

The Role of Self-Efficacy in Female Post-Secondary Leadership

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By

Maryam Yasinian

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Abstract

This qualitative study explored the relationship between leadership development of female academics and self-efficacy. Although self-efficacy has become one of the key variables employed to understand and facilitate people's career development, less attention has focused on studying the relationship between self-efficacy and female academics' career paths into leadership positions. The conceptual framework of this study was based upon Bandura's (1986) social cognitive theory from which the construct of self-efficacy was developed. Multiple iterations of semi-structured interviews were conducted with three female faculty members who held leadership positions in social science disciplines and STEM fields. Three significant findings were identified: (1) self-efficacy influences leadership development in multi-faceted and dynamic ways; (2) Bandura's four sources of self-efficacy shape women's senses of self-efficacy which then influence leadership development, and; (3) self-efficacy influences multiple areas of occupational behaviour, including persistence, optimism, motivation, and adaptive career behaviours.

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Dedications

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Chapter One: Introduction

Self-efficacy has been identified as the most powerful and influential pattern of self-reflective thoughts guiding human's feelings, behaviours, decisions, and actions (Bandura, 1986). It has been defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). Self-efficacy is concerned with the initiation of a behaviour that creates a positive self-belief that a person's knowledge or skills can be applied successfully (Bandura, 1982, 1993). In other words, self-efficacy is the mediator between a person's belief in self, and an appropriate behaviour or a course of action (Bandura, 1982). As a dynamic and generative human trait, self-efficacy is influenced and shaped through four key sources: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal (Bandura, 1977, 1986). It also influences and shapes each area of human life, including individual accomplishments, level of persistence, optimism, motivation, and life choices including occupational choices (Bandura, 1977, 1986, 1993).

Among all influences of self-efficacy, the impact of self-efficacy on career choices has been specifically highlighted and investigated by many scholars due to its influential effect on people's experiences, lives, and career choices (Bandura, 1993; Lent & Brown, 2013; Lent, Brown, & Hackett, 1994; Lent, Brown, Nota, & Soresi, 2003). People tend to develop an interest in and pursue careers for which they feel the most competent and efficacious; this self-efficacy development for a career begins to happen in childhood and continues throughout adulthood (Lent et al., 1994). Research has demonstrated that women, compared to men, tend to base their career choices more strongly on their sense of efficacy than on the potential outcome and privilege the career may offer them (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). They develop their self-efficacy for careers differently than men because they run into biases and barriers that not only shape their ability to proceed but shape their self-belief in their

ability to proceed (Bakken, Sheridan, & Carnes, 2003; Sweida & Reichard, 2013; Williams & Subich, 2006).

Hackett's and Betz's (1981) career development model for women identified women's traditional socialization experiences as the main factor inhibiting their self-efficacy for career development. In addition to traditional socialization experiences, environmental factors and personal inputs have been highlighted as two determinant elements shaping self-efficacy for occupational development (Lent et al., 1994, 2000). For women who work in universities, environmental factors, masculinist academic norms, and gender discrimination (Shen & Tian, 2012) have been reported as a significant obstacle for female faculty's career access to senior positions (Kossek, Lewis, & Hammer, 2010; Sallee, 2012). My study investigated the impact of learning experiences and the academic environment on women's self-efficacy in order to identify the extent to which self-efficacy played a mediating role between learning experiences, environment, career choices, and acquisition of leadership positions.

As is explicit in Chapter Two, previous studies have acknowledged the relationship between women's self-efficacy and their occupational choices and career development. For instance, extensive research has reported women's lower sense of efficacy as a key reason for their underrepresentation in male-dominated careers in the science, technology, engineering, and mathematics (STEM) fields (Beyer, 2014; Vogt, Hocevar, & Hagedorn, 2007). Unfortunately, less attention has been focused on discovering the extent of the relationship between female academics' career paths into leadership positions and their sense of efficacy. Similar to STEM fields, leadership of higher education has been greatly characterized as a hyper-masculinized field within which women are significantly underrepresented (Acker, 2010; Cook, 2018; Knights & Richards, 2003; Krefting, 2003; Nguyen, 2013; Serghini-Idrissi & Garcia-Prieto, 2011; Wallace & Wallin, 2015; White, 2003). This study considered the

extent to which women's self-efficacy impacted their decisions to pursue leadership positions in academia.

Purpose of the Study

The purpose of this study was to explore the relationship between self-efficacy and the acquisition of leadership positions of female academics. It is important to understand why far fewer women than men engage in leadership of higher education. The primary research question of this study was: in what ways does self-efficacy influence women's decisions to pursue leadership positions in university administration?

The sub questions were designed as follows:

1. In what ways do academic environment and socialization experiences influence women's self-efficacy for leadership in university administration?
2. In what ways do sources of self-efficacy (mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal) influence women's decisions to pursue leadership positions in university administration?
3. In what ways does self-efficacy shape women's accomplishments, persistence, optimism, and motivation to seek leadership in university administration?
4. In what ways does self-efficacy influence women's adaptive career behaviours when they decide to seek leadership in university administration?

The conceptual framework of this study was based upon Bandura's (1986) social cognitive theory from which the construct of self-efficacy was developed. Bandura's social cognitive theory is the foundation for many scholars who have examined the role of self-efficacy in career development (Hackett & Betz, 1981; Lent et al., 1994). It has also been used to shed light on the impact of self-efficacy on the career development of women in particular (Bandura, 1986) and the acquirement of leadership positions (Bandura, 1995, 2009). Given the purpose of this study, social cognitive theory provided a valuable conceptual lens through

which to examine the self-efficacy of female leaders in the academy. The conceptual framework is articulated more fully in Chapter Two.

Methodologically, the study was conceptualized as a naturalistic inquiry utilizing semi-structured interviews. Three female leaders in two leadership roles including heads of departments and graduate chairs within two colleges related to social science disciplines, and one college related to STEM fields were interviewed three times each regarding the role that self-efficacy played in their decisions to pursue leadership positions within the academy. Data was analyzed utilizing constructs articulated within the conceptual framework, while also allowing for thematic analysis of emergent constructs that developed in the conversations with participants.

Rationale/Significance of the Study

The study was significant for four main reasons. First, it provided insights into female academics' choices to pursue leadership positions and its connection with the construct of self-efficacy. This information was theoretically significant, but it may also lead to practical actions that can support women's leadership development. Women's leadership development may consequently lead to the fulfilment of female academics' potential and their full participation within the institution, thereby promoting success for universities. Additionally, this information may encourage post-secondary institutions to create equitable environments where both male and female faculty have the opportunity to progress in their careers. As more women are able to access leadership positions, students, and female students in particular, will observe female faculty in senior positions and may be encouraged to aspire to leadership positions. Second, this study set the stage for future research that will better identify the importance of female academics' career development, self-efficacy and its connection with academic leadership. It could lead to the development of influential programs for female graduate students, novice instructors, and senior faculty to help them prepare to take leadership

positions. Third, the findings may foster professional, social, and psychological changes for women by raising their awareness on barriers that inhibit their self-efficacy and movement into leadership positions. When women become more aware of factors impeding their professional progress, they are more likely to become motivated to find solutions to those impediments. This may contribute to higher professional achievements, social status, and psychological wellness. Finally, this study sought to fill a gap in the literature by focusing on the relationship between self-efficacy and leadership development of academic women. While there are substantial studies on self-efficacy, career development, and their connections for women, studies that explain how self-efficacy can influence female faculty's career decision-making towards leadership are lacking. Exploring academic women's experiences sheds light on factors that have influenced and shaped their sense of efficacy. Investigating the relationship between female academics' self-efficacy and their career development towards leadership adds to the literature of leadership and self-efficacy.

Definition of Terms

This section contains definitions of key terms used in this study in order to contribute to clarity:

Self-efficacy is “people’s judgments of their capabilities to organize and execute courses of action required to attain designated types of performances” (Bandura, 1986, p. 391).

Mastery experience has been introduced as the most influential source of efficacy because it provides first-hand knowledge and authentic experience for individuals (Bandura, 1977, 1982, 1986). Bandura (1995) believed that “developing a sense of efficacy through mastery experiences is not a matter of adopting ready-made habits. Rather, it involves acquiring the cognitive, behavioral, and self-regulatory tools for creating and executing appropriate courses of action to manage ever-changing life circumstances” (p. 3). Bandura simultaneously refers to mastery experiences as “enactive attainment” (1982, 1986),

“performance accomplishments” (1977), and “mastery experiences” (1995). For this thesis, mastery experience will be the preferred term.

Vicarious experience is also known as modeling or social modeling (Bandura, 2009), and refers to people seeing similar individuals behaving in a particular manner or succeeding in their tasks. This consequently leads to a self-belief that those behaviours can be modelled, and that the observer is capable of duplicating similar successes (Bandura, 1986, 1995).

Verbal persuasion refers to the development of people’s belief in their capabilities through positive appraisal, suggestions, and verbal inspiration (Bandura, 1986).

Emotional arousal (also known as physiological or emotional state), refers to interpreting capabilities through emotional and physical circumstances (Bandura, 1986, 2009). Bandura (2009) reported that “positive mood enhances a sense of efficacy; depressed mood diminishes it” (p. 185).

Leadership is defined as “a process through which persons seek to bring about change and/or improvement in the organization by influencing other people or organizational processes” (Hallinger, 2018, p. 364).

Adaptive career behaviour is defined as “behaviours that people employ to help direct their own career (and educational) development, both under ordinary circumstances and when beset by stressful conditions” (Lent & Brown, 2013, p. 559).

Objective factors are available resources affecting environmental factors in which people are developing their sense of efficacy (Lent et al., 2000). Examples of objective factors include family support, financial support, social support, and the quality of acquired education.

Distal factors refer to the encouragement, discouragement, and role modeling by which people are developing their learning experiences in the initial phase of career development process (Lent et al., 2000). Distal factors influence career choices within learning experiences that in turn shape individuals’ self-efficacy in this process (Lent et al., 2000).

Proximal factors include such things as networking, discriminatory hiring behaviours, and other structural obstacles that may confront a person who is actively looking for a job opportunity (Lent et al., 2000). Both distal and proximal factors are two types of contextual variables. The distinction between distal factors and proximal factors is that the latter is closer in time to career choices and influences career decision-making directly while the former is much earlier than the choices and affects them indirectly and within learning experiences (Lent et al., 2000).

Socialization refers to the process in which people internalize experiences that they learn from the outside world (Fingerman & Pitzer, 2007). Those internalized experiences shape their beliefs, feelings, and behaviours which constantly lead to their actions and decisions (Fingerman & Pitzer, 2007).

Stereotype activation is defined as “the increased accessibility of the constellation of attributes that are believed to characterize members of a given social category” (Wheeler & Petty, 2001, p. 797).

Academic culture encompasses “academic outlooks, academic spirits, academic ethics and academic environments” (Shen & Tian, 2012, p. 61).

Family-work conflict is defined by Greenhaus and Beutell (1985) as:

A form of inter-role conflict in which the role pressures from the work and family domains are mutually incompatible in some respect. That is, participation in the work (family) role is made more difficult by virtue of participation in the family (work) role. (p. 77)

Mentoring is defined as “a process for the informal transmission of knowledge, social capital, and psychosocial support perceived by the recipient as relevant to work, career, or professional development” (Bozeman & Feeney, 2007, p. 731).

Delimitations

Delimitations are the boundaries or scope that researchers set for a study (Nenty, 2009). This qualitative study included three female faculty members who held leading positions as heads of departments or graduate chairs in three different colleges (one STEM college and two Social Sciences colleges) in a single post-secondary institution in one Canadian province. Women in higher positions such as deans were not selected in this study because there were a few women in top levels of administration in this single university which made anonymity a concern. In addition, choosing the participants from highest levels of university administration could have reduced the number of potential participants dramatically due to a lack of women in those positions. Each female leader participated in three semi-structured interviews. Because the study utilized a qualitative methodology in a naturalistic approach, the study was not aiming for generalization. Rather, the study attempted to comprehensively explore the concept of self-efficacy for the participants and its connection with the career development they have taken. The findings of this study may be transferable to women who are seeking leadership roles in other post-secondary institutions. Also, it may be transferable to women who are pursuing leadership in sectors other than education. Lastly, the results may be beneficial for men to help them understand the significance of self-efficacy in their career choices.

Limitations

Limitations of research include potential weaknesses that may jeopardize findings (Creswell, 2012). Six limitations were acknowledged for this research. First, this study utilized a qualitative approach that limits generalizability. According to Creswell and Poth (2018), qualitative research is generated from an interpretive lens where a researcher is the major instrument of data collection. Thus, there was the possibility that my assumptions might affect the interpretation of the interviews. However, this characteristic of qualitative research could be a strength as well which could contribute to my study (Given, 2008). Second, the data

collection took place solely through one method, the semi-structured interview. Relying on a single method was considered a limitation for this study. Nevertheless, interviewing has been identified as the most common approach in qualitative research providing the richest data from individuals' points of view and first-hand experiences (Peräkylä & Ruusuvuori, 2011). One of the ways to offset some of this limitation was that each participant was interviewed multiple times, allowing for confirmation of content and affirmation of results. Third, the study was conducted using a purposeful approach for selecting the participants. This purposeful approach minimized the generalizability of my study which can be considered a limitation. Nevertheless, purposeful sampling has been recommended if researchers intend to accommodate information-rich cases to the subject of interest (Patton, 2015; Salkind, 2010). I chose the participants from three different colleges purposefully to ensure that the study covered a varied range of members and experiences at the university based on Maxwell's (2009) suggestion. Another limitation was the small number of participants in this study. Although a small number of participants is one of the main distinctions between qualitative study and a quantitative approach with the aim of giving depth to the qualitative study (Patton, 2015), it could also minimize the chance of generalizability in the case of the current research. However, my intention was to create an in-depth understanding of the participants' experiences rather than generalizability. The fifth limitation was concerned with the fact that the participants were restricted to a single university that could increase chances of bias that may occur in a similar setting. I attempted to address this limitation by selecting the participants from different colleges across the university. Finally, the last limitation spoke to the sensitivity of the topic in this study. There was a chance that the participants may not feel completely comfortable talking about their sense of efficacy and its relationship to gender, so there was a possibility that they might not answer truthfully or might not elaborate on their experiences. I addressed this limitation by conducting the interviews in three stages so that I could build trust and the

appropriate foundation for a friendly relationship. I also provided multiple opportunities for participants to review data as well as the findings to confirm their comfort level with the reporting of findings.

Organization of the Report

This thesis was organized in five chapters. Chapter One provided an introduction to female faculty's status in academia and in leadership positions, as well as self-efficacy and its connection with career development. The chapter continued with the purpose and the research questions, the significance of the study, the definition of key terms, the delimitations, and limitations.

Chapter Two contains the literature review and presents supporting literature for the study's research questions in six sections. The first part began with Bandura's (1986) social cognitive theory including self-efficacy theory and the related findings from Bandura's scholarly works. The second section is allocated to self-efficacy and career development focusing on social cognitive career theory and related research. The third section explains the concept of self-efficacy for women and its relationship with their career choices and occupational development. The fourth section reviews leadership and its connection with self-efficacy. The fifth section presents factors that influence academic women's leadership career path in higher education. The last section presents the conceptual framework of the study.

Chapter Three provides information on the study's research methodology. It justifies the research approach and the methodology, the research method for data collection, the study environment, the sampling strategies, the researcher's positioning, data analysis, and considerations of the study's trustworthiness and ethics.

Chapter Four presents an analysis of the results. Four major themes as well as 18 sub-themes were found that address each research question.

Finally, Chapter 5 outlines the summary and the interpretation of the results in relation to each question and in connection with the literature review. This chapter also discusses the implications for practice, future research, and theory.

Chapter Two: Literature Review

Self-efficacy is the belief people have in their abilities (Bandura, 1977, 1986). The concept has been of great interest since Bandura (1986) published his theory explaining that self-efficacy is an acquired behaviour shaped by one's experiences that affects every area of human endeavour. The impact of self-efficacy on career decision-making of women and men has specially attracted scholars' attention because of the major influence of occupation on people's life. It is debated that self-efficacy may impact the uneven distribution of women and men in many careers (Beyer, 2014; Sweida & Reichard, 2013).

As a particular career opportunity, leadership of higher education is one of the pipelines in which significant gender imbalance has provoked major controversy. Although women constitute a large proportion of university degree holders, they are underrepresented in leading roles of academia (Madsen, 2011; Murray, Tremaine, & Fountaine, 2012). Some scholars argue that this disproportionate representation can be explained by women's lack of desire to move up the leadership ladder. This literature review aims to elaborate on self-efficacy as a partial explanation of women's status in leadership of higher education. The review unpacks the concept of self-efficacy, women's self-efficacy for career development, and investigates the extent to which self-efficacy may impact women's status in leading positions of post-secondary education.

Self-Efficacy

In this thesis, Bandura's (1986) social cognitive theory has been employed to explain human behaviour and to explore self-efficacy. This section is organized into four parts: human capabilities that influence human nature (social cognitive theory), defining self-efficacy, the influence of self-efficacy, and sources that shape self-efficacy and its impact on human life.

Human Capabilities that Influence Human Nature (Social Cognitive Theory)

Social cognitive theory attempts to determine how symbolic knowledge acquired through human's various capabilities turn into appropriate actions (Bandura, 1986). From the social cognitive perspective, individuals' natures and behaviours are not formed by their inborn qualities or external influences solely (Bandura, 1986). Rather, human nature is shaped by the reciprocal relationship between behaviour, cognition, and environmental influences (Bandura, 1986). In this circumstance knowledge acquisition necessary for formation of behaviour happens within five unique human abilities: symbolizing capability, forethought capability, vicarious capability, self-regulatory capability, and self-reflective capability (Bandura, 1986).

Symbolizing capability refers to the employment of symbols by which people give meaning to their experiences and adjust themselves to their environment (Bandura, 1986). This special capacity turns temporary experiences into symbols that go into long-term memory where they are retained and employed as a guide for functioning (Bandura, 1977).

In addition to symbolizing capability, human nature is affected by forethought capability. It equips individuals to envision the future, set goals, make plans, and anticipate the consequences of their actions (Bandura, 1986). Forethought capacity allows individuals to envision a meaningful life filled with ambitions for the future instead of wandering in the past or present time (Bandura, 1986). Both symbolizing ability and forethought capability go hand in hand since future plans cannot motivate people for further actions unless they are visualized as desirable symbols and images projected for the future (Bandura, 1986).

Another feature of social cognitive theory is vicarious capability that refers to the fact that learning will not take place solely by experiencing a new phenomenon but also by observing and modeling one's behavior and actions (Bandura, 1986). Observation and modeling prevent repetition of the same mistakes and offers a perspective of what to expect and how to act in a particular circumstance (Bandura, 1986).

Self-regulatory capability, as the fourth feature, explains how people are capable of setting standards for their behaviour and taking control of their own actions (Bandura, 1986). Based on this capacity, people give priority to their preferences even if they are not aligned with others' expectations and self-direct themselves to meet their standards (Bandura, 1986).

Lastly, people's behaviour is affected by their self-reflective capability that is distinctively limited to humans (Bandura, 1986). Self-reflection allows individuals to reflect on their experiences and think about their own thoughts which in turn "they can derive generic knowledge about themselves and the world around them" (Bandura, 1986, p. 21).

Bandura (1986) believed that although these five human's capabilities are necessary for attainment of knowledge, they do not lead to actions per se. One may have sufficient knowledge and relevant skills for a task but does not take any actions or behave properly because of self-reflective thoughts (Bandura, 1986). Bandura (1986) believed that among all the patterns of self-reflective thoughts that influence actions, none is more powerful and persistent than people's self-efficacy guiding feeling, behavior, and motivation. Self-efficacy is the mediator transforming knowledge attained through the five potentialities into suitable courses of actions (Bandura, 1986).

Defining Self-Efficacy

Viewed from a cognitive framework, self-efficacy has been defined as "people's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances" (Bandura, 1986, p. 391). Perceived self-efficacy is associated with how individuals judge their competence rather than their actual abilities (Bandura, 1982). According to Bandura (1982, 1993), one cannot guarantee accomplishment from possession of relevant knowledge and skills unless self-efficacy first creates a positive self-belief that those skills can be applied successfully. In other words, self-efficacy is the mediator between the person and the behaviour leading one to begin an action (Bandura, 1982).

Because self-efficacy is concerned with initiation of an action, Bandura (1977) has differentiated between efficacy expectation and outcome expectation. Efficacy expectation is the self-belief held by people about their abilities that they are capable to execute certain actions whereas outcome expectation is one's prediction that those behaviours when executed will have certain results (Bandura, 1977). People may believe that an action will have a particular outcome but still do not dare to initiate in the first place (Bandura, 1977). Both efficacy expectation and outcome expectation are strong determinants of behaviour, but efficacy expectation is more influential (Bandura, 1986).

Influence of Self-Efficacy

Self-efficacy influences each area of human life including individual accomplishment, level of persistence, optimism, motivation, and choices. Human accomplishment is highly affected by individuals' sense of efficacy (Bandura, 1993). In other words, self-efficacy is a strong predictor for the goals people set, their level of commitment, and the types of scenarios they anticipate and rehearse while reaching their objectives (Bandura, 1993). For example, people who have a stronger sense of efficacy are more likely to follow challenging goals which consequently lead to more opportunities, success, and satisfaction in their lives, whereas those with lower self-efficacy avoid difficult responsibilities and consider them as threats (Bandura, 1994).

Like accomplishments, people's level of persistence is determined by their sense of efficacy (Bandura, 1977). It is the attribute that encourages people to continue until they earn mastery of activities (Bandura, 1977). In contrast, people who doubt about their capabilities are more likely to give up when encountering difficulties (Bandura, 1993). These people attribute their failures to internal reasons such as their intelligence or proficiencies, while self-efficacious individuals attribute their disappointments realistically to factors such as insufficient effort (Bandura, 1994).

In addition to persistence, people's sense of optimism is under control of self-efficacy (Bandura, 1993). Highly efficacious people are more optimistic about their effort and visualize success instead of failure (Bandura, 1993). Optimism is essentially important for achievement of those who are surrounded by many obstacles and frustrations on a daily basis (Bandura, 1994).

Similar to optimism, self-efficacy beliefs have a huge role in regulating the level of motivation (Bandura & Jourden, 1991). Highly efficacious individuals have higher, intrinsic motivation to initiate and persist with daunting tasks, allocate more time and effort, and rebound in the face of failure (Bandura, 1993, 1994). They are also more motivated to set challenging objectives and keep themselves focused on achievement (Bandura & Jourden, 1991).

More importantly, self-efficacy can revolutionize people's life path by influencing their choices and activities, occupational choices in particular (Bandura, 1993). People experience different lives due to their work positions as each career demands specific intellectual development, skills, beliefs, social networking, and education (Bandura, 1993). As Bandura (1993) noted, "the stronger people's belief in their efficacy, the more career options they consider possible, the greater the interest they show in them . . . and the greater their staying power and success in difficult occupational pursuits" (p. 135).

It is noteworthy that self-efficacy is not a fixed human trait (Bandura, 1986). Rather, self-efficacy is dynamic and generative; it needs to be developed by attainment of new skills and revision of learned behaviour (Bandura, 1986, 1993). According to the studies, self-efficacy is dependent on the situation which means it rises and falls in different circumstances (Bandura, 1986). A person with a particular level of capability, for instance, can have poor, adequate, or excellent performance depending on the fluctuation in his or her self-efficacy in a specific situation (Bandura, 1993).

Sources That Shape Self-Efficacy

Bandura (1977, 1986) highlighted that people's self-efficacy is shaped and developed when they interpret their abilities through four key sources: mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. According to Bandura (1986, 1994), one needs to repeatedly exercise an activity and succeed in order to gain mastery that in turn leads to a sense of efficacy. Mastery experience is the most influential source of self-efficacy because one is able to practice and learn from an action first-hand and authentically (Bandura, 1977). When self-efficacy is built through mastery experiences, occasional failures do not have much influence on one's sense of efficacy (Bandura, 1986). Yet in this circumstance, occasional failures that are defeated with hard work reinforce self-efficacy and empower self-motivation (Bandura, 1977). As a result, mastery experience promotes resiliency and perseverance by teaching that success is attained through endeavour and sustained striving (Bandura, 1994). Mastery experience also enhances intrinsic interest in the new task which leads to even more self-efficacy, satisfaction, and resiliency (Bandura, 1982). In contrast, repeated failures, especially in the early stages of an activity, inculcate feelings of incompetency and futility of effort (Bandura, 1986). Furthermore, when mastery of an activity is gained, people tend to generalize their positive experience to other situations, which affects future performance (Bandura, 1977). The notable influence of mastery experience on sense of efficacy is particularly explicit when the activity is continuous for a longer period of time (Bandura & Jourden, 1991). In an experiment conducted by Bandura and Jourden (1991), participants did not show significant differences in their levels of self-efficacy while performing at initial phases of their managerial task, but those subjects who were experiencing progress in their performance and gaining mastery of the activity demonstrated huge differences compared to their counterparts who did not experience mastery in the third phase of the experiment. In this experiment, Bandura and Jourden (1991) also discovered that there

is a mutual relationship between mastery experience and sense of efficacy. When self-efficacy rises due to mastery experience in initial phases of performance, it facilitates a sense of mastery in subsequent phases. Mastery experience is the most effective means of enhancing self-efficacy (Bandura, 1977, 1982, 1986).

As well as mastery experience, vicarious experience plays a major part in development of self-efficacy. A form of vicarious experience includes the observation of role models for emulating performance (Bandura, 1977). Seeing people who are in similar circumstances succeeding in their tasks raises expectations and enforces the efficacious perception that success is possible for the observer as well (Bandura, 1986). Observing models contribute to predictability and controllability of the situation (Bandura, 1982). Role models help observers to realize that even though challenging situations may arise while doing a task, many challenges are predictable, so people can be prepared to handle them efficiently (Bandura, 1982). Models also help observers to understand that each circumstance is manageable if they learn specific techniques (Bandura, 1982). Thus, models play a key role in expanding individuals' self-efficacy to perform duties that appear to surpass their abilities because "people successfully execute tasks that fall within their enhanced range of perceived self-efficacy but shun or fail those that exceed their perceived coping capabilities" (Bandura, 1982, p. 126). The significance of social modelling has particularly been emphasized for inexperienced individuals who still have uncertainty about their competencies and lack the necessary self-efficacy for effective performance because models help these people believe in their own abilities (Bandura, 1986).

One factor highlighted by Bandura (1986, 1994) is that because the impact of vicarious experience is exerted through a comparison process, the level of similarity between observers and role models needs to be taken into consideration. If observers find more similarities between themselves and role models' past or present circumstance or performance, they

become more confident that they are also able to succeed because their model who was or is in a similar situation has succeeded (Bandura, 1986). He pointed out that similar characteristics such as gender, age, or race will affect observers to rely more on their vicarious experience (Bandura, 1986).

Similar to vicarious experience, verbal persuasion has been introduced as one influential source on self-efficacy. It suggests that people's competency is increased by the verbal encouragement and constructive feedback that they receive (Bandura, 1977). People who are persuaded realistically to believe in their abilities are more likely to sustain effort and master their tasks that consequently boost their self-efficacy (Bandura, 1986). In this circumstance, positive feedback that emphasizes strengths improves performance better than negative feedback underscoring setbacks (Bandura, 1993). Negative criticism and appraisal instill disbelief in abilities, leading people to avoid challenging activities (Bandura, 1993). Nevertheless, efficacy builders do not limit themselves to offering feedback solely but provide suitable circumstance for self-growth and demonstration of capabilities (Bandura, 1994).

Studies of emotional arousal as the fourth source of self-efficacy recommend that high levels of stress and anxiety are detrimental to self-efficacy. These emotional states manipulate people's judgment about their sense of efficacy by attributing the stress to their dysfunction (Bandura, 1977, 1986). Thus, people tend to have more sense of personal efficacy when they are not crushed under taxing situations. In contrast, people tend to avoid stressful circumstances that consequently may lead to missed opportunities (Bandura, 1977). Reducing emotional arousal is an effective way to overcome avoidance behaviour (Bandura, 1977). According to Bandura (1993), however, the relationship between psychological well-being and self-efficacy is mutual. Not only do stress and anxiety affect self-efficacy, but self-efficacy predicts peoples' psychological well-being (Bandura, 1993). Emotional arousal decreases when self-efficacy is higher (Bandura, 1982). Self-efficacious individuals who believe that they can exercise control

over their lives report less stress and anxiety than those who have lower levels of self-efficacy (Bandura, 1993). As mentioned earlier, mastery in one task leads individuals to anticipate different steps and foresee the likelihood of stressors; this consequently reduces stress and anxiety caused by uncertainty of an unfamiliar undertaking (Bandura, 1982).

All of Bandura's (1977) four sources—mastery experience, vicarious experience, verbal persuasion, and emotional arousal—are possible within occupational settings. By extension, self-efficacy in careers should be fostered when individuals are provided with opportunities to learn mastery; observe role models they can emulate; engaged in conversations that offer constructive feedback; and work in an emotionally safe environment.

Self-Efficacy and Career Development

Self-efficacy is a salient predictor for people's decision-making and choices. Among all human choices affected by self-efficacy, occupational choices are considerably important because their lives are significantly impacted by their jobs (Bandura, 1993). In social cognitive theory, the construct of self-efficacy has drawn the greatest attention in career literature (Lent et al., 1994). To highlight the significance of self-efficacy on career development and pursuits, Bandura (1986) stated that although knowledge and skill are necessary for occupational pursuits, they are not going to replace a sense of efficacy when it comes to deciding about a future career. Several lines of research have specially discussed the impact of self-efficacy on career decision-making and interest (Bandura, 1986; Lent et al., 1994; Tang, Pan, & Newmeyer, 2008). For example, Tang et al. (2008) found that the learning experience of high school students affects their self-efficacy, which in turn regulates their choice of career and the amount of interest expressed for it. Given that these choices affect the rest of these individuals' lives, the importance of self-efficacy cannot be underestimated.

Social Cognitive Career Theory

A series of similar studies done by Lent and his colleagues for over 20 years determined that cognitive factors (self-efficacy, outcome expectations) as well as external variables (contextual elements such as family background) influence human career selection and interest within learning experiences (see Lent et al., 1994; Lent et al., 2003). In 1994, Lent et al. developed social cognitive career theory (SCCT) derived from Bandura's (1986) social cognitive theory. This theory explains how career interests are shaped, how occupational choices are made over time, and how self-efficacy and outcome expectations influence those choices. According to SCCT, people begin to develop their interests in particular activities from childhood due to their exposure to specific learning experiences while receiving positive or negative feedback from important individuals in their lives (Lent et al., 1994). Their sense of efficacy is constantly reinforced to follow particular activities among all the options that are available to them (Lent et al., 1994). By the time children have reached adolescence or young adulthood, they have shaped their sense of efficacy to pursue certain careers to a great extent (Lent et al., 1994). Self-efficacy for a career promotes interest, so individuals start developing their interest when they have formed a belief that they are capable of doing that task (Lent et al., 1994). After formation of interest, one is capable of making occupational choices to set his or her life path. This step begins with choosing a career goal based on interest and then turning career goals into career actions such as pursuing a degree or receiving training (Lent et al., 1994). The process of career decision-making then continues over the life time (Hartung, Porfeli, & Vondracek, 2005; Lent et al., 1994).

In subsequent studies, Lent and their colleagues attempted to pay particular and thorough attention to cognitive and external variables (Lent & Brown, 2013; Lent et al., 2000; Lent et al., 2003). Lent et al. (2000) focused on contextual conditions influencing individuals' career development. Contextual aspects refer to personal and environmental inputs such as

background, gender, race/ethnicity, health problems, and predispositions (Lent et al., 2000). Career preferences are different for each person depending on the objective factors of the environment in which he or she has grown up (Lent et al., 2000). These elements consist of educational opportunities, financial facilities, various classes and training experiences, and generally all the resources available that make a career more achievable (Lent et al., 2000). In addition to objective factors, career choice behaviour is also affected by distal, background experiences as well as proximal factors (Lent et al., 2000). Distal, background aspects are what Bandura (1977, 1986) called vicarious experiences and verbal persuasion which means all the encouragement, discouragement, and role modeling by which people are surrounded while they are learning from their environments (Lent et al., 2000). Proximal factors include such things as networking, hiring discriminatory behaviours, and other structural obstacles that may confront a person who is actively looking for a job opportunity (Lent et al., 2000).

Objective variables, distal, and proximal factors make up the contextual conditions that function as a basis for strengthening or weakening self-efficacy and outcome expectations (Lent et al., 2000). Self-efficacy and outcome expectation in turn affect production of interest, goals, and career development exercise (Lent et al., 2000). When contextual support is present, and the career pathway is free from barriers, individuals are more likely to feel competent, set occupational goals, and persevere until achievement (Lent et al., 2000).

Adaptive career behaviour. Lent and Brown (2013) continued working on SCCT and developed a model of career self-management relying on the central variables of SCCT. Based on this model, adaptive career behaviour is highly affected by the sense of efficacy (Lent & Brown, 2013). Adaptive career behaviour is defined as “behaviours that people employ to help direct their own career (and educational) development, both under ordinary circumstances and when beset by stressful conditions” (Lent & Brown, 2013, p. 559). Lent and Brown have highlighted and explained career exploration and job search as two examples of adaptive career

behaviours. Career exploration refers to exploratory activities about occupations that educate people to make more explicit decisions about their future career (Lent & Brown, 2013). The job search process can occur on several occasions: when people are looking for their first job, when they already have a job but voluntarily decide to change it, and when they lose their job involuntarily (Lent & Brown, 2013). This model reports that both the adaptive behaviours are influenced by self-efficacy which is directly enhanced or weakened by contextual variables (Lent & Brown, 2013).

A sizable body of research (Abele & Spurk, 2009; Betz & Hackett, 2006; Spurk & Abele, 2014; Valcour & Ladge, 2008) has drawn similar conclusions arguing the impact of self-efficacy on career development from various aspects. In Abele and Spurk's (2009) longitudinal study, a large group of master's students' occupational self-efficacy was examined right after graduation to determine its effect on objective (salary and status) and subjective variables (job satisfaction) in a seven-year period. Occupational self-efficacy refers to "individuals' belief in their own capabilities to successfully perform occupational tasks and demands, irrespective of the particular occupational context" (Spurk & Abele, 2014, p. 121). The results revealed that those with higher levels of self-efficacy after their graduation reported higher earnings, better job positions, and were happier with their careers (Abele & Spurk, 2009). Another similar study conducted on working mothers suggested that self-efficacy plays a positive part in subjective occupational success (Valcour & Ladge, 2008). Self-efficacious women are more likely to be subjectively successful in their career, feel more satisfied with their jobs, and more content with their progress (Valcour & Ladge, 2008).

Women, Self-Efficacy, and Career

When career development patterns and their connection with self-efficacy is evaluated, gender is a significant human variable that has attracted the attention of many researchers. A strong body of studies has evaluated women's self-efficacy and its connection with women's

career choices and development (Bandura, 1986; Choi et al., 2012; Hackett & Betz, 1981; Lent et al., 2000).

Early Influences on Women's Self-Efficacy

From the social cognitive point of view, self-efficacy begins to develop from infancy when the infant has the most communication with parents, and it continues growing through other stages of life (childhood, adolescence, adulthood) when society and the world around the child (school, peers, teachers, and so forth) further develop his or her sense of efficacy (Bandura, 1986). Most girls' self-efficacy is shaped differently than those of boys due to the gender expectations introduced to them from an early age (Bandura 1986; Sweida & Reichard, 2013). Gender as a social concept is activated from the very first moment of birth when boys are dressed in blue, a color representing strength, and are expected to play with toys that are symbols of power. Most girls, on the other hand, are dressed in pink, a colour symbolizing sweetness, and are given dolls to nurture (Sweida & Reichard, 2013).

Stereotype activation is defined as “the increased accessibility of the constellation of attributes that are believed to characterize members of a given social category” (Wheeler & Petty, 2001, p. 797). Stereotypes for women include so-called feminine characteristics such as compassion, supportiveness, and honesty whereas men are stereotyped as needing to hold characteristics such as strength, determination, self-confidence, control, authority, and ambition (Burrell, 2008; King & Matland, 2003; Sweida & Reichard, 2013; Yousaf & Schmiede, 2017). The power of stereotypes is so strong that activating the stereotype often leads the stigmatized group to believe and behave in accordance to the stereotype (Kawakami, Dovidio, & Dijksterhuis, 2003; Keller & Dauenheimer, 2003; Wheeler & Petty, 2001). For instance, a study on 50 female undergraduates explicated that when participants were reminded of their gender identity, they had more stereotype-consistent ideas towards arts and math compared to the group who did not receive that reminder (Steel & Ambady, 2006). Danaher

and Crandall (2008) found a similar pattern of results among high school students. The female students who were asked to identify their gender prior to an Advanced Placement Calculus test performed substantially lower than the group that was asked to identify their gender after the exam (Danaher & Crandall, 2008).

It is noteworthy that sexual stereotypes not only direct the behaviour of the stigmatized group, but they also inform the behaviour of the non-stereotyped group towards the stereotype (Dijksterhuis, Spears, & Lépinasse, 2001; Kray, Reb, Galinsky, & Thompson, 2004). For instance, Reuben, Sapienza, and Zingales (2014) showed how cultivation of the idea that men have better mathematics performance encourages hiring committees to prefer men over women even though women had better performance in tests. Another worthwhile finding of this study is that when female applicants were asked to evaluate their own performance, they tended to underestimate their functioning whereas men were more likely to exaggerate their success (Reuben et al., 2014).

Women's Self-Efficacy and Career Choice

Research has demonstrated that perceived self-efficacy plays a more focal role in females' occupational preferences because women more so than men tend to base their career choices more strongly on their sense of efficacy than on the potential outcome and privilege the career may offer them (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). However, this finding is not generalizable to all women or all men. While some studies have identified little or no influence of gender on self-efficacy for career development and occupational decision-making (e.g., Choi et al., 2012; Creed, Patton, & Watson, 2002; Hampton, 2006), other studies have found substantial effect (Bakken et al., 2010; Beyer, 2014; Correll, 2001; Hackett & Betz, 1981; Sullivan & Mahalik, 2000).

Research has found that women experience barriers that negatively affect their self-efficacy that in turn influence their occupational choices (Bakken et al., 2003; Sweida &

Reichard, 2013; Williams & Subich, 2006). In a major study conducted by Bandura et al. (2001), 272 children from 11 to 15 were studied to determine their career aspirations. It was revealed that girls had stronger sense of efficacy to pursue careers in social services such as nursing or school teaching but had less self-efficacy to choose scientific and technical occupations such as invention or production. One striking point in Bandura et al.'s research and similar studies is that females performed equal or better than their male counterparts in tests or had equal academic performance, yet they scored their abilities considerably lower than males and lower than their own actual points (Correll, 2001; Correll, 2004; Syzmanowicz & Furnham, 2011). Extensive research is aligned with Bandura et al.'s findings confirming that among different fields of work, the STEM (science, technology, engineering, and mathematics) fields are significantly outnumbered by men (Griffith, 2010; Jacobs, 2005; Valla & Ceci, 2014). For example, in 2011, only 30% of adult women in Canada chose to complete a degree in mathematics and computer science, while the majority of Canadian university degrees were granted to women (Statistics Canada, 2015). Women also constitute an increasing share of the workforce; nonetheless, many of them opt out of scientific and technical career paths (Bandura, et al., 2001; Ceci, Williams, & Barnett, 2009). Several studies have confirmed that women tend to have lower self-efficacy than men in academic and career activities related to the fields of STEM (Beyer, 2014; Inda, Rodríguez, & Peña, 2013; Jagacinski, 2013; Vogt et al., 2007) that can be one of the reasons why women are not more highly represented in STEM domains (Beyer, 2014; Vogt et al., 2007).

At least part of the reason for girls not feeling self-efficacious enough for masculinized activities lies in the fact that “men and women have different sex-typed experiences in childhood that limit women's exposure to the sources of information necessary to develop strong self-efficacy perceptions in traditionally male arenas” (Zeldin & Pajares, 2000, p. 219). Hackett and Betz (1981) are pioneers in applying Bandura's (1986) self-efficacy propositions

to investigate women's self-efficacy and its relationship with career development and success (Betz, 2007; Creed, Patton, & Prideaux, 2006). They proposed that women's sense of efficacy is affected by their socialization experiences which shape their learning experiences and in turn affect their career choices (Hackett & Betz, 1981). As discussed earlier, this view is supported by Lent et al. (1994, 2000) who found that self-efficacy, through which career interest and goals are developed, is shaped by individuals' learning experiences. In turn, learning experiences are formed by external factors such as contextual elements (Lent et al., 1994, 2000). Hackett and Betz (1981) found that women had lower expectations from their capabilities when it came to traditionally male-dominated careers such as leadership because they have different socialization and learning experiences than men that pose internal barriers for them. Williams and Subich's (2006) study found that female participants had fewer learning experiences in so-called masculinized areas such as investigation, computer tasks, and invention. The studies in STEM fields report similar evidence affirming that learning experiences influence women's sense of efficacy to participate in this trajectory (Bogue & Marra, 2009; He & Freeman, 2010; Schoon, 2001). Interestingly, women not only received fewer mastery experience opportunities in male-dominated tasks, but also received fewer vicarious experiences, less verbal persuasion, thereby demonstrating higher levels of anxiety (emotional arousal) when they were faced with masculinized tasks (Williams & Subich, 2006). Another study conducted by Bakken et al. (2010) found that when women were offered the appropriate intervention and opportunities that focus on Bandura's (1977) four sources of self-efficacy, they were able to significantly enhance their self-efficacy for male-dominated activities, even for the group who received only a short-term training with an emphasis on sense of efficacy. These findings echo Bandura's (1986) theory that self-efficacy is not a fixed characteristic and can fall or rise depending on the situation, one's experiences, and availability of the four self-efficacy sources.

Apart from learning experiences, gender stereotypes have been identified as a contextual barrier inhibiting women's sense of efficacy for career development (Deemer, Thoman, Chase, & Smith, 2014). As discussed previously, self-efficacy is affected by contextual variables and transmits the impact of variables to career-related behaviour (Lent et al., 1994, 2000). Women are exposed to many external obstacles created by gender stereotypes and from their childhood and throughout adulthood; thus, some women consider themselves less competent to take on tasks and responsibilities that they believe to exceed their abilities (Hackett & Betz, 1981). Persistent stereotypes about women vastly impede their progress and decision-making by influencing their self-efficacy to pursue male-stereotypic fields (Bandura, 1986; Beyer, 2014; Stout, Dasgupta, Hunsinger, & McManus, 2011; Sweida & Reichard, 2013). When investigating the STEM fields, similar findings emerge pointing that social-environmental variables that encourage stereotypical beliefs negatively influence women to engage in these arenas (Huffman, Whetten, & Huffman, 2013; Plumm, 2008; Schoon, 2001; Vekiri & Chronaki, 2008).

Together, these studies indicate that women's different early life experiences and also social and environmental variables have negatively affected their sense of efficacy for male-dominated domains. Considering this evidence, lower sense of efficacy is one important reason for women's underrepresentation in male-typed careers.

Leadership and Self-Efficacy

Leadership is the key to keeping up with all the changes in today's complex world (Fullan, 2001). It is a concept that has drawn the attention of many scholars in the 21st century (Bush, 2007). It is defined as "a process through which persons seek to bring about change and/or improvement in the organization by influencing other people or organizational processes" (Hallinger, 2018, p. 364). According to several researchers, the notion of leadership overlaps with management and, therefore, it is beneficial to distinguish the two (Bush, 2007;

McKimm & Swanwick, 2014). Management is a functional position that holds a formal title in organizations (Hallinger, 2018; McKimm & Swanwick, 2014). It is primarily focused on maintaining an organization, and it involves planning, coordinating, and organizing roles (Hallinger, 2018). On the other hand, leadership may or may not be found only in a formal position (Hallinger, 2018). It is the exercise of problem-solving in complex situations where a leader evaluates the circumstance thoroughly and offers situation-oriented solutions (Fullan, 2001). Leaders attempt to share a vision and objectives with their groups and strive to develop their colleagues' capacities by improving their potential, abilities, motivations, and personal beliefs. They self-regulate their own behaviour and guide their social context towards success by affecting the performance of group members (McCormick, 2001). Although leadership and management have been distinguished from one another, leaders cannot guarantee success without owning both managerial and leadership characteristics (Fullan, 2001).

Additionally, leadership is a complex and dynamic behavioural and cognitive undertaking that requires many cognitive qualities (organizing, planning, self-confidence), and self-efficacy in particular (McCormick, 2001). One should have a strong sense of self-efficacy in order to be a successful leader (McCormick, 2001). Self-efficacy in leadership has been introduced "as the key cognitive variable regulating leader functioning in a dynamic environment" (McCormick, 2001, p. 22). It is as significant as knowledge and skills for successful leadership (Versland, 2016).

Self-efficacy influences different dimensions of a leader's behaviour from setting goals to execution of an action (Bandura, 2009; McCollum & Kajs, 2009; McCormick, 2001). Self-efficacy has been identified as a strong predictor for leaders' goal-setting behaviour. Self-efficacious leaders tend to be goal-oriented (Hendricks & Payne, 2007; McCollum & Kajs, 2009) and generally set high level and challenging goals for themselves (McCormick, 2001). Hendricks and Payne (2007) examined 100 participants who were leading groups of four

people in a laboratory research. They confirmed that goal-oriented behaviours of the leaders were positively related to their self-efficacy (Hendricks & Payne, 2007). Along with goal orientation, a number of studies reviewed by Tschannen-Moran and Gareis (2004) showed that efficacious educational leaders are more determined to realize their goals and have more flexibility to adjust their objectives depending on their situational conditions.

In addition to objectives, self-efficacy predicts the level of effort exerted for an activity (Bandura, 2009; McCollum & Kajs, 2009), the number of times leaders feel prepared and confident for leading tasks (McCormick, Tanguma, & López-Forment, 2002), and their persistence under challenging circumstances (Tschannen-Moran & Gareis, 2004). McCormick et al. (2002), for example, acknowledged self-efficacious participants of their studies tended to accept more leading responsibilities compared to the group with lower sense of efficacy who tried to avoid leadership related activities. They concluded that self-efficacy for leadership is a salient predictor for not only leading behaviour but also the number of times leadership is practiced (McCormick et al., 2002).

Besides strengthening persistence, self-efficacy establishes openness towards alternate strategies (Tschannen-Moran & Gareis, 2004) and group members' opinions (Fast, Burris, & Bartel, 2014) among leaders. Fast et al. (2014) conducted two series of studies to recognize the impact of self-efficacy on leaders' receptivity and openness towards their subordinates' voice. The first research analyzing self-efficacy of leaders in a multinational organization revealed that the voice of subordinates was least heard and employed when their leaders had low levels of self-efficacy. The second experimental study also supported findings from the first research indicating that low self-efficacy leads to activation of defensive mechanism in leaders which in turn discourages them to be accepting of their members' suggestions (Fast et al., 2014).

Along with openness, self-efficacy enhances leaders' performance and practical work (Chemers, Watson, & May, 2000; McCormick et al., 2002). Semadar, Robins, and Ferris

(2006) examined a group of 136 leaders running an international automotive company and found out that these leaders' sense of efficacy had a positive and considerable impact on their performance.

Not only does self-efficacy affect leaders' effectiveness, but it also influences the followers because leadership is a social endeavour (Paglis, 2010). Leaders' sense of efficacy affects team members' performance by influencing how the team judges its own competence (Chemers et al., 2000). Group members develop a better mental image from self-efficacious leaders and score them higher in their evaluations (Chemers et al., 2000). Further, leaders' confidence in their leadership abilities is a notable predictor for their groups' collective self-efficacy, which promotes better performance of the entire group (Paglis, 2010; Villanueva & Sánchez, 2007). As well as collective efficacy, leaders' sense of efficacy influences team member's sense of innovation (Buenaventura-Vera, 2017). The model proposed by Buenaventura-Vera (2017) demonstrated that leaders with higher levels of self-efficacy enhance their followers' innovative behaviour.

Considering all of this evidence, it is clear that self-efficacy plays a pivotal role in leadership. However, previous sections noted that self-efficacy tends to be gendered, particularly for careers or positions that are masculinized. Given that leadership has a history of being a hyper-masculinized domain, the study of women's self-efficacy in leadership is crucial to understanding how women's self-efficacy may influence their choices or opportunities for leadership.

Women's Self-Efficacy for Leadership in Higher Education

In Canada, although women have gained great educational accomplishments, their occupational status has not changed much in recent decades. Data from 1987 reveals that 59.2% of working women were employed in traditionally feminine occupations such as teaching, social sciences, nursing, and clerical positions while only 15.7% of men were in those sectors

(Statistics Canada, 2017). In 2015, 56.1% of women still worked in traditionally female-typed occupations compared to 17.1% of men (Statistics Canada, 2017).

Among male-dominated domains, leadership of higher education is specifically one arena in which gender imbalance has been recognized as a shared problem in many countries (Madsen, 2011; Murray, Tremaine, & Fountaine, 2012). This circumstance is occurring even though women constitute a large proportion of university degree holders in many countries. In 2016, the average proportion of women living in the OECD region with a university or college degree was 38.4% while only 32% of men held a university or college degree (OECD, 2018). Women outnumbered men in 30 out of 36 countries of the OECD with regards to higher education attainments, with Canada ranking first for both genders (women: 62.4% versus men: 50.1%) among OECD nations (OECD, 2018). According to data, women's participation in Canadian post-secondary education is constantly higher than men's (Statistics Canada, 2017). Women are ahead of men in earning bachelor's and master's degrees while they have almost closed the gap in PhD in many majors (Statistics Canada, 2017). According to the statistics of 2016, although women have achieved less than half of PhD degrees in engineering and technology-related majors, they comprised more than half of PhD holders in many majors such as humanities, social sciences, and health (Statistics Canada, 2017).

Despite these statistics, women's increasing number of university enrollment does not mean that they have found their place in leadership and policy making levels of universities in Canada (Cook, 2018). Women make up 40% of full time academic instructors, yet only 31.4% and 21.7% of the full professors and associate professors respectively are women (Statistics Canada, 2017). These figures can be even lower depending on the department (Cook, 2018). In comparison to teaching staff, far fewer women hold leadership positions. A comprehensive study conducted by Turpin, De Decker, and Boyd (2014) indicated that the proportion of female presidents of 102 Canadian universities rose to 20% in the mid-1990s. Since then,

although this number has had slight fluctuations, it has stayed at the same level (Turpin et al., 2014). The figures are not satisfactory outside Canada's borders either. For instance, data from 2004 shows that in Australia and the UK, women held 26% and 8% of university Vice-Chancellor positions respectively (Bagilhole & White, 2008). Thus, women are relegated to lower academic positions at university level worldwide than men (Airini et al., 2011).

Considering Bandura's (1986) theory, women's relegation to lower positions offers fewer mastery experience opportunities for them to improve their self-efficacy through this influential source that could affect their choices and opportunities for leadership roles. When women comprise the majority of subordinate positions and clerical occupations at universities (Murray et al., 2012; Sallee, 2012), they will have less opportunities to practice leadership roles and as a consequence, establish their sense of efficacy for lower level positions in which they are achieving more frequent success. Additionally, the disproportionate number of men and women in academic leadership may leave women with fewer female role models necessary for developing self-efficacy within vicarious experiences based on Bandura's theory.

There are also many studies that have highlighted the significant gender imbalance in leadership and policy-level decision-making in Canadian universities (Cook, 2018; Nguyen, 2013; Serghini-Idrissi & Garcia-Prieto, 2011; Wallace & Wallin, 2015; White, 2003). These studies send the message that academic women lack the sources, introduced by Bandura (1986), necessary for development of their self-efficacy. To shed light on the distribution of female and male leaders in academia, Cook (2018) reviewed the literature from 1980 to 2010 and summarized a number of factors affecting women's marginalization in leadership of faculty of education. She reported on four key factors keeping women back from seats of power in faculties of education: women's limited power in administrative decision-making; disparity in the number of female and male tenured professors; emergence of other liberal groups that diverted the attention from feminism; and the lack of female leaders in national and institutional

levels who serve as mentors and role models for other women. As it is explicit from Cook's report, women are more likely to have fewer mastery experiences in leadership roles because they are less likely to be promoted to higher positions and offered less powerful administrative roles. Additionally, lack of female role models in high leadership positions means that women cannot strengthen their sense of efficacy within vicarious experiences the same as their male counterparts.

Similar studies have pinpointed academic culture integrated with gendered practices as a major factor hindering women's leadership (Acker, 2010; Knight & Richards, 2003; Krefling, 2003). Wallin (2018) held the view that formal authority and leadership roles at universities are considerably represented by males, "and the experience of women who obtain those positions remain highly gendered" (p. 93). In other words, the division of labour in academia tends to be gender appropriate, and those women who move up the leadership ladder are still expected to conform to the expectations that gender stereotypes dictate to them (Acker, 2012). In such male-dominated culture, women have fewer opportunities to observe other female academics' progression and success towards higher positions to develop their sense of efficacy through vicarious experiences. Acker (2012) suggested that in academic culture, female leaders are expected to be more like a mother than a leader figure; they are supposed to be selfless, nurture other colleagues, and finally disappear from the organizational system without rewards, whereas men define senior leadership as a zone where they are responsible to direct other people's care-giving, without an expectation to offer care themselves (Grummell, Devine, & Lynch, 2009). This emotional labour imposes unnecessary pressure on female academics and acts as a distraction from publication and focused work (Knight & Richards, 2003). The emotional stress imposed on female academics may also influence their sense of efficacy negatively because people tend to misjudge their competence when they are under tension and stressful conditions (Bandura, 1986).

In the same vein, Wallace and Wallin (2015) pointed out that moving from lower status to higher positions is even harder in disciplines where masculine norms are embedded in the academic culture for a prolonged period of time. Several female participants in Wallace's and Wallin's study shared that they had faced obstacles applying for, receiving, and enacting administrative positions regardless of comparable qualifications and accomplishments because patriarchal departments were not open to female leaders (Wallace & Wallin, 2015). As one participant noted, "I was greatly surprised when they named [PERSON] as Acting Chair ... it was a very clear statement that we have two experienced women with appropriate experience and we're going with the guy who has no experience at all" (Wallace & Wallin, 2015, p. 418). This finding maintains that although positions advertise for explicit criteria for leadership position, implicit criteria remain that are highly gendered (Wallace & Wallin, 2015). This circumstance has the potential to negatively influence employment and promotion in higher education. For example, although hiring committees insist that they exercise gender neutral evaluation, in reality, gender stereotypes are regularly enacted for leadership position hires in ways that disadvantage women (van den Brink & Benschop, 2011).

Discriminatory hiring practices imposed on academic women mean that they are less likely to receive positive persuasion and encouragement for their efforts and qualifications. This discouragement could adversely impact female academics' self-efficacy due to lack of verbal persuasion. It is important to bear in mind that according to Bandura (1994), verbal persuasion is not limited to offering feedback but providing the appropriate circumstance for self-growth and representation of competence. As a result, lack of positive persuasion added with paucity of opportunities for sustainable advancement could affect academic women's self-efficacy because they are deprived of verbal persuasion necessary for development of self-efficacy.

To address female faculty's situation in Canada, Hannah, Paul, and Vethamany-Globus (2002) conducted a four-year study. They have labeled the atmosphere of Canadian universities as "chilly" for women academics, claiming that discrimination against female faculty is subtle and even more difficult to identify because many disciplines have a few women in their departments trying to convince minds that they are fair towards hiring and promotion. However, masculinist norms and patriarchy is often practiced unconsciously by male colleagues who are accustomed to controlling the environment with the power accrued by their rank and gender privilege (Hannah et al., 2002). The patriarchal culture and scarce number of female leaders could leave women with little vicarious information on which to place their judgement of their own capabilities. Especially, scarcity of women in leadership roles means that women academics are less likely to visualize similar female colleagues succeed in leadership to enhance the sense that they too are capable to reach that position eventually.

The important theme emerging from the studies discussed so far is that leadership in post-secondary education has been considered a trajectory that privileges males and, as discussed previously, these masculinist practices and stereotypical beliefs have a major bearing on women's self-efficacy for male-dominated careers. Therefore, it may be reasonable to conclude that female academics' self-efficacy for leadership roles is negatively affected by masculinist attitudes in academia. Unfortunately, there is little research investigating academic women's self-efficacy for leadership. However, based on the existing literature, three key themes emerge that may affect women's self-efficacy for leadership of post-secondary education. These key themes are: university culture, family-work conflicts, and mentoring opportunities.

Academic Culture

Academic culture, as the first barrier for female academics, highlights the significance of contextual experiences in self-efficacy explained by Lent et al. (1994, 2000, 2013).

According to the literature, universities are masculine institutions that are underscored by gendered norms (Murray et al., 2012; Sallee, 2012; White, 2003). It is now well established from a variety of studies (e.g., Hoyt & Blascovich, 2010; Hoyt, Johnson, Murphy, & Skinnell, 2010) that women's self-efficacy for leadership roles can suffer adversely from gender stereotypes. This detrimental effect is not only on women with lower levels of self-efficacy but also those who have high self-efficacy for leadership (Hoyt & Blascovich, 2010). According to Hoyt and Blascovich (2010), both implicit and explicit stereotypes can leave self-efficacious women feeling incompetent for leadership. Although current masculinist norms are less explicit and usually embedded in the culture of higher education (Hannah et al., 2002), they have the potential to lower women's sense of competence for leadership (Hoyt & Blascovich, 2010).

Universities may be less receptive to accommodating women for higher positions because of a masculinist belief about the characteristics of the ideal leader (Kossek et al., 2010; Sallee, 2012). In this circumstance, women academics may be less likely to be accepted by colleagues or have the same sorts of access to departmental support systems for career advancement (Bagilhole & Goode, 2001). Female faculty members are often excluded and ignored by these socializing networks (Bagilhole & Goode, 2001; White, 2003). Although females may be allowed to participate and progress in this culture (Bagilhole & Goode, 2001), male academics tend not to have to make much conscious effort to be supported, mentored, and sponsored by the informal culture of their department. Female academics, on the other hand, tend to have to consciously try to conform to this masculine culture (Bagilhole & Goode, 2001). Unfortunately, those women who practice conformity to masculinist cultural environments may be known to be competent, but they often are not granted social acceptance and tend to be portrayed negatively (Heilman, Wallen, Fuchs, & Tamkins, 2004; Priola, 2007). Heilman et al. (2004) demonstrated that women who are successful in traditionally male-

dominated careers are often more disliked by other people than their male counterparts and “being disliked is likely to be not just unpleasant but also a hindrance for upwardly aspiring women” (Heilman et al., 2004, p. 425). They suggested that these women are less likely to be recommended for promotion, higher salary, and other career opportunities. White (2003) indicated that academic culture wears out many female faculty in the long run. When they reach senior positions, some may find it difficult to push themselves for a higher status position (White, 2003). Those female academic participants in White’s study who conformed to the culture of their universities and held senior positions expressed their frustration about the obstacles they had to overcome due to the dominant masculine culture at their universities. Murray et al. (2012) also showed that existing obstacles at the universities lead women to perceive a misalignment between themselves and upper levels of academia that discourages them from applying for higher academic positions though many have more impressive applications than men. University culture can be discouraging for women who have gained leadership positions, and those who are in the middle of this journey (White, 2003).

Several studies have emphasized that fundamental change to women’s unequal circumstances will not take place through formulating policies but rather by targeting the culture of universities for transformation (Carnes et al., 2015; Sallee, 2012; White, 2003). Ely and Meyerson (2000) critiqued three problematic, though common, responses to women’s inequality. The first is that organizations do not need to significantly change, but rather equip women with appropriate skills to compete with men (Ely & Meyerson, 2000). This does not fundamentally change the discourse or the culture that continues to privilege hyper-masculinity. The second approach is opposite to the first, which is exaggerating feminine and masculine characteristics to celebrate diversity and value women. However, this exaggeration creates more segregation between the sexes and reinforces stereotypes (Ely & Meyerson, 2000). The third approach taken by organizations has concentrated on formulation of policies,

such as affirmative action, to address structural obstacles hindering recruitment and retention of women (Ely & Meyerson, 2000). Although such policies have facilitated women's advancement to a small extent, if not done thoughtfully and with careful attention to consequences, they often create further stereotypes and lead to the devaluing of women as tokens (Ely & Meyerson, 2000; White, 2003). Therefore, Ely and Meyerson (2000) instead suggested that emphasis should be put on behavioural and cultural changes that reinforce equality because "[a] fundamental change in the culture of higher education management could allow women to flourish and they in turn could help the system to flourish" (White, 2003, p. 57). For example, to better understand the impact of cultural intervention instead of structural changes, Carnes et al. (2015) targeted the gender bias habits of a department. They arranged workshops in which equality was promoted. Significant changes began to appear after three months, including a considerable increase in self-efficacy and positive climate (Carnes et al., 2015).

Family-Work Conflict

In addition to the university culture, the conflict between home and work responsibilities has been introduced as a detrimental factor acting for female academics' movement towards senior positions. Even though it seems that researchers have not dealt with family-work conflict and its impact on self-efficacy among female academia per se, the detrimental impact of family-work conflict on career advancement has been widely discussed (e.g., Perrakis & Martinez, 2012). In other work pipelines, a number of studies have associated interference of work and family responsibilities with working women's self-efficacy. Women, not men, tend to report the impact of family on their careers (Wang, Lawler, & Shi, 2010). This study suggested that the adverse effect of family on work decreases women's self-efficacy directly and their job satisfaction indirectly (Wang et al., 2010).

In academia, family-work conflict has been cited as a hindrance for female faculty (Fox, Fonseca, & Bao, 2011; Hannah et al., 2002; Perrakis & Martinez, 2012). Fox et al.'s (2011) study on male and female academic scientists noted a significant gender difference in the degree to which work interferes with family and family interferes with work; women always struggled more with these problems. This research also revealed that as women advance to leading academic careers, their family responsibilities are more likely to affect their career negatively (Fox et al., 2011). This is consistent with findings suggested by Doyle, Wylie, Hodgen, and Else (2004) in which academic women were five times more likely than men to cite family related matters as an obstacle for job promotion. This circumstance is even more challenging for young female faculty members who face the bulk of academic work and home responsibilities with younger children in the first ten years of their career (Hannah et al., 2002). According to the literature, academic women experience family-work challenges because, on the one hand, their share of domestic work and parenting responsibilities is evidently greater than men's and, on the other, academic culture gives little consideration to parental duties.

Women often remain the primary caregiver responsible for house work (Hannah et al., 2002; McIntruff, 2013; O'Meara & Campbell, 2011; Perrakis & Martinez, 2012; Sallee, 2012). Working women are not an exception, which means that outside work has not significantly changed this stereotypical family dynamic (McIntruff, 2013; Sallee, 2012). Childcare remains a major source of work among many female faculty and takes a considerable amount of their time and energy (Priola, 2007; Murray et al., 2012). Several studies have indicated that women academics are more apt than males to postpone applying for leadership positions because of childcare responsibilities (Grummell et al., 2009; Hannah et al., 2002; Perrakis & Martinez, 2012). Male participants also acknowledged that having a young family has a greater negative influence on the success of women's applications for leadership positions (Grummell et al., 2009). Therefore, not only are women less willing to apply for higher academic positions when

they have responsibility for younger children at home, but departments are less eager to promote them.

Some studies report that women academics are more likely to wait until their children are adults or old enough to take care of themselves before applying for promotions (Grummell et al., 2009; Murray et al., 2012; Perrakis & Martinez, 2012) and those who hold leadership positions are less likely to have children (Grummell et al., 2009; Priola, 2007). Three out of five female leaders in Priola's (2007) study who held leadership roles such as head of department did not have children. In the same vein, Perrakis and Martinez (2012) intentionally chose their ten participants from female department chairs who had children under the age of ten. When asked about their career goals, all of the interviewees expressed their reluctance to consider a more senior position due to motherhood responsibilities (Perrakis & Martinez, 2012). As one of the participants stated, "I don't think it is very realistic. Not that and having to juggle a full-time working spouse and juggling the family" (Perrakis & Martinez, 2012, p. 215). Thus, family circumstance can significantly influence women to opt out of leadership.

Some studies report that young female faculty members prefer not to have children until their work position is stable. Armenti (2004a) compared senior female faculty members with junior academics to better understand their experiences and thoughts about childbearing before tenure. Both groups univocally expressed that starting a family before achieving tenure is disadvantageous for their career path. Armenti found that senior academics talked about "the May baby" phenomenon, based on timing pregnancy to give birth in May when faculty did not have teaching responsibilities. Although younger academics had the privilege to take maternity leave, they believed that combining parenting and heavy academic work would negatively affect their tenure. Thus, they were faced with "the hidden pregnancy phenomenon" which is hiding the desire to have a baby until after obtaining tenure (Armenti, 2004a). The author concluded that although several policies have been implemented to support academic women

in recent years, it appears that academic culture convinces women not to take advantage of those benefits to prevent lag in tenure process and to avoid their colleagues' disapproval (Armenti, 2004a).

Apart from childcare responsibilities, university culture plays a major part in women experiencing conflict between their work and home roles. In organizational culture, the ideal worker is a person who prioritizes work over family and dedicates long hours to work without any distraction from non-work commitments (Sallee, 2012). This assumption has excluded women who have been historically perceived as family figures with child caring responsibilities. According to the literature, this situation is harming not only academic women but also male faculty who want to be more involved in their own personal lives (Sallee, 2012). Male faculty members in Sallee's (2012) study complained about their academic work load, stating that it was not reasonable and made them work during the night and on the weekends. These men were not also supported by their colleagues when they wanted to be more involved with their non-work roles. This culture tends to reduce productivity of all faculty regardless of their family roles because faculty members first need to reach a balance between work and home to be productive (O'Meara & Campbell, 2011).

Female faculty's attempts to balance multiple roles at home and academia may exert excessive stress on them (Perrakis & Martinez, 2012). As mentioned earlier, stress is a source of emotional arousal detrimental to people's self-efficacy (Bandura, 1977) that can affect their total well-being (Bandura, 1993). One study, for instance, showed that the sense of work-life guilt was significantly higher among female participants than male participants, all of whom had parenting responsibilities for a toddler (Borelli, Nelson, River, Birken, & Moss-Racusin, 2017). This study suggested that traditional parenting roles attributed to mothers' senses of guilt for feeling like they were not performing well enough as a mother (Borelli et al., 2017). This finding is significant because feelings of guilt have been determined as a root cause of

depression and anxiety (Ghatavi, Nicolson, MacDonald, Osher, & Levitt, 2002). Similarly, emotional arousal leads to avoidance behaviour (Bandura, 1977); therefore, it could be one reason that why women academics who are under stress of balancing work and home are more reluctant to take leadership responsibilities or similar roles that impose more pressure.

Conversely, a number of studies reveal opposite findings; they argue that multitasking inside and outside of the house can be beneficial for general well-being (Greenhaus & Powell, 2006; Ruderman, Ohlott, Panzer, & King, 2002) because it provides individuals with a range of experiences that can be employed in the other role. For example, female participants of Ruderman et al.'s (2002) study reported the positive impact of multitasking on their leadership practices. However, multitasking benefits women only if resources are available to deal with the task (Ruderman et al., 2002), and that there is actually a realistic balance of role expectations.

Nevertheless, creating a realistic balance between work and life appears to be extremely difficult, if not impossible, for faculty members based upon the current approach in higher education. Many scholars have critiqued the transformation of higher education into neoliberal institutes (Connell, 2015; Meyerhoff, Johnson, & Braun, 2011; Mountz et al., 2015). Under neoliberal conditions, universities are managed to realize corporate strategic objectives targeted to gain more production and prestige with allocation of fewer human resources and financial budget (Connell, 2015; Meyerhoff et al., 2011). Under such conditions, faculty members are expected to increase their work pace in offering quality publications, excellent instruction, and satisfactory service as well as accepting more institutional and administrative responsibilities (Meyerhoff et al., 2011; Mountz et al., 2015). Faculty participants of O'Meara and Campbell (2011) believed how the universities are cultivating a "more, more, more" culture as one faculty member stated "they're not looking for X number of publications or so many grants. It's just—everything is just more, more, more. And you know, I don't know when

it's good enough" (O'Meara & Campbell, 2011, p. 464). Comparable to O'Meara and Campbell's study, Jacobs and Winslow (2004) also reported that faculty members, regardless of their positions or the type of their university, need to work more than fifty hours in a week in order to keep up with the demands of their career. This pressure on faculty to do more with less in a shorter period of time has created the crisis of time (Meyerhoff et al., 2011; Mountz et al., 2015). On the one hand, faculty members should produce high quality work in a short time and, on the other hand, intellectual work requires ample time for organization, cooperation, writing, and editing (Meyerhoff et al., 2011; Mountz et al., 2015). This circumstance can cause excessive pressure, anxiety, and stress (Fox et al., 2011; Mountz et al., 2015), feelings of dissatisfaction (Jacobs & Winslow, 2004), and constant comparison (O'Meara & Bloomgarden, 2011) among faculty members. Anxiety about professional status and workload can operate as a means increasing emotional arousal detrimental to faculty's sense of efficacy based upon Bandura's (1986) theory. Female faculty could be more negatively affected because their time is consumed by multiple and conflicting responsibilities at work and home.

To tackle the persistent challenge of family-work conflict, academic culture once again should be targeted. Organizational policies are necessary but insufficient because they should be allied with a culture in which colleagues and leaders support one another to take leave for non-work responsibilities or to reduce their speed of work without worrying about consequences (Sallee, 2012). In this circumstance, both women and men should be able to take advantage of their rights and existing policies (Sallee, 2012). They should feel that their family responsibilities are valued and supported by the informal aspect of the organizations (Kossek et al., 2010). The notion of what constitutes an "ideal worker" should be visualized as a person who is also actively engaged in non-work roles (Kossek et al., 2010; O'Meara & Campbell, 2011). Men, in particular, should be encouraged to use these policies so that they can take

responsibility for their share of non-work commitments and parental duties (O'Meara & Campbell, 2011; Sallee, 2012). Women faculty should be free to feel less pressure and stigma when they take advantage of the supporting policies (O'Meara & Campbell, 2011). Undoubtedly, the impact of family support for female academics cannot be over-emphasized (Cheung & Halpern 2010; Perrakis & Martinez, 2012). Influential female leaders in Cheung's and Halpern's (2010) study emphasized the significance of their supportive family, especially their spouse, in their advancement. Consequently, work-family cultural shifts within organizations and families will help women and men to maintain their well-being on and off the career (Kossek et al., 2010).

One noteworthy suggestion is offered by Perrakis and Martinez (2012) who have introduced sustainability as opposed to balance for work-life responsibilities. These researchers believed that women have always been expected to perform more with less and make many sacrifices to balance work and family life properly. This approach may be feasible in the short-term period but not for a sustained period of time. The concept of sustainability for working women highlights physical, emotional, and spiritual fitness in order to perform well in the long-term period (Perrakis & Martinez, 2012). Sustainability is achievable when women are not forced to make constant sacrifices in order to be a good leader (Perrakis & Martinez, 2012).

Mentoring Opportunities

Along with university culture and family-life integration, mentorship opportunities has been identified as the third criterion affecting academic women's self-efficacy for career development and senior positions. Mentoring can be defined as "a process for the informal transmission of knowledge, social capital, and psychosocial support perceived by the recipient as relevant to work, career, or professional development" (Bozeman & Feeney, 2007, p. 731). Curtin, Malley, and Stewart (2016) developed a model based on the work of Bandura (1977) and Lent et al. (1994) to better illustrate the relationship between mentorship, self-efficacy, and

career interest and occupational goals in academia. According to this model, mentoring develops academics' self-efficacy for research and academic work which in turn enhances individuals' interest in their academic career (Curtin et al., 2016). This is consistent with other studies emphasizing the positive impact of mentoring on faculty member's academic self-efficacy (Feldman, Areal, Marshall, Lovett, & O'Sullivan, 2010).

While mentorship plays a determinate part in the self-efficacy of academics, studies show that female academics struggle to find mentors and an informal network of advice (Ballenger, 2010; Hannah et al., 2002). Women are less likely to have a female mentor because there are fewer senior female faculty members (Hannah et al., 2002). Yet they are less likely to be mentored by male faculty because some men are not willing to network with their female colleagues as they will with their male peers (Ballenger, 2010). Ballenger (2010) explained this phenomenon by the concept of "good old boy network" (p. 12) which refers to the fact that men tend to support their male counterparts with whom they have common interests.

This lack of mentorship begins from early stages of women's career in academia. Curtin et al. (2016) demonstrated how female PhD participants were discriminated in mentorship opportunities and how male doctoral students were more likely to be sponsored and recommended by their mentors. It is worth noting that both female and male doctoral students expressed the same amount of interest in faculty positions which indicates that their interest for academic careers begins to differ after they enter an academic job (Curtin et al., 2016). Corresponding to Curtin et al.'s findings, Kelly and McCann (2014) conducted a study to bring together the experience of women of colour who had been pursuing tenure but left this process. They revealed that lack of an appropriate mentor was one significant factor that decreased these women's self-efficacy for publication and academic work.

Lack of mentoring opportunities influence female academics' preparation for career progress along several dimensions. First, female faculty members who do not have a mentor

are less likely to be exposed to new opportunities. In two studies where high achieving and influential women were investigated, participants expressed how their mentors opened new doors and encouraged access to new experiences (Glowacki-Dudka, Murray, Gray, & Johnson, 2016; Tolar, 2012). Educational leaders in Glowacki-Dudka et al.'s (2016) study stated that they needed another person to "reframe the opportunity before they took self-directed path" (p. 693). Taking advantage of new experiences provided by mentors helped these leaders to discover their leadership potential within themselves and believe in their leadership capacity, increasing their self-directedness and improving self-efficacy (Glowacki-Dudka et al., 2016).

Second, the unavailability of mentors deprives female faculty from the strategic and academic support necessary for promotion. Several studies have shown that female mentees receive valuable information from their mentors about promotion process, the best time to apply, and how to apply to be promoted (Jackevicius et al., 2014; Murray et al., 2012; Varkey et al., 2012). Besides being better prepared for the promotion process, women academics are more likely to get promoted when they work with a mentor (Gardiner, Tiggemann, Kearns, & Marshall, 2007). Apart from strategic support, academic women can highly benefit from their mentors' academic merits to improve their own productivity (Holliday et al., 2014; Varkey et al., 2012). According to the findings of Varkey et al. (2012), female faculty participants who underwent a one-year mentorship program reported progress and improvement in their writing skills that consequently led to more publication. Similarly, female participants in Gardiner et al.'s (2007) study who were working with a mentor were offered larger amounts of research grant funding compared to the control group with whom no mentor worked.

Third, lack of mentoring means that women receive less feedback, encouragement, and positive role modeling in academia. It has been acknowledged that a significant benefit of having a mentor in academia is the general and specific feedback they offer to their mentees which leads to improved actions and decisions (Ambrose, Huston, & Norman, 2005; Murray

et al., 2012). Besides feedback, verbal encouragement, support, and counselling opportunities are another advantage of having a mentor among faculty (DeCastro, Sambuco, Ubel, Stewart, & Jagsi, 2013; Murray et al., 2012; Pyke, 2013; Tolar, 2012). In one study, for example, the encouragement and support of a trusted mentor was identified as one key reason encouraging female academics to move towards senior positions (Pyke, 2013). One explanation for such influence is the fact that verbal persuasion is a strong facilitator increasing sense of efficacy (Bandura, 1977; Lent et al., 2000). As well as encouragement and feedback, mentors behave as a role model for women academics (Tolar, 2012; Yedidia & Bickel, 2001). For example, findings articulated by Yedidia and Bickel (2001) revealed that the scarcity of mentors who acted as role models slowed down women's progress towards leadership in faculties of medicine. Because vicarious experiences are shaped by observing role models (Bandura, 1977), it could be concluded that female faculty members' self-efficacy for promotion may diminish when they are not exposed to this source.

To overcome the issue of women's lack of mentoring, studies have proposed a few approaches. Some studies have suggested mentorship programs for women (Bickel et al., 2002; Varkey et al., 2012; Wasburn, 2007). One noteworthy point is that the model that is employed in women's mentorship programs is critical to its success (Wasburn, 2007). The model that was applied in Wasburn's (2007) study was based on collaboration and cooperation between mentors and mentees which promoted a positive atmosphere and effectiveness. Comparable to Wasburn's approach, more recent models of mentoring offer a reciprocal relationship between mentors and mentees within the academic environment where every faculty member, regardless of the position, shares and receives support (Sorcinelli & Yun, 2007).

Another approach is to target mentorship culture and prepare universities for a more inclusive environment. Earlier, it was stated that male mentors in higher education desire to work with their male colleagues due to their shared interests. However, they also should be

helped by their departments to develop a constructive relationship with their female work partners and be influential mentors for them (Bickel et al., 2002). Departments can initiate mentoring committees in which each junior faculty member is mentored by senior members of the department (Gibson, 2006). In addition to policies, academic culture should encourage and reward those who serve as effective mentors for women (Gibson, 2006).

As well as changing the culture of academia, women faculty's access to same-sex mentors should be facilitated. A number of studies have highlighted how female mentors are essential to help other female faculty to progress in post-secondary education (Brown, 2005; Chesler & Chesler, 2002). The benefits of same-sex mentoring have been investigated by Scandura and Williams (2001) who identified that men and women benefit more from role modeling of their mentors with whom they have the same gender. The impact of same-sex mentoring can be justified by Bandura's (1986) theory emphasizing the level of similarity between observers and role models.

Current female leaders in academia should assist the next generation of women who are pursuing leadership and should commit to it as a professional responsibility (Brown, 2005). When female academics observe their mentors in leadership roles, they feel more confident in their own abilities to manage leadership and family demands (Brown, 2005). However, this approach is challenged by the paucity of women in senior positions who are eligible to provide mentorship. Additionally, little research has been conducted in relation to same-sex gender and mentorship, and there are some contradictory findings showing that female academics prefer male mentors (Meschitti & Smith, 2017). So, this line of research needs more profound investigation (Meschitti & Smith, 2017).

Conceptual Framework of the Study

This section outlines the theoretical framework of the study and discusses the constructs on which the study has been built. The conceptual framework of a study has been defined as

“the system of concepts, assumptions, expectations, beliefs, and theories that supports and informs your research” (Maxwell, 2009, p. 222). It is believed that a conceptual framework needs to be developed and constructed from existing knowledge not to be found and copied from the literature (Maxwell, 2009). The conceptual framework of this study formed its foundation on Bandura’s (1977, 1986) social cognitive theory. Although the framework was shaped using multiple authors’ work, including the self-efficacy model related to the career development of women (Hackett & Betz, 1981), social cognitive career theory (Lent et al., 1994, 2000) and, the career self-management model (Lent & Brown, 2013), Bandura’s theory is the overall lens of this study. The reason for choosing Bandura’s social cognitive theory is that even though social cognitive career theory (SCCT), self-efficacy model to the career development of women, and career self-management model have made great contribution to this study, they themselves have been based on Bandura’s social cognitive theory. As a result, the foundational framework for the current study is self-efficacy explored by Bandura’s social cognitive theory as the most influential component of this theory.

It is essential to note that Bandura’s (1977) self-efficacy concept has not been free from criticisms in spite of its popularity in behavioural studies (de Vries, 2016; Williams & Rhodes, 2016) and career development research (e.g., Lent et al., 1994) which is the focus of this thesis. The majority of the criticism (see Borkovec, 1978; Eastman & Marzillier, 1984; Kazdin, 1978; Tryon, 1981) was expressed close to the time when self-efficacy theory was being developed, and its constructs were being examined in experimental studies by Bandura, but a number of more recent articles (e.g., Williams, 2010; Williams & Rhodes, 2016) have also critiqued Bandura’s self-efficacy concept. A group of scholars highlighted that Bandura’s conceptual basis should be more explicit when distinguishing efficacy expectations from outcome expectations (Borkovec, 1978; Eastman & Marzillier, 1984; Kirsch, 1985). In addition to theoretical problems, another line of studies has critiqued the methodological confusion of

Bandura's self-efficacy arguing that the measures of self-efficacy actually evaluate willingness which is more connected to motivation than self-efficacy (Kirsch, 1985; Williams & Rhodes, 2016). In other words, when self-efficacy is explored in empirical studies, appropriate measures should be taken to ensure that the assessment is independent from motivational elements (Cahill, Gallo, Lisman, & Weinstein, 2006). Williams and Rhodes (2016), two critics of Bandura, suggested that self-efficacy as a complex human trait reflects a wide range of behavioural motives which makes it necessary to define and distinguish it from certain concepts such as motivation (Williams & Rhodes, 2016). Nevertheless, these two researchers did not define motivation to help differentiate between this concept and self-efficacy (de Vries, 2016). According to de Vries (2016), critics such as Williams and Rhodes (2016) have not comprehensively taken the Bandura's self-efficacy theory into account because Bandura has already explained that motivation is a "general construct" and that "the motivational facet of self-directed learning encompasses a variety of interlinked self-referent processes including self-monitoring, self-efficacy appraisal, personal goal setting, outcome expectations, and affective self-reactions" (Bandura, 1997, p. 228). As a result, motivation is partially reflected by self-efficacy (de Vries, 2016).

In spite of these arguments, several factors support the decision to conceptualize self-efficacy from Bandura's (1977, 1986) point of view in this study. First, Bandura as the originator of self-efficacy who not only developed the theory but also analyzed it in various empirical studies has discussed this concept rigorously and in detail. Self-efficacy as one of the key components of this study required a comprehensive explanation and Bandura has offered this comprehensiveness. Second, as mentioned, Bandura's social cognitive theory is the foundation for other pioneering scholars' models in the field of career development such as Lent et al. (1994) and Hackett and Betz (1981) who have thoroughly investigated the impact of self-efficacy on career development. Finally, Bandura's social cognitive theory has already

shed light on the impact of self-efficacy on career development of women (Bandura, 1986) and leadership (Bandura, 1995, 2009). Bandura (1995) proposed the significance of self-efficacy on leadership practices. For instance, he believed that efficacious leaders tend to create a sense of unity among team members while respecting their personal autonomy. Additionally, he reported how self-efficacy influences people’s career options, especially women’s occupational choices (Bandura, 1986; Bandura et al., 2001). These three factors guided the decision to base the framework of this study on the social cognitive theory. The framework of this study is illustrated in Figure 1.

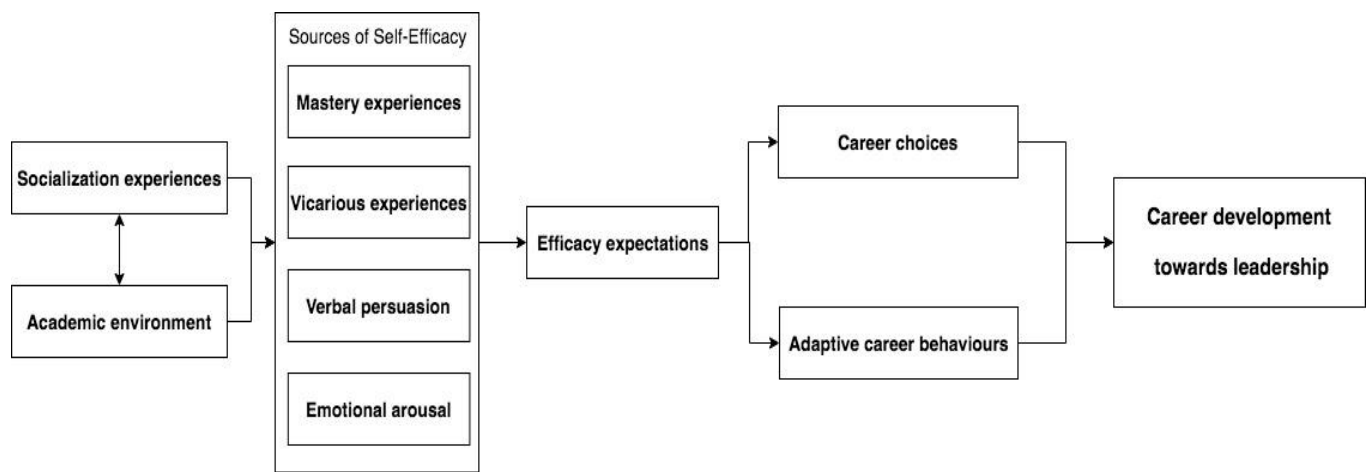


Figure 1. Formation of female faculty’s self-efficacy for leadership development

Figure 1 explains the process through which female academics set career goals towards leadership and achieve success in their occupational pursuits. Anchored in Bandura’s (1986) social cognitive theory, this framework emphasized several variables (e.g., environment, self-efficacy, socialization experiences). The interaction between these variables results in women’s career development towards leadership. According to this framework, female academics’ leadership development is affected by their socialization experiences and environmental factors. Example of environmental factors in academia include masculine norms and explicit and implicit stereotypes surrounding female faculty members in higher education. To highlight the significance of environment in career choice process, Lent et al. (2003) stated that “people are less likely to translate their career interests into goals and their goals into actions, when

they perceive their efforts to be impeded by adverse environmental factors” (p. 38). In this framework, female faculty’s mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal are assumed to be shaped and developed by their socialization and academic environment. Efficacy expectations are fostered through these learning experiences. Efficacy expectations are presumed to be mediators between learning experiences and career development of female academics for leading roles. Overall, the framework of this study attempted to understand the career choice process of female faculty members to fully employ their individual capabilities and talents in their career pursuits.

Conclusion

After presenting the relevant literature, several observations can be made in relation to the studies considered. Women may form a lower sense of efficacy for traditionally male-dominated careers, including leadership, as compared to men. If this is the case, however, the research suggests that this is related more to gendered role expectations than it is to biological sex differences. Gender stereotypes have created a culture in which women are framed more appropriately as followers and men are leaders. Girls begin to shape their self-efficacy within this frame. As they grow, the context may change but the messaging within the culture is the same. This stereotyped culture strongly persists in higher education. Female academics who wish to pursue leadership are often asked to change and sacrifice their outlook and well-being in order to fit into this hyper-masculinized culture. As they move towards upper-level positions, some may find themselves frustrated by the number of barriers and prefer not to take on leadership. Others who conform and move into leadership positions are also less likely to be accepted and appreciated among their colleagues. Fortunately, there are options available in the scholarly literature to overcome barriers that hinder women’s self-efficacy for leadership. Cultural transformation was acknowledged as the most necessary remedy for tackling each barrier, yet it is likely the most difficult to achieve. In addition, contextual experiences should

be targeted to form girls' and women's self-efficacy differently. Structural changes are effective only if the culture of higher education shifts, and female colleagues are deemed worthy and capable of holding leading positions. An inclusive culture prepares both women and men to fulfil their leadership potential confidently and positively. Undoubtedly, when women's talent and capabilities are developed and supported alongside those of men, they can complement one another and be directed towards higher education's academic and organizational goals.

Chapter Three: Methodology

Introduction

The intent of this qualitative study was to determine the impact of self-efficacy on female academic's career development for leadership positions. Qualitative inquiry seeks to find and interpret the meaning that people make from their everyday life (Erickson, 2011; Patton, 2015). As Patton (2015) noted, "the first contribution of qualitative inquiry then, is illuminating meanings and how humans engage in meaning making—in essence, making sense of the world" (p. 6). Qualitative inquiry is employed when there is a need to explore a problem (Creswell & Poth, 2018). The exploration focuses on issues that cannot be easily evaluated by literature reviews or other methodologies, and also concentrates on the empowerment of individuals by hearing their unheard voices (Creswell & Poth, 2018). Apart from empowerment, it is believed that qualitative inquiry is the most appropriate approach when exploring people's behaviours (Silverman, 2013). Additionally, qualitative inquiry is used when there is a need for detailed information on a complex issue that cannot be obtained unless the researcher talks to people in person in their life settings and discovers facets of a phenomenon from individuals' perspectives (Creswell & Poth, 2018). Because this study intended to explore self-efficacy as a complex human characteristic that determines human behaviours and decisions (Bandura, 1986), a qualitative approach, in which detailed information is gathered from individuals, was most appropriate. It was extremely important to discover how academic women made meaning from their day to day lives, and how those meanings and experiences affected their sense of efficacy for leadership roles. Also, this study desired to empower academic women who have been considerably underrepresented in academic leadership by giving them the opportunity to share their authentic experiences and ideas. Finally, qualitative inquiry was applicable in the current study because this study explored self-efficacy and its connection with academic women's career behaviours.

Silverman (2013) reports that a research approach should be chosen based on the research questions. The current study considered the ways in which the self-efficacy of academic women influenced their leadership development. Answers to this question necessitated that women shared their personal stories and elaborated upon their experiences. Thus, a qualitative inquiry was the most suitable approach.

In this study, the qualitative approach was framed using a naturalistic inquiry. Naturalistic inquiry is well suited for exploratory research where people's experiences are interpreted in their natural settings (Salkind, 2010). As Salkind (2010) explained, "naturalistic methods help researchers understand how people view the world, what they value, and how these values and cognitive schemas are reflected in practices and social structures" (p. 885). The aim of naturalistic inquiry is not to generalize findings but to reach a profound understanding of individuals' experiences in their own contexts and in a comprehensive and holistic manner (Salkind, 2010). The comprehensiveness and context-based quality of naturalistic inquiry aligns with a qualitative approach in which researchers tend to demonstrate people's attitudes, stories, and experiences in their contexts (Salkind, 2010). Similarly, the current study attempted to deepen our understanding of academic women's experiences in their natural setting: the institution for which they were working.

Description of Study Environment

This study took place in one of the Canadian post-secondary institutions located in the prairie provinces. Currently, over 20000 students are studying at this university in a variety of colleges. Convenience sampling was used for research site selection for logistical and methodological reasons. Firstly, I did not have the resources to travel to multiple sites to speak with women in multiple institutions. Secondly, for methodological reasons and the topic of research, I felt it was important to be able to conduct face-to-face interviews with participants. I needed to build trust and establish a meaningful relationship with the participants that could

only occur via face-to-face interviews. Thus, the purposeful sample frame for the interview data collection consisted of all women who had leading roles as heads of departments or graduate chairs in social science disciplines or STEM fields at the time of the study in a single university. In this institution, almost 30 departments had focused on social sciences and STEM related fields during the time of this research. Almost 60 faculty members were either heads of departments or graduate chairs in social sciences and STEM fields, but only 12 of these individuals were women. The three participants of my study were selected from the 12 female leaders in this institution.

Researcher Positioning

A statement related to researcher positioning helps to explain “who researchers are in relation to what and whom they are studying” (Given, 2008, p. 844). The purpose is to help researchers identify the influence of their culture, experiences, and worldview on their scholarly work (Given, 2008). It also aims to assure readers of the quality, validity, and reliability of the study (Given, 2008). I am currently a female international student who has grown up in a different culture than Canada. In my country, the structure of society is based upon traditions, family, relationships, and academic credentials. The significance of academic education has led families to consider educational attainment as the top priority for both girls and boys. Similarly, education was highly valued in my family, especially for me as the only girl among my siblings. My parents’ message to me was that education opens the door to a whole world of opportunity and that it means empowerment in my future. Nevertheless, their message was in contradiction with the reality that I was witnessing around myself and in the society. I observed many women who were educated but not empowered. One reason for this contradiction was that the traditional structure of society favoured the idea that men are usually the main decision-makers in their households and communities. Therefore, I could predict that no matter how much education I attained, I could not be as empowered as I deserved to be

because of the accepted norms in my society. Another reason for my contradiction was related to educational attainment and women's occupational circumstances. I had realized that women's occupational development was not possible no matter how hard they strived to be qualified for their jobs, because when it came to making sacrifices, women were the ones who were expected to sacrifice their careers. For instance, I witnessed many women who quit their jobs because of a new family circumstance, and this action was valued and appreciated among members of my society. As a result, I worried for my career development because I knew that I may be forced to give up my occupational goals regardless of my educational progress due to gender roles and expectations. Therefore, my cultural observations highlighted the significance of gender equality and gender roles for me from a very young age to such an extent that the subject of gender was a major concern for me for as long as I can remember.

Despite all the contradictions, I was extremely fortunate to have family support who never let me internalize the belief that I was different or that I should be expected to behave differently due to my gender. They taught me how to stand up for myself whenever I witness unfair discrimination. I had the privilege of a good education, support, and encouragement which played an important part in my socialization. The verbal persuasion received from my parents had a great impact on me as it helped to stretch my imagination beyond the expected roles of women in my society, and visualize myself as a strong, ambitious individual. In this circumstance, my mother's role modeling had the most influence on me when I observed from very young ages how hard she strived to go to school, get her high school diploma, and finally go to the university. She had a leading attitude in our home and our community which was quite controversial. These verbal persuasions and vicarious experiences shaped my self-efficacy. I came to believe that no objective is unachievable, and that it is possible to succeed regardless of the norms that might impede my progression.

The subject of self-efficacy was a significant concern in my life. During my childhood, although I was not familiar with the scientific term “self-efficacy”, I continually reflected on my abilities, my characteristics, and my values. As a teenager, I was an avid reader of psychological books to learn how to build my self-confidence, how to realize my goals, and how to believe in myself. Nevertheless, my own self-efficacy was a strong motivator when I entered the university and began a number of internship courses for my bachelor’s degree in Educational Studies. Due to my learning experiences, I held a powerful fantasy that I needed to change the world and empower myself and other girls. I enrolled in several internship courses in girls’ high schools and non-profit organizations whose main goals were to help vulnerable women gain strength and new skills. While I was working with the girls and women, I found out that one notable characteristic was common among most of them: they underestimated their abilities even though their performances were impressive. This attitude was familiar for me because in many situations, I had doubted and questioned my abilities; however, I had never acknowledged this issue in large settings before. This eye-opening discovery gave a fresh direction to my personal life and academic journey; I decided that I first need to work more on my own self-efficacy, learn as much as I could about its impact on women, and then find ways to help other girls and women develop a positive sense of efficacy.

I also became interested in the concept of leadership while completing my bachelor’s degree. Due to the nature of my major, I had the opportunity to take different courses in educational leadership. As I was exploring the qualities of influential leaders and connecting them to my educational environment, I realized that the division of power and allocation of leadership in my university was similar to what I had experienced outside the university. My university was one of the largest state universities in my hometown, and it accommodated a huge number of students and faculty. Yet, only one instructor in my department was female and her background was not education, so only a few courses were offered by her during the

year. I never saw a female leader during the four-year of my studies at the university. Therefore, I wondered about the reasons that led to this lack of female academics, especially the lack of female leaders in my university, because I planned to become a faculty member. I wanted to anticipate my future. My assumption was that since there was a power imbalance across the society, the academic environment had been affected as well. This observation further confirmed the contradiction that it was acceptable for me to go to the university and have a job, but as a woman, I should not have high expectations to continue or move into leadership roles.

When I moved to Canada to continue my education and experience in a different academic setting, I was sure that I was going to focus on self-efficacy and female leadership due to my interest, background, and learning experiences. I was determined to find answers for the questions that I was carrying in my head for a long time. What surprised me most was that this topic is not comprehensively researched in spite of its importance. Also, I was surprised to understand that women's underrepresentation in leadership of academia is a universal phenomenon and is not limited to my country, although the extent of underrepresentation could vary across two different cultural settings.

Based on the above-mentioned discussion, several factors impact my subjectivity in this study. First, my assumptions and passion for the topic of self-efficacy, women's leadership, and career development were shaped from my first-hand experiences and observations in my country, so it was likely that I interpreted the data based upon those assumptions and passion. Second, I was raised in a different cultural setting than Canada; the impact of my culture on my personality and worldview could have influenced my interpretations. As Moser (2008) has specifically highlighted, personality is developed within researchers' cultures and has a huge impact on their subjectivity. As a result, my culture played a major part in who I am that could affect the information. After culture, my values with regards to gender issues and gender equality may have influenced this study. I may have had a tendency to overlook or

overemphasize particular data since my research is about women's experiences. Finally, my foreignness and status as a student may have influenced the participants' openness in the process of sharing their experiences.

Participant Selection

The participants were three female faculty who held formal leadership roles as heads of departments and graduate chairs. I did not limit the leading positions to one high ranking post because in several colleges, there were no female leaders in that particular role.

In this study, participants were selected using a purposeful approach given my desire to interview female leaders from different colleges and departments. Salkind (2010) also suggested that a purposeful method is the best way to select participants in a naturalistic inquiry because it enhances the variety of the participants. In this vein, Patton (2015) revealed that a purposeful method of sampling helps researchers to select information-rich participants who can greatly contribute to the study. This approach helped me to include female leaders of both male and female-dominated departments. For example, women tend to have lower sense of efficacy than men in academic and career activities related to the fields of STEM (Beyer, 2014; Inda, Rodríguez, & Peña, 2013; Jagacinski, 2013; Vogt et al., 2007) that can be one of the reasons why women are more underrepresented in STEM domains (Beyer, 2014; Vogt et al., 2007). Therefore, to further understand women's self-efficacy for leadership in different fields, one interviewee was selected from STEM Colleges, and two from colleges whose disciplinary focus was based on the social sciences. This allowed for a diversity of women leaders with different experiences and stories to provide critical information, while allowing for anonymity of respondents. The reason for interviewing one participant from STEM and two people from Social Science majors is that there was only a few number of female faculty members in leading roles including department head and graduate chair positions in STEM colleges whereas this number was higher in Social Science disciplines. I predicted that more people from Social

Sciences would be willing to participate considering their larger number. This prediction turned out to be true because only one potential participant from STEM fields responded to the letter of invitation and expressed interest in participation.

The list of potential participants was pulled out from the website of the university where their updated professional profiles were displayed. The individuals had to meet the criteria of being female faculty holding leadership roles as graduate chairs or heads of departments in STEM fields or social sciences. A total of 12 female leaders were identified who met the study criteria of participation. They were approached via email to ensure their availability and interest in participating in my study. In this email, I described the nature of my study, including a short introduction of my project, its purpose, the research methodology, an estimated timeline, assurance of the anonymous nature of my research, the provision of the certificate of approval from Human Ethics Review Board, and the significance of their contribution to women's status. I also highlighted that the interview questions would ask them to speak about their self-efficacy development and its connection with their career development towards leadership. Only those women who were willing to speak to the issue of self-efficacy, career development, and their experiences related to these concepts were sought for this project. The first three qualified participants who expressed their interest, comfortability, and contentment with my project were interviewed. Among the interested people, only one individual was from STEM field who agreed to participate. This was perfectly aligned with the intention of this study as it was planned to interview one participant from STEM and two interviewees from social science disciplines.

This study aimed to interview three female participants. According to Baker and Edwards (2012), there is a lack of explanation for the appropriate number of participants in the existing qualitative literature. However, Baker and Edwards suggested that the number of participants depends on many factors including the purpose of study, available time, and

institutional wishes. In the current study, three participants were interviewed three times each in order to acquire rich description, to allow for deep meaning making related to this sensitive topic, and to create a strong level of trustworthiness in the findings that would not be generalizable. In this way, I was able to deepen the data by probing the subjects more closely in three rich interviews. This approach was aligned with Patton's (2015) report that the major distinction between qualitative and quantitative approaches is that qualitative approaches concentrate on small numbers of participants, to give depth to the study.

Sources of Data

The data for this study were collected using in-depth semi-structured interviews. Semi-structured interviews are strongly associated with qualitative inquiry and used as data that require interpretation (Lewis-Beck, Bryman, & Liao, 2004). According to Harrison (2009), semi-structured interviews are suitable for critical subjects when facts and issues that are not readily observable are evaluated. Moreover, the flexibility of semi-structured interviews allowed participants to elaborate on their own understandings of the open-ended questions and allowed me the opportunity to digress from a script of questions when valuable information led to new insights. Flexibility is the key feature of this method, which means that the interviewer has a flexible interview guideline with themes and areas to be covered rather than structured questions in which unexpected themes are less likely to emerge (Lewis-Beck et al., 2004). In this study, open-ended questions were employed to help me remember important questions related to the conceptual framework and direct the interviewees towards answering the research questions. An open-ended question, contrary to a close-ended question, provides the opportunity for the participant to interpret and make meaning from the questions (Harrison, 2009).

Semi-structured interview flexibility promotes an interactive relationship between researcher and interviewee (Lewis-Beck et al., 2004). Interactions are the foundation of semi-

structured interviews, which means that knowledge is built through the interaction rather than the responses given to direct questions (Lewis-Beck et al., 2004). The concern with direct questions lies in the fact that when participants identify researchers' interests, they are more likely to give biased answers to the questions (Silverman, 2013). Prepared questions may also lead the researcher to report solely on what participants have noted in their responses (Silverman, 2013) rather than look for complexity or deeper meaning within and across responses. Apart from flexibility, semi-structured interview responses echo people's voice (Rabionet, 2011), which best fit the intent of this study.

Data Collection

Data collection took place in three face-to-face interviews of three female academic leaders for a total of nine interviews. The questions that were proposed for each interview can be found in Appendix A. Each interview was held for a specific purpose. The first interview was conducted primarily to establish a relationship with the participants in order to build trust, to obtain background information related to their career progression, and to answer the first research question. Establishment of a relationship was essential because I needed to build a trusting relationship with participants in order to subsequently answer the research questions that necessitated discussions of personal and sensitive topics related to life circumstance, gender and career. Participants could feel vulnerable in sharing information, so creating a trusting relationship in the first interview was of great importance. Extensive research has emphasized the significance of rapport building and trust development between the researcher and the participants in qualitative research (Creswell & Poth, 2018; Fontana & Frey, 2000). It was essential to get closer to the perspective of the participants without forcing attitudes and assumptions because the main purpose of unstructured interviews, including semi-structured interviews, is understanding (Fontana & Frey, 2000).

Regarding this study, I was planning to keep the interviews purposeful but casual and friendly. To that end, I did not start any of the three interviews with asking direct questions, but rather, I engaged in a friendly conversation. In order to build trust in the first interview, I needed to be upfront with them about my background and my intentions. Then, I gave them enough time to talk about their own backgrounds and thoughts about the project. I was prepared to speak knowledgeably about my work because I was aware that they were more likely to trust me if they understood that I was knowledgeable and confident about the components of my study. I spent some time getting to know my participants via their profiles before the interviews. My attitude towards the interview and the project was extremely important in trust-building because it conveyed respect for the participants and their experiences during the interviews. I needed to stay positive and confident to exude trust and enhance my chance of getting honest answers.

Alongside building trust, I planned to determine the participants' reflections on the first research question during the first round of interview. The first research question was about the impact of their socialization experiences and academic environments on their sense of efficacy for their career development. The purpose was to explore how socialization and contextual variables affected self-efficacy during learning experiences for leadership career development. Leadership is a complex behaviour which requires many cognitive qualities, self-efficacy in particular (McCormick, 2001). Therefore, it was essential to identify determinant factors that shaped participants' self-efficacy. After a thorough literature review, I speculated that socialization of the female leaders and their academic environments may have affected their self-efficacy for their current leadership positions. As a result, the first session of interview questions emphasized specific questions about the influence of these leaders' socialization experiences and their experiences with the sources of self-efficacy including mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal. For instance,

they were asked to elaborate on variables such as family support, social support, and quality of education in their socialization experiences and how these may have affected their sense of efficacy to become a leader. In this session, they were asked to share their experiences with distal factors such as encouragement, discouragement, and role modeling that could influence self-efficacy. Similarly, the impact of the participants' academic environments such as the existence of masculinist norms and gender stereotypes that may have impacted on their sense of self-efficacy was explored in this round of interview.

The second round of interviews was conducted to obtain information related to the second research question. After exploring the determinant factors that had helped or impeded participants' career development, it was important to identify in what ways each source of self-efficacy affected women's career decisions. Thus, the second interview asked the interviewees to elaborate on their mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal in their career development. The aim of this interview was to separately acknowledge the sources of efficacy that may have impacted their career trajectory.

The third and last round of interviews was focused on the third and fourth research questions that were aligned with each other. Participants were provided the opportunity to explain how self-efficacy affected the different areas of their occupational lives, including their accomplishments, persistence, optimism, motivation and adaptive career behaviours.

In order to ensure anonymity, the participants' names were not used during the interviews and in the transcriptions. I asked the participants to choose an alias with which they preferred to be addressed. The participants' pseudonyms were used instead of their real names in the transcriptions as well as the first sub-theme in Chapter Four. I ensured that supporting quotations did not reveal the participants' identities. Moreover, any information which could have led to harm to the participants or the institution of this study was not included in the transcriptions or in the publication of the study. For example, any names that participants

mentioned during the interviews and/or background information like colleges or positions were not noted in the transcripts or reports. The identity of the institution was secured by removing any information or findings that could have resulted in its identification. Stuckey (2014) suggested that participants' names or any other information that can identify participants should be removed not only from transcriptions but also any other documents when conducting an interview. Sensitive information may cause harm to personal or social life of a participant; therefore, the interviewer can omit the sensitive information and replace them with "sensitive information removed" in transcriptions (McLellan, MacQueen, & Neidig, 2003). Thus, the results were anonymized and reported in an aggregated manner, and sensitive parts were removed from all the reports of this study.

With regards to accessibility and data analysis, I was the only person who had access to the interview files and information. I did not share the transcripts or identities of the participants with any person.

I conducted the interviews in the interviewees' offices. I checked with the participants about the place in which they felt most comfortable, and they mentioned that their offices were the most appropriate place for them. Although Easton, McComish, and Greenberg (2000) recommended avoiding a participant's office because of the likely interruptions such as telephone ringing or staff interruption, I had arranged the interview times well in advance and asked the participants to choose the most appropriate day when we could have the least interruption.

Each interview lasted for about one hour and was audio-recorded digitally and transcribed with the participant's permission. I arranged a meeting with each participant before the interviews to officially ask for their permission and have them sign the consent forms. This meeting took place in their offices. In the consent form, I mentioned that the interviews were audio-recorded so that the participants were aware of the interview procedure in advance.

There are several studies that support best practices for the transcription of interviews (Creswell & Poth, 2018; Lewis-Beck, Bryman, & Liao, 2004; Silverman, 2013). Transcription plays a huge part in the trustworthiness and reliability of interview-based qualitative research (Lewis-Beck et al., 2004). I conducted and transcribed the interviews individually as suggested by Easton et al. (2000) because when the interviewer does the work of transcription, many common errors such as mishearing and misunderstanding of the words that can change the interpretation of the data will be prevented. I sent the transcripts after each interview as well as first drafts of the data analysis (Chapter Four) to the participants via email so that they could add, delete, or change the information, thereby confirming the information prior to sharing it with my supervisor. In this circumstance, I was able to make sure that the transcripts and the data analysis were not in contradiction with what the interviewees meant to convey. This approach has been introduced as an effective technique to promote credibility of qualitative study (Creswell & Poth, 2018; Guba & Lincoln, 1982). Each interview was transcribed immediately after the interview session. The immediate approach helped me avoid forgetting the details of my observations during the interview session. I was able to comprehend the recording data more easily and form deeper questions for the subsequent interviews. Immediate transcription also helped me to critique and improve my interview techniques for the next set of interviews. This preliminary analysis acted as the basis for the study's data analysis. Finally, the three interviews for each participant were completed in four weeks approximately based on each interviewee's schedule, and the minimum gap between interviews was one week.

Preserving data in a safe and secure manner was crucial to guaranteeing the confidentiality of research participants (Corti, Day, & Backhouse, 2000). The institution where the research was conducted had strict regulations about storage and retention of research data to prevent loss, modification, and accessibility of unauthorized individuals. I handled the data storage with great care and rigour. The interview files were stored on the university file servers

and were wiped from the digital audio recording device after transcription. Based on the Ethics Board Regulations, my supervisor assumed responsibility for storage of the anonymized data for the required time period. According to the regulations of the institution, research data should be kept by researchers for a minimum of five years once a project is completed. After securing the data for the required amount of time, the data will be erased or physically destroyed.

Data Analysis

According to Patton (2015), there is no prescribed formula when it comes to transforming data into findings. He believed that although researchers can use established frameworks and guidelines (not formulas), this stage remains unique for each individual researcher because different studies are distinct from one another. Due to a paucity of defined rules in data analysis, he suggested that researchers “do your very best with your full intellect to fairly represent the data and communicate what the data reveal given the purpose of the study” (Patton, 2015, p. 522).

According to Patton (2015), data analysis in naturalistic inquiry begins while the researcher is in the natural setting and may cause the researcher to ask for further information during the interview session (Patton, 2015). This immediate data analysis and ability to confirm ideas in the moment with participants led to greater reliability and validity in this research. I focused on reflecting on each participant’s stories and experiences separately. I then attempted to illustrate the similarities and differences between the journeys that they made as female leaders in different fields of studies.

For this research, the audio recorded data were reviewed and organized using thematic analysis to discern themes related to the sources, influences, and impact of self-efficacy on the subjects’ career choices. The framework provided in Chapter Two offered prior constructs from which themes were generated. I extracted and classified codes based on their repetition

in the participants' responses in several transcripts, their relevance to what I had read in the literature, and the emphasis of the participants. After grouping codes, I developed themes that emerged from the data. I labelled each theme in order to answer the questions of this study.

In the first interview, I looked for themes related to socialization experiences and context. The themes included the availability of contextual and objective factors such as social support, family support, occupational support, and training as well as distal factors such as encouragement, discouragement, and role modelling. I also looked for themes related to the role of academic culture, gender stereotypes, and colleagues' acceptance of their career development. In the second interview, I specifically sought themes that explained the existence and impact of each source of efficacy on the participants' career development. In the last interview, I searched for themes that highlighted the effect of self-efficacy on the participants' adaptive career behaviours, accomplishment, persistence, optimism, and motivation. I examined participants' career explorations and job search behaviours and their connection with participants' senses of efficacy.

In addition to specific themes, the semi-structured nature of the interviews also provided for some emergent themes to develop (Braun, Clarke, & Terry, 2015). Themes can emerge in the form of ideas, signals, and interactions (Patton, 2015). These emergent themes were categorized to facilitate coding related to the conceptual framework and/or emergent concepts, and interpretation of the data during the analysis in this study.

Trustworthiness/Validity and Reliability

Quality of research is a major concern in qualitative study and has been discussed at length by notable scholars of this domain (Creswell & Poth, 2018; Lewis-Beck et al., 2004; Silverman 2013). Quality is evaluated based on the trustworthiness, validity and reliability of a study (Creswell & Poth, 2018; Silverman, 2013). Four criteria have been introduced to ensure trustworthiness: credibility, transferability, dependability, and confirmability (Guba &

Lincoln, 1982; Lewis-Beck et al., 2004). According to Silverman (2013), credibility is akin to validity in qualitative study. It is reflective of the accuracy of researchers' interpretations and how much their understanding is aligned with what participants meant to convey (Guba & Lincoln, 1982; Lewis-Beck et al., 2004). I ensured credibility by asking for participants' feedback on the data in the transcripts and findings. This collaborative approach has been proposed as an effective technique to maintain credibility (Creswell & Poth, 2018; Guba & Lincoln, 1982).

Transferability is also important for creating trustworthiness in qualitative research (Guba & Lincoln, 1982; Lewis-Beck et al., 2004). Guba and Lincoln (1982) believed that even though naturalistic inquiry is not about generalization, some degree of transferability is possible if ample data are collected. Transferability has been defined as "the report's ability to be utilized in (transferred to) another setting similar to that in which the original case was conducted" (Lewis-Beck et al., 2004, p. 1145). To ensure transferability, I produced thick descriptions (see Guba & Lincoln, 1982; Lewis-Beck et al., 2004). This was partly achieved by conducting three interviews with each participant. I recorded and explored the data in detailed descriptions in the setting during and after the interviews, and during the data analysis. Being an active listener and a vigilant observer who recorded details of the interview process, interactions, and the atmosphere helped me to reveal significant information which could have stayed subtle without thorough exploration. As Silverman (2013) has recommended, researchers need to pay constant attention to both similar patterns and contrast themes when conducting a qualitative research.

Another criterion for trustworthiness is dependability. It refers to reliability and stability of the qualitative study (Guba & Lincoln, 1982). A reliable research study has the potential to be replicated in similar settings (Guba & Lincoln, 1982). Creswell and Poth (2018) advised that reliability can increase when researchers employ appropriate recording and coding

techniques. In the current study, a systematic coding approach was developed for the interviews and revised accordingly. I consulted with the literature and my supervisor to ensure strong and effective coding. The primary list of codes was established in accordance to the research questions, and the conceptual framework.

The last criterion is confirmability that supports the idea that findings are the results of participants' interviews and collected information rather than researchers' biases and interests (Guba & Lincoln, 1982; Lewis-Beck et al., 2004). This concept is equivalent to objectivity in quantitative research (Guba & Lincoln, 1982). To address confirmability, I disclosed the bias I could bring to this study due to my past experiences, orientation, and prejudices. I reflected on my biases and possible changes that I could impose on the study to avoid them deliberately. I confirmed findings with participants to ensure that I had represented their views and experiences fully, and to ensure that my results accurately reflected the data provided. I reported on my progress to my supervisor after each chapter who reviewed and provided feedback on the transparency of my findings.

Confidentiality and Ethics

Ethical considerations are critical in qualitative studies (Christians, 2011; Creswell & Poth, 2018; Sieber, 2009). Ethical considerations begin well before the commencement of a qualitative study because when humans are engaged in the research, caution must be implemented (Christians, 2011; Sieber, 2009). Researchers initially begin to establish an ethical study by obtaining the approval from Institutional Review Boards (IRBs) (Christians, 2011; Creswell & Poth, 2018). I took steps to ensure that there was minimal risk of harm to participants. A copy of the ethics certificate has been placed in Appendix B. Although the approval from Human Ethics Review Board is necessary and important, it is not the only step to conduct an ethical research as ethics should be sustained throughout the entire study (Creswell & Poth, 2018).

One significant aspect of ethics is related to participants' willingness to take part in a study (Christians, 2011; Creswell & Poth, 2018). In this research, the interviewees were assured that their participation was voluntary and that they could leave the study at any time. They were given a consent form to seek their permission for participation. As well as willingness, participants needed to feel safe and be assured that their identity was safeguarded (Christians, 2011; Creswell & Poth, 2018). As discussed earlier, I used aliases only for one sub-theme to protect anonymity, and I did not report any background information. Additionally, I made sure that the data, codes, and findings were accurate and based on the participant's ideas because I was morally accountable to the participants' endeavour and cooperation. As mentioned, I achieved this purpose with sharing the transcripts and data analysis with the participants during and after the interviews.

Summary

The overall purpose of this chapter was to provide an outline of the methodology and methods of data collection and analysis in this study. An overview of qualitative research, naturalistic inquiry, semi-structured interview, and the research site was provided. Moreover, a description of the population, sampling strategies, and data analysis was presented. The chapter concluded with addressing the researcher's positionality, the research trustworthiness, and ethical considerations of human participants. Chapter 4 presents the findings of the research.

Chapter Four: Findings

In this chapter, the qualitative analysis of the data is provided. Each participant agreed on a pseudonym which is used for the first theme of the analysis section. I do not employ those pseudonyms for the rest of themes in order to protect participants' anonymity. The participants were concerned about their anonymity in reporting and requested that I present the themes in an aggregate form without using pseudonyms that distinguished identities.

The findings are presented as themes. The data collected produced four overarching themes with 18 sub-themes. The main themes are as follows: (1) self-efficacy is positively affected by support and encouragement and negatively influenced by discrimination and discouragement; (2) sources of self-efficacy influence women's decisions related to leadership development; (3) self-efficacy influences a female faculty's accomplishment, persistence, motivation, and optimism; and, (4) successful leaders use sources of self-efficacy when exploring potential academic careers.

Self-Efficacy is Positively Affected by Support and Encouragement and Negatively Influenced by Discrimination and Discouragement

Eight sub-themes are embedded within this main theme found in the data. Female leaders described how the available encouragement and support, or discrimination and discouragement in their academic environment and socialization experiences, affected their sense of efficacy. They suggested that support, or lack of that, affected their sense of efficacy while they were growing up and when they were progressing in their career towards leadership.

Career Progression Stories

In order to understand the acquisition of leadership for the participants and its connection with self-efficacy, it was crucial to know about their journeys that led to their acquisition of leadership positions. When asked about their career progression, the female leaders of this study described their path to becoming a faculty member. Each participant had

a unique journey because of different life circumstances. Two participants were from Social Science disciplines and one participant was in STEM fields. Nichole chose to work after completion of her Masters degree for many years as a teacher in post-secondary institutions before earning a PhD. She noted, “I started teaching [in a university]. I went down to [name of a university], and I started teaching there. I loved teaching. I was teaching [a field of study] which was related to what I had done before”. She did not consider pursuing a PhD because she was the mother of a young family. She discussed that “I don’t always think that pursuing a PhD is the smartest choice for people. There are very few jobs. My family is here so, I did not want to move. So, that was a tough decision”. In another statement, she highlighted that “I was not sure for years. I did not know if I should do that [the PhD], I had small kids and they were my priority”. She finally made a decision to pursue a PhD when her children were old enough to take care of themselves. She described that “finally when they were in high school, I decided that I would go for PhD”.

Donna, on the other hand, took a different career path. She continued her education after her undergraduate degree and completed her PhD without an interruption. She also became a mother while she was a graduate student. She continued her studies and took care of her baby simultaneously with the help of a nanny. She described that “I stayed at home only for a few months because I had just started my research [...]. What I did was found a nanny for my baby to come and take care of her at home, while I was reading and writing in the other room”. After completing her graduate studies, she was hired as a faculty member and began her occupational journey.

Judy achieved her Masters degree, and similar to Nichole, she left academia after her Masters completion, but only for a few years. She did not wish to pursue a PhD immediately because she did not find the academic environment a place where one could flourish. She noted:

I also left the academia after my Masters to work for different sectors. I left because the environment at the university where I did my Masters was toxic. There was a lot of faculty fighting. There was extreme competitiveness and not real collaboration [...]. So, I thought I wanted a PhD, but I did not know if I could handle that ultra-competitive environment of academia.

Judy began working for government and industrial sectors related to her major. She stated, “I went and worked for the government for a while and a non-profit for a bit. And I worked for the industry”. After a short period of time contributing outside of the academia, Judy decided to come back and pursue a PhD. She highlighted that “I had more questions than those kinds of jobs allowed me to answer”.

Once in the academy, all the participants had a relatively similar journey in their careers. They started as assistant professors, were awarded tenure, and became associate professors. Two of the participants were promoted as full professors, while one participant was moving towards the full professorship. In addition to their leading roles as heads of departments or graduate chairs, they had been accountable for other leadership positions inside and outside of the university at some point in their academic life including: directing research projects, chairing different committees, running major grants, and supervising graduate students.

The three participants of this study included in their understanding of leadership their role in leading research projects. Donna has been a leader in her research community for a long period of time. She stated, “I have different kinds of leadership. One leadership is my research area. In my research area, I have been involved in the main society”. Similarly, Judy was the leader of a significant research grant in her field. She mentioned that “I am the director of a multimillion dollar grant. So, the principal investigator on that as a research training program for graduate students”. Nichole was also a grant director for a number of research projects. She discussed that “I had leadership roles in the grants that I was the principal

investigator for and I enjoyed those roles because we were doing something together as a collective. That was meaningful”.

Apart from research, the female leaders of this study emphasized their leading roles in various committees and scholarly communities. Judy highlighted that “I have sat on many university committees. I have sat on high-level college committees that shape people’s futures”. Similarly, Nichole and Donna highlighted a number of their chairing responsibilities inside and outside of the university. For instance, Donna has served in various leading roles in “several conferences and committees”. Therefore, the participants of this study moved into leadership roles in the academy after serving in various capacities as research leads or through their work and visibility in conferences and committees.

Influential Individuals Strengthen Self-Efficacy

A theme developed related to the role of influential individuals who supported the development of participants’ self-efficacy. The most influential people affecting these women’s self-efficacy were family members and teachers.

At least one close family member was specifically highlighted as an inspiring individual who boosted participants’ self-efficacy for learning. Two out of three participants had role models in their families who were faculty members. One of the participants came from an academic and intellectual family where her talent and abilities were praised and encouraged significantly from an early age. This participant stated:

Everybody in my family – my parents and my maternal grandparents – was supporting me and encouraging me. Everybody believed that I am a genius and that I am the most talented creature in the world. I was the hope of the whole family, which was an intellectual family. My parents were university teachers and researchers. My grandfather was a professor. My great grandparents were also teachers, priests, doctors.

So, the focus of my entire family was on intellectual development. Of course, I have had enormous support from my family.

For this participant, family members were sources of encouragement, and role models who inspired her to pursue a STEM field because they had already succeeded in academia in different STEM fields. As she noted, “I grew up in a science family”.

A second participant also came from a family where higher education was valued. Her father and a male family member were faculty members at a university, both of whom were fond of teaching and academia. These two academic family members were among her role models when she was growing up. She noted, “my father was actually a professor. He just loved to teach. He was a funny man, and he had a big great personality. I really admired him. So, these are my role models”. In another statement, she emphasized that she became familiar with the subject of teaching from an early age because it was discussed in her home frequently. She noted, “He (the academic family member) always loved teaching. There was that conversation about teaching”.

These two participants also discussed the impact of influential female role models on their self-efficacy during the formative years of childhood. One participant spoke of her mother who was also a faculty member. She noted, “my mother became a scientist and university teacher. She followed in her father’s steps. So, she was also my role model”. As a scientist in STEM, her mother taught her that she should strive and have resiliency in order to succeed in academic work:

Another thing I learned when I was young from my parents was to work hard. Both of them worked very hard, especially my mother. She often came back home after 8 pm; there were experiments to finish, papers and reports to write, meetings that were eating time, and students to meet.

Additionally, a great source of encouragement and self-efficacy came from female family members who were stay-at-home moms without a university degree or any occupational experiences. One of these two participants began explaining the influential individuals of her life by describing her grandmother. She indicated that her grandmother played a huge role in her childhood as a role model and inspiration. Her grandmother was an open-minded and smart woman even though she did not have the opportunity to gain a university degree or go to work:

My grandmother grew up in a different time. She was born in the early 20th century, and she grew up in a time when women's main goal in life was to get married, be good housewives and raise good children [...]. There was no need for my grandmother to work. Yet she resented the economic dependence on her husband's salary. She did all the housework, but there was so much more that she could have done; she was a very intelligent woman. She was reading the newspapers in an expert way. She would understand the hidden meaning of news, make her own predictions, and summarize all that was happening for all of us, better than the news on TV or radio.

This participant described that her grandmother had a significant part in boosting her sense of efficacy to become an independent and successful individual. The grandmother wanted her granddaughter to be her best self:

One thing that my grandmother indoctrinated in my mother and in me was to never depend on men for money and for sustenance. She would say, "you need to have your own job, which brings you income, so that you can be independent, allow you to be your own person. You have to rely only on yourself."

One participant shared similar stories with regards to female family members who motivated her when she was young. She shared that her mother and sister were stay-at-home moms; however, her mother served as a role model who encouraged her to realize her potential and go to university. She noted, "I was brought up by a mother who was a stay-at-home-mother."

That is what I knew but she always wanted more. She always wished she could have worked. So, she always wanted me to”. In another statement, this participant highlighted that “my mother desperately wanted me to finish a university education. So, it was probably more role-modeling”.

The third participant’s grandfather was the most influential individual who encouraged her to achieve a university degree. She explained that “my grandfather had been to the university. He was always prodding me to go to the university”. Nevertheless, she did not find the role of family as influential as other participants in her journey towards academia. Her own interest in and curiosity for learning motivated her to pursue knowledge:

I don’t know if any one person was influential in me to achieve anything. I liked school. I liked learning. I don’t think there is any one person that helped shape that desire to learn more. It is something that I have always enjoyed as learning. I was a very curious child. I still am.

She also emphasized that she was the first generation of females in her family who achieved a university degree, which was true for another participant of this study as well. She stated, “I was the first female in my family to go to the university though. I did not have kind of like a role model”. These two participants resisted becoming stay-at-home moms. As noted by the second participant who was the first female in her family who went to university:

My mom was a stay-at-home mom, my sister was also a stay-at-home mom so, I have got a lot of pull the one way, but I have got also a lot of pull to be a stay-at-home mom, but I never was.

Teachers were reported as the next most influential persons on participants’ self-efficacy, especially in early stages of adulthood. They had a major role in development of self-efficacy for the participants during high school and into university. Teachers were influential for all the women especially for the female leader who did not have a major role model among

family members. She looked up to a male teacher when she was an undergraduate student who engaged her interest in research, and who provided opportunities to explore new educational experiences:

I was lucky in my undergraduate to have one professor in specific that I was quite engaged with. I worked as an undergraduate research assistant with this person [...]. In second year of university, he let me work as a volunteer in his lab. He let me do a few things like wash glassware and he let me come to the field with his research team. I was just kind of hooked and I continued working with him through my whole undergrad.

The teacher also developed the participant's self-efficacy related to pursuing a graduate degree. She stated, "he got me really excited about pursuing graduate work. I had never thought of graduate work. I did not even know what it was until in my undergraduate. He gave me opportunities".

The other participant shared similar experiences, indicating that she decided to complete a PhD because of the support and encouragement that she received from two of her teachers:

Two professors in my undergraduate degree would have gently really encouraged me to continue along and the encouragement to get a PhD. I would not have done that actually because I could not see a future in getting a PhD [...]. I would not definitely have made that decision if it was not for the encouragement that I received from the faculty members in this department.

The third participant specified high school as the period in which she began developing self-efficacy in a subject in which she did not feel self-efficacious before. She noted "I had very good teachers, very good teachers. I had a fantastic teacher who helped me develop my confidence".

Early Educational and Occupational Opportunities are Critical for Developing Self-Efficacy

The women of this study noted that having early educational and occupational opportunities that supported or showcased their gifts were crucial for supporting the development of self-efficacy. For one participant, early educational experiences from primary school until high school were extremely formative for enhancing her self-efficacy. She was a gifted child, and her talent in writing was admired by her classmates since primary school. This admiration and encouragement boosted her self-confidence:

I had different talents: singing, drawing, writing [...]. In primary school I was good in writing and again I was writing detective stories at that time. My classmates loved that. Yes, so this built my self-confidence but only in writing.

She continued her popularity in writing among her classmates during high school which was significant for her. She highlighted that “I was very strong in literature and I wrote very well. My compositions and my essays were always read in the class. My classmates liked my writing. It was very important for me”. Later, she began to experience a new round of encouragement and popularity in high school because she began to excel in math as well. This encouragement and recognition in turn, built her self-confidence:

I was strong in math. And that was actually the real test because in those times if you were strong in math, that gave you the credibility. That was the culture: literature is fine, but math was more important. So, these two strengths built up my self-confidence.

A second participant was quick to indicate the positive impact of her early coaching experiences. This experience contributed to the development of her sense of efficacy for leadership while she was still young:

I coached [a sport] while I was growing up. I was able to successfully do that. I think that let you know you can screen a group of forty kids in a room and make everybody

have fun. So, I think that helped me to see that I could certainly be a leader of children of early age.

At university, this participant was encouraged by her Masters degree supervisor to write a book together. She co-wrote a text book, which turned into a life-changing experience. She explained, “he encouraged me to put together a proposal to write this book together. That was I think life changing because otherwise, I was really leaning more towards the community-based work”.

Additionally, teaching was a pleasant and encouraging experience because of the positive feedback that she received from students:

I think the other thing I would add to the development of confidence was that as soon as I started teaching I loved it. I got really good feedback. And I think that feedback from my students put me on a momentum.

This participant went on to suggest that teaching was a professional development opportunity for her because she could practice it as well as observe other colleagues who were successful in what they did:

The teaching was what I did for a lot of years when I was raising the kids. It was just teaching. So, it was like a development of teachers. And I knew people at each university that I taught, they were good. I think it has a lot to do with it.

The third participant offered several examples of varied occupational and educational opportunities that supported her self-efficacy. She noted, “I think that I sought varied experiences in my training to get this job, and it’s been very helpful in getting that varied experiences”. After completing her Masters degree, this participant decided to leave academia and work for different sectors related to her academic expertise. This temporary interruption from the academic environment gave her a new outlook about real-world problems and made her determined to be a vision-maker and not a follower:

That was helpful learning about how the real world operates. It was in my field too. So, they were not unrelated to the stuff I do now. So, it was kind of very important for me to learn about real-world problems that are out there. I do not know about more belief in my abilities but more clarity in what I wanted to do. I think it is fine to carry out the vision of other people. But, I realized that I wanted to try and be the person who was creating the vision.

Ultimately, this participant felt a strong desire to return to academia and do a PhD. She chose to continue her PhD in another country where there were more opportunities for research. She noted, “I left Canada to get a PhD because I knew that the research community was quite small in Canada for the area in which I worked”. In the new academic environment, she participated in various educational activities including teaching and learning about administrative structure of post-secondary institutions:

When I was a graduate student, I participated in other things like as a PhD student, I taught full courses at the university I was at [...]. I asked a lot of questions about like how the university administrative system structured. I wanted to understand that better because it’s useful to understand that when you work in that system. You need to know how processes go to be able to work effectively and figure out what processes to follow and what processes to fix.

The varied experiences, opportunities and contexts helped shape her self-efficacy and confidence for leadership positions in the academy.

Conflict Resolution Experiences Strengthen Self-Efficacy for Leadership

All of the female leaders discussed that the most impactful leadership experiences forming their self-efficacy were those that taught them how to handle conflicts. One participant explained that “one of the most important things for a leader is to be able to handle conflicts.

When there are resources to be distributed, when you are managing people, conflicts are bound to occur”.

Two of the participants gave specific examples of their most influential leadership experiences in which they were responsible to resolve serious conflicts. One participant noted, “it is hard to say which particular experience has been most formative. Probably the chairing of the grant-selection committee. I have been a member of committees before, but these were not committees where there has been conflict”. The outcome of leading that conflictual experience was encouraging because she was able to resolve the conflict with the support of other committee members. She explained that “afterwards people who were serving on the committee told me that it was one of the best handled committees. In the other committees, people got into fights, the chair was basically helpless. Nothing like this happened in my committee”.

The other participant shared a similar experience of leading a meeting where she had to manage major conflicts in her department:

We have had to deal with this contentious issue, we have had some really good discussions and some heated discussions that turned out well because they always remained quite respectful.

The third participant focused on conflicting leadership experiences related to student supervision. She specifically highlighted the conflicts that she had faced with male students:

I have had a lot of trouble with male students. Particularly, because I do not take students fresh out of undergraduate. So, these are not junior young men that have been in my lab. There has been a lot of conflict.

The benefit of those leadership experiences with resolving conflicts was that these leaders learned about their leadership styles, their strengths, and their weaknesses. One participant described that “I think I have learned a few things. You need to supervise the person,

not the project, and that having just one leadership style does not necessarily work”. The other participant expressed that “I learned very quickly that I am a kind of leader that does not go in with the knowledge of outcome, but I go in and very much want to hear what everyone in the room has to say to determine the outcome”. The last participant shared that “one of the things that I have learned is that when you are chairing a committee, you always have to listen to people and listen to them with respect and interest”.

One participant also explained that one experience guided her to reconsider her leadership style with pushy and dominant people because she found it difficult to show them assertiveness. She had to learn to treat them with authority and confidence:

I made a point to listen with interest and allow the time for everybody to speak. And when blunt and pushy people talk too much or interrupt others, you have to stop them, to interrupt them and give the others a chance to speak. For these people I had to force my nature to basically cut them off and say that you had your opportunity now let's give opportunity to other people to speak. That was a great learning experience. The first few times it was hard to do, but with practice it gets easier.

Another participant discussed that after resolving conflicts in various leadership experiences, she feels more confident to take leading roles. Those experiences made her aware of leadership duties and other people's expectations:

I feel more comfortable stepping into leadership roles on campus. I have sat on many university committees, but I would not have felt comfortable doing that early on just because it takes time to learn kind of what the expectations really are and get comfortable with your job.

Self-Efficacy for Leadership is Discouraged by Conflicts Created by Dominant People in the Academic Environment

The leaders of this study described their most negative leadership experiences as ones in which they had to deal with conflicts provoked by dominant people who were insistent on their demands without listening to other people's voices. These people made the participants doubt their leadership capabilities, think about giving up their leadership roles, or quit a leadership position altogether. One participant spoke of a senior female colleague who insisted on her singular point of view over a minor issue, and who did everything in her power to have the participant fired. She described, "this woman was my senior and took it to such a high level at the university and tried to embarrass me in front of my colleagues". The participant shared that this experience made her doubt herself and question her career choice to enter leadership:

My initial reaction was upsetness, and I questioned whether I had done anything wrong.

That was my reaction to doubt myself [...]. I questioned whether I wanted to be here if these kinds of things were going to happen.

A second participant had similar experiences with people dominating others without listening to alternate points of view. She explained how she had to change her leading approach with these people by controlling the situation with more authority and assertiveness:

Suddenly, I realized at that point that what I was doing was wrong. I was dealing with such strong opinions that I was being far too flowery and far too flexible. And then I needed a bit more of a back bone in that scenario.

Although she was successful in solving the conflict, the experience made her question her desire to be in the leadership position:

I don't let my job be the thing that keeps me up at night. My kids do but not my job.

But for a while the job was. And I was really questioning whether or not I had any

interest in this role. Suddenly, it was going to be about being in a position whereby people were going to be that angry at you. But it resolved.

The last participant abandoned a significant leadership role in which she had served for several years after having to deal with aggressive colleagues. Her sense of efficacy was negatively affected:

Such people can be very powerful in the leadership and admin roles, I prefer not to deal with such people at all [...]. I do not like this. I do not think I have any self-efficacy for such games and any chance to win. So, I do not want to be involved.

For this participant, the “games” were not worth the negative energy that demotivated her from acting in a leadership capacity. She chose to leave her role rather than be forced to participate in spaces where alternate voices were silenced by close-minded individuals.

A Supportive Academic Culture Helps Foster Self-Efficacy

The leaders discussed the value of working in a supportive academic environment for fostering self-efficacy. They described different events and circumstances in which they felt a lack of support that impeded their self-confidence to advance in their career. One participant explained that although the academic culture is more supportive of young female faculty than before, she did not have the same kind of support. Although she described several outstanding occasions in her career development in which her accomplishments as a faculty or a leader were introduced or celebrated, she also spoke of instances where she felt great discouragement due to the unsupportive behaviours of colleagues or people. She noted, “I think that young women faculty now have a lot of support. There is a tradition at our university to introduce new faculty at a reception. When I was introduced, nobody came from my department”. A rather embarrassing and paternalistic experience occurred during her introduction as a new leader:

Each faculty, in alphabetical order is introduced by the Head, with superlatives about everyone, what a great researcher, teacher, father, or what a great softball player, or curler, etc. etc.... Come my turn, and he says "... is a woman... (awkward pause) ... We need more women!".

She continued that these discouraging experiences repeated throughout her career development could be extremely demotivating for female faculty members. She stated, "I have experienced a lot of this. I don't think that anybody would dare to say this nowadays to a young female faculty. I hope nobody dares to say this. It can be so demotivating, even demeaning".

The two other participants highlighted that the academy is cultivating a culture in which faculty members are expected to contribute more while they receive less support. One participant commented that "I have found the university environment like a lot of giving just give, give, give but we won't support you". She went on to explain that the academic culture puts a considerable workload and pressure on faculty to maintain high levels of productivity which leaves them no time for support and collaboration. This circumstance is even more disadvantageous to female faculty:

I do not think it is a terribly supportive environment. Here, people do not have time even if they have the desire [...]. There is so much pressure to publish and produce research that there is not a lot of support for helping to figure out how to move things forward, and especially not as a woman.

The second participant brought up the subject of workload. She noted, "it is more and more all of the time. More seems to be expected of people continually". She then continued to describe that this excessive workload can contribute to major stress for faculty members. She stated, "workload is a huge thing. The faculty are experiencing incredible stress. Many people come to me in tears because they just cannot keep up". This female leader addressed excessive workload as a discouraging factor for faculty members, and a reason why many have started to

refuse taking on leadership positions: “Then we are also asked to ask our faculty to become involved in all kinds of administrative committees and I know that they are already overworked”. Both of these participants highlighted unreasonable workload as a determining factor for faculty burnout and loss of self-efficacy. One participant noted, “I see lots of people burning out in their forties, and professors burning out in their forties”.

Gender Discrimination Hinders Self-Efficacy for Career Development

The reoccurring theme of gender discrimination that was associated with self-efficacy was mentioned often by participants. All participants commented on circumstances where they were treated differently because of their gender. One participant found it difficult to believe in her skills when she was delegated roles due to her gender rather than her capabilities. It felt like “I’m being asked as a token” was how she explained this circumstance:

What I find really discouraging is when I get asked to do things just because I am a woman [...]. It feels like it undermines my skills when people ask me to do something because I am a woman. That’s not asking me to do something because I have the skill set, talent, or knowledge in that area.

Two other participants (one from Social Science disciplines and one from a STEM field) specifically discussed discriminatory acts in department meetings during which their ideas and opinions were ignored, interrupted, and disregarded due to their gender. One participant recalled department meetings in which she was constantly interrupted by her senior male colleagues whenever she expressed her opinions. She explained that “older male colleagues would speak over me as if nothing is being said. Or somebody would later repeat the same thing that I said before and get enthusiastic acclaim”. Similar discouraging experiences were reported by the third participant who stated, “I am of a generation who have experienced being in a room where you do not feel listened to when you talk”. She also

described discriminatory acts in which the credit was given to a male colleague who would repeat what a female colleague had just said:

I have spoken to enough women and I have seen in meetings I have had other women talk with me afterwards and just say, “Well this was my idea but then when this person repeated it they said they had heard it from the other man”.

The participant from STEM shed more light on the complexity of female faculty’s invisibility in male-dominated domains reinforced by active and passive discrimination. She stated, “this invisibility has been a problem for quite a long time. One can even argue that the interruptions or stealing credit are the result of the invisibility of females in male-dominated spaces”. She also suggested that women are discouraged by passive feedback that is associated with unappreciated accomplishments that can even have a negative impact on their sense of efficacy:

The second one the lack of positive feedback, the invisibility of achievements or successes if they belong to a female faculty, is more insidious. It can be equally or even more damaging, since it makes one question oneself, “why is this happening to me? Maybe my achievement is not so important and not worth mentioning?” - and it feeds into this negative loop harming one's self-efficacy and self-confidence.

This participant described that this circumstance is usually different for male faculty who belong to “the pack” as their contribution is recognized and appreciated whether it is a small or a great success:

A new faculty - a member of the “pack”, who walks the walk and talks the talk, or who “beats his drum all the time” -- will get celebrated for every little insignificant success, but a female faculty, with much bigger success or achievement will remain uncelebrated and unnoticed.

The two other participants from Social Science disciplines shared similar experiences. One participant called it “a buddy-buddy kind of situation” where women faculty’s achievements remain unrecognized and undervalued. The other participant who had reached top levels of leadership still felt invisible because she did not feel as if she belonged:

I still do not feel like I fit in the room. So, I might be in the room and people would like to hear from me, but I am meant to say anything because it is not an atmosphere in which I can flourish. So, that is a harder work to bring out in your work.

The participant from STEM stated, “when one constantly experiences this negative feedback, one gets discouraged”. She continued to explain that women have different levels of self-efficacy but that she had not allowed discouragements affect her deeply, because she had been socialized to be self-confident:

But you know it did not affect me much because you probably know by now that I have enormous self-confidence. So, my ego is strong enough to weather these cuts but somebody who did not have this ego would have been hurt.

Clearly, these women continue to work in an academic culture in which they are potentially silenced, or in which their accomplishments may be minimized. Fortunately for these women, their prior successes and opportunities for leadership have fostered their self-efficacy to the extent that they can call systemic discrimination for what it is, allowing them to move beyond (at least for the most part) the emotional toll of taking these events too personally.

Institutional Policies Operate as a Facilitator or a Hindrance for Career Development

The female leaders of this study explained that existing institutional policies that are based on faculty’s academic merits have facilitated their career development. They benefited from clear institutional policies with regards to hiring, promotion, tenure, funding, awards, and so forth. One participant explained “I got hired. So, you know that’s good. And I got promoted which means that I met the bar by whatever policies are out there and what we are supposed to

do”. The other participant also discussed the supporting impact of clear policies related to faculty career development. She stated that “having institutional policies that really align very clearly with what you have to do with regards to tenure, promotion, and hiring is helpful”.

The participants acknowledged that institutional policies can be beneficial for the career development of academics. Nevertheless, they acknowledged a lack of specific practices or constructive feedback that support career development self-efficacy. One participant noted that positive practices tend to be limited to academic milestones such as tenure and promotion:

I do not think there is a lot of support out there. There is not a lot of feedback other than these kinds of milestone type things, grants, promotion, tenure, hiring, offering of different roles and responsibilities.

Two participants specifically highlighted that the institutional policies are not always beneficial. One participant pointed out that cumbersome policies can hamper creativity and efficiency:

Sometimes, there are so many policies and procedures in place that we spend all our energy following them and end up not having nearly enough time to do the work that could be more creative and better for the students and better for the community.

The second participant underlined that some policies are destructive for career progression, especially for female faculty members. She commented on policies and procedures that prevent women faculty members with family commitments from participating in leadership positions:

There are definitely institutional barriers that prevent me from doing some leadership things that I would like to do. I was invited to [a leadership position]. They meet at nights and weekends. That is not possible. I did not get to accept that position, and that’s the role that gets to shape processes. There are lots of leadership opportunities that are

like that that I would like to serve on. I feel like I can't do because I have childcare responsibilities.

Thus, she believed that there is more to discuss about women pursuing leadership than self-efficacy per se because other issues such as preventive policies exist that affect career progression. She stated, "so, I think more of that than my belief in myself there are barriers in place that don't allow for the certain kinds of leadership".

Sources of Self-Efficacy Influence Women's Decisions Related to Leadership

Development

The second major theme and seven sub-themes which emerged from the interviews highlights how sources of self-efficacy affected participants' career development:

Academic Experiences Develop Leadership Skills but Not Leadership Desire

The leaders of this study comprehensively explained the positive influence of various mastery experiences on their career development in the areas of research, teaching, grant writing, and authoring books. The participants have been engaging in research and teaching for a long period of time. One participant began her research activities even before she became a graduate student. She discussed how she became interested in and involved with research as an undergraduate student. These early mastery experiences developed her enthusiasm for research and academic work:

I was very lucky to have some experiences in my undergraduate degree that got me excited about research and drove me into research. So, I took two field courses as part of my undergraduate degree, both of them were led by great people. They were very exciting and actually are in the area that I am working now. That's what they got me to look for research assistant work in my undergraduate degree.

The three participants highlighted their graduate studies as a notable period where they gained various mastery experiences in research. In this circumstance, two out of three

participants had supportive supervisors who provided them with these experiences. One participant discussed how her PhD supervisors were influential in offering various research experiences that promoted leadership skills. She explained that “my PhD supervisors provided research experiences during my PhD that helped me understand all of the different steps, tricks, and tools to more effectively lead and to not become overwhelmed”. The other participant had a supportive PhD supervisor who on the one hand, offered different mastery experiences in various initiatives and on the other, gave her the autonomy to lead her own study independently:

He provided lots of opportunities to work on different kinds of projects. So, I got experienced in doing a bunch of things contributing to larger research initiatives, not just my PhD work. He was pretty open about letting students do other things. They owned their PhD work. So, I actually ended up collaborating with two other students and wrote two different papers on top of my PhD work.

She explained that these diverse research mastery experiences in her PhD were extremely helpful in developing her research program, which is an imperative part of faculty members’ duties:

I think kind of those collection of experiences not just focusing on one thing all the time is quite helpful in a PhD to learn how to build a research program because that’s kind of what we do not teach very well, and that is what we need to do when you start working as a faculty.

When asked about mastery experiences, the third participant suggested, “I have been pretty much self-taught. All the research that I did during my PhD I did by myself because my supervisor’s expertise was in a different area”. Nevertheless, engaging in research was acknowledged to be a significant mastery experience for enhancing leadership skills. She

described that “it was extremely rewarding for me to have freedom to explore what I wanted and to lead my thesis”.

The mastery opportunities embedded in leading research projects foster skill development, including fiscal management, problem solving and personnel management. One participant, for instance, expressed that “you get the research funding and it is like you are running a little business”. A second acknowledged:

I led two research programs where I had research teams of graduate students, other faculty, and community-based people. I had experienced that I had to solve problems. I learned a lot through those kinds of processes where I had to figure out how to continue to lead a team and change our entire approach.

These varied experiences promoted a sense of mastery and led to increased self-efficacy to take on leadership roles. For instance, one participant noted that she accepted an invitation to lead various research teams because she was a “good researcher and generally in the research community they want to have people with strong research and enthusiasm, with more time, and not kind of career organizers”.

Apart from research, all the participants of this study had invaluable early experiences with teaching that contributed to their current roles and responsibilities. One participant explained that “I also taught courses not TA, but I taught courses in PhD. It was to help with funding, but it actually prepared me for what I am doing”. Another participant noted “teaching, my first classes were quite inspiring when I was very young, still a PhD student”. For the third participant, teaching significantly impacted her career development during the years prior to her pursuit of the PhD because she did not hold a faculty position or have responsibility for research. Teaching was her identity, and her self-efficacy grew when students acknowledged her teaching ability.

Participants acknowledged how influential teaching was in the development of their sense of efficacy for leadership because of the many factors that must be considered in order to be successful. As one participant highlighted:

And teaching, you have to think what the entire year looks like. You have to think about what kinds of resources you need. You have to think about who your people are depending on the level of the class. You have to visualize exactly how the people respond and you have to watch if everybody is engaged and if they are not, what's going on with them and figure out ways to engage them if you can. You have to figure out how to work with students in today's universities.

This participant continued that her leadership role has many components in common with teaching because like teaching, she is accountable for identifying and meeting the needs of faculty members in her current role as a leader in her department. She pointed out that “you learn they [faculty members] need support in certain ways because you have to be the person who supports them. It is very similar [to teaching]”.

Although the participants acknowledged the positive impact of teaching mastery experiences on their sense of efficacy and career development, these experiences were not always pleasant and enhancing for some of the participants. One participant specifically highlighted that she felt a huge sense of efficacy for teaching as a PhD student, but when she moved into a faculty position, her sense of self-efficacy came under attack. She noted that as a PhD student, “I was not afraid to make mistakes, or appear funny. I was presenting with huge confidence,”. However, when she began her work as a faculty member, she faced many biases towards female faculty members in student evaluations that struck to the heart of her self-efficacy as a teacher:

Your self-efficacy can suffer in teaching [...]. The first students' evaluations were quite a shock for me. There were comments like "she is cute but doesn't know what she is talking about", or "gentle voice puts you to sleep". It was extremely unfair.

She went on to describe that this bias against female faculty has become a well-known fact in today's universities because students expect female faculty to provide them with good grades:

Of course, now we know that for women professors, students are very biased in their evaluations. If you give them bad grades during the term, they will slam you as bad teacher or call you names. If you want to be kind with students, you have to give them good grades then their evaluations do not criticize you.

These unfair negative experiences in the early stages of teaching can be extremely detrimental for female instructors' self-efficacy, especially for those who strive for deep learning:

Negative student feedback is something that can ruin your self-efficacy in the beginning. For me, it was quite difficult. I imagined that instructors didn't try to please students, but to make them learn. I could not develop self-efficacy in this area until I got tenured.

Teaching was not always a pleasant experience for another participant who highlighted several times during the interviews that she did not consider teaching as the enjoyable part of her academic work. She discussed in the first interview that "I do not enjoy teaching undergraduates because I do not like the classroom structure. But I like one on one supervision or small group supervision where we work on problems". In another statement, she noted that "I don't really enjoy undergraduate teaching, but I really love research. I love working with graduate students".

In addition to teaching, their participation in graduate studies engaged the participants in mastery experiences in academic writing that contributed to their career development. One participant remarked on her many endeavors in writing proposals for grants when she was a graduate student. Although she failed many times, her self-efficacy for grant writing boosted with her continuous endeavors:

I was working on a grant after grant after grant, because I had to help to find funding for my position and it was fail after fail after fail. These experiences are tough on the ego, just after one has learned how to write articles, how to give presentations... and suddenly - a new area where one feels as a complete novice. But failure teaches you, and I became very good in writing grants. That was a mastery learning experience because it was very frustrating and a lot of work.

A second participant highlighted three times in different interviews that co-authoring a book with her supervisor was very invaluable in her career development. With regards to this life-changing experience, she revealed that “he saw something in my teaching and invited me to write a book with him. We developed a proposal and we wrote the book”.

Based on these stories, the participants of this study participated in different mastery experiences in the academy that developed their self-efficacy and contributed to their sense of confidence in their abilities to lead. Nevertheless, they did not have equal desire to seek leadership mastery experiences specifically. Only one participant was actively engaged with mastery experiences in leadership in the early stages of her career, and her motivation was mainly self-driven. She pointed out that “I do not think that people provide academics with leadership experiences. I think you go after them. I do not think it is like somebody gives you an opportunity. You have to take an opportunity”. In order to create opportunities and gain leadership mastery experiences, she volunteered for different leading roles across the university. These experiences helped to develop her leadership abilities as she noted “it was

those experiences like the chair roles that allowed me to feel comfortable in moving a big grant like that”. She also looked for leadership workshops outside the university that were beneficial for her leadership development. She stated, “that was extremely useful seeing what leadership looks like from the business perspective and how I could bring some of those pieces to my own work and to promote myself”. She actively sought workshops about interpersonal development, leadership, and leadership style that have contributed to not only her leadership skills but also her interactions with people in her research programs:

I am not sure I’d like to pigeon hole myself in a style. But, I find that those workshops have been very helpful in helping to build my research program and my research program includes a lot of graduate students. So, building my ideas and learning how to share them with other people secure more grant funding and recruit good quality students.

The other two participants did not intentionally participate in leadership mastery experiences because leadership was not appealing to them. One participant reported that “I was not particularly interested in leadership. It was natural; I had been a leader since high school. It was mostly reluctantly”. She revealed that as a fresh faculty member, she avoided leadership because leadership could hinder her research activities:

I was never striving for it particularly. When I became a faculty, I did not care. I actually thought this is a big burden. I felt compassion for all of these people who decide to go to admin career. To some extent, I felt that this might be an occupation for failed researchers. Tenured faculty who have lost interest in their research area and decided to go on admin track because they wanted to do something useful, to contribute to the institution. It is another direction, but this is either / or; one cannot do a career in both research and admin.

Similarly, specific mastery experiences in leadership was not a concern for the other participant either. Nevertheless, she was open to learning and applied them in her role when needed:

I understood her [PhD supervisor's] path, and I knew what she was doing. And when I need those skills I can bring them out. I can also use them help other newer faculty [...]. That is not who I am, but I learned them, and I think it is important to have that because not everyone is like me in the faculty nor should be.

Although these two women did not necessarily seek out these positions, their prior mastery experiences helped to develop their self-efficacy for leadership once opportunities presented themselves.

Mentors and Role Models are Major Supports for Female Faculty Professional Development

The three participants of the study spoke of the influence of role models in their career development. The two female leaders from Social Science disciplines spoke of role models who were informal mentors who provided them with professional development opportunities. The third female leader coming from STEM did not have a mentor, but she named two role-models she admired as leaders. These mentors and role models were leaders as well who helped or inspired participants to figure out their leading strategies. For one participant, her supervisors for her Masters and PhD degrees played the mentoring role in her academic development:

There were two people that were pretty fundamental providing opportunities and giving me some ideas on how to approach different aspects of work [...]. I think those two men were very important in helping me understand what academia was and how to navigate successfully.

This woman admired her Masters supervisor because “he provided a lot of opportunity to be engaged in research and dissemination of research”. Her PhD supervisor mentored her desire to become a professional researcher who could interact with people in the research community successfully:

I learned a lot about providing science to practitioners so, not just doing the research, but we always made a point of going back to the funding group and to the actual practitioners and having a conversation about the research and what it might mean for the management. It ended up resulting in more funding because they did not see that many researchers coming back. I learned a lot about “ok these are the kinds of things one must do to move forward”. I see that as leadership.

Now as a faculty member, she attempts to model the example provided by her supervisors and mentor her graduate students with various opportunities inside and outside of the university. She underpinned “that’s what I try to do to provide more opportunities than just completing the research”.

A second participant also credited her professional ascension to her supervisor. She noted that “he was also my Masters thesis supervisor but much beyond that”. She considered him as her mentor and role model: “I would not follow anybody else but him I would [...]. He was much more who I mentor after”. She particularly admired and learned from her mentor’s leadership approach, interaction skills, and balance in life:

He really listened to people. He would go and make sure everybody’s points of view were heard before you would end up in a meeting. He had a gentle way, he cared about what happened to the department, but he was always doing it very softly and he was just a very kind and successful man. He would go to his classrooms and he would teach. That good balance. He would not go to a lot of conferences. He published books that I loved. He did research that was passionate to his heart.

This was the kind of leadership she hoped to provide in her department. She further noted that she felt comfortable emulating his leadership style because of this successful mentoring relationship:

He is just a really good person and he fit in the model that I had for myself [...]. That's more of the kind of academic I am. I am not going to do it because I have to do it to get tenure or to move up the ladder.

The third participant coming from STEM spoke of having role models but not mentors. She stated, "there have not been formally assigned mentors, but I have looked up to many women also to some men as role models". She specifically looked up to female leaders who were very impressive due to their tactfulness and wisdom in their leadership. She found these characteristics very useful for her current leading roles:

She was very tactful, very careful. This was something which I felt I can learn from her, because I tend to speak quickly and exaggerate a little, make big statements to attract people's attention and to persuade them. Overstating things, I learned, is not a good thing because you can lose credibility. I do not know if I have been successful learning this, but I still strive to achieve this more careful style of reacting and giving opinion.

It is noteworthy that none of the participants discussed having mentors after becoming a faculty member. A participant from Social Sciences specified that "I was hired just before the program "formal mentors" activated at the university. So, I did not have a formal mentor; there was no like one person". She went on to describe the negative impact of the lack of mentoring on her career development. She explained that academic work can cause considerable stress, but a mentor's guidance and feedback could reduce the amount of pressure:

I absolutely subscribe to the idea of a mentor. I now provide mentoring to more junior faculty. There is lots of things I wish I had known. What to concentrate on, how to learn

to say no whether it was ok to say no to certain tasks [...]. I think it would be nice to have feedback. It is extremely stressful to go out for tenure.

Finally, she emphasized that learning the academic work without a mentor was the same as “reinventing the wheel” in many circumstances because she had to go through trial and error alone to learn the job:

That kind of thing [having a mentor] would have been extremely helpful instead of having to reinvent the wheel. I feel like I did a lot of that. I did a lot of that. That can make you very burn out.

The other noteworthy point is that the female leaders of this study acknowledged their own responsibility to mentor others, particularly female students. One participant stated, “I feel that from a female perspective though, there are females see the other females in these kinds of roles and feel like they can do it and come to a graduate program”. A second participant noted that she is looked up to by her students, especially international students. She noted, “they [international students] look up to me. Probably also because of the age difference, this gives me additional authority as well as being their formal supervisor. I, myself, don’t keep vertical distance. I treat my students as friends”.

Verbal Persuasion is an Influential but Infrequent Source of Self-Efficacy in Academia

All the female leaders discussed the influence of feedback, verbal encouragement, and support on their sense of efficacy. Unfortunately, they could identify only a few people who were supportive of them in graduate school or in their early stages of career. At the beginning of her career, one of the participants had a supportive and encouraging colleague who gave her courage and confidence to believe in her decisions. His support and persuasion were very influential in building up her self-efficacy and self-confidence:

when I became a faculty, I had a colleague who was a very impressive researcher. This person supported me continuously, especially in building up my self-confidence.

Whatever I suggested, he really took time to consider it carefully and usually found it a good idea. He never ignored anything that I said. This respect was a very important thing for me [...]. His support was in building up my self-confidence and making me trust myself.

The other two participants spoke of their supervisors who verbally encouraged them to complete a PhD. Two supportive colleagues were named by one participant who was not sure she wanted to pursue a PhD. She mentioned that she had “very direct persuasion and support” to earn her PhD:

One of my colleagues who actually used to really intimidate me. This one colleague became my friend, became someone who I continue to really admire [...]. She told me straight out “do your PhD, do not be stupid”, and she really encouraged me to get a job here and to do my PhD.

The same circumstance happened with her Masters supervisor who gave her verbal encouragement and support to enrol in a PhD and become a faculty member. She stated that “he also sat me down and said, ‘You’ve got to do it’”.

Other than these early supporters, the academic environment was not described as being supportive and encouraging for two out of three participants. One participant described that the competitiveness in academia prevents faculty members from collaborating and supporting one another. As a consequence, faculty members should seek support outside of their department.

I think generally when you work in academia you do not get much support from your immediate colleagues because we all compete. In our department, we do not collaborate much, we compete. We compete for merits, for recognition. I learned that one should not expect praise from immediate colleagues.

Another participant spoke of being discouraged when there is not positive feedback but the expectation to work more. This participant decided to leave the academy after her Masters due to the competitiveness that had created a toxic environment among faculty and students:

I think that I find it discouraging to believe in myself when there is never positive feedback coming back. The prof system is not set up to provide any positive reinforcement. There is always like “would you do more, would you do more”. So, that makes me concerned.

Similar to the previous participant, the lack of support made this participant look for constructive feedback outside of her department. She hired a coach who guides her on her leadership journey. She stated, “I actually hired a research coach recently. Somebody to help me figure out what I am going to do next and what kinds of leadership roles I want”.

These two leaders (one from Social Sciences and one from STEM fields) also described the discouragement and negative feedback that they receive due to their research interests. They did not get support and recognition from their immediate colleagues because their contributions were regarded as insignificant. One participant for instance shared:

I work on (a research area), and many people in my field think that it is an unimportant area. I just disagree [...]. I think sometimes I get frustrated because I feel that my stuff has not been well recognized even at the university.

Both of the leaders acknowledged that although it is more difficult to have support of immediate colleagues, faculty members can build up a support system through other communities. One participant stated, “I learned that one should not expect praise from immediate colleagues. However, one can find support from colleagues across campus, nationally and internationally”. For the other participant, her support system existed in the research community where her research was valued and credited. She stated, “I have a lot of

community kinds of support from different sectors. But within my field itself, I do not have the same kind of support”.

For the third participant, the general environment of academia has been supportive. She stated that “I guess nobody is really not supportive around here”. Nevertheless, she highlighted that she had experienced unsupportive behaviour at some points in her career. She explained that her PhD supervisors were not supportive when she was preparing to apply for a faculty position:

Neither of them told me to apply for the job when it came up. I asked them directly about that because I was getting all these other people saying you have to [...]. That I felt like it was not supportive.

She went on to describe that the support and encouragement usually occur for the people who belong to a circle of support. Thus, verbal persuasion is conditional, and it depends on the network that people have:

There are people who do not see other people, but I mean you just don't get to know some people. I do not see that as being not supported even though there was no support if that makes sense. There was no negative support.

Stressful Circumstances Decrease Self-Efficacy and Increase Avoidance of Leadership

When asked about stress, the female leaders of this study described different sources of stress in their career development. They discussed how these stressors have affected their sense of efficacy negatively and demotivated them from taking on leadership roles. One participant discussed the pressure and stress imposed on faculty members to keep up with the competitiveness of the academy that dictates working outside of the business hours:

It is extremely stressful to be in a career that is so competitive where it is valued to work outside of the work hours, not valued but expected. You are expected to be available all the time and to work on the weekends and to work at night.

This participant previously explained that she had to refuse leadership opportunities because she could not take the stress and responsibilities of family commitments and a leadership position given the time commitments outside of regular business hours. She also spoke of the high level of stress for faculty members which is created by high workloads:

Faculty put pressure on one another. There is such pressure to publish a large amount and to supervise a lot of students in order to lead big grants. That's who they give research grants to. So, I find that kind of rat race is very stressful.

She then stated that this competitiveness and pressure have affected her sense of efficacy because she feels she is not producing at the same level as others. This feeling was expressed when she said that "it certainly brings up feelings of not good enough for me if I can do X amount and I see people are doing Y amount that is more than X. That can be very stressful". She believes that this circumstance is even more stressful for female academics because they are expected to engage in caregiving responsibilities not only at home but also at the university:

I have young children, and they need a lot of attention. That's stressful. I think it is kind of stressful to be a female in academia. There is a lot of expectations that I am going to deal with a lot of emotional problems of graduate students. Those problems come to me and my other female colleagues I know. They don't come to the male colleagues. It is stressful to have to figure out or help someone through either a mental challenge or a mental illness.

For the other leaders of this study, dealing with conflicts provoked by dominant people was the main source of stress in their leadership journey. As discussed previously, these two participants highlighted that dealing with dominant people was the most discouraging learning experience that negatively affected their self-efficacy. Yet, the most valuable mastery experiences affecting their sense of efficacy were those in which they learned to deal with

conflicts. One participant shared two separate leadership circumstances that caused her considerable stress. She noted that “I was asked to do two different things that were incredibly hard. They both caused me emotional distress. The one I was being directly bitten down by someone I said no to around a certain issue”.

These circumstances influenced the participant’s self-efficacy to such an extent that she began to think about giving up her leading position. She noted “I wanted to quit the job”.

The third participant had similar experiences in dealing with dominant people in her leadership journey. As she discussed, it was “the painful part of leadership” which had a considerable impact on her sense of efficacy for leadership. In other words, these stressful conflicts were a major barrier to her sense of efficacy and career development:

These people do not fight fair. They play political games, exchange favours, build coalitions. This is probably also a part of being a successful leader, but I do not like this. I do not think I have any self-efficacy for such games and any chance to win. So, I do not want to be involved.

All the leaders of this study pointed out that they implemented various strategies to manage those stressors. One leader intentionally avoided positions that led to conflicts because she believed that conflicts are a waste of energy:

I actively try to avoid stress. I do whatever has to be done to avoid conflicts because conflicts stress me. Conflicts are always stressful, they engage you emotionally, and mentally. This is energy that can be put to better use in research, in creating something.

A second participant acknowledged that she concentrated on productive work instead of dealing with toxic conflicts because “I could be spending my time doing much better things than that”.

Other alleviating strategies were highlighted by two participants. They managed their time to relax and set boundaries on their working schedule in order to reduce stress of workload.

One participant stated, “I take a moment at the time. I do sometimes less because I know it is enough and not try to overwhelm myself”. The other participant discussed that this strategy has contributed to her creativity:

I have seen lots of colleagues burning out in their forties and even one of my colleagues quit. I don't want that. I really love my job. I have been putting boundaries on my work time. I still work more than forty hours, but I don't spend every waking moment doing my academic work. That makes me more creative to take a step away and do other things.

Apart from time management, exercise was also effective in reducing stress for one of these two leaders. She noted that “how do I relieve stress? I try to exercise regularly”.

Family-Work Conflicts are a Source of Stress and a Barrier to Career Development

As mothers themselves, the leaders of this study noted the profound impact of family-work responsibilities. They all univocally described how their roles as a mother, a caregiver, or a partner had conflicted with their roles as an academic. Although the participants took different approaches to deal with family-work responsibilities, they all ended up delaying or refusing occupational progress at some point in their careers due to these conflicts. For one participant, family was the first priority. She noted, “family just comes first, period. There is no question. I made all of my choices about what was better for my kids”. In another statement, she highlighted that “my children always came first. So, whatever it was that they need it, I needed to be there [...]. if I needed to work less to be more around for my kids then I was working less and being more around”. For this leader, the subject of career development depended on the family circumstance. Therefore, she refused to do a PhD until her children were old enough to take care of themselves. She explained, “I did delay. I did not do my PhD until I was in [a certain age]. I did it then because I knew that I had to create a great future for us”. The other participant took a different approach. She preferred not to delay her academic

journey when she became a mother. This decision posed challenges, but she managed to take care of both simultaneously. She noted, “it was difficult, of course, finding a daycare, being there on time to pick up the child. There are deadlines, meetings, and many commitments”. Although she had the choice to take maternity leave, she decided to keep up with her academic work while taking care of her baby:

I stayed at home only for a few months because I had just started my research, completed my literature survey, identified a problem, and I did not want to leave it because it was a hot area.

Thus, she managed her responsibilities between motherhood and academic life. Nevertheless, she faced the main conflict with regards to family and career development when she needed to take care of disabled family members who were not in the same province. She shared that, “having children is a good thing. It is optimistic, something grows and flourishes. The much harder thing is having ill [family members] [...]. This really hampered my research”. This participant sacrificed many opportunities to take care of these family members. Feelings of guilt and sadness remain. She stated, “this was 10 years, Skyping daily and feeling this enormous sadness and guilt of not being there physically, to help, to embrace, to suffer with them”. A second participant had to quit graduate work because she needed to take care of an ill family member. She shared that “he did end up getting so sick, and I finished the course work that I had been taking and I said that’s it. I need to be here”.

For the third participant who had young children, the conflict between home and work responsibilities was a source of stress that led to the delay in her leadership development. This delay took place in the form of dismissing leadership opportunities which conflicted with her role as a mother:

So, I have young children, and they need a lot of attention. That’s stressful [...]. In terms of impact I think it is a delay. There are some leadership opportunities that I

would like, but I am not ready to take them because I can't commit the kind of hours that are required.

This participant also reported feelings of guilt created by the constant attempt to balance and perform well at home and work:

It is very hard. There are days that I am totally overwhelmed because I am not doing a good job with my kids and I am not doing a good job at work. It is not a happy road. It is a struggle to try to figure out how to make both of those things work.

With regards to family-work conflict, the notion of sacrificing was apparent in the participants' responses. They had made their peace with sacrificing their wishes and interests in order to have a happy family and reasonable occupational progress. One participant highlighted that motherhood necessitates so that she and her family can flourish:

I feel like there is always trade-offs in life. I chose to have kids. And I have planned to raise my kids not have them raised by other people. That means I have to sacrifice. I was not interested in being a stay-at-home mom. I love what I do, and I need that mental challenge, and I think it makes me a better mom [...]. I cannot say balance, but I try to find a happy medium. I feel like I am there for my kids and they feel I am there for them in their growth and development but also try to continue to support my growth and development. So, I think I just kept my growth and development may be slower.

The other two participants added that although making sacrifices is a part of every individuals' life, women are more expected to sacrifice their occupational progress for the sake of family. One participant revealed that self-efficacy for career development has multidimensional characteristics that is affected by various factors including the family situation. She stated, "self-efficacy is multidimensional because every step you make forward you pay for it in some way, at the moment, or later".

The other participant shared that the conflicts and demands of family and work push women to sacrifice one of these roles. Many women choose career progression but at a price: not becoming a mother. She noted, “there are many women academics that I know who chose not to have children because it is a hard role to have both”. She did the opposite and chose family over career development. She explained that most men could/would have made a different decision in her situation when she decided to delay graduate studies to take care of her family. She discussed that women are still supposed to maintain the primary responsibility of the family in most family units:

What I just said about my family that would be a very different response from a man. I think it would be the notion of the responsibilities that you have for your family [...]. My focus was really on the relationships as opposed to making sure that we were well established. I think that is kind of gendered.

This gendered view was also described in terms of housework responsibilities. The three leaders highlighted the gendered division of housework. One participant commented that “I see a lot of my female colleagues and me having to take primary child care responsibility. My female colleagues take the primary responsibility even if they are breadwinner in their home”.

A second participant shed light on the mental pressure women face when they remain responsible for “housekeeping” things such as making appointments, issuing invitations, and keeping the books. She called herself “the brain of the family” who was accountable for such responsibilities.

Women and Men Academics Experience Sources of Self-Efficacy Differently

The three leaders of this study univocally expressed that female faculty members experience sources of self-efficacy for career development differently than male faculty

members. The first difference is related to opportunities to practice mastery experiences. Each participant elaborated on specific reasons for this difference.

One participant described a norm in academic culture in which women academics have to make mastery experience opportunities while men are offered these experiences. This circumstance takes place while women have even less autonomy to create opportunities due to other competing responsibilities such as family commitments:

We really have to create opportunities for ourselves whereas a lot of times opportunities are handed to our male colleagues...not to every male colleague for sure, but things come easily. Many of us with children feel that there is a lot more freedom for a lot of our male colleagues to do whatever they want with their careers.

She believed that many academic family structures remain gendered in favour of men, many of whom have a stay-at-home wife who reduces the burden of home or child care responsibilities:

Many of my colleagues have somebody at home fulltime. In my department most of the men have a stay-at-home wife. I just find it quite interesting. I think it is an old model, and I am surprised because there are quite a few people in their thirties and forties in our department and even those people have kind of the traditional model of the male is the academic and the women is the academic support.

Apart from available mastery experience opportunities, the leader coming from STEM emphasized that women sometimes undervalue and undermine themselves. In other words, they sabotage their own growth and success. She pointed out that the main reason lies in the difference between women's and men's self-confidence. Men are more careerist because they have been socialized to be more self-confident:

I am talking about men on average. I think men really care about status [...]. And women, they try to build their career too but are more driven by the wish to be also

useful for other people. And on average, men are more self-confident. I think that is where the main differences are. I think men do it to get higher salary and to get faster through the ranks, to get to full professor faster.

In this participant's point of view, women limit their mastery experiences such as applying for full professorship because they feel less efficacious to succeed in spite of their ample qualifications:

I know several women who do not apply for full professorship. They are fully qualified, but they do not feel confident enough to apply. First of all, they fear that they may not get it, this fear of rejection due to lack of self-confidence is hurting them in this sense.

And the other thing is that they are too busy to devote time to prepare their case.

In addition to mastery experiences, two out of the three leaders coming from STEM and Social Sciences elaborated on the difference in receiving verbal persuasion and support. They were among only a few female academics in their fields when they became faculty members. One of these leaders, for instance, noted that "when I started, there were very few females as professors. I was one of maybe five in Canada. There was probably even less". The underrepresentation of women had created an environment where support and encouragement were not distributed equally. One participant shared that "it is like buddy-buddy kind of situation. They would give each other all these opportunities but would not really think of the women because there were a few of them".

Both participants suggested that this situation is changing for junior faculty members, but it has not altered for mid- to senior- level female faculty. For example, one continued that "I know that junior faculty are very vocal about these things and they demand a lot of time from senior faculty. But mid-career people are not getting any of those from anyone else".

The three leaders of this study also held similar opinions with regards to vicarious experiences. One participant described that women have more difficulties finding mentors with

whom they can relate and share similar experiences and perspectives, not only work wise but also family wise. She was particularly focused on work-life balance and the positive impact that an understanding mentor can have on female mentees' life balance:

The mentors that we seek out for women in my experience are very much mentors that we could talk with that can help us with work-life balance because we are falling apart in that area. Sometimes it is too hard to juggle. I do not hear that that much with men. I see the mentorship is more about the work more strictly [...]. The mentorship is more like a clean line. Women are always bleeding all over the place between the lines between work-life balance especially when they have young children.

This participant also pointed out that although women are more negatively affected by a lack of understanding mentors, she suggested that this situation is also influencing many male faculty members, especially younger men, who desire to play an active role in their family life:

But, it is the same for a lot of men in our department who are absolutely amazing and fabulous fathers. So, there is a gendered aspect but our 60 plus year old faculty would be in a very different kind of work-life balance than 30 plus year old faculty.

Finding a mentor and an informal network was hard for the two participants who were in male-dominated departments in STEM and Social Sciences. One participant discussed that far fewer women than men are available in her field of study; so, women are less likely to be mentored. She noted, "I think men have access to more mentors because there are more men in academia across the board. Maybe in psychology and education there are more women, but in my field, there are more male faculty". This comment also indicated that male mentors are more willing to support and work with male mentees which leaves women in male-dominated fields with even fewer mentoring opportunities. The other participant shared similar experiences about mentoring and role modeling in her field. She stated, "role modeling, I mean you could look around and there are lot of men and you could see yourself kind of that". The

two participants explained that this lack of female faculty contributes to fewer female mentors or role models whom they could emulate. One participant underlined that the lack of women is not solely related to top leadership. In fact, she did not have any female faculty role models or instructors throughout her studies in post-secondary education:

I did not have any female professors in my undergrad or Masters or PhD. You don't look around and see women who you can aspire to. There is still few of them even in higher leadership. There is not that example out there like there is for men.

Although lack of female mentors and role models was discussed during the interviews by participants of both fields, they also revealed the detrimental impact that some female senior faculty members and mentors can impose on career development of female junior faculty. For one participant, this negative influence was very profound:

I have probably brought up before, but I think women are barriers to other women. I have absolutely experienced that in my career, and I try hard not to do that for other women. There are some men who are sexist and mean and those are clear. But, there is this other aspect where women especially ones who are quite senior who are not supportive.

For this participant, these sets of unsupportive behaviours and actions from female senior colleagues have been a significant barrier to her sense of efficacy as a leader. She noted that "I think that the biggest barriers that have been put up for me have been that, and they had the most negative impact on my career and interest in being yourself". Her rationale for this phenomenon was that senior women had to overcome many gendered experiences in their career progression, so they desire the same experience for other female faculty:

When I came to the university, there were not many women around. I can't imagine more senior women in how many gendered issues they had to deal with to be able to be in those positions. I encountered a small handful of women who have been not

supportive who have been very counter-supportive actually [...]. They ensure not to nominate you for certain things. It's weird. Not men, but women.

A second participant observed that some senior women exerted more negative effect than positive on female colleagues' career progression. She noted that "they do not want to fight for or to help other women because they had to fight, so why should others have it easy? There is this thing as well. So, yes access to mentorship for women is harder".

This participant was quick to acknowledge that mentorship is a challenge for those senior women who are willing to mentor other women due to their workload. Therefore, they either do not mentor or mentor at the expense of burning out:

Women are few and far apart and those who are there may not be willing to mentor because they may get overloaded with requests for mentoring. Especially if they have a hard time saying "no" and agree to sit on various committees that need gender representation, or they are warm and compassionate and willing to do this they can get overused as mentors and burned out.

These results suggest that women still find it difficult to access mentorship and role-models who foster their sense of self-efficacy for leadership. Gender still appears to have a significant impact on women and their movement into, or experiences of, leadership opportunities.

Leadership is Stereotyped by Masculine Traits that Influence Self-Efficacy

Throughout the interviews, the leaders of this study expressed their attitudes towards leadership. One significant theme emerging from their comments is that leadership is aligned with masculine traits, and connotations of "strength" in particular. These masculine traits are associated with greater perceived abilities to enact effective leadership. While describing a competent female leader, one participant noted, "she was a strong female who did not take baloney from anybody". Another participant described exemplary female leaders of her

department as “very strong and smart [...] One of them was incredibly focused and rose up to become a chair at a different university”. In another statement, she stated, “I mean she was strong and so smart and had vision for our department”. The third participant portrayed competent female leaders of her field as those who are “more like men”. She stated, “all the women leaders who come to my mind are extremely strong women. They basically act more like men. They are competitive, assertive, power-women”. In another statement, she explained that “all the women who come to my mind are very sharp and assertive. They are really strong women”.

Due to this stereotyped image of influential leadership, two leaders of this study hesitated several times to portray themselves as “a strong leader” or even “a leader” because their leadership characteristics did not fit with hyper-masculine norms. One of them described her leadership style as a “consensual consultative kind of leadership”. As a result, she was not sure whether or not people see her as “a strong leader”:

I am not so sure. Maybe, they saw my more “feminine” side because I never took decisions in “my way or the highway” manner, just announcing “that is the way, that is what we will decide”. Just the other way around I always listen to everybody on the committee before I speak. Then we make a consensual decision and even if the decision was not what I wanted originally, I believe in the wisdom of the group. But I am not sure if they perceived that I am actually the leader there.

The other participant hesitated to call herself a leader in different parts of the interviews and highlighted “I never think of myself as a leader”. Her approach to leadership was based on consensus and collegiality which had convinced her to be “more of a chair than a leader”:

I mean people pick department heads because they do have strong vision. I think people chose me because I am a department chair. I will listen and won't be the strongest

opinion in the room but balance the strong opinions to come to some kind of a consensus.

One of these two female leaders confirmed that these characteristics such as attentive listening and collective decision-making are the foundations of influential leadership, but these traits do not usually distinguish leaders as strong, outstanding, and unforgettable:

You know, often these things, which I believe are the essence of good leadership, remain invisible, especially if a woman is the leader. A loud man on the helm would be more memorable. So, I am not sure if they consider me as a strong leader, as a collaborative leader or maybe they see me as meek, hesitant woman who by some lucky chance got into a leader position. I do not know, it is hard to say. Sometimes, it seems that people prefer dictators.

In spite of these hesitations, the two participants acknowledged that their “consensual consultative leadership” has been appreciated and respected in different leading roles. One participant explained one of her leading roles and stated, “they felt appreciated for their contributions, they felt heard, and they contributed a lot”. The other participant also discussed that people appreciate the new quality that she has brought into leadership. She noted, “I think everybody is just as happy to have a woman in the role. I have been told by people that they are appreciative of the different way and approach”. For this participant, the gendered stereotyping of women’s leadership in today’s academia is more complicated because it is more subtle and difficult to identify:

It is more subtle. It would not be as easy as it would have been years before to say well I am not even allowed in the room. Well, I am allowed in the room, but I still do not feel like I fit in the room.

From this participant’s point of view, the subtle form of stereotyping is reified by the culture that makes academic women feel as if they do not belong in the room. She offered

different examples of a masculinist classroom and meeting structures that inhibit women from feeling comfortable, included, and vocal:

There is perceived sense by the very way a meeting is run a woman is more silent and when they do speak they may be a little more uncomfortable [...]. So, it does not matter if you are talking over people we just need the job done. That is an uncomfortable room for someone who has learned to be sensitive and careful and wants to be inclusive, the things that are so called feminine which many men hold.

This leader further described that the masculine model of academia discourages women to speak their mind; however, this silence is attributed to women's personality and not to the root cause of this silence:

I think sometimes people put it down to be introverted or extroverted, but I think people are introverted in some settings and extroverted in other settings. And you can't just say the person who does not say something is because they are shy. That's not why. It is because it is an uncomfortable environment for many reasons.

She felt that many female academics do not desire leadership positions because they lack self-confidence and feel like a misfit:

Our situation whereby women leaders like our women don't want to be a leader. I did not want to be a leader because I do not even have the drive. It is more an internalized lack of self-confidence to be in a room whereby you are supposed to have tremendous amount of it.

Although this participant believed that masculinist stereotypes are more subtle in today's academia, the other participant from Social Sciences said she still goes through obvious stereotypical discriminations in leadership opportunities due to her gender. She expressed that "I still feel like I don't get to do certain things because they rather go to my male colleagues". She gave several examples of her projects and grants to elaborate on this issue. In one of her

applications, for instance, the committee favoured a male faculty over her regardless of her stronger qualifications: “The comments came out saying why is not one of the men leading this. It was not a long time ago. There are still a lot of comments like that”. She also explained that some of her male colleagues hold stereotypical opinions about women. She stated, “I think that in term of my colleagues, I had to work a little harder to be recognized as capable. I still have some male colleagues who treat me like I am student of someone else’s”. With regards to supervision, she highlighted that “I have heard that grad students say that they won’t work with me because I am a woman, and that they only work with the men. I mean male students”.

Interestingly, the three participants believed that conformity to the masculinist norms of academia does not necessarily mean that those female leaders who conform gain the acceptance and support of their colleagues. One participant explained that masculine traits are associated with power which is problematic if presented by women:

The way that I am a leader...there is not a lot of masculinity in me. That’s also a very powerful norm and in the corporate board room there is a lot of masculinity, there is a lot of power in that. That is something very accepted and very looked out well for men not as much for women.

The other participant gave the example of a female leader in her field who was called names and defamed by her male colleagues because she had conformed to the notion of “the strong leader”:

She was a strong female who did not take baloney from anybody. And so, she was not called a strong leader by men. She was called [names]. She was elected for that position. She won that role, but she was not respected by many colleagues of mine who were men.

The third participant explained that gender remains a significant element in leadership, and it leads female leaders to intentionally attempt to act masculine in order to get acceptance of their colleagues:

They are really strong women. But it is possible that the way they are perceived by others was less favorable. The expectations are that because they are women, they should be softer and nurturing. They should also look good, dress elegantly, behave like what is expected from a woman.

These findings do not appear to differ significantly from the literature base that is decades old. Women appear to still feel pressured to conform to masculinist notions of leadership if they choose to become leaders, yet when they exhibit those styles, they are more likely to be characterized negatively. This places women in an awkward liminal space of “misfit” that undermines self-efficacy to the extent that many choose not to engage, or choose to walk away from, leadership positions.

Self-Efficacy Influences Female Faculty Accomplishment, Persistence, Motivation, and Optimism

There were numerous examples and circumstances in which the female leaders of this study attempted to explain the relationship between their sense of efficacy and their accomplishments, persistence, motivation, and optimism. Two sub-themes were identified that highlight this relationship: the importance of intrinsic motivation and working to maintain of a positive sense of self-efficacy.

Self-Efficacy Influences Female Leaders’ Accomplishments through Intrinsic Motivators

The three leaders of this study discussed various leadership accomplishments. They all linked their leadership achievements to their oversight of research projects. “I would start with leadership in my research areas” was the commencement of one participant’s leadership

accomplishment story. In addition to research leadership, one participant spoke of student supervision: “I supervise lots of students. I think that’s an accomplishment”. Completing various leading tasks in different leading roles at the department level was underlined as an accomplishment by the third participant: “Accomplishments would be we manage to hire in our department. That we manage to keep people who would potentially leave. The hiring is a really big thing”. Other accomplishments included taking on leading roles in conferences, grants, journal articles, and various committees and councils inside and outside of the university.

The participants of this study were high-achievers. Nevertheless, they explained that their level of self-efficacy fluctuated depending on the leading role. They did not feel completely self-efficacious in all circumstances. For one participant, self-efficacy was a challenge that had affected her career decision making and occupational goals:

I really struggle in that believing in myself but oddly I don’t let it stop me to do things. Sometimes, I won’t seek out opportunities because I am not sure that I would be able to secure that opportunity. So, this self-doubt or something like that.

This participant did not let the sense of low efficacy prevent her from pursuing higher career goals. She stated, “I think for the most part even if I am not sure whether I kind of deserve it or well-suited for it I try it anyways”. She did not let the hesitation stop her from setting challenging goals because she had intrinsic motivation that sustained her sense of efficacy and overcame the sense of self-doubt when she evaluated a new career option:

I don’t really know what makes me do some things. I have strong desire to learn. I like when my environment is diverse. I find that more intellectually engaging. So, if I was doing the same thing over and over again, I would find that boring. So, I do definitely seek out new challenges. That’s the best thing I can come up with. I like new things.

Generally, I am reasonably adventurous that I probably do things because I am adventurous.

This participant continued to explain that her intrinsic motivation has pushed her to focus on the positive aspects of being a leader and a faculty member:

I think you are internally motivated. I think it is motivating to work with great students not in terms of their productivity but ones that are good people nice to be around and who are genuinely interested in and passionate about what they are doing. I often find going to conferences exciting. I like hearing about what other people are doing. I think that is exciting. I think time away from the university keeps my motivation higher.

A second participant compared her sense of efficacy in two of her leadership roles. One was related to a conference for which she volunteered to help. She found this experience extremely rewarding:

Our group posted a bid to host the main conference in my area. We won, and I was thrilled. I did all the work for the local organization with such an enthusiasm; it was in a beautiful place. Of course, it took one year from my research; I barely published one article in that year. The organization was a full-time job, but it was so rewarding.

She explained how faculty members' self-efficacy can be further enhanced when they take on rewarding leadership positions. In these cases, self-efficacy develops in three stages according to this participant:

So, in some sense, self-efficacy is in three different directions. First, it is somehow an artistic pleasure. You create something, the experience that the people will get in this event, it is something which is like your baby. It is the creative part of doing it nicely, making an engaging social program and adding new elements; it is like making a nice piece of research. You feel the satisfaction of creating a masterpiece. The second thing

is that it is a learning experience because every time you face some new problems [...].

The third thing which is rewarding is that you can increase your visibility.

Similar to the first participant though, she went on to describe that she did not feel completely self-efficacious in the other leadership position: “Self-efficacy -- no there was no self-efficacy driving me there because I did not know at all if I will be successful and I did not have any encouragement. In fact, I got discouraged on the way”. This participant did not feel self-efficacious because the position was complex. She stated, “I didn't have self-efficacy at the start since I was sure that I won't be able to solve all the problems”. However, she also had intrinsic motivation to support a disadvantaged group, and that led her to take on the position:

I believed that even doing a little bit will help to improve things; something just had to be done. This made the whole thing meaningful, though I had no idea how I will succeed in doing even the small little bits... but once I started, I got engaged in different projects and I was able to find self-efficacy in doing most of them.

The third participant shared the differences in her sense of self-efficacy when she was invited to take on a research leadership position versus a departmental leadership position: “You have to know you can do it. I guess that's what you know. I did not doubt that I could do [the research position]”. She did not have the same level of self-efficacy when she was invited for the leading position in her department:

I was invited to apply, and I said no for a long time [...]. I was interested in expanding how the university works a little bit and to bring that both ways, but I was not certain I would be very good at the job. So, I did not want to be the person to step into a role where I thought somebody else would be better.

This participant did not feel the same level of self-efficacy to take this leadership position, but she was inspired to take the position due to her intrinsic motivation. She realized that she could fulfil her ultimate career objective in this leadership opportunity which was to

make a contribution to the community. She noted, “I just felt like I do this job because it is service anyway, and that is a huge part of why I work. You want to contribute in a way that is meaningful”.

Maintaining Self-Efficacy Influences Persistence, Motivation and Optimism in Leadership Development

All of the leaders discussed the necessity of maintaining self-efficacy to foster persistence, optimism and motivation when facing a significant challenge. They explained that handling different challenges and discouraging situations is part of the leadership journey. For one participant, the major challenge was related to trying to reach consensus amidst conflicting ideas:

I suppose in that sense my main challenge is when people come in from different sides, you have to work on that situation until negotiation where everybody is happy. Not everybody is happy all the time.

A second participant introduced three main challenges with which she was dealing in her leadership development. The first challenge was gaining respect and acceptance of colleagues:

Number one is that I often feel that I have to earn respect rather than just be given respect or trust by other people, and I do not like that. I see that other people are just given respect automatically.

The second challenge was the negative attitude of some women academics towards other female faculty:

That’s definitely a major challenge to overcome in leadership roles that instead of supporting and building one another up, there will be a lot of bad talk. That’s definitely a continuing negative experience that one has to overcome in order to be in a leadership position.

The third challenge was articulated to be the need to be decisive, but to also be able to make peace with the mistakes one may make in the process of decision making:

I think on a daily basis, you have to be prepared to be wrong and to learn from being wrong and realize that you are not going to have the right decisions all the time, but you have to be firm in your decisions and learn from those and make a difference from different kinds of decisions.

The last participant focused on an important challenge inhibiting female leaders' career development which is related to their family commitments. She explained that when most women choose to have a partner, they are less likely to be able to move to other places to seek leadership:

The biggest challenge is having a spouse. This is not unique for women. It is the same for men as well. At a certain age you are either alone or you have spouse. If you are alone, you are more flexible, maybe then you can do whatever you want. If you have spouse, you are basically bound.

She also pointed out that women, more than men, sacrifice their career and move to other places for the sake of their partners' progress:

Of course, it depends on the situation. Some spouses are flexible and don't mind moving to different towns, countries or continents. Some women (but mostly the men) are more single-minded. They see themselves first and they would do anything that furthers their career. They will just move, and the spouse will have to follow them.

Participants noted that leadership challenges that strike at the core of self-efficacy can lead women to consider leaving their positions: "yes, I wanted to quit the job". A second participant spoke of engaging in self-doubt and the questioning of her own abilities. She started to wonder whether or not she was willing to continue her career after one particularly

challenging experience. She stated, “I questioned whether I wanted to be here if these kinds of things were going to happen”.

With regards to overcoming their major challenges, the participants had different senses of optimism and motivation. One was disappointed about the circumstance but managed to stay quite optimistic about its ultimate conclusion. She noted that “I knew it would be fine. I hated it, but I knew it would be overcome”. Another participant was not optimistic but realistic about the challenge with which she was dealing. She mentioned that “at that time, I was not optimistic. I was just realistic”. The last participant was not optimistic at all about her situation. She stated, “I was not very optimistic. Honestly, that situation never resolved itself”.

In spite of different senses and emotions, all the participants finally managed to regain their sense of efficacy which re-asserted a higher level of persistence, optimism and motivation. Most engaged in long reflections in order to maintain/regain their senses of efficacy and feel confident about the decisions they had made. As one participant noted:

I spent some time to reflect on that and not a little bit of time. I spent a lot of time thinking about that. I feel like I was true to myself [...]. I started to realize that I truly do believe in what I was saying. I would not make a different decision. So, I stopped doubting my decision and started wondering why somebody wanted to destroy my career over what should be a small concern. I was able to shift my attention there. It was quite difficult because my initial reaction was to feel doubt about myself.

She emphasized that although she has felt less efficacious at times, her passion and intrinsic motivation about her career persuades her to stay optimistic:

I feel like I absolutely struggle with being optimistic. I think I always seem to go back to things which I am passionate about the area which I work, and I really enjoy it. So, I have to come back to that. I think this is what keeps me optimistic because there are lots of things that I feel optimistic about.

This participant stressed that regular exercising and mindfulness offered her a fresh perspective and helped her to persist with leadership challenges. She stated, “I go for lots of walks. I find that clears your head and allows you not to be reactive. You can be responsive instead of reactive. Also, trying to act mindfully and consciously is pretty important in managing”.

A second participant sustained her self-efficacy by taking a realistic perspective on decisions and focusing on positive implications:

In this particular challenge, it was just efforts to foresee the future, to think it through. Actually, it was very good because it was the wiser thing to do. It would have been a mistake to take the offer. It was a decision for good. Sometimes, what you believe is a failure actually turns out to be the better thing. Not every time you have all the information to make a wise decision.

The third participant used three strategies for maintaining her self-efficacy in order to sustain her persistence, optimism and motivation. She consulted with experienced people who had dealt with similar circumstances. She noted, “I sought support from smart people who deal with things like that better than I do. That was something I did. So, that was good”. Her second strategy was to divide the tasks into smaller pieces and set priorities in order to increase her efficiency. She indicated, “that comes back down to the way that I could break down [...]. I break it down. I do my fifteen minutes. I do that a lot, and I get my tasks done. I do the important things first”. As a third strategy in overwhelming circumstances, she reads books which help her reflect on the value of her contribution. These strategies help her gain perspective and motivation to continue with her leadership journey.

Successful Leaders Use Sources of Self-Efficacy when Exploring Potential Academic Careers

The three participants relied on self-efficacy sources including mastery experiences, verbal persuasion, and vicarious experiences when searching for academic careers. The following section discusses the ways in which these sources of self-efficacy supported their career development.

Influential Adaptive Career Behaviours Leading to Career Development are Linked to Sources of Self-Efficacy

The participants of this study took advantage of various sources of self-efficacy in order to explore potential academic careers before becoming faculty members. Two of the participants highlighted their role models as influential sources of their self-efficacy that contributed to adaptive career behaviours. They were familiar with academic life from the time they were very young because they had academic role models at home. One participant, for instance, discussed that “my father was an academic. He was a professor. I think I just always knew about what I like, and what an academic career would look like”. Additionally, two participants decided to explore academic work by getting involved in research and teaching mastery experiences before pursuing their PhD. Thus, they had a sense of what an academic career entailed before becoming faculty. One participant found academic duties to be a natural progression from the research and teaching experiences in which she engaged long before becoming a PhD student and a faculty member:

I was teaching, and I loved the passion. I knew life of a teacher and working on another people’s research project and then taking on responsibility to coordinate other people’s research projects while you are still teaching. By the time I stepped into a role of a faculty member I was so familiar with the whole process that it was quite natural which is likely different from many people.

The third participant explored an academic career by attending conferences and events during which she received verbal persuasion and created an academic network of people who gave her advice about academic opportunities:

I was going to conferences and I really enjoyed it. It is a very rewarding part of the academic career. Meeting other academics and talking informally about their research is so much more pleasant than fighting your way understanding it from their papers.

She noted that it was through her conference networks that she eventually acquired a faculty position: “I went to conferences and I would tell everybody who did interesting work and was a kind person: “I am looking for a job. Keep me in mind”.

The three participants explored academic careers using sources of self-efficacy before they became faculty members. With regards to leadership, only one participant described a similar exploratory approach. Her strategy was to gain mastery experiences by accepting various leadership roles whether they were aligned with her interest or not. She noted that “early on in the career was like I will take something, so I can gain some experience”. As a senior faculty, she did not explore leadership opportunities anymore. She stated “I do not look for leadership. They just come to me”. Her only exploration as a senior faculty member was to identify her interest in leadership:

You first have to identify what parts of the job you enjoy the most and then you have to come and think about what kinds of leadership activities might follow that. I use that now a little bit more as the guide to help me decide about leadership activity that is presented to me whether or not I want to take it.

To reach toward this goal, she hired a coach to better understand and plan her future leadership roles that were aligned with her interest. This approach also provided verbal persuasion and vicarious experiences through mentoring.

The other two participants had not explored leadership opportunities overtly. One participant stated, “I don’t look at all. If somebody contacts me to say that they have seen my profile, and think that I fit in their position, I may respond. But I am not actively looking”. The last participant mentioned, “I was invited to apply for both jobs. I was invited to apply, and I said no for a long time”.

Their rationale for not exploring leadership opportunities was related to the fact that leadership can turn into a burden because it creates conflicts with dominant people, and these leaders consciously attempted to avoid conflict:

About university, nobody really tried to attract me into leadership positions at the university. And I have not been striving for this either. I feel that leadership positions at the university are extremely demanding because the conflicts can be very serious. You have to deal with people fighting for resources. And because I hate those conflicts and I try to escape from conflicts, I have never strived for this.

The need to manage conflict was deemed to be a major discouragement for leadership development. One participant highlighted “it does not feel like it was something I am good at or I want to do”. Another explained that “honestly, I do not believe I am very good in dealing with those conflicts”. As a result, these two leaders considered their approach to leadership as “opportunistic” rather than “careerist”:

My strategy in life has been opportunistic. I am not planning anything. I know women leaders who have planned their career, who have very carefully calculated where they want to be in the next five years, or 10 years. For me, I generally work very hard and have taken opportunities as they present themselves. I have been lucky, so far. But, I have not actively sought for or created these opportunities.

The other participant described that she has never been a careerist. She noted, “I am not as careerist as I should be. I feel as though I should be more careerist than I am. But maybe that is not true”.

These women did not seek leadership, but they were open to accept leading positions if they were self-efficacious and intrinsically motivated. Both participants discussed the verbal persuasion, encouragement, and support that they received from colleagues who considered them as the best candidates for leadership positions because of their qualifications. One participant noted that “then, somebody I know from another department contacted me. She thought I will be very good and I went along”. The other participant mentioned that her colleagues admired her liberal spirit and the fact that she is open and inclusive of different voices. Thus, they encouraged her to accept the position due to these qualifications:

People thought I would be good because I listen. If I think about why everybody was saying you would be good, it was not because they recognized that I am highly organized. I think they thought I would listen to them and I would not come in with a strong agenda. That’s what people were looking for somebody to comfortably understand and move forward.

These findings suggest that verbal persuasion as a source of self-efficacy can impact one’s decision to take on leadership roles. Their intrinsic motivation to serve helped to solidify their acceptance of their positions.

Summary

This chapter presented an overview of the results of the nine interviews with three female leaders in Social Science disciplines and STEM fields that explored the relationships between self-efficacy and leadership career development. Four overarching themes emerged from the interviews: (1) self-efficacy is positively affected by support and encouragement and negatively influenced by discrimination and discouragement; (2) sources of self-efficacy

influence women's decisions related to leadership development; (3) self-efficacy influences female faculty accomplishment, persistence, motivation, and optimism; and, (4) successful leaders use sources of self-efficacy when exploring potential academic careers. Chapter Five provides the detailed discussion, conclusion, and implications for practice and future research.

Chapter Five: Conclusions

This chapter provides a summary and interpretation of the findings resulting from the data that explored the relationship between self-efficacy and career development of female faculty in higher education. The chapter begins with a summary and discussion of findings in relation to the literature. It concludes by proposing implications of the findings and summarizing the study.

Summary of Findings in Relation to Literature

This section links a summary of findings from the nine interviews to the research questions and available evidence from the literature. As outlined in Chapter One, this research includes one primary research question that was answered by posing four sub-questions. The primary research question was: In what ways does self-efficacy influence women's decisions to pursue leadership positions in university administration? To reply to this question, each sub-question explored the relevant themes and sub-themes emerged in the findings. The research sub-questions are as follows: (1) In what ways do academic environment and socialization experiences influence women's self-efficacy for leadership in university administration?; (2) In what ways do sources of self-efficacy (mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal) influence women's decisions to pursue leadership positions in university administration?; (3) In what ways does self-efficacy shape women's accomplishments, persistence, optimism, and motivation to seek leadership in university administration?; And (4) In what ways does self-efficacy influence women's adaptive career behaviours when they decide to seek leadership in university administration?

Self-Efficacy is Positively Affected by Support and Encouragement and Negatively Influenced by Discrimination and Discouragement

Participants' self-efficacy for career development was positively influenced by the support and encouragement and negatively affected by discrimination and discouragement that

they received in their socialization from childhood throughout adulthood as well as their experiences in the academic environment.

Career progression stories. As discussed in Chapter Four, the participants took different directions in their career development. One followed higher education from Bachelor's to Masters and PhD without any significant interruption. She was hired as a faculty member immediately after graduation whereas another participant had delayed her career development for a long period of time due to family commitments. The third participant took an approach in between and left academia but only for a short time. In spite of those varied career paths, each ended up becoming a faculty member and an influential leader in her department. The stories align with the literature of women's career progression in post-secondary education in which female faculty members usually do not follow a straight and predictable career path mainly due to their family circumstances (Armenti, 2004b; Gaio Santos & Cabral-Cardoso, 2008; Nikunen, 2012; O'Meara & Campbell, 2011).

Influential individuals strengthen self-efficacy. From Bandura's (1986) social cognitive theory, self-efficacy begins to shape and develop from early stages of infancy throughout every phase of childhood, adolescence and adulthood when society and the world around the child influences his or her sense of efficacy. Similarly, according to social cognitive career theory, interest and passion for a specific activity begins to take shape from childhood due to the existence of specific learning experiences during which individuals receive positive feedback from significant individuals (Lent et al., 1994). These ideas align with the findings of this study that showed that participants' self-efficacy was hugely affected by significant people in their lives. All the female leaders discussed influential people in their families, including their parents and grandparents. They all named one or more educated family members who helped them develop confidence by encouraging them to learn and achieve an academic education. Two out of three participants had one parent or more who were faculty members.

Thus, they had academic role models in their family to whom they looked up from an early age. These significant findings are aligned well with Bandura's (1977, 1986) sources of self-efficacy in which he underlined the vicarious experiences as a major factor in development of self-efficacy. Having such influential role models who were roles models in academia raised their expectations and enforced their efficacious perception that academic success would be possible for them (Bandura, 1986). The significance of early role modeling for self-efficacy of the participant is also consistent with Bandura (1986) who reported that inexperienced individuals take the most advantage of role models because they are still forming their sense of efficacy and overcoming their self-doubt about their competencies. Role models help these people to believe in their abilities.

One participant also had the role modeling of her mother who was a dedicated, hardworking faculty member who taught her to have resiliency and dedication in order to succeed in STEM majors. This important finding credits the impact of same-sex role models. According to social cognitive theory (1986), the more observers identify similarities between themselves and their role models, the more confident they become about their own abilities to follow in their role-models' footsteps.

Two out of three participants also discussed the undeniable impact of other female role-models such as mother, sisters, or grandmothers who did not have a university degree or a career but continuously inspired and motivated them to be their best selves as independent women. Because they had these significant role models at home, these two participants could compare what to expect for their future careers if they followed either an academic or non-academic course. Bandura (1986) believed that role modeling and observation increase awareness by predicting the future that lies ahead if one takes a particular path.

In addition to the role modeling of family members, the three participants named teachers as significant individuals who helped form their sense of efficacy, especially in early

stages of adulthood socialization experiences. Teachers were looked up to as role models who opened many doors to new educational experiences. They were encouraging and supportive of participants' potentials. Two out of three participants highlighted that they were introduced to graduate studies by these supportive instructors, and that if it had not been for their encouragement, they would not have pursued graduate studies. Bandura (1986) has drawn attention to the significance of verbal persuasion in development of self-efficacy, and these examples provide evidence that the verbal persuasion of teachers is highly influential.

Findings with regards to the influence of family and teachers on the participants' sense of efficacy align with the literature that suggests that contextual elements such as family background and socialization experiences influence people's self-efficacy within learning experiences (see Hackett & Betz, 1981; Lent et al., 1994; Lent et al., 2003). Overall, the findings confirmed the evidence in the literature that the people who surround individuals during their childhood and adolescent years have a huge impact on their sense of efficacy as they pursue potential careers. In the case of this study, this impact mainly took place through vicarious experiences and verbal persuasions that the participants received from influential family members and teachers.

Early educational and occupational opportunities are critical for developing self-efficacy. Lent et al. (2000) explained that objective factors including but not limited to educational opportunities and occupational training contribute to one's environmental situation in which self-efficacy develops. According to Lent et al. (2000), career preferences are different among people depending on the objective factors with which they are surrounded. Thus, self-efficacy is enhanced as a result of early educational and occupational opportunities that create objective variables. The three participants' early educational and occupational opportunities had a major influence on their self-efficacy in their socialization process. One highlighted her school days during which she received frequent encouragement from her peers

due to her writing and math abilities. The second participant was quick to point out her co-authoring experience with a teacher that helped her develop self-efficacy for academic work. The last participant highlighted various experiences, including teaching experience as a graduate student in particular. In addition to educational opportunities, two out of three participants gained influential training and occupational opportunities at different ages that enhanced their sense of efficacy. The availability of these opportunities shaped a sense of efficacy that consequently promoted subsequent performances.

Conflict resolution experiences strengthen self-efficacy for leadership. All the three participants acknowledged that the most impactful experiences enhancing their sense of efficacy were those in which they practiced and reinforced conflict resolution skills. This finding was supported by Bandura (1977, 1982, 1986) who introduced mastery experiences as the most influential source of efficacy because mastery experiences offer first-hand knowledge and authentic skills for people. From the three participants' perspective, conflict resolution skills are one of the most fundamental abilities that any leader should have because, as one participant pointed out, "when you are managing people, conflicts are bound to occur". As Bandura (1995) explained, when one practices a behaviour or a skill through mastery experiences, the process leads to cognitive change which is beyond simply adapting a course of action. Similarly, the three participants explained in detail the significant changes that occurred in their leadership process and the lessons they learned from practicing specific conflict resolution mastery experiences. These experiences led to more self-awareness in leadership for the participants. It is noteworthy that the subject of conflicts in leadership was highlighted in different sections of the interviews and data analysis which emphasizes the significance of conflict resolution mastery experiences for career development towards leadership. This subject will be further discussed in the next sections.

Self-efficacy for leadership is discouraged by conflicts created by dominant people in the academic environment. As discussed in the previous theme, the participants of this study believed that their conflict resolution mastery experiences had been the most impactful learning experiences in their socialization to leadership, thereby enhancing their sense of efficacy. Nevertheless, conflicts created by dominant people in the academic environment were mentioned as the most discouraging leadership challenge that participants faced. As discussed in the findings, two out of three participants from STEM and Social Sciences refused to actively seek leadership because they were consciously attempting to avoid conflicts with dominant people. This evidence indicates the level of discouragement that the participants encountered while dealing with conflicts caused by aggressive people in the academic environment. The three participants univocally indicated that they felt less efficacious when dealing with dominant people. The discouraging impact of conflict with dominant individuals on self-efficacy for women's leadership development was a new finding that was not discussed in the literature on self-efficacy. Although the influence of discouragement on one's sense of efficacy for career development has been reported in the literature (Lent et al., 2000), this aspect of discouragement for leadership progression was a new but reoccurring finding. According to participants, conflicts created by dominant people are a strong source of discouragement that leads to diminished self-efficacy for female faculty members in leadership positions. Dominance has been defined as "a strategy through which people gain and maintain social rank using coercion, intimidation, and power" (Maner, 2017, p. 526). Several characteristics have been attributed to dominant people including aggression, manipulation, and dark-triad traits (Machiavellianism, narcissism, and psychopathy) in the literature (Cheng, Tracy, & Henrich, 2010). Dominant people create an unpleasant environment of fear and coercion that disintegrates respect, understanding, and mutual collaboration (Cheng et al., 2010). According to Cheng et al. (2010), dominant individuals can cause various kinds of conflicting

circumstances as they strive to control and influence other people. Apparently, this sort of conflict has been the most significant barrier for the participants' self-efficacy to advance in their career. Thus, the study concludes that self-efficacy for leadership development is negatively influenced by dominant personalities who create contentious conflict within the academic environment.

A supportive academic culture helps foster self-efficacy. A supportive environment was deemed to be crucial by one participant who did not receive it, especially when she was in the initial phases of her career development as a faculty and then a leader. No one from her department stepped up to celebrate her accomplishments on various occasions. Similarly, the participant reported that lack of support and discouragement can be very demotivating and demeaning for female faculty members as they develop in their careers. Lent et al. (2000) discussed the influence of distal factors such as encouragement and discouragement during learning experiences that influence future career development. They reported that distal factors along with objective variables and proximal factors constitute the contextual conditions that function as fundamentals for strengthening or weakening self-efficacy.

The two other participants also highlighted the importance of a supportive academic environment and spoke of growing concerns over workload. They pointed out that universities are attempting to cultivate a culture that demands more from faculty but does not support them. Sallee (2012) reported that "the ideal worker" in the academy has become one who prioritizes work over every competing interest. Higher education is transforming into neoliberal institutes in which prestige and production are highly valued, and faculty members are expected to increase their work pace but also produce quality work (Connell, 2015; Meyerhoff et al., 2011; Mountz et al., 2015). One participant, for instance, said that "I have found the university environment like a lot of giving just give, give, give but we won't support you". Likewise, O'Meara and Campbell (2011) reported that universities are cultivating a "more, more, more"

culture. Both participants in this study considered excessive workload as a major source of stress and burn out. This finding is consistent with the literature reported in Chapter Two that suggests that high levels of workload can cause pressure, anxiety, and stress (Fox et al., 2011; Mountz et al., 2015). Accordingly, unreasonable workload expectations can increase emotional arousal detrimental to faculty's self-efficacy (Bandura, 1986). The three participants recognized that having a supportive academic culture is a major factor in development of female faculty's self-efficacy for career development towards leadership.

Gender discrimination hinders self-efficacy for career development. According to the literature, environmental factors, masculinist norms, and gender discrimination operate as barriers for female faculty's career development towards senior positions (Kossek et al., 2010; Sallee, 2012; Shen & Tian, 2012). This study revealed that gender discrimination acted as a barrier to self-efficacy for career development among the three participants. The finding supports the previous studies claiming that universities are hyper-masculinized institutions that are less receptive to accommodating women in higher positions (Kossek et al., 2010; Sallee, 2012). Two participants from STEM and Social Sciences specifically spoke of the ignorance, lack of support, and lack of feedback that they encountered in their male-dominated departments. This finding is aligned with Bagilhole and Goode (2001) and White (2003) who reported that female faculty members are often excluded and ignored by departmental support systems or informal networking. Female faculty have to make more conscious efforts to be included and supported by the informal culture of their departments whereas men tend to gain social acceptance unconsciously (Bagilhole & Goode, 2001). Two participants from STEM and Social Sciences described this circumstance as a "buddy-buddy situation" and "the pack" in which male faculty members are more welcomed and their success is more celebrated.

Gender discrimination has led to invisibility of women in academia, a phenomenon explained by the three participants of this study. The participant from STEM fields discussed

women's invisibility and highlighted that women can receive two types of feedback in male-dominated fields: (1) negative feedback like interruption or ignorance; (2) passive feedback which refers to degrading women's accomplishments. Both of these affect women's sense of efficacy negatively. This finding supports Bandura's (1986) theory that lack of verbal persuasion and positive feedback hamper people's sense of efficacy. However, it reveals another significant point: not only do female faculty not receive positive feedback, they encounter negative and passive feedback while they attempt to progress in their career.

Gender discrimination also took place in task delegation for one participant. She felt less efficacious when she was assigned responsibilities not because of her skills or knowledge but because of her sex. This finding is consistent with an older but significant study by Hackett and Betz (1981) in which they reported that women are exposed to many external gender discriminations that dictate specific roles to them and make them believe that some tasks exceed their competence.

In summary, the findings of this study are confirmed in previous studies that have highlighted the impact of gender discrimination on female faculty's self-efficacy for career development. The participants from both Social Sciences and STEM reported experiencing gender discrimination in the process of career development.

Institutional policies operate as a facilitator or a hindrance for career development.

The next finding is related to proximal factors (Lent et al., 2000) that were institutional policies and practices experienced by the participants. They all had benefited from clear policies such as promotion and tenure that facilitated their occupational progress. According to Lent et al. (2000), proximal factors are one component of contextual conditions that directly affect career decision-making. One noteworthy point in participants' stories is related to lack of specific practices or policies that support self-efficacy. None of the participants talked about practices that had any influence or positive impact on their belief in their abilities, though they

appreciated policies related to hiring, tenure and promotion that were clearly delineated so that they understood what they needed to achieve in order to be successful, regardless of sex.

Nevertheless, the three participants reported policies or practices that had inhibited their career progression. One participant described leadership practices that prevent women from participating, such as demanding commitments that are outside of business hours. She believed these structural obstacles should be taken into consideration. Similarly, Lent et al. addressed the relationship between proximal factors and self-efficacy. They reported that such structural obstacles impact people's sense of efficacy negatively, and self-efficacy in turn influences career goals and occupational interest.

For the participants of this study, the other inhibiting proximal factor was related to networking opportunities. As discussed in the previous finding, the two participants from STEM and Social Sciences believed that women are often excluded from socializing networks in academia and that this leads to less positive feedback, encouragement, and progress. Lent et al. (2000) suggested that discriminatory networking practices are a type of proximal barrier influencing people who are actively looking for a career opportunity. These proximal factors have a direct impact on self-efficacy for career decision-making because they are in play while people are making career choices (Lent et al., 2000).

Sources of Self-Efficacy Influence Women's Decisions Related to Leadership Development

This section discusses the data analysis for research sub-question two: "In what ways do sources of self-efficacy (mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal) influence women's decisions to pursue leadership positions in university administration?"

Academic experiences develop leadership skills, but not leadership desire. The three participants of this study emphasized how different mastery experiences helped them develop

their careers in leadership. In their view, mastery experiences gradually developed skills necessary for leadership. As discussed earlier, mastery experiences have been identified as the most influential source of efficacy offering first-hand experience for people to practice a course of action (Bandura, 1977, 1986). Bandura (1986, 1994) believed that gaining a new skill requires continuous exercise of an activity that in turn increases chances of success, and success in one task leads to a sense of efficacy (Bandura, 1986, 1994). The three participants highlighted that they began gaining mastery experiences in research, teaching, grant writing, and authoring books as soon as they became graduate students (and even before graduate studies in the case of one participant). Therefore, they were practicing crucial components of academic work for a long period of time that reinforced their sense of efficacy that supported their career progress.

The longer people exercise an activity, the more efficacious they feel to advance in the task (Bandura & Jourden, 1991). Early mastery experiences in research prepared the three participants for leading and directing major grants when they became a faculty member. According to Bandura and Jourden (1991), when self-efficacy is enhanced through mastery experiences, especially in initial phases of performance, it leads to a sense of mastery for subsequent actions. As discussed in Chapter Four, all the three participants had led different research projects. They learned through research mastery experiences how to write for research programs, how to write for grants, and how to solve various problems. These mastery experiences promoted a sense of efficacy for the participants regarding their research leadership.

Similar to research, the three participants highlighted their early teaching mastery experiences as a major source of developing their sense of efficacy for career development. They all began teaching as graduate students well before they became faculty members. Thus, they had ample time to practice teaching and gain self- efficacy for teaching as a major part of

academic work. They felt that teaching mastery experiences contributed to the development of their leadership skills. One participant, for instance, explained that teaching and leadership had many features in common. Thus, years of teaching was the same as a professional development program for her not only as a teacher but also as a leader. This finding is supported by Bandura (1977) who reported that when mastery in one activity is gained, the positive experience tends to be generalized to similar situations which in turn influences future performance.

Academic writing was also highlighted as a significant mastery experience that contributed to the three participants' career development. The three participants had early mastery experiences in publishing books, articles, or grant writing. One noteworthy point was highlighted by one of the participants who experienced initial failures in grant writing when she was a graduate student. She persisted and continued writing for different grants until her grant writing skills improved. This finding aligns with Bandura's (1986) contention that when people persist and build their self-efficacy through mastery experiences, occasional failures do not have much effect on their sense of efficacy. Nevertheless, findings of this study showed that continuous failure can have a profound impact on self-efficacy. One participant had built up a strong sense of competency for teaching as a graduate student and thus, she felt very self-confident in teaching at the beginning of her work as a faculty member. But in the process of teaching as a faculty, her self-efficacy was negatively affected for several years by the biased feedback that she received from her students. This piece of evidence is consistent with Bandura's (1986) report that although overcoming occasional failures can reinforce self-efficacy, repeated sense of failure can damage self-efficacy due to feelings of incompetency and futility of effort. In addition, students' gendered evaluation has turned into a hot topic in academia due to its impact on career progression of female faculty members (MacNell, Driscoll, & Hunt, 2015; Mengel, Sauermann, & Zölitz, 2018; Morgan et al., 2016). According to research, students have a tendency to systematically evaluate female faculty members lower

than male academics in their evaluations (MacNeill et al., 2015; Morgan et al., 2016). The findings of this study are consistent with this line of research and argue that biased evaluation affected one participant's sense of efficacy deeply while she was developing her sense of mastery during the initial phases of her career.

Two out of three participants coming from STEM and Social Sciences indicated that they did not have an interest in pursuing mastery experiences in leadership because they did not have the desire for leadership. They avoided leadership and mastery experiences in order to avoid conflicts with dominant people. This finding revealed that female career development may be fostered if universities provided opportunity and support for women to gain mastery experiences in conflict resolution. The participants highlighted that their most impactful leadership mastery experiences were the ones in which they developed their conflict resolution skills. This is a testament to the significance of these mastery experiences for not only developing leadership skills but also for fostering the desire to engage in leadership positions among female faculty. This is a new finding not discussed in the literature that warrants more attention.

Only one participant was actively looking for leadership mastery experiences such as attending leadership workshops and volunteering for various leadership roles. With regards to her leadership mastery experiences, this participant believed that "it was those experiences like the chair roles that allowed me to feel comfortable in moving a big grant like that". This finding supports Bandura's (1982) contention that mastery in one task reduces the stress and anxiety created by uncertainty of an unfamiliar undertaking.

To sum up, the results showed that academic mastery experiences enhanced women's senses of efficacy for leadership but did not necessarily lead to a desire to take on leading roles, particularly in highly conflictual situations with dominant individuals.

Mentors and role models are major supports for female faculty professional development. All three participants had role models whose leadership skills they admired. This aspect of vicarious learning was highly recommended by Bandura (1986) who indicated that when people observe competent role models succeed in a task, they can visualize and predict success for their own performance. Observation of role models is an effective tool for contributing to a sense of personal efficacy (Bandura, 1986). The participants' role models were leaders who inspired them to figure out their leadership strategies. The three participants specifically highlighted that they attempted to follow in the steps of their role models because they admired their leadership strategies. This leadership emulation is a form of vicarious experience that enforces self-efficacy for observers because they can see that success is possible (Bandura, 1977, 1986). It also helps them to realize that although difficulties and challenges may happen, they can manage to overcome them and predict when they will arise (Bandura, 1982).

Another aspect of vicarious learning was related to mentoring opportunities that the two participants from Social Sciences were provided. They called their role models their informal mentors and said these individuals were extremely influential in their career development. These mentors were the participants' supervisors in their graduate studies who provided them with various opportunities. One participant specifically emphasized that her Masters and PhD supervisors were her informal mentors who aroused her passion for research and turned her into a professional researcher which was very important in her career trajectory. This finding was supported by a rigorous study of Curtin et al. (2016) who established a model based on the work of Bandura (1977) and Lent et al. (1994) to better illustrate the relationship between mentorship, self-efficacy, and career interest and occupational goals in academia. Based on this model, mentoring enhances self-efficacy for academic work which in turn leads faculty members to set higher academic goals. This finding is aligned with other studies that showed

the positive relationship between mentoring and faculty member's academic self-efficacy (Feldman et al., 2010).

One significant finding is that the participant from STEM had never had any mentors (formal or informal) in the process of her career development. Similarly, one participant from Social Sciences explicitly highlighted that she did not have any formal or informal mentors after becoming a faculty, and the third participant did not name any mentors other than her Masters supervisor who was her informal mentor. This evidence emphasized lack of mentoring opportunities especially for the participant in STEM and for all three participants after they became faculty members. Previous studies have acknowledged that female academics are less likely to find mentors while progressing in their careers (Ballenger, 2010; Hannah et al., 2002). Lack of mentorship began from the early stages of academic work for the participant from STEM, which confirmed findings from Curtin et al. (2016) who reported that female PhD students were discriminated against in mentorship opportunities because available mentors were more likely to sponsor and support male students. In summary, vicarious experiences were a strong source of self-efficacy as women progressed in their career.

Verbal persuasion is an influential but infrequent source of self-efficacy in academia. The next findings of this study gave credibility to Bandura's (1986) social cognitive theory in which verbal persuasions were introduced as the third most significant source of self-efficacy. The three participants believed that feedback, verbal encouragement, and support were essential in believing in their abilities for further progress. Similarly, Bandura (1977) identified verbal encouragement and constructive feedback as two means by which people enhance their sense of competence. Realistic persuasion promotes sustained effort and mastery in tasks that consequently foster self-efficacy (Bandura, 1986). In line with this finding, two out of three participants believed that they owed their academic career to their supervisors who made them familiar with graduate studies and encouraged them to pursue a Master's and PhD

degrees. One participant, for example, noted that she had “very direct persuasion and support” to earn her PhD and that she would have never done that if it had not been for their encouragement. This finding comprehensively represents the influence of verbal persuasion in development of self-efficacy and career trajectory of the participants.

In spite of this emphasis on verbal persuasion, two out of three participants from Social Sciences and STEM believed that academic environment lacked verbal persuasion that affected their self-efficacy. One participant specifically highlighted the influence of lack of feedback on her sense of efficacy. She explained, “I think that I find it discouraging to believe in myself when there is never positive feedback coming back”. Both of these participants highlighted the competition in academia as one of the underlying reasons preventing faculty members from collaboration and support. This finding emphasizes one more time the negative impact of universities’ transformation into neoliberal institutes where faculty members are expected to compete and earn better academic merits to gain reputation. Nevertheless, the two participants explained that lack of positive feedback and verbal persuasion is only one side of the story.

In addition to lack of verbal persuasion, another finding which emerged was related to negative feedback. Both participants highlighted the detrimental influence of negative feedback that they received due to their research interests and how this impacted their sense of efficacy. The participant from STEM had previously spoken of negative feedback that female faculty may receive in male-dominated departments. This evidence indicates that the negative feedback is not limited to STEM fields. This significant finding was supported by Bandura (1993) who suggested that while positive feedback improves self-efficacy and consequently boosts performance, negative feedback instills disbelief in abilities and discourages people from participating in challenging goals (Bandura, 1993). Due to lack of feedback and support, both participants took different approaches such as building their support system outside of their departments or hiring a coach from whom they could receive feedback about leadership.

Overall, the findings showed that the three participants considered verbal persuasion including support, feedback, and verbal encouragement as a significant source of self-efficacy for career development even though they did not receive it appropriately. Lack of positive feedback and existence of negative feedback were two major concerns of the two participants.

Stressful circumstances decrease self-efficacy and increase avoidance of leadership.

Emotional arousal refers to interpretation of competency through emotional and physical circumstances (Bandura, 1986, 2009). According to Bandura (1977, 1986), high levels of stress and anxiety manipulate emotional states which is detrimental to self-efficacy because people tend to misjudge their negative feelings and relate them to being incapable. In this circumstance, avoidance behaviours are more likely to take place because individuals tend to avoid stressful circumstances (Bandura, 1977). This evidence strongly supported the findings of this study. The three participants explained various sources of stress in their career development journey and univocally highlighted that they had avoided leadership opportunities to be safe from these stressors.

For one participant, a source of stress was the competitiveness of academia which puts a high value on work outside of business hours. She explained that this stressful circumstance made her avoid leadership positions because she was not sure if she could handle both family commitments and a leading role after working hours. The expectations to work outside of business hours were previously discussed as a proximal barrier by this participant. This important finding indicates that proximal barriers that affect self-efficacy directly (Lent et al., 2000) can also multiply stress which increases the likelihood of avoidance behaviour. This also accords with Hannah et al. (2002) who reported on the “chilly” atmosphere of Canadian universities for female faculty in which discrimination against female academics was subtle and difficult to identify. In fact, apart from explicit criteria for leadership, there are implicit criteria that act as detriments for women’s ascent to leadership (Wallace & Wallin, 2015).

High levels of workload in academia was identified as the second source of stress by this participant. The negative impact of extensive workload on faculty members has been discussed in Chapter Two (e.g., Meyerhoff et al., 2011; Mountz et al., 2015). According to the literature, academic work requires quality time. Constant pressure and rush for more work contribute to anxiety and stress (Fox et al., 2011; Mountz et al., 2015), feelings of dissatisfaction (Jacobs & Winslow, 2004), and constant comparison (O'Meara & Bloomgarden, 2011) among faculty members. In this vein, one participant called academic work a competitive race with which she had to keep up. She reported similar feelings of comparison and dissatisfaction that led to a lower sense of efficacy. She noted, "it certainly brings up feelings of not good enough for me if I can do X amount and I see people are doing Y amount that is more than X. That can be very stressful".

In addition to workload, this participant discussed the expectations of nurturing and caregiving as an emotional distress for female faculty. She explained that female faculty are expected to deal with students' emotional problems. This result corroborated the findings of previous studies that speak to the emotional burden placed on female faculties that distracts them from career progression (Acker, 2012; Grummell et al., 2009; Knight & Richards, 2003).

One of the most significant and recurring findings of this study is related to the influence of conflicts with dominant people on the participants' sense of efficacy. The conflict with dominant people was discussed as the most major source of stress by two participants who actively avoided leadership because of these sorts of conflicts. The relationship between stress as a source of emotional arousal, self-efficacy, and avoidance behaviours has previously been discussed in the literature (Bandura, 1977, 1986). Nevertheless, the impact of dominant people on stress, self-efficacy, and avoidance of career development is a new finding that has not been

described in the literature. It can be assumed from this finding that conflicts with dominant people hamper self-efficacy in various ways, one of which is the stress that they cause.

All three participants had developed specific strategies to manage the influence of stress on their career development. One participant's strategy was avoiding circumstances that led to conflicts. As can be observed, avoidance was a defence to relieve stress. Two other participants set boundaries on their schedule to reduce the influence of workload and one was taking advantage of regular exercise. This evidence highlighted that the participants were intentionally attempting to reduce the impact of stress on their sense of efficacy and advancement. This result reflected Bandura's (1977) contention that alleviating stress is an effective approach to overcome avoidance behaviour and to find a means to control life circumstances.

In conclusion, the findings showed that emotional arousal was detrimental to self-efficacy of the three participants which consequently inhibited their leadership development. The major sources of stress were competitiveness, workload, emotional labour expectations, and conflicts with dominant people. The recurring nature of these ideas indicates how powerful these stressors are in influencing female faculty's self-efficacy towards leadership. The findings were strongly supported by Bandura's social cognitive theory and other studies referenced in this section.

Family-work conflicts are a source of stress and a barrier to career development. The stress caused by family-work conflicts directly hindered these women's career progression. This finding broadly supported the work of other studies in this area linking interference of work and family responsibilities with female academics' progress (Fox et al., 2011; Hannah et al., 2002; Perrakis & Martinez, 2012). For participants, the interference was in the form of delay or rejection of career development due to family commitments. The participant with young children believed that juggling both responsibilities was very stressful, so she refused to accept leadership that conflicted with her role as a mother. This finding was also reported by

Hannah et al. (2002) who pointed out that the conflict between work and home responsibilities is more challenging for faculty members with younger children. The second participant delayed her career development until her children were in high school. She also believed that female faculty usually have to choose between a successful career or motherhood because managing both roles is very demanding. Similarly, the literature in Chapter Two showed that women academics are more likely than men to postpone career progression until their children are adults or old enough to take care of themselves (Grummell et al., 2009; Murray et al., 2012; Perrakis & Martinez, 2012), and those who pursue leadership are less likely to have children (Grummell et al., 2009; Priola, 2007). Armenti (2004a) reported that the culture of the academy convinces many women not to take advantage of maternity leave benefits because the time away may jeopardize their tenure or lead to disapproval from colleagues. Consistent with Armenti's evidence, one participant reported that she did not use maternity leave benefits because she did not want to fall behind in her academic work.

The three participants of this study addressed two underlying reasons contributing to family-work conflicts. They explained that the first reason lies in the traditional structure of families in which women are still considered as the primary caregiver in the family (Hannah et al., 2002; McIntruff, 2013; Murray et al., 2012; O'Meara & Campbell, 2011; Perrakis & Martinez, 2012; Priola, 2007; Sallee, 2012). The participants of this study delayed their career progression due to family responsibilities; nevertheless, two of them were still plagued by feelings of guilt. This result further supported the idea that traditional family roles create a sense of guilt as women feel that they do not perform well enough at home (Borelli et al., 2017). Feelings of guilt in turn contribute to depression and anxiety (Ghatavi et al., 2002) which further contribute to emotional arousal for women. Thus, the findings of this study run contrary to previous studies (e.g., Greenhaus & Powell, 2006; Ruderman et al., 2002) that have suggested multitasking inside and outside of the home are advantageous for well-being of

women. The women of this study experienced negative well-being as a consequence of the guilt and loss of self-efficacy related to not living up to gendered expectations of what it meant to be a good mother and good work colleague.

The three participants explained that women are generally still expected to sacrifice their career advancement to balance family and work, and that this remains a gendered issue. All three participants had accepted those sacrifices, but the literature reports that constant sacrificing is not feasible in the long run because it will imperil women's sustainable development (Perrakis & Martinez, 2012). Overall, the results showed that family responsibilities can act as a barrier causing stress and prohibiting the participants to move forward in their academic work.

Women and men academics experience sources of self-efficacy differently. The fifth finding in this theme was related to how faculty members experience sources of efficacy. The three participants believed that sources of self-efficacy including mastery experiences, verbal persuasion, and vicarious experiences were framed, enacted, and experienced differently for male faculty compared to women academics throughout their career development. Two participants from Social Sciences and STEM fields who were in male-dominated departments reported that women faculty have fewer mastery experiences which is consistent with what was identified in the literature (e.g., Williams & Subich, 2006). The participant from Social Sciences explained that the root cause of this difference is the masculine culture of academia where women need to make mastery experience opportunities whereas men often receive them. This finding is in accord with the literature that has considered universities as masculine institutes replete with gendered norms (Murray et al., 2012; Sallee, 2012; White, 2003) in which women are more likely than men to make a conscious effort to achieve opportunities (Bagilhole & Goode, 2001). On the other hand, the participant from STEM believed that in her field, women sometimes intentionally avoid mastery experiences that is believed to exceed

their capabilities due to lack of self-confidence. This notable finding is in line with those of previous studies reporting that women feel less efficacious for academic and career activities related to STEM fields (Beyer, 2014; Inda et al., 2013; Jagacinski, 2013; Vogt et al., 2007) that could be one of the reasons for women's underrepresentation in this domain (Beyer, 2014; Vogt et al., 2007). Zeldin and Pajares (2000) reported that girls and women do not feel self-efficacious in masculinized activities because "men and women have different sex-typed experiences in childhood that limit women's exposure to the sources of information necessary to develop strong self-efficacy perceptions in traditionally male arenas" (p. 219).

Besides mastery experiences, two participants from STEM and Social Sciences emphasized the difference between male and female academics' experience of verbal persuasion in the process of their career development. Both of them highlighted that women academics' underrepresentation in their fields contributed to their invisibility and exclusion from support and networking systems. In other words, encouragement and support were not distributed equally. The literature also found that universities are more likely to provide a more inclusive and supportive network for male academics than for female faculty members (Bagilhole & Goode, 2001; White, 2003). As mentioned earlier, discriminatory networking practices can operate as a proximal barrier inhibiting sense of efficacy for career development directly. It is noteworthy to bear in mind that Bandura (1994) underlined that verbal persuasion is not solely concerned with providing feedback and encouragement but creating appropriate opportunities for self-growth and flourishing. Similarly, one participant explained that women's marginalization in her field had led to an inequality in distribution of available opportunities. As she noted, "they would give each other all these opportunities but would not really think of the women because there were a few of them". The findings are aligned with other studies echoing women's significant underrepresentation in STEM domains in spite of their active contribution in the workforce (Bandura et al., 2001; Ceci et al., 2009; Griffith,

2010; Jacobs, 2005; Valla & Ceci, 2014). This study showed that some Social Science disciplines are experiencing the same underrepresentation with the same outcome which is disadvantaging women. The chief disadvantage is that when masculine norms become embedded in an academic discipline, career progression becomes less achievable for women (Wallace & Wallin, 2015).

In addition to verbal persuasion, the three participants believed that women and men academics receive vicarious sources of self-efficacy differently. They pointed out that women have more difficulties than men in finding mentoring opportunities. This evidence matched other studies in which women's struggle to find mentors was reported (Ballenger, 2010; Hannah et al., 2002). The three participants shed light on this phenomenon from a relatively similar perspective.

One participant from Social Sciences believed that this is harder for female academics because of family-work commitments, both for the mentee as well as female mentors. The emphasis of work commitments over family commitments was said to be detrimental also to men who desire to be more engaged in their family life, an opinion supported by Sallee (2012).

The two other participants from male-dominated departments of STEM and Social Sciences talked about the unavailability of mentors for women faculty. Both participants described that men have a tendency to mentor and support other male academics. They characterized this phenomenon as "a buddy-buddy situation" and "the pack" in which men academics are more likely to share their support and feedback with one another. Ballenger (2010) also described this phenomenon as the "good old boy network" in which men desire to support other men with whom they have shared interests.

Both participants elaborated on women's underrepresentation in their fields which has resulted in fewer same-sex mentoring and role modeling opportunities. One participant, for instance, noted, "role modeling, I mean you could look around and there are lot of men and

you could see yourself kind of that”. This finding is in agreement with other studies pinpointing the positive impact of female mentors and role models on other female faculty members’ progress (Brown, 2005; Chesler & Chesler, 2002; Scandura & Williams, 2001). Female faculty members feel more confident to ascend to leadership when they have female mentors in leading roles who represent the possibility of success (Brown, 2005). Nevertheless, two participants indicated that some female senior academics or mentors have more of a negative influence than positive. In fact, one participant believed that among all the influences on her self-efficacy for career development, none has been more detrimental than conflicts with a number of female senior faculty. As described in Chapter Two, more research should be conducted to identify the relationship between same-sex mentorship and female academics’ success. Some studies showed that women prefer male mentors (Meschitti & Smith, 2017) which on the surface appears to conflict with Bandura’s (1986) contention that individuals develop stronger senses of self-efficacy when they engage in vicarious learning opportunities with others who hold similar characteristics.

Nevertheless, the three participants univocally echoed that mentorship is crucial for female faculty’s occupational advancement. One participant stated that trials and errors would have been prevented if she had a mentor helping her to advance her career. Similar findings have reflected the central role that mentors play in female faculty’s occupational progress. They provide new opportunities (Glowacki-Dudka et al., 2016; Tolar, 2012), strategic support for promotion (Jackevicius et al., 2014; Murray et al., 2012; Varkey et al., 2012), feedback (Ambrose et al., 2005; Murray et al., 2012), and verbal encouragement and counselling (DeCastro et al., 2013; Murray et al., 2012; Pyke, 2013; Tolar, 2012). They also enhance faculty members’ productivity in academic work (Holliday et al., 2014; Varkey et al., 2012) along with all the other benefits which have been elaborated in Chapter Two.

With regards to emotional arousal, it was discussed in detail that the three participants believed that women academics experience sources of emotional arousal that men generally do not. For instance, they highlighted that usually women, as primary caregiver of families, go through more stress and anxiety to manage both roles appropriately. According to these findings, the three participants of this study confirmed that the four sources of self-efficacy are experienced differently by men and women academics which influences their career development. The supporting literature gives credibility to the participants' points of view and experiences.

Leadership is stereotyped by masculine traits that influence self-efficacy. One of the most significant findings of this study was that leadership was a stereotyped concept that posed barriers to the participants' senses of efficacy in leadership. Stereotype activation is defined as "the increased accessibility of the constellation of attributes that are believed to characterize members of a given social category" (Wheeler & Petty, 2001, p. 797). According to the literature, stereotypes categorize women and men into separate groups where women are perceived to have compassion, supportiveness, and honesty while men are expected to have strength, determination, self-confidence, control, authority, and ambition (Burrell, 2008; King & Matland, 2003; Sweida & Reichard, 2013; Yousaf & Schmiede, 2017). According to the literature, stereotypes are so powerful that their activation leads the stigmatized group and non-stereotyped group to believe and behave according to those stereotypes (Dijksterhuis et al., 2001; Kawakami et al., 2003; Keller & Dauenheimer, 2003; Kray et al., 2004; Wheeler & Petty, 2001). The findings of this study confirmed that these stereotypes are alive and well in the academy. The three participants characterized leadership with stereotyped masculine traits such as strength and power in different parts of the interviews. Women and men experience a hugely uneven distribution of leadership positions in higher education (Cook, 2018; Nguyen, 2013; Serghini-Idrissi & Garcia-Prieto, 2011; Wallace & Wallin, 2015; White, 2003). As

highlighted in Chapter Four, two out of three participants explicitly pointed out that they did not characterize themselves as leaders because they did not feel that they could characterize their performance as “strong.” Extensive research has reflected that persistent gender stereotypes impact women’s self-efficacy for male-stereotypic domains such as leadership (Bandura, 1986; Beyer, 2014; Stout et al., 2011; Sweida & Reichard, 2013). Nevertheless, the participants’ leadership approach –in which they tended to evaluate the circumstance and listen to the collective wisdom in order to include and develop colleagues– has been highly recommended as influential leadership by well-respected theorists of contemporary leadership such as Fullan (2001) and Leithwood et al. (2008).

According to the above finding, the three participants had embedded gendered stereotypes about leadership into their mindset based on their experiences. All three participants reported that women deal with gender stereotyping that undermines their capabilities. One participant provided several examples of the missed projects and grants where committees favoured male colleagues over her regardless of her outstanding qualifications. This finding is consistent with the Wallace and Wallin (2015) study in which female participants were not selected for administrative positions in spite of their comparable accomplishments due to the masculine culture of their departments.

The second participant, on the other hand, believed that gender stereotyping of women in academia is more subtle, complicated, and difficult to identify which is supported by the literature (e.g., Hannah et al., 2002). The important point is that both obvious and subtle gender stereotypes are detrimental to women’s sense of efficacy for leadership (Hoyt & Blascovich, 2010). One participant explained that the subtle stereotyping of women in academia makes women feel that they are a misfit for leadership. The participant described that this lack of belonging to the masculine culture of the universities was a great discouragement impeding female academics’ self-efficacy, leading to a lack of self-confidence to participate in

leadership. This finding is in line with that of a previous study showing that academic women often observe a misalignment between themselves and upper leadership positions, demotivating them to apply for them regardless of their qualifications (Murray et al., 2012). White (2003) found that academic culture wears out many female faculty in the long run. When they reach senior positions, some may find it difficult to push themselves for a higher status (White, 2003). Two of the participants in this study noted similar concerns.

Another noteworthy finding is that for the women in this study, conformity to masculine culture led to more disapproval and challenges for female faculty. They highlighted that university culture tends to minimize or demean women who exhibit masculinist traits such as strength and decisiveness. This interesting finding is supported in the literature that suggests that women who conform to the masculinist cultural environment may be viewed as competent and accountable, but they are not granted social acceptance and respect of their fellows (Heilman et al., 2004; Priola, 2007).

Overall, the participants believed that women's sense of efficacy for leadership development is hugely affected by the explicit and implicit stereotypes cultivated in the masculinist culture of higher education. As a result, women's sense of efficacy may suffer whether they conform to this culture or not. The two leaders of this study who did not conform to perceived masculine traits of a strong leader doubted whether or not they would be considered as a leader. Those who conform are also disapproved and degraded. Therefore, it seems that women's sense of efficacy may suffer regardless.

Self-Efficacy Influences Female Faculty Accomplishment, Persistence, Motivation, and Optimism

This section provides the findings of research sub-question three: "In what ways does self-efficacy shape women's accomplishments, persistence, optimism, and motivation to seek leadership in university administration?" The common theme among the participants'

responses was that self-efficacy has actually influenced the participants' accomplishment, persistence, motivation and optimism. This influence has occurred through the reciprocal relationship between self-efficacy and intrinsic motivation for participants' accomplishment and within their constant maintenance and nurturing of self-efficacy to stay persistent, motivated, and optimistic as their careers progressed.

Self-efficacy influences female leaders' accomplishments through intrinsic motivators. The first finding for answering the third question is related to the participants' self-efficacy and its relationship with their accomplishments. The female leaders of this study were high achievers who had overcome various challenges and accomplished outstanding success in terms of leadership. Nevertheless, they felt different levels of self-efficacy for different leadership opportunities they sought. In spite of this fluctuation of self-efficacy, the three participants managed to overcome self-doubt when deciding to take on a challenging leadership opportunity and they sustained self-efficacy due to intrinsic motivations. This finding was aligned with Bandura's (1986, 1991) work in three dimensions. First, it confirmed that self-efficacy is a dynamic and generative behavioural characteristic rather than a fixed human trait. It falls or rises depending on the situation (Bandura, 1986). The finding also highlighted the possibility of achieving new skills, revising learned behaviours, and developing self-efficacy through those attainments and revisions (Bandura, 1986, 1993). Second, the participants of this study were highly efficacious people because they had learned how to overcome the doubt, set challenging goals, and achieve more in their endeavours (Bandura, 1986). Third, the participants had a high level of intrinsic motivation that pushed them in their career development even when their desire to proceed may have been low. According to Bandura (1991), self-efficacy determines the level of motivation. Highly efficacious people tend to have higher intrinsic motivation to push through daunting tasks until success is achieved (Bandura, 1993, 1994). People who receive sources of self-efficacy especially mastery experiences have

higher intrinsic interest in new opportunities which leads to even more self-efficacy, satisfaction, and resiliency (Bandura, 1982). When the participants did not feel completely self-efficacious for challenging leadership positions, their intrinsic motivations (joy in serving others, desire to empower a marginalized group, and desire to learn new skills) led them to agree to take on new leadership roles.

Maintaining self-efficacy influences persistence, motivation, and optimism in leadership development. The participants sustained their persistence, optimism, and motivation through nurturing self-efficacy when encountering challenges in their leadership journey. According to the participants, small and major challenges are an inseparable part of leadership development. Some challenges did not have much influence on their sense of efficacy, but a number of challenges were discussed that left them with low self-efficacy. This finding, once again, supports the idea that the level of self-efficacy fluctuates depending on the situation (Bandura, 1986). They all described major challenges that affected their self-efficacy to such an extent that two participants considered quitting their role, which also indicates that those circumstances affected their level of persistence, motivation, and optimism. Nevertheless, they all described various strategies such as profound reflection, goal revision, task management, and physical exercising that helped them consciously and strategically overcome their loss of confidence. This rebuilding of their sense of efficacy in turn increased their level of persistence, motivation, and optimism. These results corroborate the ideas of Bandura (1993, 1994), who suggested that self-efficacy regulates individuals' level of persistence, motivation, and optimism. It adds up to the idea that the efficacious leaders of this study developed strategies to overcome low self-efficacy in order to stay optimistic, motivated, and persistent in their roles. This significant finding confirmed that fluctuation was a natural and predictable aspect of self-efficacy in career development. The response to those

fluctuations determined whether or not the participants persisted in their challenging tasks, which is similar to previous findings of self-efficacy and leadership accomplishments.

Successful Leaders Use Sources of Self-Efficacy when Exploring Potential Academic Careers

This section summarizes findings for the last research sub-question: “In what ways does self-efficacy influence women’s adaptive career behaviours when they decide to seek leadership in university administration?”

Influential adaptive career behaviours leading to career development are linked to sources of self-efficacy. Adaptive career behaviours that lead to career development are related to sources of self-efficacy. Adaptive career behaviour is defined as “behaviours that people employ to help direct their own career (and educational) development, both under ordinary circumstances and when beset by stressful conditions” (Lent & Brown, 2013, p. 559). Previous research has highlighted that self-efficacy influences adaptive career behaviours including career exploration and job search activities (Lent & Brown, 2013). The current study confirmed this impact and added that there is a strong connection between sources of self-efficacy and successful adaptive career behaviours. The relationship between influential adaptive career behaviours and sources of self-efficacy has been illustrated in Figure 2. According to Figure 2, career exploration and job search behaviours are similar to cogs that are working in relation to sources of self-efficacy. Activation of sources of self-efficacy leads to career exploration and job search behaviour cogs spinning and working.



Figure 2. The relationship between influential adaptive career behaviours and sources of self-efficacy

The three participants explained that they explored and educated themselves about academic work before becoming a faculty member through engagement in mastery experiences, vicarious experiences, and the receipt of verbal persuasion that resulted in success in getting hired in academy. One participant took the same approach in order to explore leadership when she was a faculty member. She participated in various voluntary mastery experiences as a junior faculty to search and learn about leadership. The three participants emphasized that they took advantage of different mastery experiences to educate themselves about academic work to make more explicit decisions about their future career.

Another noteworthy finding was that two out of three participants (one from STEM disciplines and one from Social Sciences) explained that they did not use any approaches to explore and search for leadership after becoming a faculty. Their chief reason was that they did not have any desire to deal with conflicts created by dominant people. Both articulated that they did not feel self-efficacious to handle these people. The recurring emphasis on the negative impact of dominant people indicated that these two participants' self-efficacy and career development have been impeded by aggressive people. Both of them reported that they had direct verbal persuasion from different people to apply for their chief leadership roles. This

finding reflects the significance of verbal persuasion as a means of overcoming self-doubt in career development.

Discussion

Bandura's (1986) social cognitive theory was used as the conceptual framework of this study to interpret the primary research question that asked, "in what ways does self-efficacy influence women's decisions to pursue leadership positions in university administration?". The following section explains how self-efficacy influences female academics' career path toward leadership and how this study supports and expands Bandura's social cognitive theory and career self-management model (Lent & Brown, 2013).

Finding 1: Self-Efficacy Influences Leadership Development in Multi-Faceted and Dynamic Ways

It was evident from the three participants that self-efficacy influenced their career paths in a dynamic and generative manner as it is formed and developed through self-efficacy sources over time. This finding confirms Bandura's (1986) social cognitive theory explaining that self-efficacy is not fixed, so it can be transformed over time if necessary sources reinforce it in the socialization process and within appropriate contextual conditions. The participants experienced different influences over the courses of their lives that shaped their senses of efficacy for career development over time. These influences included: family support; early educational and occupational opportunities; distal variables such as role modeling, encouragement and discouragement from the environment, and; proximal variables such as discriminatory practices, gender stereotypes, and institutional policies. One significant finding is that vicarious experiences and verbal persuasion gained from family members and teachers were the most impactful sources of self-efficacy in formative years of childhood throughout early adulthood. The other considerable finding is that experiences in early stages of life have

a huge impact on self-efficacy for career decision-making. These findings are in agreement with social cognitive theory and social cognitive career theory.

The participants continued to develop their sense of efficacy for career development through different sources of self-efficacy as adults and faculty members. This evidence confirms that self-efficacy for career development is a dynamic phenomenon that shifts over time and that impacts individuals differently based on their differential experiences with the sources of self-efficacy (Lent et al., 1994). Positive and negative experiences from childhood throughout adulthood have a definite impact on women’s feelings of competence or incompetence for a career trajectory.

Finding 2: Bandura’s Four Sources of Self-Efficacy Shape Women’s Senses of Self-Efficacy Which Then Influences Leadership Development

All sources of self-efficacy played a large role in fostering participants’ senses of self-efficacy which then influenced their leadership development. There were many strong comments illustrating how mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal affected the participants’ senses of self-efficacy that then influenced their career journey. Figure 3 demonstrates influential factors for each source of self-efficacy that were acknowledged and emphasised by the participants, and those in bold were identified to have the most influence in adulthood.

Mastery Experiences	Vicarious Experiences	Verbal Persuasion	Emotional Arousal
<ul style="list-style-type: none"> • Mastery experiences in conflict resolution skills • Early mastery experiences in academic work 	<ul style="list-style-type: none"> • Role models • Mentors 	<ul style="list-style-type: none"> • Constructive feedback • Verbal encouragement • Support 	<ul style="list-style-type: none"> • Conflicts created by dominant people • Family-work conflicts • Competitiveness • Workload • Emotional labour expectation

Figure 3. Influential factors for each source of self-efficacy

Among all sources of self-efficacy, mastery experiences and emotional arousal were the most impactful in the participants' adult years when they were in academy. Bandura (1986) addressed mastery learning experiences as the most powerful sources of self-efficacy. This study indicated that early mastery experiences have a determining influence on development of self-efficacy for leadership. Mastery experiences were also introduced as the most prominent means of developing self-efficacy during career exploration of the participants. Among all experiences, mastery experiences in conflict resolution were identified as the most influential experiences shaping sense of efficacy for leadership. Conflicts created by dominant people were a major barrier for the three participants' self-efficacy, two of whom were less willing to pursue leadership due to these conflicts. Thus, this study suggests that there is a difference between developing leadership skills and having the desire for leadership. As women moved towards leadership positions, women academics of this study would take advantage of mastery experiences that develop their conflict resolution skills. This is a new yet important finding which was not addressed in the literature on self-efficacy and career development. The three participants' emphasis on their distaste to engage in conflicts created by dominant people shows the need for learning conflict resolution skills in order to support not only skill development, but also their desire, to advance into leadership positions within the academic environment.

Another new and significant finding is related to emotional arousal. Bandura (1986, 1977, 1994) believed that emotional arousals have a partial impact on people's sense of efficacy. This study confirms Bandura's emphasis on emotional arousal as an important source of self-efficacy but gives more credit to the influence of this source related to stress for female leaders. Among all sources of stress, the stress of family-work conflicts and conflicts created by dominant people were identified to have the most detrimental impact on the self-efficacy of

all participants, and often delayed or impeded decisions to move into leadership positions. The effect of stress as emotional arousal increased these women's avoidance behaviour for leadership. No other sources of self-efficacy directly inhibited the participants' self-efficacy for leadership development.

Another noteworthy finding is that sources of self-efficacy are unevenly distributed or completely lacking in some academic departments, according to the participants' explanations, which then affects female faculty's career development. In this case, few (or no) sources of self-efficacy (mastery experiences, mentoring opportunities, feedback, support, networking opportunities, and encouragement) were evident in male-dominated departments in social sciences and STEM. Rather, these women experienced negative feedback, passive feedback, and mentors who were detrimental to the participants' self-efficacy and development. Similarly, the participants believed that emotional arousal is experienced differently by women and men. Among sources of emotional arousal, family-work conflict was specifically highlighted because women often remain the primary caregiver in families (see McIntruff, 2013; Murray et al., 2012; Sallee, 2012) which was true for the leaders of this study. Ultimately, based on the observations, experiences, and stories of these women, female faculty's career development can be affected positively or negatively, depending on the availability and enactment of sources of self-efficacy.

Finding 3: Self-Efficacy Influences Multiple Areas of Occupational Behaviour Including Persistence, Optimism, Motivation, and Adaptive Career Behaviours

The primary research question inquires about the influences of self-efficacy on female academics' leadership development. It was concluded from the data analysis that self-efficacy affects every area of the participants' occupational behaviour, including their career choices, accomplishments, persistence, motivation, optimism, career exploration, and job search behaviour. This finding supports the conceptualizations developed in social cognitive theory

(Bandura, 1986), social cognitive career theory (Lent et al., 1994, 2000), and the career self-management model (Lent & Brown, 2013).

Participants' career choices were influenced by their sense of efficacy. The importance of self-efficacy on career choices is undeniable because people will follow different life paths due to their occupations (Bandura, 1993). In this circumstance, women tend to base their career choices more strongly on their self-efficacy than the benefits and privileges of their occupations (Bandura et al., 2001). Although different sources and factors supported and encouraged the participants' self-efficacy for leadership, a number of factors were specifically identified as sources of discouragement. According to all participants, conflict created by dominant people was the most significant barrier impeding their sense of efficacy to step into leadership. Along dominant people, lack of support in academic culture was emphasized hindering the participants' self-efficacy for career development, especially in male-dominated departments of STEM and social sciences. Two out of three participants from STEM and Social Science disciplines believed that lack of self-confidence shaped by socialization experiences significantly limits women's career choices, and the three participants showed that the hyper-masculinized culture of the academy impacted both their self-efficacy for and their perception of leadership. Gender discrimination was reported as a barrier in academic culture that negatively affected the three participants' self-belief for leadership indicated in multiple quotes and personal stories. They explained that active and passive discriminations have led to invisibility of women in higher education which is disadvantageous to their status. As well as gender discrimination, institutional practices such as discriminatory networking opportunities and policies that did not support family commitments inhibited self-efficacy development for occupational progress among participants. As discussed, the three female leaders of this study strongly believed that four sources of self-efficacy are experienced and enacted differently by academic women compared to male academics. The majority of these inhibiting factors are

gender specific which means that they mainly disadvantage women. This evidence is extremely significant because it reveals that self-efficacy for leadership development was highly affected by gender specific factors among three female academics of this research.

Self-efficacy also influences other occupational behaviours including accomplishments, persistence, motivation, and optimism. Women who are intrinsically motivated or who are able to consciously find ways to nurture their sense of self-efficacy may be more apt to push past self-doubt and deal with the challenges of leadership. Participants enacted various strategies such as goal revision and task management to rebuild their confidence in their abilities to lead even in the face of difficulty. Strategy development and planning appear to be the means by which self-efficacious people overcome self-doubt in the process of occupational progression.

Finally, the sources of self-efficacy significantly impact the nature of career exploration. All three participants used sources of self-efficacy to develop their sense of efficacy for an academic career. The one participant who actively sought out leadership positions benefited from engaging in mastery experiences after becoming a faculty member. This is a new and notable finding expanding the career self-management model (Lent & Brown, 2013). This finding establishes that women can take advantage of sources of self-efficacy as a means of leadership exploration that helps them learn skills and position requirements while also developing their sense of efficacy for engaging in those positions when they come available.

Conclusion

This study found that there is a salient relationship between self-efficacy and leadership development of women in academy. The findings supported Bandura's social cognitive theory and his self-efficacy framework in which self-efficacy is developed over time using four main sources. The findings indicated that sources of self-efficacy are crucial for self-efficacy

development in the academic context. Vicarious experiences and verbal persuasion are especially important for fostering self-efficacy in formative years of childhood through to early adulthood. In adulthood, mastery experiences and emotional arousal had a more significant influence on self-efficacy for leadership development.

The three leaders took advantage of sources of self-efficacy to advance in their careers. Nevertheless, their progress was slowed down by various impediments, many of which were gender specific barriers. This study confirms that leadership of higher education is still considered to be a hyper-masculinized domain in which many women do not feel they fit. This finding also confirms that academic women, compared to men, have to overcome multiple gendered barriers which can lead to a lower sense of efficacy for, and desire to engage, in leadership positions.

This circumstance calls for transformation such that all can benefit. Higher education would benefit if all academics could realize their full potential while fostering an increase in female representation in leadership. This study demonstrated that self-efficacy is significant to women's progression in leadership. Therefore, a focus on self-efficacy development through the increase in supporting the sources of efficacy are necessary. The following section outlines implications for practice, research and theory.

Implications for Practice, Research, and Theory

Practice

The combination of findings provides three chief practical implications: (1) early development of girls' self-efficacy; (2) development of women's self-efficacy and leadership in the academy, and; (3) creation of an equitable academic environment.

Early development of girl's self-efficacy. This study provided evidentiary support for development of self-efficacy from childhood through socialization experiences and contextual situations. This development begins in families and continues at schools and academic settings.

This finding may help us to understand that formative years of childhood are crucial for girls to shape a strong belief in themselves and their abilities which has important implications for families, educators, and policy makers. As studies pointed out, young children begin to shape interest in activities that they believe they are capable of doing (Lent et al., 1994). Therefore, young girls should be treated and educated to believe in their numerous capabilities, and they should be encouraged to realize those potentials. The findings highlight the impact of teachers on sense of efficacy, suggesting that educational settings are very influential on girls' and women's life path. Teachers can take advantage of this influence and reinforce girls' sense of efficacy, especially for male-dominated arenas such as leadership and STEM fields.

Several practical approaches could be taken to familiarize parents and teachers with the concept of self-efficacy and their significant influences on their children's sense of efficacy. Parenthood classes for those who expect a baby, workshops, and professional development programs for teachers with a specific concentration on self-efficacy can be very helpful to educate parents and teachers about their significant roles. The emphasis of these activities should be put on providing sources of self-efficacy especially verbal persuasion and vicarious experiences that were identified to be the most influential sources in formative years of childhood. Day cares, kindergartens, and schools have a great potential to educate both staff and parents to realize the difference between girls' and boys' socialization experiences and their impact on children's sense of efficacy.

Development of women's self-efficacy and leadership in the academy. This study indicated the significance of sources of self-efficacy in career development towards leadership but also highlighted that women and men are receiving these sources differently in academic environments. This difference should be taken into serious consideration by policy makers in academia because as long as this difference exists, women are less likely to fulfill their true potential in such a competitive environment. Increasing women's awareness about the

influence of their self-efficacy on their career development through programs or workshops can possibly help them to identify barriers and be intentional in their strategies to promote career progress. Additionally, increasing opportunities for women to experience sources of self-efficacy that support leadership development is crucial. Findings indicated that early sources of self-efficacy have a determining effect on career development. This finding has considerable implications for faculty members and supervisors. The emphasis on early mastery experiences in academic work underscores the important role that supervisors, advisors, and faculty members play in empowering female students as scholars and potential faculty members. The importance given to verbal persuasion in findings highlights that encouragement and support can facilitate career development as women develop stronger feelings of competency. Department heads, deans, and other administrators must provide equitable opportunities for noting the achievements of women faculty. Nonetheless, lack of feedback and networking opportunities, especially in male-dominated fields, suggests that this source of self-efficacy needs attention and the development of practical approaches that help to create a more inclusive culture in academia. Lack of mentoring as a source of vicarious experiences suggests that women are less likely to be guided and advised which can contribute to the women's slow progression towards leadership positions. Both formal mentoring programs and informal mentorship may help female faculty learn about the academic environment and develop their self-efficacy for leadership. More women in senior positions in turn may perform as role models for junior faculty and female students, showing them that they are also capable of leadership. Having more women in higher positions may also create a friendlier climate among female faculty as they learn not to see each other as a threat to their positions.

This study also advocates for leadership development of women in academia because leadership appears to still be normalized as being hyper-masculinized, which caused the participants in this study to underestimate their own potential. Formal and informal programs

need to be developed to change the notion of what it means to be a “strong leader” to include a broader conceptualization of what it means to be an “influential leader”. Furthermore, the findings showed that resolving conflicts created by dominant people was a leadership skill that requires focused consideration because it could affect the sense of efficacy to pursue leadership. It therefore would be appropriate to develop leadership programs that focus on deconstructing stereotypical beliefs about leadership and develop conflict resolution skills. These programs may reduce the pressure on women to conform to a hyper-masculinized culture of academia that has excluded or distanced many women from a desire to engage in leadership positions.

Creation of an equitable academic environment. The final practical implication is related to academic culture. Based on the findings, academic culture still holds obvious and subtle stereotypical views and fosters discriminatory practices towards women which can hinder their sense of efficacy for progress. I strongly believe that changing this culture could be the most impactful means of overcoming women’s underrepresentation in leadership. According to the literature, enforcement of equity policies may create temporary changes but does not lead to sustainable transformation (Carnes et al., 2015; Sallee, 2012; White, 2003). Consistent with previous literature (e.g., Ely & Meyerson, 2000), this study suggests that along with policies, academic culture should be targeted. Nevertheless, superficial or temporary programs will not lead to the desired outcome. Sustainable transformation should be integrated into the university culture by the introduction of promising and scientific approaches that identify and target both subtle and obvious stereotypes in academia. This introduction could happen through various approaches. Universities could hold frequent collaborative meetings in departments in which faculty members actively search for and introduce approaches to create a positive and pleasant climate. This collaborative approach would invite colleagues to become active in building a more inclusive environment and creates awareness about the value of

academic culture. Another approach is to make culture of universities a target for formal and informal mentoring. Mentoring is not strictly about academic work but the atmosphere in which academic work is being done. Universities can also focus on leadership and develop departmental leaders who are aware and willing to create an equitable academic environment for all their colleagues. Leaders should be chosen based on both academic merits and ability to build strong collegial cultures. These leaders could continue their development through appropriate leadership programs.

Policy development is also important because some policies act as proximal barriers impeding women's progress towards leadership. Thus, policy-makers should pay enough attention to formulate policies in which women and men are given equal opportunities. Creation of family-friendly policies in which work-life balance is respected can help both female and male faculty members foster their careers without sacrificing either family or work commitments.

Research

Future research could help to better understand the relationship between self-efficacy and leadership as the scope of this study was limited to three participants. Further research could recruit a larger number of participants and examine whether similar results would emerge. Furthermore, future research could employ mixed method approaches and design a self-efficacy scale to measure female faculty members' self-efficacy more accurately, supported by thick description of the participants' points of view using interviews. Subsequent studies could include different groups of participants to investigate various opinions about self-efficacy and career development in comparative studies. For instance, studies could include male and female academics to investigate the impact of self-efficacy on their career progression for comparison. Other studies could compare results of female leaders of different sectors to identify the influence of self-efficacy on their occupational progression. Future research could

also employ the significant findings from this study and investigate them individually and in detail. For example, this study revealed the huge impact of conflicts such as conflicts with dominant people or family-work conflicts on sense of efficacy for leadership. It would be interesting to investigate how exactly these conflicts impact women's sense of efficacy for leadership and what approaches are practical to overcome those conflicts.

Theory

The findings of this study have important theoretical implications. The theoretical framework of this study was based upon Bandura's (1986) social cognitive theory. This study demonstrated that Bandura's self-efficacy framework can comprehensively explain women's self-efficacy development in an academic leadership context. The participants' great emphasis on sources of self-efficacy in the process of their leadership development is a strong indication of the soundness of this study's framework. Nevertheless, more research needs to apply this theory in the academic context to confidently determine the exact influence of each source on female faculty's career development. Bandura highlighted mastery experiences as the most influential sources of self-efficacy. This study confirmed this claim in an academic context and added that for women's leadership, conflict resolution mastery experiences have the most impact on sense of efficacy for career development. This is a new and significant finding adding to the body of literature on self-efficacy and leadership. According to findings, emotional arousal is also a significant source for academic women's sense of efficacy in career development even though it was determined to have only a partial influence on sense of efficacy in Bandura's theory.

As discussed in Chapter Two, other theories including social cognitive career theory (Lent et al., 1994, 2000), the self-efficacy model to the career development of women (Hackett & Betz, 1981), and the career self-management model (Lent & Brown, 2013) have also contributed to this study. The findings are an extension to these theories confirming the impact

of self-efficacy on career development. This study has also made important contributions to the career self-management model (Lent & Brown, 2013) further explaining that successful career exploration happens employing sources of self-efficacy.

Final Thoughts

This study explored the relationship between self-efficacy and acquisition of leadership for female faculty members in higher education. Analyzing interview transcripts based on thematic analysis and emergent themes revealed valuable information to understand how participants developed their sense of efficacy that led them to become influential leaders in their departments and research communities. This development took place gradually throughout the participants' lives when they were receiving various sources of self-efficacy from their environments and socialization experiences.

Presented new findings, this study supported and extended well-known theories and models of self-efficacy as well as self-efficacy and occupational progress for female academics' leadership development. Additionally, this research discovered which sources of Bandura's (1986) self-efficacy were prominent in different stages of the participants' development which is a significant finding for female faculty members' career progression towards leadership. This study also made great contributions to the literature by initiating a new line of study which deserves considerable attention because this body of research focuses on human's growth and fulfilment. My study offered a strong foundation for future research but also a solid basis for practical approaches on self-efficacy and leadership which would be an asset to policy makers, educators, caregivers, and anyone concerned with full realization of potentials. This study concludes that to address women's underrepresentation in leadership of higher education, the relationship between self-efficacy and career development needs to be more explored and fully understood among other contributing factors to women's marginalization in leadership.

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Appendix A: Interview Questions

Primary Research Question: In what ways does self-efficacy influence women’s decisions to pursue leadership positions in university administration?

Interview #1

Research Sub-Question: In what ways do academic environment and socialization experiences influence women’s self-efficacy for leadership in university administration?

Interview #1: Topics and Questions	Supporting Literature
<p>Topic: Building Trust, Getting Background Information</p> <p>1. Can you tell me about your career progression to date (i.e., roles, length of time served, organization, etc.)?</p>	<p>Creswell & Poth (2018)</p> <p>Fontana & Frey (2000)</p>
<p>Topic: Efficacy Socialization Experiences</p> <p>2. Are there individuals in the early stages of your life (childhood to early adulthood) who have significantly shaped your belief in yourself and/or your abilities?</p> <p>a. If so, who were these individuals, and what was it about them, or what they did, that inspired this belief in yourself?</p> <p>b. If not, what do you think supported your developing beliefs about your own abilities?</p>	<p>Bandura (1986)</p> <p>Hackett & Betz (1981)</p> <p>Lent, Brown, & Hackett (1994)</p> <p>Lent, Brown, Nota, & Soresi (2003)</p> <p>Sweida & Reichard (2013)</p> <p>Zeldin & Pajares (2000)</p>
<p>Topic: Objective Factors</p> <p>3. What aspects of your education, training, and experiences provided healthy development of confidence in yourself and your abilities? What aspects of</p>	<p>Lent, Brown, & Hackett (2000)</p>

<p>education, training, and experience did not help and in fact hindered the development of your confidence in yourself and your abilities?</p>	
<p>Topic: Distal Factors: Encouragement/Discouragement in Learning Experiences</p> <p>4. Can you describe some of the most impactful learning experiences in which you have engaged where you have learned the most about leadership and your leadership style?</p> <p>a. what was it about these experiences that encouraged you to believe in yourself and your abilities?</p> <p>b. did you ever have any “learning” experiences that discouraged belief in yourself and your abilities? Please describe.</p>	<p>Lent, Brown, & Hackett (1994, 2000)</p>
<p>Topic: Proximal Factors</p> <p>5. What kinds of institutional practices, opportunities, and/or policies have supported your belief in yourself and abilities? Have you ever faced any institutional barriers that have affected your belief in yourself and your abilities? Please elaborate.</p>	<p>Lent, Brown, & Hackett (2000)</p>

Interview #2

Research Sub-Question #2: In what ways do sources of self-efficacy (mastery experiences, vicarious experiences, verbal persuasion, and emotional arousal) influence women's decisions to pursue leadership positions in university administration?

<p>Topic: Mastery Experiences</p> <p>1. As your career has progressed, in what kinds of mastery experiences were you able to engage that supported your career development? With what opportunities were you provided to practice and expand your leadership skills? Who was involved in providing those mastery experiences? Please elaborate on the value of these experiences for fostering your leadership development.</p>	<p>Bandura (1977, 1982, 1986)</p>
<p>Topic: Vicarious Experiences</p> <p>2. Did you have mentors and/or role models (personal or professional) who supported your leadership career? Who were these people, what did they do to support you, and why did you view them as a mentor?</p>	<p>Bandura (1977, 1986, 1995, 2009)</p>
<p>Topic: Verbal Persuasion</p> <p>3. A. Can you discuss instances where you received support, verbal encouragement and feedback from colleagues or supervisors that helped you believe in yourself and your abilities? What was it about this support, verbal encouragement, and feedback that was most meaningful to you?</p> <p>B. Were there ever instances where you did not receive support, verbal encouragement, or feedback that could have supported your career development? Did this have any impact on your belief in yourself or your abilities? Please elaborate.</p>	<p>Bandura (1977, 1986, 1993, 1994)</p>
<p>Topic: Emotional Arousal</p> <p>4. A. Have you faced any barriers or issues that have caused you stress in your leadership journey? If so, how have you learned to deal with these stresses?</p>	<p>Bandura (1977, 1982, 1986, 1993)</p>

B. If not, how have you managed to avoid facing stress in your leadership role?	
<p>Topic: Family-Work Conflict (A Source of Emotional Arousal)</p> <p>5. How do you evaluate the impact of family and work responsibilities on your career development? Have you ever faced a situation where you decided to delay your career development because of your family responsibilities? Please explain.</p>	<p>Grummell, Devine, & Lynch (2009)</p> <p>Murray, Tremaine, & Fountaine (2012)</p> <p>Perrakis & Martinez (2012)</p>
<p>Topic: The Difference between Women and Men Experiencing Sources of Self-Efficacy</p> <p>6. Given your responses to the questions above, do you think there is a difference in the ways in which these experiences are framed, enacted, or experienced by women and men?</p>	<p>Bagilhole & Goode (2001)</p> <p>Bakken et al. (2010)</p> <p>Ballenger (2010)</p> <p>Curtin, Malley, & Stewart (2016)</p> <p>Hannah, Paul, & Vethamany-Globus (2002)</p> <p>Sallee (2012)</p> <p>White (2003)</p> <p>Williams & Subich (2006)</p>
<p>Topic: Masculinist Norms and Gender Stereotypes</p> <p>7. To what extent have you experienced the gender stereotyping of women who take on leadership roles? To what extent do you think you have gained acceptance and/or criticism for your efforts because you are female, either by colleagues, supervisors, or those you supervise?</p>	<p>Bandura (1986)</p> <p>Beyer (2014)</p> <p>Stout, Dasgupta, Hunsinger, & McManus (2011)</p> <p>Sweida & Reichard (2013)</p>

Interview #3

Research Sub-Ques # 3:

In what ways does self-efficacy shape women’s accomplishments, persistence, optimism, and motivation to seek leadership in university administration?

Research Sub-Ques # 4:

In what ways does self-efficacy influence women’s adaptive career behaviours when they decide to seek leadership in university administration?

Interview # 3: Topics and Questions	Supporting Literature
<p>Topic: Accomplishment</p> <p>1. Can you please elaborate on some of your leadership accomplishments to date? To what extent has your belief in yourself and your abilities shaped the goals you have set for yourself, and your commitment to leadership roles?</p>	Bandura (1993, 1994)
<p>Topic: Persistence</p> <p>2. What are some of the most common challenges you face in your leadership role? How have you learned to manage/deal with these challenges?</p>	Bandura (1977, 1993, 1994)
<p>Topic: Optimism and Motivation</p> <p>3. A. Can you tell me about a time when there was a significant challenge to your leadership? What effect did that have on your belief in yourself and your abilities? How optimistic were you at the time about your abilities to overcome that challenge? What was it about your efforts that helped you overcome the challenge?</p> <p>B. How were you able to maintain self-motivation when you faced this challenge?</p>	Bandura (1993, 1994) Bandura & Jourden (1991)
<p>Topic: Career Exploration</p>	Lent & Brown (2013)

4. Describe the strategies you used to explore and learn about academic careers.	
Topic: Job Search Behaviour 5. Describe the strategies you have used in your search for leadership employment opportunities in the academy.	Lent & Brown (2013)