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Original Research

How do medical students define a Health Promoting Learning Environments?

Comment les étudiants en médecine définissent-ils un environnement d'apprentissage favorable à la santé ?

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Abstract

Background: Medical students in Canada report significantly higher rates of suicidal ideation, psychological stress, as well as mood and anxiety disorders, compared to age matched general population. We are still early in the process of having a comprehensive approach to learner wellbeing that centers around health promoting learning environments (HPLE) - focusing on more systemic actions as guided by the international Okanagan Charter. To move forward, we need to further understand what learners, faculty and staff view as critical components in an HPLE and explore how we can best advance efforts to create and embed HPLEs in medical education. The objectives of this study were to elucidate how medical students define an HPLE and what medical students perceive as the main barriers and facilitating factors to developing and fostering HPLEs.

Methods: We undertook an exploratory qualitative study using virtual semi-structured interviews of how medical students define an HPLE and the facilitators and barriers of this. We used thematic analysis to review all transcripts with ongoing iterative analysis. Final themes were agreed on consensus.

Results: We interviewed 14 medical students from all years at the University of Alberta. We identified four overarching themes which serve as important components of an HPLE including that HPLEs have foundational characteristics of respect, transparency, and open communication. Developing HPLEs require multi-pronged approaches that starts with ensuring basic needs are met and empowering learners to make health promoting choices. Learners identified that a culture of wellbeing is driven by wellbeing centered leadership. A safe space to take an active role in influencing their environment help learners thrive.

Conclusions: Our study focused on elucidating medical student perspectives on factors that contribute to and foster a health promoting learning environment. Our findings can inform on systemic efforts to embed wellbeing into medical education in Canada.

Résumé

Contexte : Les étudiants en médecine au Canada présentent des taux nettement plus élevés d'idées suicidaires, de stress psychologique, ainsi que de troubles de l'humeur et d'anxiété, par rapport à la population générale du même âge. Nous en sommes encore au début du processus visant à adopter une approche globale du bien-être des apprenants axée sur les environnements d'apprentissage favorables à la santé, en mettant l'accent sur des actions plus systémiques, conformément à la Charte de l'Okanagan. Pour aller de l'avant, nous devons mieux comprendre ce que les apprenants, les enseignants et le personnel considèrent comme des éléments essentiels d'un environnement d'apprentissage favorable à la santé et explorer la meilleure façon de faire progresser les efforts visant à créer et à intégrer de tels environnements dans l'enseignement médical. Les objectifs de cette étude étaient d'élucider comment les étudiants en médecine définissent un environnement d'apprentissage favorable à la santé et ce qu'ils perçoivent comme les principaux obstacles et facteurs facilitant le développement et la promotion de ces environnements.

Méthodes : Nous avons mené une étude qualitative exploratoire à l'aide d'entretiens virtuels semi-structurés sur la façon dont les étudiants en médecine définissent un environnement d'apprentissage favorable à la santé et les facteurs qui le facilitent ou l'entravent. Nous avons utilisé l'analyse thématique pour examiner toutes les transcriptions avec une analyse itérative continue. Les thèmes finaux ont été convenus par consensus.

Résultats : Nous avons interrogé 14 étudiants en médecine de toutes les années à l'Université de l'Alberta. Nous avons identifié quatre thèmes généraux qui constituent des éléments importants d'un environnement d'apprentissage favorable à la santé, notamment le fait que ces environnements ont pour caractéristiques fondamentales le respect, la transparence et la communication ouverte. Le développement des tels environnements nécessite des approches à plusieurs volets qui commencent par garantir la satisfaction des besoins fondamentaux et donner aux apprenants les moyens de faire des choix favorables à la santé. Les apprenants ont identifié qu'une culture du bien-être est favorisée par un leadership axé sur le bien-être. Un espace sûr où ils peuvent jouer un rôle actif pour influencer leur environnement aide les apprenants à s'épanouir.

Conclusions : Notre étude s'est concentrée sur l'élucidation des perspectives des étudiants en médecine sur les facteurs qui contribuent à favoriser un environnement d'apprentissage favorable à la santé. Nos conclusions peuvent éclairer les efforts systémiques visant à intégrer le bien-être dans l'enseignement médical au Canada.

Background

Poor physician and learner wellbeing are topics of significant, ongoing focus within the medical community.[1,2] Maser et al.[3] and others[4,5] have found that medical students in Canada report significantly higher rates of suicidal ideation, psychological stress, as well as mood and anxiety disorders, compared to age matched general population, findings that are similar to several studies in the United States.[6,7] Potential ramifications of learner burnout are both professional and personal,[8] including increased medical errors, suboptimal patient care,[9,10] inappropriate prescribing, and a decrease in empathy, altruism, and medical knowledge.[11-13] Dyrbye et al.[14] identified that a critical determinant of wellbeing is the learning environment, which refers to the physical, social, and psychological contexts in which individuals learn.[15-17] Many factors in the learning environment are at least to some extent modifiable, making it an important interventional focus.[14,18-23]

Despite faculties expending significant effort towards wellbeing, we are still early in the process of having a comprehensive approach to learner wellbeing that centers around health promoting learning environments (HPLE). This relatively new concept stems from work from the Okanagan Charter,[24] an international charter on health promoting universities and campuses that calls on these institutions to embed health principles into all aspects of culture, across the administration, operations and academic mandates. Thus far in the literature, the concept of an HPLE centers around ensuring that wellbeing is embedded in all aspects including in policies, procedures, physical, virtual spaces and more.[25] HPLEs aim to take steps to actively promote wellbeing and for individuals to thrive in all aspects of their lives. The concept of taking a health promoting approach has generally referred to systemic efforts to address wellbeing, rather than a focus on individual factors and there is widespread sense that the environment may have a positive impact on overall wellbeing. To advance efforts to improve learner wellbeing and shift medical culture, medical schools can adopt the principles of health promoting education and specifically work towards implementing the broad goals and objectives of the Okanagan Charter.[24] Canadian faculties of medicine are utilizing it to inform systemic efforts on wellbeing. The goal of this research is to contribute to creating evidence-based HPLE strategic plans within faculties of medicine.

There is a dearth of data specifically on how faculty, staff, and learners within the medical education context describe a HPLE. Additionally, the strategic directions outlined in the Okanagan Charter are novel to the medical education setting—for example, there is limited data on how to define and create a "culture of wellbeing" in the medical context, though recent work has been undertaken to support faculties in implementation of a health promoting environment.[26] Examples of these efforts include, faculties doing policy reviews to assess how their policies may promote or discourage help-seeking and health behaviours.[23] As this is a newer concept it is important that we further understand what learners, faculty, and staff within the Faculty of Medicine view as critical components in a HPLE and explore how we can best advance efforts to create and embed HPLEs in medical education. Particularly for the learner perspective there is a body of literature that connects learner agency to wellbeing.[27,28] Self-determination theory (SDT),[29,30] a leading theory of motivation, posits that autonomy, competence and relatedness energizes and directs individuals' goals and behaviours. Given the theory of SDT notes, learner autonomy is critical to wellbeing, we need to understand their perspectives when considering broad-scale initiatives. What are learner perspectives around promoting involvement, agency and wellbeing in designing the ideal learning environment?

The objectives of this study were to elucidate how medical students define an HPLE and what medical students perceive as the main barriers and facilitating factors to developing and fostering HPLEs.

Methods

2.1 Study Design

We undertook an exploratory qualitative study using semi-structured interviews. We chose this methodology due to our desire to investigate the feelings and perceptions of this concept amongst medical students and its focus on idea generation as opposed to testing specific hypotheses. Our interviews focused on how medical students define a HPLE and the facilitators and barriers of this. HPLEs are an emerging concept, with increased focus within the broader higher education context. There are no specific definitions within medical education. We asked learners to consider how they felt that a medical school environment could promote their wellbeing. We used thematic analysis[31-33] as an approach to analyzing our data. We began with the premise that our participants' experiences in medical education were complex with many unique influences that required reflection and were significantly affected by their backgrounds and past experiences. We sought to understand how their conceptualization of an HPLE was affected by their overall educational and life experience.

2.2 Participants

Only medical students enrolled at the University of Alberta medical school during the period of study recruitment were eligible for the study. Learners who were interested could reach out to our study team via an initial online form. They were then sent more information about the study and then invited to provide consent for follow-up contact and participation through an online form. Consent was confirmed at the time of the interviews. We had an initial target recruitment of between 12-20 participants, which is typical for a qualitative study of this nature to be able to reach theoretical saturation.[34] Recruitment began with a convenience sample and then employed snowball sampling. We conceptualized theoretical saturation as the point where we were confident that we had been rigorous enough in our data collection, analysis and interpretation to garner rich, unique and nuanced insights that would resonate.

2.3 Data Collection

We conducted 30-60 minute semi-structured interviews virtually using Zoom. We developed an interview guide as a study team which consisted of questions that sought to explore how participants define HPLEs and the factors that facilitate or hinder developing and fostering such settings. We utilized the strategic directions and principles in the Okanagan Charter in developing our interview guide (Appendix A). Specifically, after exploring how students conceptualized a HPLE, we utilized the strategic directions as described by the Okanagan Charter to unpack how students viewed existing concepts of health promoting environments within the medical education context. For example, within the Okanagan Charter, the importance of health promoting policies is described. We thus explored how learners conceptualize this concept within their medical school experience. We conducted interviews virtually using a private and securely encrypted meeting within the Zoom platform. The interviews were recorded, transcribed and subsequently anonymized and de-identified. Given the nature of the interviews focused on wellbeing and potentially could bring up scenarios that were distressing, we provided learners with a list of resources and support during the sign-up process and again after the interviews. Interviewers were coached on taking a trauma-informed approach to the conversations.

2.4 Analysis

VO and RJ read and coded all interview transcripts independently using an inductive approach. Individual interview scripts were anonymized prior to analysis. Coding occurred as transcripts became available, so that early interviews could inform later interviews. Thematic analysis was used to analyze the qualitative interview data as described by Braun and Clarke[31] in six phases: (1) familiarizing yourself with your data (2) generating initial codes (3) searching for themes (4) reviewing themes (5) defining and naming themes (6) and producing the report.

Themes were identified through analysis and discussion by the primary study team as the transcripts were read, re-read and actively coded. Relevant quotes were extracted for themes, and the larger team was engaged in verification of the emerging thematic structure to ensure credibility. Trustworthiness during each phase of the analysis was established through a variety of methods including record keeping of reflexive journals, researcher triangulation (through discussion amongst coders and team members after initial individual coding), use of a coding framework (developed through consensus amongst the coding and analysis team), audit trail of code generation, documentation of all team meetings and debriefings, diagramming to make sense of theme connections, and team consensus on themes.

2.5 Reflexivity

Both VO and RJ were medical students at the time of the interviews. Their unique lived experience as students informed how they conducted the conversations with other students and enhanced the ability to understand what the students were conveying about their own experiences and perspectives. At the same time, we recognize this can contribute to being less open to views or experiences that were contrary to their own. As interviewers, they aimed to create a welcoming and safe environment that allowed us to capture the experiences and perceptions of the students. VD has significant experience in learner and physician wellbeing and has held local and national leadership roles. ML has been a learner affairs dean and holds many national roles in physician and learner wellbeing. We recognize that our investment in learner wellbeing efforts, particularly VD and ML, may affect how we analyze the interviews and conceptualize next steps from our findings. We were aware of this throughout our analysis, making conscious efforts to ground ourselves deeply in the data and process.

2.6 Ethics

Research ethics approval was obtained from the Research Ethics Board at the University of Alberta.

Results

Fourteen medical students participated in the study: eight clinical clerkship and six pre-clinical students. Nine students identified as female and five identified as male. Learners were enthusiastic about the concept of an environment where wellbeing concepts were embedded throughout and the terminology of a health promoting environment being one focused on a positive approach to addressing systemic challenges. Our rich conversations led to the study team identifying four major themes:

HPLEs require several foundational characteristics including respect, transparency and open communication.

Students spoke strongly about the importance of foundational characteristics underlying a health promoting environment. Students relayed how feeling supported and being able to truly grow and develop required an environment that displayed openness and transparency, promoting respect amongst all. Students described how responsive, trustworthy communication where they felt that valued beyond just their roles as students but as people was foundational. Students felt that these underlying characteristics helped to set the stage for meaningful relationships amongst peers and preceptors and ultimately supporting a welcoming, collegial environment which promoted both safety and accountability.

Openness and transparency. Learners know an environment promotes openness and transparency when they feel empowered to ask questions and speak out. Learners noted how vulnerability and honesty amongst themselves helped increase efforts to foster openness and normalize help-seeking:

> *when we work really hard to be honest with each other and allow people to be open and … vulnerable with each other, and talking about what's hard for them, or what they don't know or what they don't understand, we need to know the culture supports that (P. 4).*

Responsive, trustworthy communication. Students gave many examples of how they knew that clear communication and transparency were prioritized. They noted that the constantly varying expectations, transitions and different environments were sources of stress inherent in medical school but that having clear, transparent communication would play a significant role in attenuating these stresses. *"There's a lot of change in medical school, you are constantly trying to learn new things and it's just really helpful when this is acknowledged, when we hear from the office in a responsive way."* (P. 6). Learners described that feeling like they would be told about changes increased their trust with the medical school administration.

Promoting Respect amongst all. Participants valued how the openness and respectful environment contributed to their peers and staff being able to get to know them as people outside of medicine, including knowledge about their families, hobbies, and interests. Students felt that environments that promoted respect helped to address the inherent medical hierarchies. One learner described a culture of wellbeing as *"a culture or workplace where you celebrate people's achievements and failures at work, but also achievements and failures at home, and value who they are as a person outside of the hospital." (P.4).*

In opposition to these enabling factors, students felt that a highly competitive environment was embedded within medical education and a significant barrier to creating HPLEs. One student commented that "competition is the enemy to wellness" (P.15). A feeling of competition makes it less likely that even simple things like sharing learning resources happen naturally and more likely that there will be undue stress in the pursuit of trying to "be the best". While striving for excellence was acknowledged to be important, students lamented when it felt like they had to be "better than each other" as opposed to striving more for collective success.

Learners felt that the natural hierarchy within medicine contributed to systemic issues with poor communication and perceived lack of transparency which were impediments to wellbeing. This was highlighted by a learner who commented,

> *I feel like it could have fixed a lot of issues in the past couple years if they were just a little bit more open with communication… It would have been a lot easier on us, because at least we know there's a rationale [behind decisions/changes made] (P.21).*

Another student noted, "*like I know we do all the class feedback to every block [but] we don't really know where it goes and what happens with it"* (P.22). Students talked about how this perpetuated a feeling that at times, medical education was walking through motions of doing things as compared to truly engaging with learners which would lead to further frustration.

Ensuring basic needs are met and empowering learner choices.

In addition to foundational characteristics, HPLEs at their core, need to ensure basic needs are met. Students described how they would envision HPLEs empowering and

supporting them to make healthy choices. As one participant described, a health-promoting environment "*acknowledges that we're both workers and learners and then humans on top of all that, and so all have unique needs and things that need to be addressed*." (P.4). Students noted the importance of "simple things" such as being able to take a break to eat, drink, use the bathroom, and having access to physical spaces that support learning or relaxation and to health-related resources which though straight forward, were not always thoughtfully considered.

Part of meeting basic needs is adequate access to health-related resources, including having a family physician and mental health support. Participants noted that while they were generally aware of these resources, they were often not very accessible as their busy schedules made it difficult to be able to participate. One learner stated that,

> *If there's a free perfectly accessible resource that learners can't use, because they are at the hospital 80 hours a week, and they're either at work or sleeping or eating or trying to get some sort of semblance of a normal life, that doesn't really help (P.5).*

Basic health needs include psychological needs, which was described as having time away from work and school to pursue a positive work-life integration and their other interests. Learners recognized that medical school would have busy schedules but wondered about opportunities to better design the educational experience to allow them to continue developing other skills and interests:

> *I guess one thing that really feels different is that medical school really takes over your life and identity and at least for me, you just don't really have that time to be away if that makes sense. Even if you aren't physically there, your mind is there. (P.7)*

Another student described, "*Coming to medical school there's this push for different, unique backgrounds, but I feel like in medical school I don't get to develop my unique self-much.*" (P.10) Students described the importance of empowering them to make healthy choices which would contribute to a more positive self-identity, subsequently supporting their educational commitment.

A culture of wellness is set by leadership

Students highlighted the outsized, influential roles that leaders play in wellbeing. Learners noted that when leaders prioritized their own wellbeing and were transparent about doing so this helped others feel like they "had permission" to look after themselves. One participant noted,

> *Trying to think back to which faculty members made the biggest impact and it's perhaps those who were some of the ones who shared a little bit of their own personal side and kind of gave that allowance to think about your personal life and to value it (P.1).*

In addition to modeling, leaders need to take active initiative to prioritize embedding health promoting foundational characteristics into the working and learning environment and ensuring that learners and staff can be their best selves. One participant expressed, *"it's really a function of the overall dynamic of the team and it won't really be until everyone's sort of on the same page and prioritizing wellness, that it really does become a priority*." (P.5), in reference to the tone and example that a health promoting leader sets.

Participants appreciated it when leadership was direct and open about promoting wellbeing. For example, medical students mentioned when pre-clerkship block coordinators communicated and demonstrated their genuine concern for students, such as "*having that coordinator come out straight out and say, 'I care about your wellness'" (P.22), or "when he came out at the beginning and set the expectation that I will enforce your breaks, I am here, I am responsive."* (P.21). Medical students highlighted the importance of feeling psychological support from program leadership. They discussed how they appreciated formal check-ins that focused on understanding their issues. One participant commented on how "*formalizing a couple more meetings with student affairs would be helpful*" mentioning that they "*usually go into them super, super stressed [but]... being able to talk about things and having someone who knows, and just can sit there and walk you through everything… really helped*" (P.21).

A safe space to take an active role in shaping their learning environment

Students expressed the desire to take an active role in shaping their learning environment and experience. Students noted that a health promoting environment included a level of individual autonomy, feeling supported to pursue their own individual and extra-curricular goals and being able to exercise some elements of choice. Learners reinforced that flexibility and having input into their schedules and routines was critical for wellbeing, with one participant stating that it "*gives you back some of that power and control that sometimes we lose as students, who … kind of fall prey to our curriculum or our schedule*" (P.6).

Participants also acknowledged that people have different learning goals, and as such appreciated having more opportunities for individualized learning and personal interests. For example, they wanted time focused on personal and professional development, with the possibility of individualized mentorship opportunities. One participant discussed how "*in a perfect world, you would sit every single learner down and have an extensive conversation about what their goals are … and tailored mentors and opportunities*." (P.10) Students recognized that there were efforts by the medical school and learner affairs and that with large classes it would be difficult to truly have individualized learning, but an element of empowerment in decision making was commonly felt as important.

Finally, part of learners playing an active role in creating this environment includes reflecting on the current culture and providing feedback for future changes. One participant suggested *"at the end of block evaluations for residents or for med students, if there could just be some sort of question that gives people pause to actually reflect … like "did you feel healthy on this rotation?""* (P.10).

Discussion

Our study explored how medical students describe health promoting learning environments. We identified important components of an HPLE including foundational characteristics of respect, transparency, open communication. Developing an HPLE requires a multi-pronged approach that starts with ensuring basic needs are met and empowering learners to make health promoting choices. Importantly, a culture of wellbeing is driven by wellbeing centered leadership, and learners thrive when they have a safe space to take an active role in influencing their environment.

We will review implications of our findings by exploring applications of these concepts and tangible ways that medical schools might develop HPLEs.

Fostering open communication in educational design is foundational

Communication is known to be foundational to the relationship between medical students, their preceptors and the medical school administration. Shan et al.[35] found that effective communication not only created a positive learning environment but contributed to improved academic achievement. Feedback and evaluations are a necessary part of medical education but can be frustrating when it feels like feedback is continually collected but not acted upon. Watson[36] discussed how efforts to "close the loop" regarding student feedback impacted student life and faculty culture, generally increasing longitudinal satisfaction. The execution of truly adopting open communication within the learning environment can be challenging and highlight the need to instill these values throughout the fabric of the organization. This also relates to another learner value - transparency and responsiveness so that they can build trust, being particularly thoughtful around communication processes right from the beginning of medical school is important. Learners describe the challenges of their continuous transitions and the many changes they experience in medical school which can be a particular area of focus around open, transparent communication for medical schools.

Going back to the basics – ensuring basic needs are met

Though "basic," the importance of availability and opportunity to meet basic needs within medical training is critical to wellbeing and the educational experience.[37,38] The concept of implementing healthy design in the medical learning environment must become more universal. Engineer et al.[39] discusses how the built environment should follow a framework that supports integrative health. They identified seven core areas that should guide the design of built environments, these domains being sleep, resiliency, environment, movement, relationships, spirituality, and nutrition. The authors highlight the inter-relationship of many of these factors. For example, spaces and nutrition—spaces for accessible healthy snacks also promote gathering and socialization that can promote increased morale. These concepts reinforce that a culture of wellbeing is thoughtfully developed and designed to support the learner as a whole person. Thoughtfully considering how nutrition, rest, and other health services are made available to medical learners are an imperative. Recognizing there are financial limitations and resource constraints, being particularly thoughtful in co-designing spaces and prioritizing opportunities for learners to support their basic needs is a critical foundational investment. Learners also discussed the importance of being able to meet their psychological needs and continue to be themselves through the medical school identity formation process. This aligns with SDT and the needs of autonomy, competence and relatedness.

Supporting learner agency

Supporting learner agencies have long been studied and noted to be important in medical education.[40,41] Students in our study also highlighted this as an important component of an HPLE. Stanton et al.[42] explored wellbeing

in Canadian post-secondary education, finding that this was improved when instructors were able to adapt and be flexible such that students were able to learn "material in a deep and meaningful way." This was felt to be achieved by being able to have more input on how the course was structured and delivered. There have been many attempts to improve bi-directional engagement in educational development including incorporating more learner partnership into curricular design and scheduling, and increased flexibility for learners to pursue their individual goals. Students in our study felt that continued emphasis on this should not only be sought due to it being educationally sound but also to further promote wellbeing. Learner-centered, health promoting education requires an element of learner agency that must be balanced with ensuring that learners are not "overburdened with fixing issues". This can be done through co-design and properly protecting and acknowledging the time learners contribute. A 'Students as Partners' model, discussed by Kapadia,[43] highlights actions staff took to improve partnerships between staff and students. They noted the key differences between just "listening to the student voice" and directly involving learners as "pedagogical consultants and co-producers of change". Truly empowering learners in co-design with faculty can have positive effects on relationships, power dynamics and the overall learning environment. In returning to SDT as a guiding framework for our study, our findings support the concept of the autonomy as a psychological need that is critical to how learners experience their learning environment. Neufeld and team have previously described how psychological need frustration negatively impacts wellbeing and the importance of addressing need-thwarting aspects of the learning environment.[44] As we move forward in our efforts to support learner wellbeing, co-design and empowerment while balancing that we cannot lay the burden on learners to address these long-standing issues will be important.

Leadership and wellbeing

Students discussed the critical role of leaders in setting a culture of wellbeing. Developing a HPLE requires leadership buy-in and wellbeing-centred-leadership skills from all institutional and educational leaders. Leaders must demonstrate and model a "wellbeing approach" as this supports others to take similar actions and recognize the critical importance of health promoting behaviours.[45,46] Priority should be given to recruit and support these leaders who possess the desire to embed the foundational characteristics into the working and learning environment. Those in educational leadership roles need to be trained with ongoing faculty development and supported by institutional policies that centre around the wellbeing of all those in the learning and working environments. To further support this, we need to have an ongoing evaluation and feedback strategy to support educational leaders. These can be developed collaboratively amongst the medical community through current large-scale initiatives focused on wellbeing to ensure collaboration and widespread adoption.

Supporting Okanagan Charter efforts

As faculties work on embedding health in policies, developing supportive, sustainable spaces, creating thriving communities, supporting meaningful personal development, strengthening faculty services and investing in quality improvement processes,[26] our findings help center medical student perspectives within these efforts. Squires and London[47] examined Canadian Universities who have signed onto the Okanagan Charter and which among them were leading in the adoption of wellbeing throughout the campus communities. The most prominent theme they identified was that campuses successful in adopting the Charter had engaged leaders who were supported by the institution and those around them. This is supported by a study by Hoert et al.,[48] who examined the role of leadership support for health promotion and wellbeing outcomes. They found that when university members perceived that leadership was supporting health promotion, their own participation in wellbeing efforts increased and job stress decreased.

It is critical to recognize that faculties of medicine are working to address these challenges in the context of significant budget restraints and resource limitations and thus national collaboration can be helpful in sharing best practices and scaling innovations.

Limitations

We have identified potential limitations in our study. Firstly, the participants of our study come from one medical school in Canada. We do not claim generalizability of findings, but rather applicability relative to the presented context and parameters of this study. Participants were recruited via voluntary sampling, and though we attempted to recruit a broad range of individuals, it is possible that those who are more passionate about this issue were more likely to be represented in our sampling.

Future opportunities include further understanding how residents/fellows and faculty members view a HPLE through their unique lens and experiences. Further,

accessing the experience of leaders and their perspectives on building health promoting settings and the interplay with their own wellbeing is a critical area to explore.

Conclusions

Our study focuses on specifically elucidating medical student perspectives on factors that contribute to and foster a health promoting learning environment as an emerging concept with faculties of medicine implementing the Okanagan Charter. An HPLE needs to have a strong foundation built on respect, communication, openness and transparency. On top of this, medical learners need to be supported beyond just their education and ensure they can access wellbeing supports and have the ability to make healthy choices. Leaders are critical to fostering a health promoting culture and they themselves need to be supported to strengthen the adoption of wellbeing in day-to-day operations. Finally, to feel like a learner is truly thriving in their learning environment, they need to feel they have the autonomy and flexibility to shape their own learning. Our findings can inform ongoing efforts to systemically embed wellbeing into medical education. Medical schools can utilize this information in actively co-designing learning environments that are health promoting for all involved, including students. In the Canadian context, as we actively develop new medical school campuses. there is significant opportunity to ensure that policies and procedures, spaces, health services and the overarching fabric of the medical school environment is designed to foster a health promoting experiences.

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Appendix A. Semi-structured interview guide:

1. What does a health promoting learning environment (HPLE) mean to you?
    a. What factors do you think are most important for your well being/an HPLE? How can medical schools actually promote wellbeing?
    b. What are some of the main barriers to wellbeing/an HPLE that you have experienced?
2. HPLEs involve Creating thriving communities and a culture of wellbeing.
    a. What does a culture of wellbeing mean to you?
    b. What aspects of the current culture are negatively impacting your wellbeing?
    c. What aspects of the current culture may positively impact your wellbeing?
3. HPLEs support one's personal development, how would a health promoting environment support your personal development?, In what areas would it focus on? In what areas would it not focus on?
4. An important part of HPLEs is embedding health in all policies?
    a. Which policies/procedures currently help your wellbeing? Why, How?
    b. Which policies/procedures are currently hindering your wellbeing? Why?, How?
    c. Do you feel that policies are developed with wellbeing in mind?
5. Sometimes HPLEs involve developing health services. How can the current health services be optimized? What additional services might be needed?