

# Evaluating a Transformative Program for Black Canadian Youth in STEM Fields: ELITE Wellness and Coaching Series

Sophie Yohani<sup>1</sup>, Kutay Saçak<sup>2</sup>, Madison Dabbs-Petty<sup>3</sup>, & Evan Essapa<sup>4</sup>

<sup>1</sup>Professor, ELITE W&CS Lead, <sup>2</sup>CP Doctoral student, ELITE W&CS Research Assistant, <sup>3</sup>CP Doctoral student, ELITE W&CS Counsellor/Coach, <sup>4</sup>CP Master's student, ELITE W&CS Counsellor/Coach

## Abstract

Transitions in academic and professional life can often be stressful. In fact, research has shown that both starting university and approaching graduation can be significant stressors affecting mental health (Cage et al., 2021; Magier et al., 2023). Unfortunately, Black Canadian youth face several structural barriers in accessing mental health services (Salami et al., 2021). ELITE program involves Wellness & Coaching Series (W&CS) that were designed to provide Black youth with mental health knowledge and skills towards building capacity and enhancing resiliency and hope as they navigate transitions in academic and work life. In this poster, we share our evaluative research findings aimed to understand the impact of W&CS on participants' perception of mental wellness skills and knowledge.

## Introduction



#### What is ELITE Program?

Experiential Learning in Innovation, Technology, and Entrepreneurship (ELITE) is a learning and training program

and others

for Black Canadian youth who pursue careers in STEM fields. The program consists of a paid internship, entrepreneurship training, and the wellness and coaching components.

#### What do Wellness & Coaching Series involve?

Wellness & Coaching Series (W&CS) are online groups facilitated by two counselling psychology graduate students and supported by a counselling psychology faculty member and graduate research assistant. Participants join the series in two cohorts: (1) undergraduate, (2) high school cohort.

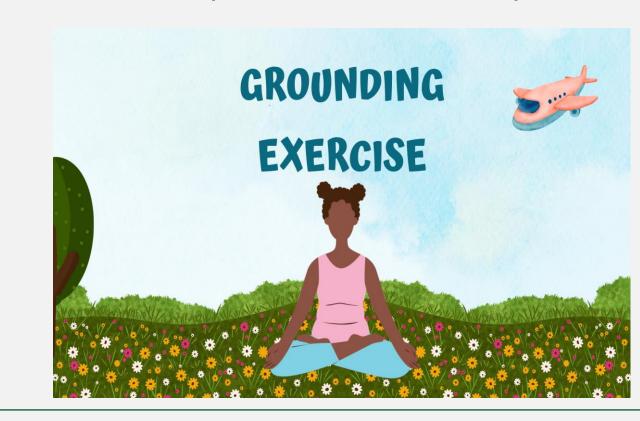
W&CS includes presentations, group discussions, interactive components, and coaching on setting personal wellness goals. W&CS cover the following areas:

- Stress and emotion regulation,
- Identifying and shifting thought patterns,
- Anxiety and depression,
- Anti-Black racism,
- Relationships and advocacy

#### **Research Purpose and Questions**

The main purpose of this research was to evaluate Wellness and Coaching component of the ELITE program. Parallel with the program's goals, the research questions included:

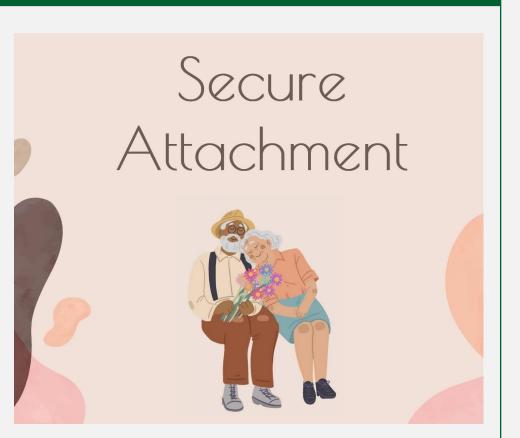
- 1. Do W&CS contribute to mental health skills and knowledge of participants?
- 2. Does the program support and enhance resilience?
- 3. Does the component of wellness goal coaching work as intended?
- 4. What are some potential areas to improve in the program?



## Methods

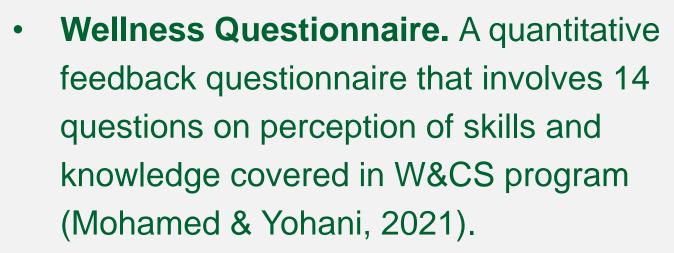
#### <u>Participants</u>

A total of 34 participants between ages 15 and 21 from high school (n=13) and undergraduate (n=21) cohorts joined this study to answer quantitative surveys. 22 participants also volunteered in semi-structures interviews.



#### **Data Collection & Measures**

Both quantitative and qualitative data were collected in this mixed-methods convergent design study. Data was collected at the beginning and the end of program.



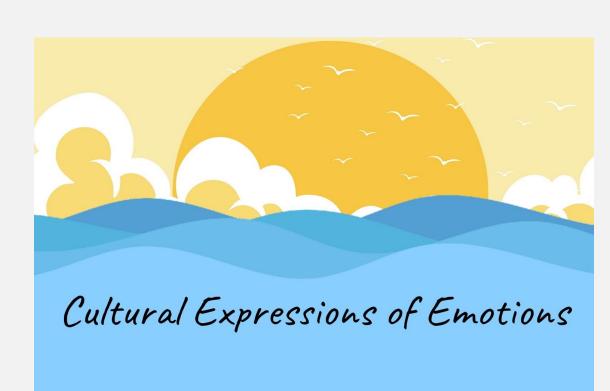
- State Hope Scale. Measures hope across
  6 items (Snyder et al., 1996).
- Basic Psychological Need Satisfaction and Frustration Scale (BPNSFS; Van der Kaap-Deeder et al., 2020). Measures the

degree that basic psychological needs are met based on Self-Determination theory (Ryan & Deci, 2017).

• Semi-structured qualitative interviews. Involved questions regarding participants' experiences with W&CS.

#### **Data Analysis**

To analyze the quantitative changes in hope levels and perception of knowledge and skills, we used paired samples t-test and descriptive analyses. To determine program areas of improvement, correlational analysis and multiple regression were used. For qualitative data, thematic analysis was used (Braun & Clarke, 2006).



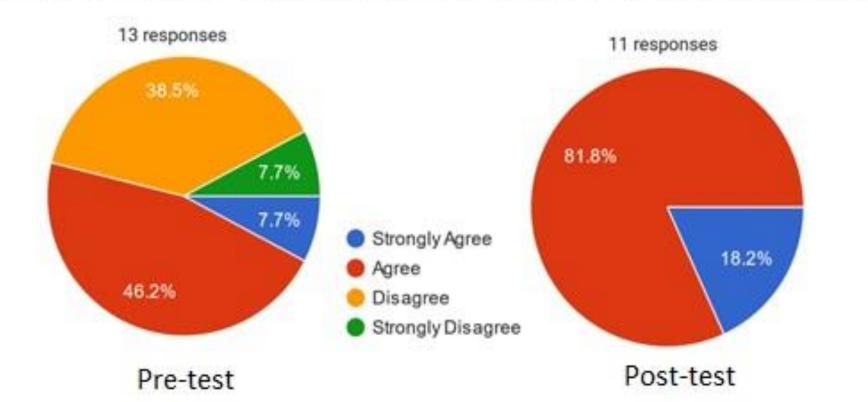
## Results

### Q1: Do W&CS contribute to wellness knowledge & skills?

*Quantitative feedback* results indicated participants' perceived knowledge and skills increased across all modules in W&CS. High school cohort reported the largest amount of increase in tools to manage microaggressions and racism, advocacy, and emotional awareness. For undergraduate participants, these areas were stress management and identifying thought patterns.

Qualitative findings confirmed these results: "I was able to better manage my stress" (P20), "I prioritized my mental health after sessions" (P5).

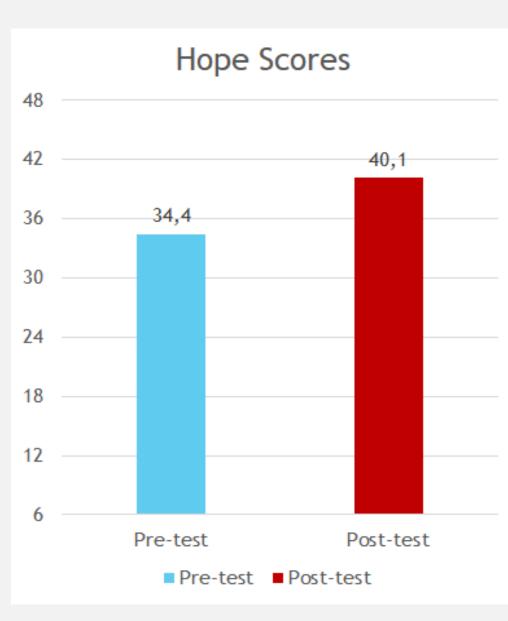
I have the tools (i.e., skills and resources) to manage microaggressions/anti-Black racism.



#### **Q2: Does the Program Enhance Resilience?**

To answer this question, we measured the changes in hope levels as a source of resilience. For this purpose we used the State Hope Scale (SHS; Snyder et al., 1996).

We found a significant difference of SHS scores of the participants between pretest and post-test results (t25 = 4.45, p < .001). Overall, the total post-test hope scores were 5.69 points higher than pre-test hope scores (95% Cl [3.06, 8.33]), which indicates a statistically significant increase in hope levels by the end of W&Cs.



## However, qualitative findings contrasted these findings.

Participants in interviews mentioned no increase in their hope. Upon further analysis, we found out that participants elaborated mostly on their **spiritual/religious understanding of hope**, while the quantitative measure captured a cognitive understanding of hope based on goal-directed thinking. This finding sheds light on the need to explore further cross-cultural understandings of hope and resilience, as argued in recent literature (Scioli, 2023).

#### Q3: Does the Wellness Goal Coaching Component Work?

W&CS involve a process of setting personal wellness goals and working toward the goal throughout the program.

Quantitative feedback have shown that nearly 88% of all participants were able to set themselves wellness goals and approximately 80% were able to achieve these goals.

Qualitative findings support this feedback. Participants typically reported either reaching their wellness goals or making significant progress toward them.



#### Q4: How Can the Program Be Improved?

In a multiple regression analysis, we found that basic psychological needs (autonomy, competence, and relatedness) significantly predicted hope levels of participants (F(3, 27) = 16.74, p < .001, R<sup>2</sup> = .65.). Based on this finding, Self-determination theory can provide a useful framework for guiding future improvements to support hope and resilience of participants.

Many participants also made direct recommendations to improve the program:

- Increase the amount of interactive components
- Further guidance on wellness goal setting and achievement
- More content on work-life balance and time management

## Conclusion

Our findings show that ELITE Wellness and Coaching Series facilitate achieving intended program goals. Participants report increased perception of mental health knowledge and skills, making progress on personal wellness goals, and increased hope from a cognitive perspective.

The program has room for several feasible changes that can make the program delivery more effective.

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