Development of a Female Leadership Program for Graduate Students in Engineering and Science*

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Summary There is a lack of participation of women in Science, Technology, Engineering and Mathematics (STEM) fields. The problem becomes worse at the leadership levels. In this work, we discuss the development of a leadership program for female graduate students to give them tools to become future leaders.

1. Relevance
The work discussed the development and the implementation of a comprehensive leadership development program for female graduate students. The program not only supports the female graduate students in their career, but also provides them with great role models to aspire to, while at the same time trying to make a more diverse population at the university through practical means. This falls directly into the mandate of the Gender summit.

2. Aims & Objectives
Due to STEM careers being typically seen as male-dominated fields, it can be difficult for female students to stand out as leaders or feel like they belong. This leadership program will focus on leadership skill development for female graduate students. The proposed Female Leadership Circle is a series of workshops, gatherings and lean-in circles based on various aspects of leadership or career development for women in STEM. This initiative is aimed at helping (female) graduate students become better leaders and improving their future employment opportunities, in either academia or industry.

3. Methods
The proposed plan is to have 1- to 3-hour workshops, two informal gatherings with faculty members, and one lean-in circle or networking opportunity per month. For each workshop session, an invited speaker discusses one topic for half the session. The rest of the time will be working on some activities based on the topic that was discussed. The mandate for the informal gathering and the lean-in circles is to build a community of female graduate students leaders, and also train the students who can be tapped to develop future workshops for undergraduate students.

Leadership behavior research classifies leadership into three categories: relationship behavior, task oriented, and change behavior. We have set workshops for each one of these categories. For example, in the relationship behavior, we discuss implicit bias, imposter syndrome, assertiveness, asking for feedback and networking. In the task oriented category, we discuss topics such as entrepreneurship, academic careers, and working as a female researcher and building a collaborative environment. Finally, in the change behavior category, we discuss championing female voices in a group, empowering others, conducting highly effective team meetings, building a personal brand and leaning in.

5. Conclusions
This workshop series aims to help graduate students become better leaders, enabling them to contribute more to the Canadian society and build a more diverse set of leaders in STEM.

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