervision, Writing—Review & Editing.

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