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An Examination on the Role of Culture and Socialization on South Asian Women's Pursuit of STEM Education

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A thesis submitted in partial fulfillment of the requirements for the Master of Arts degree in Education

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ABSTRACT

This study examines the experiences of five South Asian women who aspire for careers in Science, Technology, Engineering, and Mathematics (STEM) at the University of Western Ontario. It also analyzes the ways in which cultural and societal experiences shape their pursuit of a STEM degree. The research questions being investigated through this study are: (1) How has a South Asian woman's experiences in the home influenced their own perception of education? (2) What types of experiences have South Asian women had in different levels of schooling? (3) How does cultural identity inform the experiences of South Asian women in their education and social lives? Data was collected through semi-structured interviews. The findings are presented through qualitative narrative storytelling. The findings discussed the extent to which the participants' identities were constructed through home and school life, as well as ideas of educational significance in their cultures.

Key Words

South Asian, Diaspora, Intersectionality, Feminism, STEM, Culture, Socialization

Summary for Lay Audience

Despite the growing demand for a STEM (science, technology, engineering, mathematics) educated workforce, women, and more specifically minoritized women continue to be underrepresented in various STEM related fields. The underrepresentation is even more prevalent at more senior level and leadership-oriented STEM positions. For cultural, historical, social, familial, and other reasons women, especially those of minoritized races continue to be geared away from STEM (Ong et al., 2011; Burger, 2012). While many studies have focused on various aspects of representation of women in STEM, there is very limited research literature examining experiences of minoritized women of immigrant background in STEM. Additionally, current research about minoritized women in STEM does not account for the oftentimes unique cultural and societal factors that specifically focus on South Asian women. Using intersectional feminism and diasporic identities as lenses this study examines through narrative research, five female South Asian undergraduate students' personal experiences and perspectives on societal and cultural factors shaping their pursuit of a STEM degree. The study is anticipated to shed light on tensions and supports of such factors as family, culture, religion, and socialization for charting a course toward STEM studies and subsequently a career in STEM. Stories of the five students are presented and interpretations are made using the lens of intersectional feminism to deconstruct and discuss how gender along with race, class, ethnicity, and other single axis identities (Pande, 2018) influence the participants' lived experiences as a South Asian woman pursuing a STEM degree. Additionally, interpretations are shared of how diasporic identities were constructed by the participants. Inductive and deductive approaches are also used to draw thematic links between participants' stories. The study is of scientific significance as it adds to the scant literature that exists within the area of South Asian immigrant women's intersectionalized experiences in STEM. Additionally, the study has applied significance in that student support and career/college counselling personnel and STEM and other educators at high schools and post-secondary institutions can be better informed to support STEM aspirations of (South Asian) immigrant women.

Dedication

My parents uprooted their entire life to give their children everything they could ever need and more. I would like to dedicate this work to them. Moms and pops, I can only hope to be as selfless and supportive to my own children as you are to yours. Thank you for bringing me to where I am today. I love you.

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Thank you to the wonderful women who shared their stories and experiences with me. This work would not have been possible without you. I would also like to acknowledge my thesis supervisor, Dr. Anton Puvirajah for his time, dedication and endless support throughout this entire process. Anton, thank you for believing in me and seeing this project through to the end. I would also like to give a special acknowledgement to Professor Mi Song Kim, for offering exceptional guidance and feedback in the beginning stages of this project. Lastly, I would like to thank my family for their endless support and encouragement.

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Chapter 1: Introduction

The purpose of this thesis is to inform readers about the social and cultural factors of a group of women who define themselves in underrepresented numbers as South Asian women, who choose to pursue education and careers in the fields of STEM (Science, Technology, Engineering, and Mathematics). In this inquiry, I will work as a participant interviewer to five South Asian women in STEM programs at the University of Western Ontario. Through storytelling, I explore how cultural and classroom socialization work in relation to a South Asian woman's understanding and perspective on the importance of her education and pursuit in STEM careers. In this chapter, I provide an overview on the definition of a STEM career, a history on South Asian women, as well as an overview of the existing literature that pertains to South Asian women pursuing higher education and the gaps I intend to fill with my study.

1.1: STEM and Career Paths

The Science, Technology, Engineering, and Mathematics (STEM) workforce in Canada and the United States is dominated by males despite the interest of women who wish to pursue STEM careers is approaching equal numbers (Card & Payne, 2021). Relevant literature suggests that South Asians, specifically women, are socialized to remain financially independent on their families (Ghosh, 2013), and that cultural conflict in first and second generation South Asian women in Canada can steer them away from pursuing their interests in higher education (Stroink & Lalonde, 2009). For South Asian women, the notion of an identity that pertains to their educational interests is challenged when they are faced with traditional ideals and expectations about a woman's role in both culture and modern society (Inman, 2006).

My study explores the unique experience of five South Asian women who are currently pursuing undergraduate degrees in STEM. External factors such as culture, schooling experiences, and

socialization are discussed to help uncover how South Asian women's interest in STEM has adapted, as well as how these factors have helped to shape South Asian women's views of education and their future role as women in STEM careers. It is important to be aware of the cultural and societal influences that may either encourage or discourage women from pursuing careers in STEM. In addition, the available literature should account for the unique experiences of women in today's society who pursue STEM degrees, and how cultural socialization has changed to reflect ideas of feminism and women's self-agency.

1.2: Who are South Asian Women?

For the purpose of this study, South Asian women are characterized as individuals who originate from a region of southern Asia consisting of Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. Women from these regions endure the struggles of patriarchal cultural values that reflect in the burden of domestic responsibilities that are not shared or expected by their male counterparts (Inman, 2006). Despite traditional ideas about South Asian women falling into the role of inferiority behind their husbands (Naido & Davis, 1988), South Asian women are a group of highly diverse individuals who take self-identification into their own hands as a result of their specific experiences and roles that they play; these roles may be a result of observation from past generations or new roles that are learned through socialization in different environments. Self-exploration is an important part of self-identification for South Asian women. The experiences from early years shape the ways in which these women view themselves and define their roles in any given society (Inman, 2006). In South Asian cultures, gendered behavioural expectations such as demeanor, way of dressing, and interactions are important to maintain a cultural identity (Inman, 2006; Ghosh, 2013).

South Asian women are also defined by others. In the literature, South Asian women are portrayed in a primary sense in correlation with the qualities and attributes they lack when compared to their male counterparts (Puwar, 2000). South Asian women are generally defined as the primary caretakers for their family and children (Bagguley & Hussain, 2007). Social systems contribute to the racial identity of South Asian women as they integrate themselves in the Western world (Inman, 2006). In a study done on British Muslim women in employment and leadership roles in the UK, employers were reported to assume that Muslim women were more likely to leave their place of employment soon after marriage, regardless of all women being questioned about the role of family and children when being interviewed for employment positions in financial positions (Syed & Tariq, 2017)

South Asian women in countries such as Canada and the United States have continuously been underrepresented in the pursuit of careers in STEM. One of the reasons for the underrepresentation of women in STEM careers in general is because male and female students are socialized in different manners, and are taught to prioritize different goals (Sang, 2016).

1.3: Existing Literature on South Asian Women and STEM

Racially minoritized Women are not generally given the same level of support in their educational experiences, or are generally discouraged from pursuing careers in STEM (Leaper & Starr, 2019); this is primarily because historically, careers in STEM were more suited to male interests (Ong et al., 2011; Burger, 2012). The traditional image of a nuclear family with a male breadwinner is an image that may discourage women from pursuing high-paying careers; this includes careers in the STEM fields (Williams, 2014). In fact, the women who do succeed in STEM subjects in their professional education and go on to pursue careers in the STEM field are often labelled as possessive of more masculine traits (Burger, 2012). The assumptions of women

who pursue careers in STEM as having less feminine traits reverses the efforts being made to increase the participation of South Asian women in STEM education and careers, because it generalizes the idea that women are not able to reach the high educational and personal standards to achieve what is needed to pursue demanding careers, such as those of a STEM background. In addition, the assumptions that pertain to women only possessing domestic roles as well as the idea that the assumptions and evaluations about the absence of femininity of women who enter STEM careers is reinforced as a result of the ideas of femininity that are brought onto daughters by their parents who have immigrated from South Asia (Inman, 2006). One of the ways in which South Asian women experience a conflict of culture is through others' expectations of how to express and act out the ideals of femininity (Inman, 2006). The expectations of acting in a certain manner may also arise from observing other women in their lives from previous generations (Inman, 2006). Many other factors such as the presence of children in their family or their country of birth also affect the way that South Asian women view the importance of furthering their own education (Bagguley & Hussain, 2007).

The experiences of South Asian women differ based on how they are socialized in the home and during their schooling years. First and second-generation South Asian women are socialized in different manners based on where their internal and external identities have had a chance to develop (Inman, 2006). After their families first migrate to a western country, second generation South Asian women face a different wave of socialization than those of their parents, as they are exposed to a culture that typically consists of different values than those of their parents' generation (Inman, 2006). The generational differences as well as differences in socialization practices can cause tension between cultural and societal identities for South Asian women. For example, one of the biggest reasons that South Asian female students are hesitant to pursue

careers in STEM is to avoid conflicts in maintaining family reputation (Bagguley and Hussain, 2007). Cultural socialization entails that children who follow specific behavioural expectations such as the pursuit of specific career paths, and assimilating into South Asian culture provide a greater sense of pride and happiness towards their parents (Chakwa & Hoglund, 2018; Ghosh, 2013). There are certain expectations that are carried through from their motherland as well as through familial obligation that also contribute to the construction of their identity (Inman, 2006).

Examining and learning from the personal experiences of a handful of South Asian women immersed in post-secondary STEM studies provided anecdotes specific to their experiences, and brought attention to how external factors affect the self-perception of a South Asian woman, as well as the importance of the role of education to her life. It is important to explore the topics of gender, culture, and socialization and how these aspects intersect to work against underrepresented minorities, especially that of South Asian females, in order to better understand the practices that can be implemented to minimize the effects that push South Asian women away from careers in STEM.

1.4: Rationale

My research sets out to explore the implications and experiences that South Asian women face when deciding to pursue careers in STEM. My research is motivated by my own experiences as a South Asian woman, as someone who struggles to navigate cultural expectations and socialization in a Western environment. As per my own interactions with South Asian women in my family, I have had first-hand contact with women who wish to pursue careers in the disciplines of STEM and are pushed away from these careers and instead encouraged to start a family as soon as possible. For many members of my family, especially those who are looked

upon as elders and head of households, these STEM careers are typically restricted specifically for men, as this will ensure that they become the breadwinners of the family while the female adapts to the role of taking care of household responsibilities and upbringing of her children. However, I have also encountered women in my family who have succeeded in STEM careers, specifically in roles of practicing medicine. The purpose of this study is to examine the societal and cultural factors that contribute to a South Asian woman's pursuit of STEM education in their undergraduate studies, and further on in their career rather than asserting themselves to the roles that are assigned to them as a result of their cultural and intergenerational expectations.

Literature that focuses on the experiences of South Asian women in STEM careers and education is not currently widely prevalent. My research aims to begin closing this gap, while at the same time acknowledging the experiences that all women of underrepresented minorities face in their pursuit of careers in STEM.

1.5: Gaps in Literature

While the literature pertaining to women of underrepresented minorities in the workforce is widely present, there is limited literature that focuses on specific racial groups of women to examine their struggles on the cultural and societal levels. It is also important to consider that research regarding South Asian women in STEM is not merely restricted to the problem of gender differences, but also differences amongst race, culture and access to certain tools in society as result of racial and cultural differences or values (Bhopal, 1997). Examining specific experiences of South Asian women who are currently enrolled in STEM education with the intention of pursuing careers in the field will bring a more thorough understanding of the constituents that women consider when deciding to pursue such careers. While literature about South Asian women in all career fields is easily accessible, there is little that focuses on women

in STEM career fields. Statistics show that the participation of women in STEM degrees is only 39% in comparison with their participation in non-STEM degrees at 66% (Hango, 2013). Black and Hispanic women each make up less than 10% of the STEM workforce in the United States (Funk & Parker, 2018), and South Asian women's participation in doctoral science and engineering programs is 20.6%; this is half of that of White women in the same courses, at 40.2% (Wu & Jing, 2011).

One of the most important motivations for conducting this study is to investigate the reasons why minoritized women specifically those of South Asian descent, are encouraged or discouraged from pursuing specific career paths over others. For example, in Pakistani culture, while it is important to learn to be self-sufficient as a woman, it is also important to maintain family values and a subordinate position in relation to one's spouse. An example of this would be my own experience that took place in a conversation between myself and my parents about my future. As a South Asian woman, I am encouraged to be educated. However, my career should not overshadow that of my future marriage partner; otherwise, the superiority of my career would make me less appealing to the family that I would potentially marry into. As a result, storied experiences will help to better understand why and how such expectations have come about, and whether or not they contribute to successful lives for South Asian women.

1.6 Research Questions

The main questions answered in this research are (1) How have South Asian woman's experiences in the home influenced their own perception of education? (2) What types of experiences have South Asian women had in different levels of schooling? (3) How does cultural identity inform the experiences of South Asian women in their education and social lives?

1.7 Theoretical Framework

My research draws on intersectionality as well as feminist and diasporic lenses. Feminist research works to challenge the normative idea of the white, cis-gendered male's experiences as dominant (Joyappa & Martin, 1996). While there is no single method to feminist frameworks of research (Joyappa & Martin, 1996), all feminist frameworks draw on the importance of intersectionality between gender, class, racial ethnicity, and socioeconomic status.

Intersectionality is a tool that helps in understanding how power structures work in relation to race, class, and gender, as well as identity construction (Purkayasta, 2010). One's identity is not to be understood through one characteristic of their physical appearance; rather, identity is constructed through a multidimensional view of how one's race, class, and gender contribute to their understanding and placement in their environment (Sensoy & DiAngelo, 2018).

Intersectionality is helpful in interrogating single-axis evaluations of oppression that does not take into account the experience of race and gender (Crenshaw, 1989).

Intersectional feminism takes the importance of an intersectional analysis one step further by acknowledging the gender differences in combination with race, class, ethnicity and other single axis identities (Pande, 2018). Intersectional feminism works to deconstruct socially constructed identities that present themselves in culture, employment, education, and other institutions in the lives of South Asian women (Ralston, 1999).

Diasporic studies sets out to recognize differences in races and ethnicities and how they operate in the lives of migrants (Dwyer, 2000). The importance of maintaining familial traditions is important in diasporic studies in order to understand the nature behind the specific struggles that migrants may face when adapting to unfamiliar settings. Family expectations for South Asian

women play a role in how they identify themselves in each environment on the basis of what they feel are their most important responsibilities (Durham, 2007).

The theoretical framework for my study sets out to explore and understand how power structures regarding race, ethnicity, class, and gender work together, through recording the experiences of women, in how these structures thrive in environments and contribute to the oppression of South Asian women who enter male dominated fields in both STEM education and the workforce. An intersectional feminist framework will bring attention to the notion that not all women experience the benefits of feminism to the same degree. I will also be using a diaspora framework to gain a more thorough understanding of the experiences of my participants, whether they are first- or second-generation immigrants, as well as the experiences of their parents. These experiences, in turn, affect the way that women see themselves and their role in society as well as the importance they place on their education and their place in society.

Intersectional Feminist Framework

Intersectional feminist framework helps to bring attention to the struggles that the combination of race, class, gender, and sexuality present to women in everyday practices such as those of education. South Asian women face many conflicts such as culture, values, and the importance of the type of education that they receive (Durham, 2007). While the aim of intersectionality is to challenge the socially constructed categories that are typically used to define an individual on a single axis (Purkayastha, 2010), intersectional feminism seeks to understand the experiences of women in relation to social categories that include race, class, gender, and ethnicity (Sang, 2016). In most South Asian countries, the focus is placed on the importance of family and dictation of appropriate behaviour that reflects the reputation of the family as well as the individual (Pande, 2014). For example, in changing the status of women in India particularly,

there was no question of changing patriarchal systems because there was no problem seen with the way that genders were divided (Pande, 2014). These values are challenged when South Asian women are immersed into the Western culture because of pressure of fitting into the society and creating a positive reputation for themselves (Inman, 2006). As intersectionality works collectively between different identities of women, South Asian women also experience discriminatory interactions regarding their traditional ways of life or their behaviours in their gender roles, such as remarks about traditional domestic responsibilities as demeaning to women, or a negative attitude from peers or colleagues (Inman, 2006). This further ostracizes them from entering fields in which they will clearly be the underrepresented minority; both as a female, and a racialized individual.

When women become socialized into Western culture, these cultural values are called into question (Inman, 2006). These values include those that are instilled from birth such as the notion of family responsibility and obligation, as well as more behavioural values such as the maintaining of modesty. This is because traditional Western values require women of different cultures, such as those who are from South Asia, to find a balance between their work and home life (Inman, 2006). In turn, this typically means that there will be a period in time where South Asian women will find it difficult to steer away from having the majority of their focus on home life, and struggle to find a balance between both sets of responsibilities (Sang, 2018).

Intersectional feminism allows the recognition of how a woman's race and gender create difficulties both in the education and workforce. When a woman's race is thrown into this mix, the already existent implications of gender roles set limits on careers that women can pursue, specifically on the basis of what positions they are able to obtain as a result of sexism that is already prevalent in being a female in the workplace as well as a racial monopoly where White

women are generally given more opportunities in the workforce as opposed to minoritized women (Sang, 2018).

Intersectional feminism outlines that while women share similar struggles in obtaining equity both in academia and the workforce, this unity does not work as uniformity (Sang, 2018).

Instead, the experiences of racialized and non-racialized women differ because of the ways in which gender, class, and ethnicity work collectively to oppress females of underrepresented minority. Intersectionality is the idea that one is shaped as a result of their gender, race, and class and it is their collective identity that experiences life in the real world (Sensoy & DiAngelo, 2018). It has become more evident that women of underrepresented minority are generally more aware of the fact that their external appearance causes a change in their daily interactions and experience, in comparison to the experiences of a non-racialized woman; this is because of preconceived misconceptions from non-racialized individuals (Bhopal, 2001). In any instance of intersectionality, an individual's physical qualities are not experienced separately; rather, each part of their identity is experienced as whole (Ahmed, 2017). An intersectional feminist lens will aid in further understanding the ways that gender, race, socioeconomic status, and other factors contribute to the ways in which South Asian females experience ways of life outside of the cultural practices learned from previous generations. While the experiences differ for first- and second-generation immigrant women, the effects are equally as detrimental, as much of this experience is based on physical appearance and assumptions that arise from the misinformation that individuals in Western societies conclude based on assumptions about South Asian cultures (Inman, 2006).

When thinking about education, it is crucial to understand that the relationships of race, ethnicity, class, and gender that an individual possesses play a role in the attainability of

education for that individual (Sensoy & DiAngelo, 2017). A South Asian female may experience primary, secondary, or higher education differently than that of a White female of similar socioeconomic status. One of the problems that arise is the western assumptions of the public and private divide of South Asian women and the role of their culture and socialization on their pursuit of education. The goal of intersectionality in feminism is to explore the social disadvantages for women and gain equity rather than equality (Lizzio, 2013). Understanding the ways in which different individuals experience events can help to create a more inclusive educational experience, especially for those of minoritized backgrounds.

Diasporic Studies

A diasporic lens in research means that I will be looking at the experiences of female South Asian participants by first understanding how the process of migration from their home countries has affected the way they see themselves, their families, and their place in society including their educational and career aspirations. Through one-on-one interviews with my participants, it is important to understand the effects of migration for their families, as well as the changes that have occurred in cultural norms and practices after coming to Canada. Understanding who South Asian women are, how they define themselves, as well as how they are defined by others will help in understanding how they are impacted by societal and cultural expectations, as well as how these expectations reflect their educational experiences. By employing a diasporic lens, I will be better positioned to understand and attempt to situate the experiences of my participants. By understanding the struggles of migration and the displacement of South Asians, it can become easier to understand how systems that disadvantage migrant populations come into place (Pande, 2018). Gendered diaspora explores the way that migration is experienced through gendered perspectives (Leal, 2009). When migrants decide to leave their home countries, they

may feel forced to adapt to their unfamiliar environment by abandoning their traditional ways of living (Jaspal, 2015). For South Asian women, this significant change has a dramatic effect on the ways in which their families perform and practice traditions (Leal, 2009). While the transition affects all members, there remains a gendered experience where South Asian women experience more of the effects of displacement as a result of their gender socialization in both their current location as well as their country of origin (Inman, 2006). When this migration occurs during adolescence, it creates an environment in which teens struggle with their identity and sense of self (Durham, 2007). South Asian women are generally expected to allow the males in their family to police their choices, such as what they choose to wear or how they interact with others in society (Durham, 2007). While Western media hypersexualizes the female body, females in immigrant families are socialized in the opposite manner; they are taught to dress and behave modestly, and not draw external attention to themselves (Durham, 2007; Inman, 2006). Familial expectations that involve policing bodies of immigrant adolescent women of colour play a significant role in the way that these women construct their identities in their integration with the Western world (Durham, 2007).

When examining the expectations of parents who have migrated to Western countries, it is seen that there is a 'natural progression' (Bagguley & Hussain, 2007) that South Asian families, specifically those who are Indian, tend to follow. While higher education is valued for the experience it provides as well as the advantages that it serves for financial stability, the primary responsibility for South Asian women is to contribute a stable income for their families (Bagguley & Hussain, 2007). The expectations that South Asian immigrant adolescent women carry when they are in Western society create a "cultural value conflict" (Inman, 2006), which is defined as "An experience of negative affect resulting from dealing simultaneously with values

and expectations internalized from the culture of origin and not imposed from the new culture” (Inman, 2006, p. 306-307). The experience of cultural value conflict is primarily through intimate relations that a South Asian woman finds herself in as well as gendered expectations that are imposed onto her. While women are socialized into the dominant Western culture, they are, at the same time, experiencing the culturally charged burdens of keeping old traditions, typically those that hold women back from being socialized properly into the culture they are now submersed into.

Summary

This chapter introduced the purpose and problem of the study, the rationale of the researcher, and the initial gaps in the available literature. The theoretical frameworks that will be used to conduct the study as well as the analyzing of data were also introduced.

Chapter 2: The Literature Review

This chapter explores the existing literature about South Asian women in pertaining to the roles, of education, career, socialization, and the development of both cultural and ethnic identities. The chapter is broken down to explore the avenues of socialization in and outside of the home, gender roles, cultural and societal values, and the role of education in the lives of South Asian women. Notions of power are embedded in the understanding of these avenues, in that experiences in the home, gender, culture and society change the power that an individual has in their own decision-making pertaining to their education. An intersectional feminist and diasporic lens will work to interrogate the power structures and the reasons behind current social structures surrounding the education of South Asian women and their pursuit of STEM careers.

2.1 Feminism

Feminism, when defined, is the belief that women should harbour the same social, political, and economic rights as men (Pearse, 2017). Emerging in the early 15th century, feminism first appeared in the academic work of women in Europe as well as the colonies (Pearse, 2017). The observation, analysis, understanding, and challenging of patriarchal systems in society as well as the attempts to end discrimination against women are all underlying goals of feminism (Gillberg, 2014). Feminism is divided into waves that reflect various eras in time. Each era is dedicated to certain pressing political issues at that historical point in time (Gillberg, 2014).

First Wave Feminism

The first wave of feminism took place around 1809-1928 when women in the United Kingdom were given the right to vote in equality to men (Gillberg, 2014). The first wave of feminism was heavily focused on the liberal rights of women and equal access to opportunities to that of men in both the United States and Europe in the contexts of politics and industrial society (the industrial

workforce) (Krolokke & Sorensen, 2006). The ownership of women by male figures was also challenged during the first wave of feminism, ensuring that women were viewed as individuals (Kawahara, 2017). One of the concerns derived from many first wave feminists was the notion of female superiority (Krolokke and Sorensen, 2006). Patriarchy from this viewpoint was seen as non-rational and leading to the marginalization of the status of women, portraying women in a deficit model.

Second Wave Feminism

In the early 1960s, second wave feminism made its way into activities associated with the equality of women and led well into the early 1990s (Kawahara, 2017). In this period, the feminist movement was heavily focused on the sexuality and the reproductive rights of women (Kawahara, 2017; Gillberg, 2014). Mary Wollstonecraft's *A Vindication of the Rights of Woman* (1792) was a crucial part of the second wave of feminism; this piece of work was Wollstonecraft's response to Rousseau's essentialism which outlined that the role of a woman to a man should be that of submission and that this role is an act of nature (Gillberg, 2014). *A Vindication of the Rights of Woman* calls into question the place of women in the 18th century as objects for men who play the role of rational wives rather than human creatures (Wollstonecraft, 1792). This wave of feminism along with the controversial work of Wollstonecraft making its appearance into the 18th century allowed recognition to the society about the oppression of women and developed the foundation for the beginning of contemporary feminism (Kawahara, 2017). In the era of second wave feminism, the importance of social, political, and cultural inequalities was all seen and began to be recognized as issues that worked together within the society to oppress women (Kawahara, 2017).

Third Wave Feminism

The third wave of feminism in the 1980s focused on the importance of intersectionality in women's experiences (Srivastava, 2017); intersectionality in feminism is the idea that women are not able to be characterized or identified on a single axis such as their race, class, ethnicity, or socioeconomic status. The complexity of all axes that women are defined by play a role in a woman's identity in the given society. Third wave feminism was a response to the criticisms in second wave feminism in the United States which brought attention to the fact that feminism in the second wave failed to focus on issues of race and class for women (Kawahara, 2017).

Issues and Critiques

The feminism movement initially consisted of the involvement of women within the working class intertwined with other movements in the United States such as the abolition and temperance movement (Krolokke & Sorensen, 2006). The first wave of feminism began with the right to vote being granted to women during World War I. Women gaining the right to vote was an issue that raised controversy because it was believed to challenge the status of men of colour at the time (Krolokke & Sorensen, 2006). As women of colour began to participate, black abolitionists such as Wells and Terrell wanted to show the connection between the rights of women and the oppressive systems of racism and sexism (Krolokke & Sorensen, 2006). Despite the participation of women of colour in the first wave of feminism, the participation was primarily that of middle-class, well educated White women (Krolokke & Sorensen, 2006). With the abolition and suffrage movements happening simultaneously, the focus was steered away from issues of women of colour and back to issues of keeping women involved in other reformist movements (Krolokke & Sorensen, 2006). While there are varying ideologies within the feminist movement, many of these theories are intertwined in talking about how various aspects of women's experiences are connected in examining their oppression in society at a given point in time (Kawahara, 2017).

Difference in gender relations as well as racial relations can alienate women that do not fit the model of dominant, White, upper middle-class women in the feminism movement (Ralston, 1999). Political processes such as immigration can further segregate women and prevent empowerment of women in the feminism movement (Ralston, 1999).

Feminism and South Asian Women

With respect to South Asian cultures, many of the values and practices have a patriarchal basis (Pande, 2014). This means that women's subordination is not only present but encouraged in South Asian culture. Female students in South Asia are discouraged from exercising feminist activism, as it makes them appear to be undisciplined and difficult (Krishnan, 2014) For South Asian women, awareness of cultural differences is important to the concept of racial identity and notions of self-agency; women of colour face a larger degree of gender inequality both in South Asian societies, as well as in the Western world (Ralston, 1996). Gender, race, class, ethnicity, and socioeconomic status are interconnected parts of the socially constructed identity of a woman (Ralston, 1999). Many culturally limiting rules and regulations of South Asian women contribute to the sense of exclusion they feel in their society with respect to men as well as their relationship with other women (Ralston, 1999). In 19th century India, for example, ideas of gender equality and women's liberation were making their way into the society and posed a real possibility for change in Indian society (Pande, 2014). The social reform movement, a movement where the attempt of a new society was in the works, did not challenge the patriarchal structure of the society in India, and rather, it was only in progression as a result of what men had already said about the movement (Pande, 2014). Feminist movements being led only by women did not create enough of an impact in the society to forego any real change with regard to gender equality or the challenging of patriarchal structures (Pande, 2014). With regards to the education of South Asian women, the

importance was only placed on progress of education in order to make better wives for men (Pande, 2014).

Feminism in Academia

Women in academia were historically oppressed in accordance with the kind of education they had access to in their choice to become educated members of their society (Gillberg, 2014). As academia was male-dominated, women were portrayed as academically inferior (Gillberg, 2014). This is only further reinforced in racialized societies, where women are expected to play subordinate roles in the household rather than to be educated (Pande, 2014).

The feminist revolution challenges the notion that a woman's responsibility is restricted to what she can accomplish in the household environment (Caro & Fox, 2008). The feminist movement is important in keeping women connected and aware of the inequalities that women face as a collective group that is constantly under oppression in all parts of the world (Caro & Fox, 2008). In a study done involving African Caribbean girls and boys in the classroom, girls tended to perform better in school environments compared to their male counterparts (Phoenix, 2009). While male and female students both begin at the same level in education, the differences in performance occur when males and females are encouraged to pursue different interests. While interests in subjects pertaining to STEM are present among both male and female students, girls are often discouraged or steered away from such subjects despite their performance (Perry et al., 2012).

2.2 Intersectionality

The following section offers a background on the nature of intersectionality. Intersectionality, a term coined by Kimberle Crenshaw (1989) addresses the notion that individuals are unable to be identified in society and culture on the single axis of characteristics such as race, class, gender, ethnicity, or socioeconomic status. To understand the whole individual, particularly women, in

this context, it is important to educate oneself on all aspects of their identity and how all systems work together in a patriarchal society to oppress women. Historical scholarship about women, ethnicity, and migration began in the early 1980s and helped to raise concerns about how ethnicity and religion can place limitations on minoritized individuals, especially women, with respect to social, economic, and political disadvantages (Bilge & Denis, 2010).

Intersectionality: A Framework

Intersectionality was a term initially coined by Professor Kimberle Williams Crenshaw to better explain the oppression faced by African American women in Western societies (Crenshaw, 1989). Today, intersectionality is a concept that helps to understand the oppression that people of colour experience by challenging all characteristics that lead to the discrimination of people of colour (Krenshaw, 1989). Intersectionality is a theoretical framework to help us understand how socially constructed systems lead to discrimination, oppression, and subordination of women (Purkayastha, 2010). The intersectionality framework has helped researchers in approaching work with various groups of women of colour such as Latina and African American youth (Garcia, 2016).

In employing intersectionality in my research, I was able to take Krenshaw's concepts of the oppression of African Americans in the United States and apply it to individuals, and specifically to minoritized women to understand how factors such as race, class, gender, and socioeconomic status affect the access to things such as education, opportunities, and equal treatment in society (Bilge and Denis, 2010).

Intersectional Feminism

One of the biggest critiques of first wave feminism was that it did not consider the struggles of women of colour in the United States and Europe (Kawahara, 2017). While the contemporary feminist movement was ground-breaking for the oppression of women on a global scale, the notion

of this “White feminism” was primarily focused on prioritizing women over men, and therefore reflected the movement as being non-beneficial and insignificant to men (Hooks, 1984). In the era of second wave feminism, women formed women-only movements which reinforced the notion of segregation and encouraged the belief that women-only spaces would contribute to the solution of gender inequality (Kawahara, 2017). Hooks’ publication, *Feminist Theory: From Margin to Center* (1984) addressed the issue of what the movement was lacking; problems that pit women against each other with respect to race, class, socioeconomic status, and other differences within gender (Kawahara, 2017). Since the oppression of women is a result of social, political, and economic problems and how these problems play out society (Lay & Daley, 2007), the inclusion of the role of men and the patriarchy is crucial to both the understanding of these oppressive systems as well as the steps needed to begin to overcome these systematic practices and ways of life.

Intersectional feminism, while advocating for the experiences of diversified women, extend the definition of feminism to women of colour and make possible the identification of limitations that women of colour face with regards to hierarchies in social relations, classrooms, and home environments (Lizzio, 2015). Women of colour have tended to have more difficulty in their advocacy for women’s rights due to their lack of access to social and political platforms (Lizzio, 2015).

For many feminists who speak about women of colour there is risk in being accused of being culturally insensitive to the struggles that women in developing countries face in gaining equal access to education, schooling, and other forms of socialization (Caro & Fox, 2008). Feminism for women of colour is received differently because of the differences in their experiences in a western society in addition to subjectification that comes from their cultural backgrounds (Phoenix, 2009).

The conversation, in relation to the topic of women of underrepresented minorities advancing in STEM fields addresses the fact that while female students express interest in STEM subjects in their schooling, they are often not encouraged to participate in these courses to the same extent that male students are (Ong et al., 2011; Perry et al., 2012). To better understand underlying reasons that minoritized women are not encouraged to pursue degrees in STEM, it is crucial to understand the cultural and societal factors that women encounter when deciding their career paths in their early years.

2.3 Diaspora Studies

Early conceptions of diaspora were rooted in the concept of having a certain land that was considered “home” and another land in which individuals and families migrated that had a different definition of culture, values, and overall way of life (Brubaker, 2005; Bilge & Denis, 2010). Diaspora focuses on the migration of people and families who go across borders, as Brubaker (2005), outlines; along with basic criteria that contributes to the understanding of diaspora studies. Dispersion refers to the division of ethnic communities, and individuals living outside of their homeland (Brubaker, 2005). Homeland orientation refers to the loyalty and importance of the homeland to the migrants that have crossed borders into western society (Brubaker, 2005). Diaspora with this characteristic is the notion of the homeland as the universal home and eventual place of return for migrants (Brubaker, 2005). Diaspora as a framework can be used to understand changing and moving formations of identities of migrant individuals and families (Bilge and Denis, 2010). The main concept to understand how an identity is shaped because of migration include the concepts of religion, culture, and shifting traditions from “back home as well as how these traditions either fit or challenge cultural norms of the society to which individuals have migrated” (Bilge & Denis, 2010; Rai & Sankaran, 2011).

Diasporic studies examine groups of individuals who have left their homeland to pursue their lives and careers in unfamiliar territories (Rai and Sankaran, 2011). The goal of diaspora studies within my research is to examine how cultural shifts and differences contribute to the socialization of racialized individuals in Western society. Ethnic identities are constructed and reconstructed in response to social and cultural pressures on racialized individuals (Bagguley and Hussain, 2007). In leaving their homelands and entering western societies, South Asian women struggle to re-create their identities with new ideals of their new societies (Samuel, 2010). This becomes difficult when parents are socialized in accordance with values from their homeland and their children are primarily socialized through school environments in the place where they have migrated (Samuel, 2010).

Literature about South Asian women in diaspora and the role of first generation parents raising their second-generation children in North America expresses concern to preserve cultural ideals and values while trying to keep with the norms of their current society (Bagguley & Hussain, 2010; Samuel, 2010; Rai & Sankaran, 2011). In the following sections, I will discuss the struggles of religion, culture, marriage, and dating, as well as everyday struggles that second-generation South Asian women are faced with in North American societies. While women are encouraged to pursue themselves in both the education and career fields, second-generation South Asian women are also simultaneously expected to maintain cultural values (Bagguley & Hussain, 2010).

Religion and Culture in Diaspora

The role of religion in diaspora is one of the largest contributing factors to understanding how migrants to western societies deal with the merging of their own cultural practices and western culture (Rai & Sankaran, 2011). The notion of “hybridity” (Bagguley & Hussain, 2007) is important for migrants as they are expected to reconstruct their identity in accordance with the

cultural values in their new society. This means that while parents expect their children to keep in tune with traditions from their motherland, the culture that second-generation immigrant women in Canada face is influenced by these traditions in a sort of clash with western ideas of culture (Samuel, 2010). Second generation South Asian women find difficulty in keeping up with western ideals and cultures in accordance with parental and religious obligations in attitudes towards dating and marriage (Samuel, 2010). Furthermore, parental impositions to maintain religious and cultural values are not the only pressures that South Asian women face in their interactions in western society; religious and cultural ideals are also imposed by conversations with friends and fellow classmates that are not of South Asian descent, and even male students who share the same religious and cultural background (Dwyer, 2000).

A recent study done on South Asian women's diasporic identities in Britain talks about the struggles faced in a dominantly western society (Jaspal, 2015). Looking at the experiences of first-generation South Asian women in western societies in comparison to the experiences of second-generation women is important in order to understand the differences between women who have adopted one way of life and are attempting to adapt to another, and women who are being told to behave a certain way in accordance with the culture of their loved ones and resisting parts of the culture in which they are being encouraged to adapt through socialization in environments outside of the home.

According to literature, one of the biggest struggles reported by children in South Asian immigrant families is the constant need to live "between two cultures" (Handa, 2003, p. 11). Handa (2013) talks about the mainstream understanding of cultural conflict being an experience of "cultural clash" (Handa, 2003, p.7); a term used in mainstream media to refer to being caught between two cultures, and is often used to describe the experiences of second-generation South Asian children

and adolescents. This creates the notion that one culture is more widely accepted in, for example, Canadian societies, because it is more commonly practiced among the population in the given community. In turn, South Asian adolescents feel the need to adapt to the more dominant cultural ideals rather than being ostracized in their day-to-day lives.

It is through this constant need to live “in between” that women of South Asian cultural backgrounds feel obligated to pursue career paths that are approved by their parents in accordance with traditional cultural values. This is also in relation to the idea that marriage and familial relationships are more important for the daughters of first-generation South Asian immigrants than prospective careers (Durham, 2004; Zaidi et al., 2014).

Identity in Diaspora

For women in the diaspora, the varying aspects of identity construction is dependent on where they come from and where they land. Ralston (1999) conducted interviews of South Asian women and asked various questions regarding the construction of their identity in first-generation immigrant families that harbour second-generation children. One of the aspects that daughters of first-generation South Asian parents talk about is the fact that being surrounded by people of different cultures in the same space has helped them in understanding peoples’ differences, where they come from and the nature of their differing values (Ralston, 1999). Families who have experienced migration to Western communities face a dramatic shift in their own identities and their own position with regards to categories of class, culture, and socioeconomic status (Jaspal, 2015). In Britain, migrant families attempt to overcome identity struggles by associating themselves with other families of South Asian heritage; namely, those who migrate from India, Pakistani, Bangladesh, or Sri Lanka (Jaspal, 2015). This also arises from a feeling of loss of the significance of their place of migration (Tsolidis, 2014). The formulation of the identity of a South Asian

woman is a construction of identity as a result of migration along with social and economic precedents coming to terms with current ways of life in western environments (Deepak, 2004). While second-generation South Asian women are North American born, first-generation parents face an identity conflict in adapting to ways of life in their new environment (Deepak, 2004). Questions of identity asked by South Asian women about themselves is first and foremost concerned with the outsider's conception of their identities (Dwyer, 2000; Jaspal, 2015; Rai and Sankaran, 2011). In Dwyer (2000)'s study on South Asian women's identities in Britain, most of her participants shed light on the idea of being unable to identify themselves in accordance with their heritage without their identity as a British citizen being called into question. While women who are British citizens do not abandon the part of their identity that is South Asian, by doing so, their identity is interpreted only as South Asian due to the nature of their difference (Dwyer, 2000). Identity is a constant battle between the culture of the nation that the family is currently a part of and the culture "back home" (Handa, 2003, p. 4). Fears of the parents of second-generation South Asian parents with regards to their children are that cultural practices, ideals, and ways of life will disintegrate if not continued in western environments (Handa, 2003). Young people are considered the ones responsible for carrying on cultural practices onto the next generations after their parents regardless of geographical location (Handa, 2003; Deepak, 2014; Ralston, 1999; Sohal, 2009). The importance of religion is often imposed onto second-generation South Asian children from their parents (Singh, 2013; Samuel, 2010). When first-generation parents are socialized into a western society such as those in Canada, it is not unusual for parents to maintain the cultural and religious practices that they grew up familiarizing themselves with from their homeland (Samuel, 2010). With respect to cultural practices, it is custom for the women of the South Asian family to fall in line with the power differences between men and women. How a woman identifies herself

relies heavily with the identity of her husband, or other male figure in her life. South Asian women are most commonly defined through their roles of being a mother, daughter, wife, or general caretaker. While the importance of maintaining these gender roles is important in South Asian families, it imposes limitations on South Asian women in constructing their personal identities. Gendered experiences help to understand how migration of South Asian families has affected second-generation adolescents and how gender roles from “back home” change or stay the same in new environments (Bilge & Denis, 2010).

Intergenerational Differences

Conflicts between parents and children, more specifically, daughters of South Asian cultures occur within immigrant families when parental expectations do not match the desires of the children they are raising in a western society (Deepak, 2004). The literature states that many children of first-generation immigrant South Asian families find it difficult to balance the notion of two cultures and being able to maintain both ideals in order to fit into their current society while still keeping traditions from their homeland alive and in practice (Deepak, 2004; Inman, 2006; Bagguley & Hussain, 2007, Purkayastha, 2010; Sohal, 2009). One of the common methods used by second-generation South Asian women to attempt to work around strict rules imposed by their parents is to hide behind fibs while they partake in more “Western” behaviours such as dating, drinking, and pre-marital sex (Deepak, 2004). Diasporic theory poses the struggles between generations of South Asians in the western world and the formation and re-formation of different social and cultural cues (Faist, 2010). In conforming or not conforming to cultural ideals of western societies, second-generation South Asian women face conflicts with the expectations and perceptions of their parents and fitting in with teachers, friends, and other members of their society (Faist, 2010; Purkayastha,

2010). Second-generation children face the struggle of being in the space between two cultural identities (Rajiva, 2005).

Tsoldis (2014) talks about cultural difference and how diaspora plays a crucial role in an individual's understanding of themselves as well as their environment. In order to understand why diaspora is so important to understanding how South Asian women adapt and live in societies that prioritize western ways of life, we must consider how all individuals and groups of diaspora adapt to their changing societies as well. Some of the complications that individuals may face include the desire to go back to living the way they had been living in their homeland rather than facing the societal changes of their new environment (Tsoldis, 2014). In practice of wanting to keep things familiar, families, and South Asian daughters may face struggles fitting into their society while there is a constant expectation to keep traditions alive at the wish of the rest of their families.

2.4 Gender Roles

Constructions of Gendered Behaviour

For women of South Asian origin, learning to fit into a Western society is more than learning to speak the dominant language and norms outside of the home. It also requires finding a balance between household responsibilities and living in a society where women are not the only ones to complete domestic work. Identity construction of second generation South Asian immigrant women is interrupted by the notion of trying to fit into two worlds (Sohal, 2009). The identity of a South Asian woman is shaped not only by the inner circumstances of her family and personal values, but also by the way that outsiders perceive her in accordance with their expectations of how a South Asian woman should behave and portray herself (Sohal, 2009). In addition, in identifying themselves as Canadian, for instance, skin colour poses a challenge even for women who are citizens by birth because they face a constant battle of being “othered” (Sohal, 2009, p.

14). Race is often overlooked in relation to identity construction (Handa, 2003). In intersectional analyses of the experiences of minoritized women, it is important to consider all axes; race, class, gender, and cultural identity (Ghosh, 2013). It is a combination of these axes that foster specific experiences for South Asian women and how they identify themselves, especially in Canadian culture. Although categories of race and gender are primarily socially constructed, this often causes these axes to be overlooked when analyzing experiences of minoritized women (Sang, 2016). Especially when talking about adolescent females, conflicts in minority communities often only present identity conflict in a direct comparison that emphasizes cultural divide, without considering the role that race can play in South Asian adolescent girls' identity construction (Handa, 2003).

While immigrant parents of South Asian backgrounds encourage their children to take advantage of the educational and career opportunities available to them in Western societies, there is an implicit expectation to maintain in keeping with practices that keep them tied into their cultural values. The conflict between taking advantage of opportunities and maintaining values is the most prominent in the case of parents allowing their daughters to pursue graduate and undergraduate degrees, as they become aware that this will result in their daughters refraining from the traditional ideals of arranged marriage and raising families (Bhopal, 2011). In the expression of these expectations, the identity of immigrant children becomes a "Dialogical process" (Sohal, 2009, p. 15). The impact of this process becomes the fact that race, gender, sexuality, and nationality are working together to construct the identity of a South Asian female from the outsider's perspective. Since South Asian women's identities are constructed by both their own perceptions of themselves as well as those of outsiders, it becomes increasingly difficult for these women to be able to express

their concerns and voices while being under constant scrutiny by others to maintain their femininity and modesty (Sohal, 2009; Srinivasan, 2001).

Beliefs and values in South Asian culture have been developed by mythological and philosophical notions of their countries and reflect in expectations of behaviour and values (Dasgupta, 1996; Inman, Constantine, Ladany, & Morano, 2001). The process of acculturation can cause conflict in South Asian women in accordance with the level of adaptation to the dominant culture and the pressure to retain certain parts of their traditional culture (Inman et al., 2001). Research (Inman et al., 2001) suggests that South Asian women hold onto values from their original heritage that centre around marriage, dating, gender expectations, and religious activities and practices, but at the same time, adapt to more manageable aspects of western heritage such as language, dress, and career aspirations. Balancing acts in these varying values often cause South Asian women to struggle with adapting and developing their own sense of identity outside of familial expectations (Inman et al., 2001; Samuel, 2010).

In South Asian culture, gender roles are defined as early as children are able to make sense of the world around them. While daughters and sons of first-generation South Asian parents are both expected to excel in their educational achievements, for daughters, this academic excellence is primarily served as another aspect of pride when deciding to marry them off (Inman et al, 2001; Almeida, 1996). Reputation in the South Asian community is dependent on the level that South Asian women maintain their cultural and ethnic values. Being seen as too westernized is often something that South Asian women hear in relation to the expectations for maintaining gender roles (Inman et al., 2001). In South Asian cultures, gender roles are often reinforced rather than overcome due to the prioritizing of traditional ideologies (Dwyer, 2000). South Asian women are encouraged by their parents to maintain strong ties to their cultural identities so that they are able

to pass traditions and ways of life down to future generations (Dwyer, 2000; Bhopal, 1997; Patel, Power, and Bhavnagri, 1996). One of the most important cultural ideals to maintain is the notion of “Sexual respectability” (Dwyer 2000, p. 479). This notion refers to maintaining the purity of South Asian women as another means to maintain both personal and familial reputation (Dwyer, 2000; Patel, Power, & Bhavnagri, 1996). For example, for young Muslim women, the articulation of a “Typical Muslim girl” (Dwyer 2000, p. 481) requires the actualization of all parts of the cultural ideal passed down from earlier generations. Some of these ideals include sexual purity, maintaining modesty in dressing, and playing the subordinate role among relationships with males (Dwyer, 2000).

In accordance with gender roles that are taught in South Asian families, the majority of the upholding of a South Asian family’s reputation is dependent on females of the family (Zaidi et al., 2013). In South Asian families, it becomes imperative to socialize children in a way that preserves the cultural values, beliefs, and ways of life that are traditionally praised in their home countries (Zaidi et al., 2013). For men, the role of breadwinner, or decision maker in the household is seen from childhood and encouraged throughout the different stages of growing into adulthood (Varghese & Jenkins, 2009). For women, the role of being both a working professional and a caregiver for the family are expected simultaneously (Varghese & Jenkins, 2009).

Gender Bias

For women of underrepresented minorities, gender biases arise from the experiences they have beginning at the time of childhood. Acculturation for first-generation South-Asian immigrants poses as an unfamiliar process in which their second-generation children both in North American and South Asian environments undergo experiences of socialization outside of the home that interfere with traditional expectations of first-generation parents (Sauer, 2019). For children of

South Asian heritage, expectations based around responsibilities within genders are taught from parents and are typically passed down through generations. While it may seem that gender roles have more to do with cultural background, it is often also the result of familial values and how cultural expectations are passed down from generations (Talbani & Hasanali, 2000; Inman, Howard, Beaumont & Walker, 2007). Culture is what primarily defines the type of behaviour and the types of responsibilities that are expected of both males and females; however, the practices of these roles and the assignment of certain responsibilities are dependent upon how parents view the division of these responsibilities, as well as the parents' experiences of socialization in their home countries (Chakawa and Hoglund, 2016). In educating their children about what would be expected of them in other racial-ethnic environments, first-generation South Asian parents take pride in teaching and re-iterating gender roles that are passed down from older generations in order for their children to thrive in various environments (Chakawa & Hoglund, 2016; Dasgupta, 1998).

For South Asian women, losing or straying away from their identity in a North American setting demonstrates a fear of becoming too "westernized" (Inman et al., 2001). The fears of losing their culture or drifting from traditional values can pose hesitation and struggle when these women go on to negotiate the gender expectations that develop in their families (Inman et al., 2001). Behaviours of South Asian women are seen to be a direct reflection of the family (Inman et al., 2001).

The conformity to traditional values of South Asian women is a result of the fear and anxiety caused by wanting to maintain a respectable image in the South Asian community (Inman et al., 2001). While both sons and daughters are encouraged to behave in ways that reflect positively on the family's reputation, this notion is primarily instilled in the behaviours of women (Varghese & Jenkins, 2009). Requirements such as purity are encouraged more heavily towards daughters of

South Asian parents than towards their sons, along with the level of restriction in associating with individuals of the opposite sex and the exercise of control over their children is placed higher on daughters of South Asian parents than of their sons (Varghese & Jenkins, 2009; Inman et al, 2006). Daughters in the family are also encouraged more than sons to remain dependent and continue to seek approval from their families (Varghese & Jenkins, 2009). Additional aspects such as socialization, policing behaviour as well as evaluation of friend groups are instances where which South Asian parents exercise more control over their daughters than their sons. In some South Asian communities, approval from the ethnic group is a method of preservation of the values and gender roles in South Asian families (Inman et al, 2007).

Generational differences

While parents' primary effort is to prepare their children for upcoming racial-ethnic challenges that they may face in a Canadian society, many children see the cultural socialization practices as an instance to rebel or challenge the expectations that are being passed down to them (Talibani & Hasanali, 2000). Some families take to their new environment by adjusting and redefining their familial traditions and views (Talibani & Hasanali, 2000; Jambunathan & Counselman, 2002). However, this change does not come easy. Many parents remain in a state of mind where they feel that their children should be socialized with practices of their own upbringing (Inman et al., 2007). Migration often calls for identity reconstruction in the eyes of immigrants as an effort to merge into their new society (Inman et al, 2007). While parents feel the need to keep traditions alive that they have brought from their homeland, these wishes often would clash in the minds of their children who are brought up in accordance with westernized perspectives on culture and values. Most of the literature that is focused on parenting practices for first-generation South Asian immigrants is that of Indian American families (Patel, Power, & Bhavnagri, 1996; Inman et al.,

2007; Dasgupta, 1998). For many first-generation South Asian parents, the processes regarding migration to Westernized communities has shown in Inman et al. (2007)'s study that preservation of cultural values is a crucial component in maintaining their personal identity. Indian families have been accustomed to patriarchal socialization styles that maintain the importance of gendered behaviours instilled in children from an early age (Inman et al., 2007). First-generation Indian American parents transmitted ethnic identity through informing about cultural practices and maintaining religious practices in order to keep certain traditions and values alive in their second-generation children (Inman et al., 2007). The reiteration of religion from first-generation South Asian parents to their second-generation children carries the notion of protectiveness and the maintenance of positive influences on the family in general (Iqbal & Glombok, 2018).

The parenting styles of first-generation South Asian parents vary across cultures. Jumbunathan & Counselman (2002) discuss the parenting styles of Indian American mothers towards their children and discuss that authoritarian parenting styles result in children who are socially withdrawn or unsatisfied in their lives. Asian Indian immigrant parents tend to have values that place an emphasis on certain values and ways of life for their second-generation children that were relevant in their own upbringing (Inman et al., 2007). For example, The influence of a daughter seeing her mother pursue and maintain a professional career can produce a similar ambition for her daughter, as the access to the type of education needed to obtain the same type of career proves to be easier to obtain. Findings from Patel, Power, & Bhavnagri (1996) show that fathers of American Indian second-generation children uphold traditional values and expectations for their daughters, but not their sons. Therefore, it appears that in Indian cultures, patriarchal values were upheld towards daughters of first-generation parents and their daughter's adaptation to parenting practices was higher (Inman et al, 2007; Patel, Power, & Bhavnagri, 1996). For first-generation Indian American

mothers, their sense of ethnic identity is a result of their way of thinking rather than cultural differences such as food or clothing choices (Inman et al., 2007).

First-generation parents, while attempting to parent their second-generation children, must also maintain their own role in the socialization and adaptation to the western way of living (Jambunathan, Burts, & Pierce, 2000). While first-generation parents attempt to parent their children in new and unfamiliar cultures and environment, they are simultaneously experiencing changes in order to better adapt themselves to the society in which their children will grow to be adults and raise their own families (Inman et al., 2007). At the same time, it is crucial to first-generation parents to maintain their cultural identity and ensure that important aspects such as beliefs and values of their culture are retained in their second-generation children (Jambunathan, Burts, & Pierce, 2000). Immigrant families face an even bigger obstacle when adapting themselves and their families to an unfamiliar culture within new societies that might hold negative stereotypes about their cultures and ways of life (Jambunathan, Burts, & Pierce, 2000). Being exposed to negative attitudes and stereotypes may affect the parenting styles of first-generation parents in western societies, as their goals for their children are primarily to adapt strategies and ways of thinking that ensure their wellbeing and success in their society (Jambunathan, Burts, & Pierce, 2000). Adaptive strategies such as biculturalism and the teaching of their ancestral worldviews are common among minority groups, as they aid persons of minority use their knowledge of both their heritage as well as the culture of their new environments to adapt to specific situations and be able to maintain a sense of belonging in their current society (Jambunathan, & Counselman, 2002). In general, Asian Indian families operate with a patriarchal joint family system in which grandparents, parents, and children all reside together under one roof; this serves as the first instance of familial socialization for children (Jambunathan, Burts, & Pierce, 2000). Values that

children are taught from an early age from their first-generation immigrant parents include the importance of family bonds and religious beliefs that are expected to be carried through with them for generations (Rajiva, 2005).

Asian Indian parents are faced with challenges when raising children in an unfamiliar culture to their own upbringing while trying to reinforce the value of retaining cultural identity from their own upbringings (Jambunathan, Burts, & Pierce, 2000). Migrants from India are sought to be hardworking in maintaining characteristics of both cultures as well as being ambitious and goal-oriented to ensure their educational and individual success (Patel, Power, & Bhavnagri, 1996). Much of the tension between Indian American parents and their second-generation adolescent children rises from the exposure to American cultural aspects such as social activities and dating (Patel, Power, & Bhavnagri, 1996; Aycan & Kanungo, 1998). Many families, while migrating to western societies, choose to maintain traditional values and gendered attitudes towards the upbringing of their children (Patel, Power, & Bhavnagri, 1996). According to available literature, (Patel, et al., 1996; Inman et al., 2007; Iqbal & Glombok, 2018), when moving to new and unfamiliar societies, first-generation Indian parents feel a pressure to redefine their cultural values and gender roles to better fit into the culture that they experience in their new environment. In traditional Indian cultural gender roles, sons are encouraged and expected to perform well at school to become successful members of the workforce and primary financial providers for their future families (Sohal, 2009). On the other hand, daughters are taught domestic responsibilities, such as taking on household chores and caring for their siblings as preparation for taking care of their own homes after they marry (Patel, Power, & Bhavnagri, 1996).

Saleem, Mahmood, & Daud (2017) suggest that Pakistani parenting styles include similar reservations and encouragement to maintain cultural ties with the way that parents were raised in

their countries of origin. Pakistani culture is primarily dominated by the degree to which families practice culture and religion in a manner specific to past generations of their family. Indian parenting styles are similar in that the culture calls for specific gendered expectations for sons and daughters (Varghese & Jenkins, 2009). Literature suggests that children of first-generation South Asian parents feel a strong pressure to maintain a specific reputation under the watchful eye of family members as well as those of their cultural community (Varghese & Jenkins, 2009; Dasgupta, 1996).

When it comes to the topics of dating, mating, and overall attitudes towards relationships, first-generation South Asian parents only view dating as a necessity at the time of choosing a partner for marriage (Inman, 2006; Varghese & Jenkins, 2009; Uskul, Lalonde & Konanur, 2001). For the sake of arranged marriages, prospective marriage partners are introduced to South Asian children in various forms such as word of mouth from close family and friends or other structured ways of finding partners who are able to meet parental expectations of family relationships, overall financial stability, and maturity of the partner (Batabyal, 2001). While media representations of arranged marriage entail that individuals do not receive a chance to mingle and familiarize themselves with their prospective marriage partners, the culture of arranged marriage offers a wide range of options in conducting the practice of finding a life partner (Pande, 2014). While parents of second-generation South Asian children hope to play a heavily active role in the choosing of a life partner for their children, this choice is more often than not ultimately left up to the person themselves and parents hope that through their teachings they were able to instill positive values into their children that help them make informed and invaluable decisions (Pande, 2014; Iqbal, 2014). Another form of arranged marriage is that in which the prospective marriage partners can have a say in the marriage partner by introducing a potential partner to their parents to seek their

approval (Pande, 2014). This type of practice is less common as it does hinder the relationship between parents and their children as well as increasing the risk of partners being unprepared to support each other (Netting, 2006).

Gender Roles in Marriage

In South Asian countries, wives generally play the subordinate role toward their husbands in the form of household as well as maternal responsibilities (Sohal, 2009; Samuel, 2010). Expectations for South Asian women in their roles as wives include cooking, cleaning, and the role of caretaking for both the children as well as their husband. On the other hand, men maintain the status of superiority in playing the role of the breadwinner, ensuring financial security for the family; this translates to the maintenance of power in the marriage structure. Men maintain their reputation and gain respect through their means to work in higher-paying careers, and provide for their families. Women maintain respect through devotion and maintaining their reputation as feminine, and subservient to their male counterparts (Sohal, 2009; Dwyer, 2000). One of the biggest reasons for women wanting to maintain respect towards their subordinate role toward their husbands is also, in turn, to maintain the respect of their parents in raising them with the “right” values (Sohal, 2009). For females, part of identifying as a South Asian woman includes being involved in an arranged marriage (Bhopal, 1997). Parents are expected to keep traditions alive by passing down gendered values to their children, and daughters are expected to do the same for their children. This includes both expectations for daughters as well as sons. In addition to academic excellence, daughters are expected to take on domestic responsibilities from a young age, while sons are expected to focus on their educational standing in order to pursue careers that will provide them greater financial success (Zaidi, Carron, & Tyndale, 2013). Daughters in South Asian families are

also expected to keep culture and traditions intact in educating their children and re-creating cultural identities that they had experienced while growing up in their own families (Ralston, 1996).

Current literature (Dasgupta, 1998; Inman et al., 2007) suggests that while first-generation South Asian women held traditional values with more importance, second-generation South Asian women held views that were more liberal about their roles in the household and society (Dasgupta, 1998). First-generation parents of children who were not born in their South Asian country of heritage are forced to raise their children in an unfamiliar environment that do not hold the same socialization cues from their home country (Inman et al., 2007).

Religion also becomes a crucial part of identity construction for younger generations in order to maintain certain morals and re-iteration of keeping traditions alive in a Western society (Ralston, 1996). In order to maintain cultural identity from the homeland, many first-generation South Asian parents practice religion on a daily basis in an attempt to show their children the importance of keeping their faith alive, as well as the maintenance of other appropriate behaviours (Dasgupta, 1998). One study in Britain (Iqbal & Golombok, 2014) examines how religion is used as a form of self-identification and also holds a primary role of importance in the lives of South Asian Muslims living in Britain. One study (Inman et al., 2001), while interviewing South Asian female participants found that only 16% of participants identified themselves as being very religious, 57% identified as being somewhat religious and 27% of participants reported as not being religious at all. While these numbers reflect the average perspective of modern South Asian women with culture conflict while living in North American environments, some women still fear losing their positive reputations within South Asian communities if they choose to express their true attitudes towards their religion and ethnic heritage (Inman et al., 2001).

Post-secondary education imposes certain gender roles with regards to what is viewed as normal (Sang, 2016). Career choice for many South Asian women is based on a desire to remain congruent with gender roles that are expected of them (Perera & Velumayilum 2008). One of the biggest obstacles for women in STEM education or in the workforce is the balance between their employment opportunities and domestic responsibilities (Stanfors, 2015). The issue of fertility creates an obvious divide between men and women in the workforce, and fertility oftentimes plays a factor in a woman's decision to pursue a particularly demanding career field (Stanfors, 2015). While research about women of colour in the workforce is scant, the available research focuses on the comparisons between White and Black women in the workforce and their challenges as compared to domestic responsibilities (Frevert, Culbertson & Huffman, 2015). The gender divide persists despite of the equalizing numbers of men and women in the workforce due to the responsibilities that inevitably fall on women as a result of their biological makeup (Frevert et al., 2015).

Dating, Marriage, and Relations

Contrary to Western ideas of relationships and marriage, South Asian culture focuses on aspects such as age, cultural and religious traditions, as well as parental autonomy in the role of selecting a life partner (Bhopal, 1997). An arranged marriage is one of which parents and close relatives play an active role in selecting potential marriage partners for their children (Bhopal, 1997). In this process, sons and daughters do not have the same freedom and autonomy in the process of meeting an individual and considering a future with that individual. As arranged marriages play a crucial role in the identity of South Asian individuals, this process remains sacred to first generation parents in order to maintain their reputation and authority (Bhopal, 1997). In South Asian culture, the importance that is placed on marriage causes more of an effect on woman than on men. For

women, marriage reflects the value, status, and reputation of not only the woman herself, but of the entire family depending on who they are married off to and what the outsider's opinions are of the woman who is stepping into marriage (Sohal, 2009). For different South Asian cultures, the importance of the selected marriage partner varies. For Muslims, the marriage partner must be within the same group; for those of Hindu and Sikh cultures, the marriage partner should be within the same caste or occupational group (Bhopal, 1997). Marriage is an institution for South Asian families that places more emphasis on social and economic structure of the families being united, rather than simply just the relationship between the two individuals to be married (Bhopal, 1997). Marriage is celebrated and seen as a steppingstone for adulthood and maturity (Sohal 2009). The virtue of South Asian women is expected to be maintained until marriage and creates a notion of "goodness", along with refraining from having close relations with males prior to marriage. This shows obedience towards the family as well as the cultural values associated with the role of women as subservient to their husbands (Sohal, 2009; Srinivasan, 2001). The idea of marriage in a South Asian household holds the notion of a communion of two families in which the opinions of all family members are taken into account at the time of decision for marriage (Usukul et al., 2011). Prospective marriage partners are introduced to each other only after the families have had a chance to converse with one another and develop knowledge about the individuals economic, educational, and reputational statuses (Usukul et al, 2011). The importance of families screening potential marriage partners for their children at the time of their coming of age is to ensure that cultural practices and communities carry on through future generations (Usulul et al., 2011). The idea of an arranged marriage stems from the idea of a union of two families rather than merely of two individuals (Bharwani, 2013; Netting, 2006). Intergenerational ideals about the value of marriage stems from the need for both financial and reputational security, as well as an overall

good relationship and shared values among the two families conjoined by law (Netting, 2006). During the process of choosing a partner for an arranged marriage, parents look at aspects of the potential partner's family such as status, wealth, and educational background, as these factors are the greatest contributors to the value of the person and their family (Bhopal, 2011).

Dating in South Asian cultures is usually only considered acceptable in the process towards marriage (Inman et al., 2007). By general expectations, a girl who is reserved and marries a man of her parents' choosing is considered to be a "good Indian girl" by definition (Dasgupta, 1998). According to Indian parents, the notion of dating for youth and adolescents does not entail physical, mental, and spiritual values, which means that it does not serve value to themselves and their wellbeing (Dasgupta, 1998). In general, literature shows that parents of second-generation South Asian children were more lenient with their sons when it came to dating than their daughters (Inman et al., 2007; Dasgupta, 1998; Samuel, 2010). Literature also suggests that when it comes to practices of arranged marriage in Indian cultures, the tradition is carried on in an attempt to preserve the caste division as well as the patriarchal structure in Indian societies (Samuel, 2010). While in Western cultures, dating is a widely accepted tradition (Zaidi et al., 2013), in South Asian cultures dating is frowned upon until the time of marriage; dating is considered to bring shame to the family (Zaidi et al., 2013). For South Asian women in particular, while an arranged marriage may not always be enforced, South Asian women may still feel pressured to go along with their parents' wishes in fear of wanting to maintain their respect and the positive relationship among themselves and their families (Bhopal, 2011).

For second-generation children of First-generation Indian parents, lies and hidden relationships are common. The pressure to uphold the family status becomes the primary motivation to keep current male friendships and relationships secretive for second-generation Indian women (Samuel,

2010). Second-generation Indian girls find it easier to keep secrets in an attempt to experience new relationships while still feeling pressure to maintain familial reputation in their society (Samuel, 2010). Outer appearance of the family is the most important aspect of reputation for many Muslim families (Dwyer, 2000). Research also shows that South Asian parents fear that dating too early and not for the sake of finding a marriage partner would lead their children to partake in sexually deviant behaviours, consequently splitting their focus while trying to pursue an education, as well as a negative effect on the family's reputation (Dasgupta, 1998; Inman et al, 1999; Varghese and Jenkins, 2009).

2.5 Values

Cultural Values

In South Asian cultures, the notion of family is crucial to all aspects of life (Ralston, 1999). In coming to Canada, many South Asian women feel that they are stuck between two cultures; that of their parents and homeland and of western culture, with a pressure to excel in both. Persistence from families towards their children to keep cultural traditions alive contribute to complication in comprising identity structures especially in the lives of South Asian women (Samuel, 2010).

The difficulty in maintaining and carrying on traditional practices and other cultural values in South Asian families is at the point where families begin to migrate outside of their home countries, and their children are forced to mingle with new cultures that do not necessarily hold the same values when it comes to notions of career, marriage, and gender roles (Zaidi et al., 2013). On the other hand, many first-generation South Asian parents struggle with raising their children in new societies where the values with which they grew up are not given importance or precedent (Patel et al., 1996). According to traditional ideas of South Asian culture, women were typically seen as docile and uninterested in pursuing education (Bagguley & Hussain, 2007). In accordance with

larger shifts in South Asian migration to North American cities, the traditional ideas of women carrying only domesticated responsibilities were encouraged; in some cases, women are discouraged from working outside of the home in an effort to keep their focus on their children's upbringing and taking care of their husbands (Patel et al., 1996). Most of these cultural expectations directly affect the identity construction of South Asian women (Samuel, 2010).

In coming to a North American country, South Asian immigrants bring their own importance and certain values with them that they expect to be carried on through their children and further generations despite their geographical locations (Aycan & Kanungo, 1998). For many second-generation South Asian adolescents, there appears to be a heavy emphasis on acceptance in a North American society by adapting the cultural cues of that society (Aycan & Kanungo, 1998). On the other hand, parents attempt to maintain traditional cultural norms, ideals, and practices by continuing to practice and encouraging their children not to lose sight of certain values that are important in their culture; such as refraining from premarital relations with the opposite sex, and specifically for women, to maintain the importance of their role in domestic responsibilities (Aycan & Kanungo, 1998; Sohal, 2009). One of the biggest reasons that South Asian women are encouraged to hold on to traditional ideals of their heritage and cultural values is in order to attract a suitable marriage partner (Sohal, 2009; Abbas, 2003). In instilling this process in the minds of children at an early age, the construction of gender differences is able to express its prominence (Sohal, 2009).

Whilst trying to fit into both South Asian and North American ideals of culture, South Asian women experience a conflict in maintaining aspects of both cultures (Bhatia & Ram, 2004). The notion of deviancy from cultural norms and values takes its course on second-generation South

Asian women when they are placed in a situation where they are expected to play the role of an obedient daughter and wife among their families (Zaidi et al., 2013; Sohal, 2009). While cultural and values are not defined by singular, generalized statements, and behaviours, culture within South Asian families entails an overall emphasis placed on maintaining a positive familial reputation by ensuring that all behaviours reflect positively on the family in question (Bhopal, 1997).

Educational Values

Research from recent years has shown the rapid increase in the numbers of South Asian women who decide to pursue higher education; for Indian women in full-time degree programs an increase by 84.8% since 1994, Pakistani women by 158.7% and Bangladeshi women by 273.7% (Bagguley & Hussain, 2007).

For most South Asian women, the emphasis on the importance of education is associated either with helping their family, maintaining or boosting the reputation of the family, or adding to the woman's value in accordance with her future husband and family (Chakawa & Hoglund, 2006). For many women of South Asian cultures, their pursuit of attending university is dependent on their parents' views on the importance of education for their daughters (Bagguley & Hussain, 2007). For second-generation South Asian immigrant women, conceptions of ethnicity, race, class, and socioeconomic status are important to their educational experiences, as their societal situation determines how far they will go in their education and in what subject (Ralston, 1999). Factors of class status are more important to South Asian women in deciding to pursue postsecondary education rather than ethnicity and gender (Bagguley & Hussain, 2007). In choosing subjects for post-secondary education, the parents of South Asian women play a prominent role in the ultimate

decision of their daughters' choice (Bagguley & Hussain, 2007). One of the biggest deciding factors on attending university is the economic benefits that these women will have if they decide to further their education (Bagguley & Hussain, 2007). For families who have adapted to the western culture after migration, education plays an important factor in creating a stable platform for their children (Bagguley & Hussain, 2007).

According to the literature (Hussain & Bagguley, 2007), as higher numbers of South Asian women began to enter the undergraduate education sector, the stereotypical ideals of South Asian women being inferior to their male counterparts and being uninterested in education began to become challenged. While the value of exceeding expectations at each level of education is a common expectation of first-generation South Asian parents towards their children, success in fields that are primarily male-dominated are often discouraged (Aspray, 2016; Hill, Corbett and Rose, 2010). As the participation of South Asian women in higher education rises, from a cultural context, education becomes a marketable attribute for South Asian women who take place in arranged marriages organized by their families (Inman et al., 2001). Boys, in accordance with the patriarchal structure that most South Asian parents live by, were expected to take over the role of their fathers in maintaining responsibility for the family.

In some cases, women were expected to stay closer to home when conversations were raised with parents about attending university. While some parents of South Asian daughters were open to their children moving away to attain their degrees, others were not so approving of the idea. Studies suggest that some South Asian women fear that being unable to attend universities with a more pristine reputation because their parents did not allow them served as a compromising of their education (Bagguley & Hussain, 2007). Young South Asian women who are encouraged to pursue

education away from their home are expected and encouraged to maintain modest behaviour at all times to maintain their familial and personal reputations (Bagguley & Hussain, 2007).

In educational environments, it appears that women are generally given less attention from school counselors when it comes to the topic of career choice and aspiration (Hussain & Bagguley, 2007; Varner & Mandara, 2013). This pattern is also present in the household, where families of young South Asian women encourage their daughters to make decisions on their education while keeping the family dynamic in mind (Hussain and Bagguley, 2007). While parents aspire to see their children do well in their educational and career choosings, the decision for women remains one with to be with varying conditions along with it (Hussain & Bagguley, 2007; Sohal, 2009; Srinivasan, 2001). Additionally, cultural socialization practices imposed on women to define their identity in correlation with their relationships with others and in adaptation to the lifestyles of their future husbands and children when considering their pursuit of education (Patel et al., 1996). For many women, pursuing a degree comes with a sense of importance to take advantage of the opportunities to further their education in instances where parents of these women did not have a chance to attend university (Bhopal, 2011).

Education is also used as a form of motivation by young South Asian females in using academic performance as a form of justification to pursue their specific career aspirations (Bhopal, 2011). Furthermore, there is little evidence to suggest that being education causes cultural conflict or contributes to a lack of cultural retention (Bagguley & Hussain, 2007). While stereotypical ideals suggest that South Asian women are uninterested in pursuing an education due to their prospective arranged marriages to financially secure families, research suggests that education is used as a leverage point for many South Asian women to be able to socialize in different environments and thrive independently (Bagguley & Hussain, 2016). Having a degree for many women means

greater power in the decision process of arranged marriage; the nature of the degree can give women a greater choice in selection of their partner, as their degree also contributes to the construction of their identity (Bhopal, 2011).

Career Aspirations and Obstacles

Available literature about women in Science, Technology, Engineering, and Mathematics discusses the pertinent underrepresentation of South Asian women in these fields and the reasons behind this absence such as the pressures of marriage or childbearing (Mavriplis, Heller, Beil, Dam, Yassinskaya, Shaw, & Sorensen, 2010). While minoritized second-generation students pursuing STEM degrees already face the stresses of balancing between two cultures (Diamond & Stebleton, 2019), the literature available specifically focuses on immigrant women who pursue degrees and careers in STEM as this helps to directly translate the struggles that they may face in adapting to new environments and finding balance between the culture they know and the culture they are expected to adapt to when entering western society (Diamond & Stebleton, 2019).

One of the obstacles that women of underrepresented minority face in pursuing a degree in STEM has to do with the academic climate in their experiences at institutions of higher learning as well as the support that they receive from teachers and instructors (Samuel, 2005; Guy & Boards, 2019). As the interactions between student and faculty directly influence students' sense of belonging in the school environment, a negative relationship between student and teacher where the teacher does not take considerable measures to ensure a comfortable environment proves to be detrimental to students of underrepresented minority (Samuel, 2005), especially those who are in STEM programs (Guy & Boards, 2019). The presence of female faculty in STEM degree programs also boosts morale for women of underrepresented minorities who choose to pursue these degrees (Griffith, 2010). A study (Russell, 2017) completed at MIT showed that female instructors had a

positive impact for female students and increased the likelihood of female students to continue in STEM degree programs while exceeding grade expectations (Russell, 2017). Contrastingly, many women also experienced negative relationships and lack of encouragement from professors in their pursuit of degrees in STEM. For women of underrepresented minority, the experiences in this sector of academia lacked the presence of women of colour in general as well as the environment being unwelcoming (Guy & Boards, 2019).

2.6 Socialization

Socialization is a crucial component in a child's development regardless of their environment. While each individual is born into a specific time, place, and context, the ways in which they interact with the environment around them is dependent on how they are taught from outer influences such as parents, peers, and other individuals they may interact with over the course of their lives (Sensoy & DiAngelo, 2018). Socialization practices differ in accordance with various influences, yet all of these influences play a role in shaping an individual's perception of the world around them. Generally for South Asian women, as well as women of underrepresented minority, this socialization process is even more crucial to their identity construction because both familial as well as external influences shape how they see themselves as well as the roles that they play for the rest of their lives. One of the crucial components that most parents tend to overlook when teaching their children the things that have been conveyed to them is the gap between first and second generation immigrants (Inman, 2006). Children of first-generation South Asian parents are typically socialized through schooling process and friends that they interact with who are not of the same racial-ethnic background.

In the schooling experience of second-generation South Asian females, notions of masculinity and femininity are imposed upon students from their teachers based on activities as differential

treatment (Stromquist, 2007). Many instances of gendered classroom socialization for South Asian students rise from the socialization they receive in even earlier years in the home (Rivas-Drake & Way, 2009). While this type of early socialization may serve to lengthen the divide between first-generation parents and second-generation children, parents reiterate the need for “Restoration of lost heritage” (Alam, 2013) through storytelling and teaching from an early age. It is mostly during early adolescent years where children begin to understand and become aware of racial and ethnic differences and negative perceptions of certain racial-ethnic identities (Rivas-Drake et al., 2009). Socialization practices from parents that help their children thrive in classroom environments include extensive parental involvement, teaching about immigration status, as well as choosing their children’s first language upon entering them into schooling programs (Chakawa & Hogleung, 2016).

Cultural Socialization

The family context plays a significant role in their desire or ability to pursue careers in STEM fields (Archer et al., 2012). Talbani & Hasanali (2000) examine the experiences of different South Asian girls and how they see their own experiences and views in comparison to those of their parents. Through attending school in North America, many South Asian girls find themselves questioning the practices of their expected behaviour, as they place it in comparison to the experiences of girls in their friends’ group or academic classes who are not of the same racial-ethnic background. For Bangladeshi women, marriage is the central priority to ensure a happy and successful life (Bagguley & Hussain, 2007), and their plans for education are heavily dependent on their plans for marriage. In this type of socialization, it becomes difficult for Bangladeshi women to adapt and fit into a Western society due to the pressures that they face from familial cultural expectations.

For many South Asian women, the process of socialization, how to behave in varying environments, and how to carry oneself begins in the home (Bhopal, 1997). This notion of socialization in the home with regards to etiquette and behavioural expectations outside of the home is prominent in many households of underrepresented minorities; primarily towards the women of the household (Varner & Mandara, 2013). The cultural socialization practices that take place in the home are primarily done to prepare children from families of underrepresented minorities for their lives independent of their children (Talbani & Hassanali, 2000). Parents transmit information pertaining to their own values relating to their culture and personal experiences to help prepare their children for the classroom environment where they may not necessarily hold the same values as other students (Iqbal, 2014). One of the positive notions of parents socializing their children in the home is to prepare them for potential discrimination they may face while in the classroom from other students (Iqbal, 2014).

Adikaram, (2014)'s study explores the perceptions of Sri Lankan women in the workforce and the influence of the socialization they experience in the household on their perceptions of harassment they had experienced in work environments. The study showed that gender-role stereotyping that was experienced by these women in their home environments affect their ability to recognize the intensity of their experienced sexual harassment, as this translates to behaviour that they are used to as a result of their gender (Adikram, 2014). It appears that masculine and feminine gender roles encourage South Asian women in the workforce to tolerate behaviour that would otherwise be subject to be labelled as sexual harassment as a result of power dynamics and patriarchal structures in their household (Adikram, 2014; Alam, 2013). Patriarchal norms play their role in ensuring that South Asian daughters uphold the expectations that parents impose in ensuring that they are trained in serving the dominant gender and playing the subservient role both inside and outside of the

household (Alam, 2013). Furthermore, gendered socialization not only imposes certain expectations that carry on from first-generation South Asian parents' homelands, but also presented advantages and disadvantages to both genders (Alam, 2013; Varner & Mandara, 2013). For example, while girls are expected to be home earlier from being out in their neighbourhoods and boys were given longer curfews, boys are then, consequently, most often exposed to risks such as becoming involved with certain groups or posing a greater danger to themselves upon stumbling into unfamiliar neighbourhoods and areas (Alam, 2013).

On the other hand, parents express that the importance of parenting in accordance with their multiculturalism prepares their children in the instances where they encounter discrimination from other groups in the classroom (Iqbal, 2014). The notion of ethnic and racial socialization is the way that parents "Transmit information, perspectives and values relating to race and ethnicity to their children in highly multicultural societies" (Iqbal, 2014). The importance of socialization that second-generation South Asian children receive from their parents stresses the importance of making sense of their own experiences to give children an opportunity to develop their ethnic identities early on (Rivas-Drake, Hughes & Way, 2009). Research suggests that information that South Asian children receive from their parents translates to positive ethnic identities and beliefs to help their children become more successful in looking at their own identities. Parents teach cultural practices and specific methods of socialization in order to inform their children about their heritage and to promote an understanding of certain values that are important to the specified racial-ethnic group (Chakawa & Hoglund, 2016).

Summary

While research pertaining to the presence, obstacles, and experiences of underrepresented minorities is prevalent, little research expresses the specific instances of first and second-

generation South Asian women in undergraduate STEM programs. Exploring the internal and external factors such as culture, socialization, and pressures relating to maintaining a respectable reputation in the eyes of their families, while applying these obstacles to women who are pursuing degrees that are traditionally male-dominated will help us uncover real struggles of women and take a step towards increasing awareness as well as participation of South Asian women in STEM degree programs.

Chapter 3: Methodology

This chapter discusses the methods used to collect and analyze data as well as the positionality of the researcher and its role in participant observation, data collection, and data analysis.

Additionally, this chapter will discuss the ontological and epistemological frameworks used to analyze the data, overview of the narrative inquiry methodology, importance of storytelling, methods used to select participants, collect and analyze data, as well as the ethical considerations used during the study.

3.1 Ontology and Epistemology

The ontological framework for this study is the idea that reality is grounded in human experience. Experiences are known as entities that exist in the real world and help ground the perceptions of reality in social science (Detel, 2015). As qualitative researchers, the view with respect to scientific knowledge is that scientific inquiry should be used to understand human behaviour rather than to predict it and establish anticipated future patterns (Caduri, 2013). The ontological worldview for narrative inquirers holds that entities only exist as a result of conceptual frameworks and societal practices in which they develop (Collin, 2013). Experiences are a combination of trying and undergoing in order to draw conclusions and new constructions of thought or knowledge (Berding, 1997). Experience and learning are connected with reflection; experiencing becomes hand in hand with new constructions and self-discovery. It is for these reasons that experiences are not fragmented; rather, experiences are active and passive affairs that take place in all dimensions (Berding, 1997). Individuals continuously interact with other people, places, and objects that all lead to a certain experience, that is, living through an event or a series of events that can be turned into a memory, as a result of the learning and significance that they attach to that specific instance in time. This is something that the individual will

eventually refer back to when reflecting on their lives (Hutchinson, 2015). An individual will look back on a certain point in time of their lives and will realize, while looking backward, how that experience affected them, or how the experience has changed upon re-reflecting. (Berding, 1997).

To outline the epistemological framework of this study and show how knowledge is obtained and interpreted in the social world, we will consider experience as the primary form of knowledge-making (Collin, 2013; Detel, 2015). Social constructivism holds the view that reality is socially constructed; individuals develop meanings through their experiences through the constant engagement with individuals and objects in the social world (Creswell & Creswell, 2018). Social constructivism with respect to social and human interaction expresses that thoughts, languages, and actions of individuals are responsible for the construction of the world and the way social systems form and work together (Collin, 2013). Social constructivism is concerned with how beliefs, facts, and relations operate together in the social world to construct the societies in which we live (Detel, 2015).

Positionality and Reflexivity

I am deeply interested in the stories of these South Asian women because I am also a second-generation South Asian woman, and I feel that I can relate to some of the experiences of these women with regards to parental, cultural, and societal expectations. My parents, who are first-generation immigrants to North America from Pakistan, believe in the importance of maintaining traditional cultural roots in order to pass down traditions and practices to future generations. My parents expected their children to emulate the same values that they were raised with back home and hoped that their children would pass these traditions and practices down to all future generations in order to keep the culture alive and well. Many of my personal experiences with

the cultural expectations that have been imposed on me since childhood are reflected with negative connotations, as they have made me question the practices and why there are certain behaviours and aspects of life that my parents do not approve of, despite now being in a Western country. However, as I grow, I have learned to appreciate the close eye that my family has kept on me to ensure that I prioritize myself and my education.

My experience with the cultural and societal values that have been imposed on me since birth will create a certain level of bias towards the general idea of parental expectations of first-generation immigrants and their second-generation children in North America. I must acknowledge this preconceived bias prior to discussing the experiences my participants have had with the cultural expectations from their own parents and the role these expectations and experiences have played in their identity constructions. However, my research will emphasize that there are various roles that South Asian women can play in STEM careers, and their experiences within the home as well as in other environments can serve to be either nurturing or discouraging. My research does not aim to have a specific outcome, rather, to learn about and listen to the stories of South Asian women and how their stories have shaped their identity and perspectives on their own education. Ethnic minority women are not always seen as victims of the patriarchy; rather, they can be agents of change (Tariq & Syed, 2017).

Within my research, I position myself as an individual who does not fully believe in the same values as my parents and other first-generation Canadian immigrants. My personal experiences and my own story directly affected the data collection process (England, 1994). My heritage, my experience, and my knowledge of the cultural practices of South Asian immigrant families have helped me develop a unique lens for my research and my interactions with my participants. The reasoning behind the specific interpretation that I bring to my research in examining the

experiences of South Asian undergraduate women in STEM is that my personal experiences can mirror some of the experiences that my participants share in my interviews with them. While on the other hand, a researcher doing a similar study who is not of a South Asian background or is not a woman may have a different experience in their data collection and analysis processes.

While there may be a danger in having experiences that mirror those of the participants and expressing them in the study, it is important to note that acknowledging the bias and reflecting on the fact that my experiences may be completely different than that of my participants. This helps me respect the fact that I have a duty to be open and unbiased in my analyses of the data that I have collected. In expressing my personal story in my fieldwork, I was able to get a better idea in terms of the types of questions to ask in order to help my participants illustrate their stories freely and with as much or as little detail as they felt comfortable expressing for the study. The practice of fieldwork research inevitably has a dialogical nature; this means that the researcher is present in the research and as a result, the research is heavily influenced by the input of the researcher (England, 1994). While my role in the research may help me relate to the experiences of my participants, as the researcher, I continuously had to watch for foreseen and unforeseen bias or dangers that my participants may have fallen victim to (Milner, 2007).

The relationship between the researcher and the participant entails a balance of power and the notion of interpretation for both parties during conversations that take place between them (Sanchez, 2010). While recognizing the importance of power relations between the researcher and the participant is important, its recognition does not remove them (England, 1994). The role of the researcher can vary in accordance with their positionality, or perception of the research topic (Karnieli-Miller, Strier & Pessach, 2009). While the nature of the researcher-participant relationship is hierarchical, these differences in power do not always connote negative

experiences. In fact, they may open doors to different avenues that future researchers would explore in greater detail, such as future researchers who desire to explore similar topics in education that harbour a different positionality than my own.

In the researcher's role of interpreting the information and stories told by participants, it is important to consider the predicted and unpredicted dangers that participants may fall victim to during the data collection process (Moore, 2012). Furthermore, the role of the researcher is not static; in fact, the role of the researcher – as an insider or an outsider in their research, can change throughout the various stages of the study, depending on the nature of the research and the individuals with whom they interact (Moore, 2012). As the study focuses on South Asian women and their experiences in both the school, home, and other social environments, racialized systems will be encountered many times throughout the data collection process and in the stories of these women. Racialized systems may cause difficulty in interpreting the experiences of my participants in accordance with my own biases and experiences, as the notion of people of colour being inferior has been something that has been historically instilled in individuals of colour (Milner, 2007). This may cause misrepresentations of the participants and may also cause their stories to be cast in a negative light. It is impossible for the researcher to distance themselves emotionally from their research (Moore, 2012). Therefore, it was important for me to acknowledge my bias and preconceived thoughts about South Asian culture that were based on my own experiences. Acknowledging my own biases was also helpful in building a closer connection with my participants, as it helped me to take a step back from my own perspective towards the South Asian culture and cultural values and to be able to better acknowledge and understand the perspectives of my participants. The researcher must have the ability to be self-

critical with their role as a researcher and scrutinize themselves in order to recognize or overcome challenges to their position in the work (England, 1994).

My study, which examines the experiences of South Asian undergraduate women in STEM, employs two main theoretical frameworks; intersectional feminism, and diaspora studies. The two frameworks will be used in the study to uncover the roles of parent and child interactions, upbringing, as well as socialization practices in various environments of South Asian women. It also explores the ways in which South Asian social and cultural systems play out in Western societies. These theoretical frames are based on my personal interests and experiences with regards to the experiences of females who belong to underrepresented minorities. While conducting a literature review and examining how feminism and diaspora can be used to interpret the experiences of first and second generation South Asian immigrant women, it can also be too easy to fall into the idea that cultural ideals and expectations that exclusively have a negative connotation with regards to the identities of South Asian women. For example, in learning about the ideas of domestic responsibility and submissive roles being praised within the identities of South Asian women (Pande, 2014; Krishnan, 2014), I acknowledged that this in combination with my own experiences in being expected to play a submissive role as a woman may cause my view of the experiences of my participants to be one-sided. It is important for the researcher to position themselves within their own research, as this helps in understanding the shaping of the research process (Corlett & Marvin, 2018).

My personal experience with topics that will be discussed during interviews with my participants as well as in the theoretical lenses being used to analyze and interpret the stories are shaped by my own preconceived biases, the knowledge I have obtained while reviewing relevant literature, as well as my specific life experiences (Rowe, 2014). While I am a second-generation South

Asian immigrant, my parents immigrated from Pakistan and have shared their struggles and experiences with their children to ensure that they are aware of the measures taken that lead to academic and financial successes. After migrating from their homelands, many South Asian women struggle to recreate their identities in a Western environment (Bagguley & Hussain, 2007). This was something that I observed first-hand when talking to women in my own family about their career prospects after immigrating to Canada. A few of my female family members, for example, felt that they had no use for their undergraduate degree, as the domestic workload was too heavy to be able to balance a career along with their domestic obligations. My interest in the notion of identity construction comes from my own personal struggles with identity as a result of my experiences while growing up under expectations that came from first-generation South Asian immigrant ideals. In conducting my study that examines the experiences of South Asian undergraduate women in STEM degrees, I was able to not only reflect on my own perspectives and struggles, but also learn and acknowledge the experiences of women who may have been in a similar position as myself in their childhood and may not have had the same experience.

3.2 What is Narrative Research?

Narrative research is a method that helps participants construct meaning from their life experiences (Chinn, 2002) and unlike other research methods, it does not offer a set of rules to follow in terms of how it is conducted or how the investigations will take place (Andrews, Squire, & Tamboukou, 2008). Roots of narrative research stem from the roots of the social sciences and humanities disciplines (Ollenshaw & Creswell, 2002). Narrative inquiry is usually expressed in an autobiographical nature where the researcher retells the story of the experiences of their participants (Clandinin & Connelly, 2000). For Dewey, continuity was the main criteria

of experience, in that experiences lead to other experiences and, like learning, every thought has a history and a future (Clandinin & Connelly, 2000).

To undergo an experience is to simultaneously ask questions in the four aspects of how the experience presents itself in inward, outward, backward, and forward (Clandinin & Connelly, 2000). The nature of narrative inquiry seeks to uncover the many layers of experience and how these layers have come into place or how they contribute to the identity construction or other forms of meaning making for the storyteller (Andrews et al., 2008). Learning from experience has a backward and forward connection between what we do, what we enjoy, and what makes us suffer (Berding, 1997). While an individual moves backward and forward through their experiences, that is, through their past, and present experiences, they look to their outer influences as well as their inner views and opinions to make sense of their experiences as they are expressing them through narrative stories (Berding, 1997).

Individuals construct self-identities from past and present experiences. While this is helpful in identity construction and the realization that specific experiences may have played larger roles in the identities that they have, it is important to also acknowledge that what storytellers project may not be an accurate representation of who they are; rather, it may be a projection of who they eventually want to become or be represented as in the outer world (Caduri, 2013). In the context of my own story, this means that while my experiences may be more negative in comparison to my participants, Narrative inquiry is most importantly set out to try and understand human existence and its components by bringing attention to specific human characteristics, and how these characteristics present themselves in a combination to create an individual identity (Polkinghorne, 1995).

3.3 Dimensions of Narrative Inquiry

As noted by Dewey (1916), experience is not a static or fragmented state for human beings, it is rather a dynamic concept in which individuals are always moving forward with the past experiences in mind and perhaps as precedents of learning experiences for the future. With this frame of mind, the three-dimensional space serves as a way to view experiences across time, place, and different social interactions of individuals to create a complete examination of the experience and its effect on the individual's construction of themselves and their personal identity (Clandinin & Connelly, 2000). Continuity, interaction, and situation work together as the criteria of experience, which helps in understanding the value of an experience (Hutchinson, 2015).

Experiences are continuous for individuals; in other words, one experience cannot be isolated from all other experiences, as previous experiences shape future ones (Hutchinson, 2015).

Experiences are also shaped by an individual's interactions, which can be personal and social. As a result of their interactions with others, an individual may be exposed to people who have differing intentions, purposes, and points of view on their particular story or way of life, which can ultimately create new meanings, identities, or experiences for the individual. All human experience is ultimately social in that it involves contact and communication with other objects and entities (Hutchinson, 2015). The researcher must analyze the transcript of the interviews that took place with their participant for personal experiences of the storyteller, as well as the interactions the participant may have mentioned with other objects throughout different instances in time. Furthermore, the researcher must also consider their own ways of thinking and how they will influence the study. By analyzing the present experiences as well, the researcher can see how the present demonstrates future anticipated actions or meaning making for their participant. The researcher will also encounter specific situations in the storyteller's landscape or location

(Clandinin & Connelly, 2000). These locations may follow in the sequence of events or jump back and forth as the storyteller makes sense of their experiences and begins to make connections to the construction of their own identity through their storied experiences. Providing a rich description of the setting or place can also add to the validity of the data collected from the storyteller, which helps to situate the story and establish a connection between the researcher and participant (Creswell & Creswell, 2018).

3.4 Storytelling

Narrative inquiry in qualitative research is defined in relation to events in time (Wells, 2011), that usually has a specified focus on stories (Creswell, 2006, Polkinghorne, 1995). Narrative research is concerned with how humans experience the world around them (Clandinin & Connelly, 2000) by allowing the researcher to delve into an individual's identity as a result of their past and present experiences (Creswell, 2006). The most common use of narrative inquiry in research is conducting structured, or semi-structured narrative interviews (Allen, 2018). During the interview, the interviewer plays the role of a listener while the interviewee tells stories of their experiences (Allen, 2018). Storytelling is seen as a "Fundamental structure of human experience" (Connelly & Clandinin, 1990, pp.2). Studies of narrative inquiry suggest that human experience has a storied quality which is present in the reflection and deliberation of past events (Clandinin and Connelly, 1991).

Storytelling as a methodology can help those who tell their stories with regards to how their experiences have helped in shaping them into the particular individual that they are (Clandinin & Connelly, 1991). Through expressing experiences in the form of stories, an individual is able to access multiple versions of their experience, allowing them to produce new meanings, depending on their particular location, setting, and interaction associated with the story they tell (Bateson,

1993). In reflecting on one's own story, an individual can create validation for their experiences and give them greater meaning; this can help an individual who is trying to make sense of their experiences and contemplate how these experiences have contributed to their own identity construction (Atkinson, 1995). Storytelling attaches one's life experiences together and helps to build a framework that helps the individual make sense of all three dimensions of their lives (Shields, 2005). While participants share their stories, it is also informative to keep observation of the behaviour of both the researcher and the participant, as reactions and emotions can arise in the process of storytelling that contribute to meaning-making of particular instances in the stories (Clandinin & Connelly, 1991).

3.5 Participant Selection

Participants for this study examining the experiences of South Asian undergraduate women in STEM programs consisted of five South Asian female students at the University of Western Ontario. Three potential participants who I had anticipated would be interested in taking part in the study, were introduced to me through my housemate in a casual conversation, in which three individuals asked about my research study out of curiosity. After learning about the study that I was conducting, the three women expressed that they were in the STEM disciplines at the University and that they would be interested in being a participant in the study. I thanked the three women and informed them that once the human ethics application for the research is approved, I would reach out to them to see if they were still interested in participating in the study. Once human ethics for the research was approved, I asked my housemate to inform her friends that if they are interested in participating in the study to contact me via Facebook Messenger (FM). I anticipated that they would contact me within a two-week span via FM expressing their interest in participating my study. I then dialogued with them through FM and

provided them with a brief written synopsis of the study (Appendix A). The synopsis provided a summary and the inclusion criteria (enrolled in STEM degree program, South Asian descent, female, willing to participate in two 90-minute interviews, and willing to discuss with relative openness factors, opportunities, and challenges encountered during their pursuit of a STEM degree). Once potential participants stated that they understood the study, the requirements, and meet the inclusion criteria, I provided them with informed consent to sign (Appendix C). I then informed the potential participants that if they were willing to participate in the study, that they would need to read and sign the informed consent. I asked them to do this in their own time, and return the signed informed consent in three days. Once the signed informed consents were received, I contacted the participants via FM to setup the interviews. This recruitment technique will allow me to acquaint myself with women in the STEM undergraduate programs who are interested in sharing their stories and offer the possibility to relay the information to the other peers who would be interested in contributing to the study.

To broaden the search for potential participants for the study of South Asian undergraduate women's experiences in STEM degrees, I designed posters (Appendix A) in which I indicated the nature of the study that I was conducting, the incentive that I was offering, the criteria for potential participants, as well as my contact information. The criteria for potential participants are individuals who identify as South Asian females (Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka), and who were enrolled in STEM undergraduate programs at the University of Western Ontario. The posters were be distributed in Facebook groups that pertain to South Asian students at the University and individuals who were interested were invited to contact me through Facebook Messenger or UWO email. This was the method used to recruit the remaining two to three South Asian female students. I then conducted the same process of

providing them with a research synopsis (Appendix B) via email. I then provided them with the informed consent to sign.

While the initial meeting was to get to know the participants and their programs of study in more depth, these meetings were also be done in order to situate both the social and cultural contexts of each research participant with relation to their experiences in socialization in various environments such as their homes or school classrooms, as well as their views on the importance of education. Interviews began as naturally as possible, in an informal conversation at first, in which I asked participants about the nature of their school schedule, and how they feel about the degree programs that they were enrolled in, while offering my own academic interests, only if asked. Throughout the back-and-forth process, participants were invited to recall any specific instances in which they had a conversation with their parents about their educational careers. This question prompted the individuals to reflect on their initial processes in applying to specific programs of study and their motivations for doing so.

Upon the beginning of the data collection process, participants were informed that they would each receive a gift card valued at fifteen dollars to Starbucks Coffee as an incentive, and to express gratitude for their participation and time commitment to the conduction of my research. Each participant was given equal compensation at the end of the study, as well as an equal chance to win a larger incentive, an Amazon gift card valued at thirty dollars, where the winner was selected by drawing a name from a bowl at random.

3.6 Unforeseen Impacts on the Study

Our participant recruitment and data collection was done through the second wave of the pandemic in late 2020. This meant that students and faculty of the university were participating in remote learning and work-from-home. Upon completing the research ethics application for the

study, we awaited approval as we were aware that the process may take longer due to the adjustment to work from home for the majority of the university staff. Once approval was given, I requested that my house mate reach out to the potential participants that had expressed initial interest in being part of the study. As this process was done entirely remotely, we were unable to schedule in-person introductions as we had originally anticipated, in an effort to get to know our potential participants before we began the interviews. One of the main struggles experienced during the data collection process was maintaining a strong internet connection to produce sufficient recordings of the Zoom interviews. As this was a point in time where the majority of the university was participating in at-home learning, technical issues were inevitable. The interviews had to be restarted multiple times in some instances where an internet connection was unstable. This hindered the experience of the participants as it was frustrating to have to repeat certain instances of their stories, while at the same time maintaining privacy, as some of the participants were participating in the interviews from their family homes.

3.7 Data Collection

The time frame to collect data was approximately five weeks. This was enough time to conduct an initial interview, transcribe the recording, analyze for initial emerging themes, and repeat the process for the second round of interviews. Individual semi-structured interviews at ninety minutes long were held with each participant in order to establish a closer relationship with each student and allow the ability for each student to talk about their experiences without the comparison to the other participants' stories or experiences. The initial goal of the first interviews was to gain relevant background information about each participant, and to establish a closer connection to the participants and help them feel comfortable in sharing their experiences. Interviews between the researcher and the participant create a bond in which the participants feel

more comfortable talking openly about their experiences if they are aware that their narratives will be expressed appropriately and accurately. I also ensured that I was conducting the interviews from a place that did not breach privacy. The same was recommended to the participants, as one of the main goals of the data collection process was for the storytellers to remain anonymous. The interview questions (Appendix D) were designed to be kept open-ended; that is, questions that allow the participant to respond in their own words without steering them toward a particular answer (Wells, 2011), and allowed the participants to answer with as much detail as they prefer. Follow-up questions were asked in accordance with initial responses to ensure to the participant that their experiences were acknowledged individually rather than through an emerging theme or a common feeling. While collecting data, it was important for me, as the researcher, to acknowledge and constantly call upon my own positionality as a South Asian woman whose experiences and opinions may differ from other South Asian women, specifically those of the potential participants of the study.

3.8 Participants

The five participants (Mili, Sam, Amirah, Nila, and), were all students at Western University.

Table 3.8. 1

Mili	Amirah	Sam	Nila	Alara
Pakistani	Tamil-Sri Lankan	Indian	Tamil Sri Lankan	Pakistani
Med-Sci (Psych)	Med-sci	Biology	Engineering	Med-sci
First Generation Canadian	Second Generation Canadian	First Generation Canadian	Second Generation Canadian	First Generation Canadian
Muslim	Hindu	Hindu	Hindu	Muslim

Mili is an eighteen-year old, first year psychology student, aiming for a degree in neuroscience at the University. Mili is also anticipating attending medical school to become a psychologist. Mili was born in Karachi, Pakistan and has been living in London since the age of five. Mili has one

younger sister, and looks up to her mother who is in Dentistry, as her motivation to pursue a career in the medical field.

Amirah is a nineteen-year old, first year medical science student at the University. She attended Western through remote learning for her first year of undergraduate studies and lives with her family in Markham. She is the oldest of three siblings; one younger sister and a baby brother. Amirah is Tamil-Sri-Lankan and is a first-generation Canadian.

Sam is a twenty-one year old, fourth year student at the University. She initially enrolled in medical sciences but made a change to a biology program to pursue medicine. Her hope is to complete a masters after her undergraduate degree. Sam was born in India and moved to Canada when she was seven years old. Sam currently lives in Brampton. Sam is the oldest of three sisters; 6, 10, and Sam herself is 21 years old.

Nila is a nineteen year old, Tamil-Sri-Lankan and is a first-generation Canadian. She grew up primarily with just her dad, as her mother passed away at an early age. Nila's father is an electrical engineer. Nila is also enrolled in engineering at the University and is currently in her first year of Undergraduate studies. Nila is the oldest of two siblings which includes her teen brother. She grew up primarily around male figures and was influenced at a young age to pursue engineering.

Alara is a twenty two year old, fourth year medical sciences student at the University. Born in Karachi, Pakistan, she moved to Dubai at two weeks old and spent fourteen years growing up in Dubai. Her family made the decision to move to Canada in 2013. Alara is the oldest of three sisters, and her extended family, specifically her grandfather, takes pride in having a family of powerful female role models for Alara and her sisters to look up to. Alara lives in London with

housemates but often visits her family in Mississauga. Her decision to pursue medicine is greatly due to her grandfather's teachings on the importance of knowledge.

The interviews were scheduled and conducted with respect to the participants' personal and academic schedules, and interview locations were also be chosen by the participants to ensure that the participants feel comfortable and safe enough to share their experiences at a time and in a location where they do not feel inconvenienced. Given the impact of the pandemic, these interviews were later scheduled to take place virtually, over Zoom. Interviews were held for ninety minutes at a time with room for more or less time depending on the participants' schedule, as well as their wellbeing; in other words, if the participant felt overwhelmed or needed accommodation due to the nature of the topic being discussed, I ensured that there was more than enough flexibility to ensure that participants do not feel pressured or coerced.

The interviews were audio recorded with the knowledge of the participants, which also helps the researcher interpret the data by not only ensuring that the words are translated verbatim, but also to observe affective expressions such as laughing, crying, or other emotions that arise while the participant tells their story (Wells, 2011). This was particularly helpful when analyzing the stories of the participants and drawing thematic links between the stories to identify positive and negative impacts of their experiences. In addition, this contributed to recognizing the ways that their experiences contributed to their personal identity construction and the views of the importance of education for the participants. Once the raw data was transcribed and interpreted, each participant was be given the chance to thoroughly look through the interpretations and ensure that their stories are interpreted in the same way that they had hoped to convey them. In order to give participants a substantial amount of time to express their stories in their entirety, there were two rounds of interviews for each student, which were about one week apart from one

another in order to give sufficient time to the researcher to review the first transcript, and also to ensure that the participant was giving their time on their own terms.

3.9 Data Analysis

Data was analyzed using both inductive and deductive measures. The two theoretical lenses used to analyze the data were both intersectional feminism and diaspora studies. Intersectional feminism was used to analyze the data from the multiple axis of race, ethnicity, class, and gender to better grasp where the participants' experiences differ from both one another, and from other visible minorities in Canada (Durham, 2007). Each participant had a different story to tell when it came to navigating the western world, as well as comparing their experiences in Canada to that of their parents in the same social structure. While each participant told their stories, it was noted that their families', intersectional feminism allowed us to understand that no two experiences will be the same. Similarly, a diasporic lens helped us analyze the differences between participants who were raised in Canada, in comparison to those who were raised in different parts of South Asia (Pande, 2018). After the initial data collection, it was important to consider the question of the inner world and exploring how individuals' experiences help them interpret the world around them based on what they have learned throughout their experiences (Wells, 2011). One of the important first steps will be to ensure that the collected and transcribed data is read and reread multiple times to develop a thorough understanding of what is being said by participants prior to making conclusions or drawing similarities and themes within the stories that were collected (Clandinin & Connelly, 2000). Restorying raw data can help provide insights to the research participant's own story by trying to understand their lived experiences (Ollenshaw & Creswell, 2002). Restorying the experiences of the participants also helps to bring researchers and storytellers together to construct better education practices, such as those of

inclusive education. After completion of the interviews, I transcribed each recording that I obtained from each participant verbatim into a document. During this process, it was also helpful to pick out the dialogues from the participants that appeared to be the most powerful in terms of the richness of the experience, or the conversations that I could recall which evoked the most passionate reactions. Once the content from each participant was in a transcript, I looked through each of the participant's stories to draw out specific themes using different colours, which was then followed by cross referencing of the participant's stories to connect similar underlying thematic links to one another. Additionally, if something stood out in a particular story, I also took note of the differences and contrasts in the participant's stories and experiences. While in narrative inquiry, more time is given to the major themes and thematic links, it is also important to examine the differences between the stories of each participant and examine them critically (Wells, 2011). The differences arose when comparing the experiences of participants who were born and raised in South Asia, versus those who were born in North America. These differences were then cross-referenced with related literature that was available to analyze what has changed in recent years when it came to these experiences. Certain parts of life such as upbringing, family relationships, socialization during childhood, as well as access to education were some of the topics that came up in the data collection.

Using the dimensions of interaction, continuity, and situation helped to situate the experiences of our participants, as well as drawing out themes in their stories (Ollenshaw & Creswell, 2002).

While the participants talked about specific instances in their lives, it was important to observe and acknowledge the details, such as where these experiences took place, at what age, as well as the other individuals or objects they were interacting with at the time (Clandinin & Connelly, 2000). These dimensions were also observed by the behaviour and emotions that the participants

exhibited during the interviews, such as specific feelings towards parents, teachers, or friends. Using interactions as well as past, present, and future in the stories will also helped in drawing thematic links between the experiences of the participants, which was later be communicated to the participants to ensure accurate interpretations.

3.10 Ethical Considerations

Consent

Participants were asked to verbally consent as well as to sign a consent document to be a part of a study that asked them to speak on their personal experiences with the divide between traditions in their country of origin and the country to which their parents immigrated. Prior to beginning the interviews, I was anticipating holding informal meeting with each participant to outline the main ideas and implications of the study, as well as conduct brief individual introductions to gain more insight on the participants' cultural and religious backgrounds, and their areas of study. This was not possible, as the COVID protocols put in place from the university did not allow in-person meetings under any circumstances. This process was instead done over FM, which was my primary form of contact with the potential participants. Consent forms with the running letterhead of the University were provided prior to the beginning of the interview process and were signed off by each participant. The consent forms outlined the implications of the study such as to use and re-use of the data provided as well as the confidentiality of the participants' identity. Participants were be informed that interview data may be used outside of the university for educational purposes in journals and other academic websites and publications with their identity masked in the same way that it would be in the study (Appendix C).

Confidentiality

Due to the nature of my study, it was anticipated that participants would raise concerns about the level of confidentiality and recognition that would be in place with the information they gave, in the form of their personal stories and experiences through schooling and socialization.

Participants were be ensured that their names would be concealed at the time of publication, and that during the transcription process, names and other personally identifiable markers would be concealed in the actual study. The identities of the participants of this study were concealed for safety, privacy, and reputation-related situations. Personal information revealed in the interviews with the participants were recorded in order to later transcribe and interpret. This information was stored safely and not used for other purposes. It was crucial to disclose that the information provided through the participant interviews would be checked for accuracy after the initial process of transcription. The participants were then able to look back at the transcriptions and outline the specific pieces of information that they did not wish to be disclosed in the study. It was also important to express to participants that any information used in the final thesis publication of the study may also be used in journal articles and conference presentations.

3.11 Trustworthiness

Qualitative Validity

In order to establish validity in my study, a number of measures were taken to ensure that the data being provided and analyzed was an accurate representation of the experiences of my participants. Qualitative validity was used to determine if the data that is represented in the study is accurate, based on the researcher and the participant's interactions (Clandinin and Connelly, 2018). There are multiple procedures that were used to express the validity of the data collected in the study, such as acknowledging my personal bias, as well as constant communication between the researcher and the participant, both during data collection and data interpretation.

These methods of ensuring the validation of the study helped me, as the researcher, in conveying the stories of their participants accurately, while also acknowledging that my bias will not disappear just because I have identified it. While it is unavoidable for the study to generally be shaped and presented as a result of the researcher's experiences (Wells, 2011), precautions such as member checking, sharing the researcher's interpretations of the transcriptions, as well as constantly calling on one's own personal bias and position in the research were taken to ensure that my personal bias was addressed prior to and after the data collection processes and that the participants' responses were not geared towards a specific outcome.

By using thick description of the experiences portrayed by the participants of the study, I was able to create validity and trustworthiness in my study. Additionally, it was important that the content presented in a study with respect to the data collected, transcribed, and interpreted was relevant to the field of study and contributed to the knowledge of the topic for other scholars to examine and critique (Wells, 2011).

It is also important to mention data that does not match positively with the anticipated results of the study (Creswell & Creswell, 2018). While in narrative inquiry, there is space for discrepant information, this must be explicitly mentioned throughout the data analysis process and how the discrepant information changes the final results and conclusions of the study. This may also include stories and experiences that are presented by participants in a non-chronological order (Andrews et al., 2008). While this may present itself as a participant discrepancy, in other words, as an inaccurate addition to a participant's story, the data must be expressed in the exact form that it is given at the time of collection. To avoid discrepancies in participants' stories, multiple interviews and sessions of member-checking was be conducted to ensure that the data being collected was an accurate portrayal of the individuals in question.

Qualitative Reliability

To ensure that the research methods and data collection methods provide reliable information, it was important to ensure that transcripts from interviews as well as coding processes for the data were double checked by the research supervisor, or another researcher or colleague in the field (Creswell & Creswell, 2018). For my study, the data was checked by my research supervisor. In order to establish trustworthiness and reliability of the data, the data collection process included member checking throughout the interview process to ensure that data was being interpreted in the same manner that it is communicated by participants through their storytelling.

Another important step in ensuring reliability within the study was to ensure that the researcher and readers of the work have a substantial background in the field to develop a detailed and in-depth understanding of the issues addressed in the study and ensure that the experiences of the participants were being captured effectively and accurately (Creswell & Creswell, 2018). This attention to detail and thorough background in the topics discussed helped to ensure that participants felt more comfortable discussing specific personal and family experiences that required more sensitivity and attention from the researcher.

Summary

This chapter discussed the ontological and epistemological frameworks used in the study as well as the positionality of the researcher in relation to the topics brought up through the stories of the participants. The chapter also provided an overview of the methods of participant selection, data collection, data analysis, and the ethical considerations of the study and the interactions with participants as well as the interpretation of the collected data.

Chapter 4: Findings

This chapter presents the findings of five semi-structured interviews that involve South Asian women speaking on their experiences in the home as well as in their schooling environments. The purpose of conducting this study was to gain a more informed understanding of how experiences in the home and school environments can shape and impact an individual's understanding and personal views on the importance of education, both generally, and specifically towards careers in STEM. After transcribing the interviews, I looked at each transcript individually, beginning with the first round of interviews, in order to identify the emerging themes from each interview. It is crucial to acknowledge that these participants offer a range of experiences that do not necessarily inform previous literature on the topic of South Asian women in STEM undergraduate degrees and STEM careers. Experiences of the participants differ based on age, ethnicity, the context of being first or second generation Canadian, as well as the role of parental influence in their family. After reviewing existing literature about South Asian women in STEM undergraduate degrees, it is evident that research is very limited and out dated. The data collected that pertains to South Asian women in STEM programs is conducted in a time period where their participation in such degree programs was limited. As generational differences have taken place, many South Asian parents are learning to adapt to western culture that is more in tune with their geographical location in North America, and more specifically, in Canada. This includes being more accepting of their children, especially daughters, pursue a wider range of degrees and become academically successful and financially independent. After conducting and transcribing each interview, I used a coding strategy that allowed me to separate the answers of each participant with regards to the themes

that came up in my conversations with each of them. The primary themes that arose during the interviews between the researcher and the participants are discussed in this chapter.

Due to the COVID-19 pandemic being in full swing as of March 2020, the data collection took place at a time where students of all levels were transitioning to online learning. Out of the five participants recruited for the study, all reported that they were supported by their family in terms of the ability to perform their academic responsibilities to the best of their ability during this difficult time. While the data collection process was modified to reflect the new COVID-19 physical distancing and social contact limitation guidelines, this was not a seamless transition. Our data collection was done to the best degree of our ability in the unprecedented time of the pandemic.

4.1 South Asian Culture

South Asian culture can take many definitions and meanings. Dependent widely on geographic location within Southern Asia, cultural practices for South Asians are passed down from continuous generations of ancestors. Culture can be a difficult road to navigate, as immigrants today in Canada are not required to assimilate (Tirone & Goodberry, 2011). Culture goes hand in hand with cultivations of socialization and education in shaping an individual (Jenks & Jenks, 2004). The participants in this study expressed the importance of culture in relation to their identity as well as their relationships to their family. Connection to their culture went hand-in-hand with connection to their family members, and especially, to their relationships with their parents. Despite South Asian culture having varying traditions and practices in accordance with geographical location, the most common aspect of South Asian culture across the board includes education, ethnic leisure activities, as well as engagement with other South Asian individuals (Tirone and Goodberry, 2011).

Cultural Connection

Both tangible and intangible aspects of culture were prevalent in participants' experiences that contributed to the formation of their self-identity. Mili explained that tangible aspects of her culture, such as celebration of holidays, music and enjoying cultural food are all crucial aspects to her understanding of connection to her culture, because of traditions that have been carried to North America from her parents. She also discussed a disconnect between her own family and that of her close cousins, as they fail to share the same importance when it came to cooking and eating traditional dishes, as well as sharing interest in wardrobe and musical content.

I'm big on celebrating culture with our traditional food, and I love Pakistani culture...My cousins, family, friends, they're not so interested in that. They're like, we are cultured though. So, I wonder how they consider themselves to be cultural if they don't really understand the language. If they don't like the food as much, and they don't like the music, then what constitutes as culture?" (Mili).

For Mili, cultural connection is rooted in specific aspects of culture that are learned through observing and practicing. Ethnic youth can benefit from such practices as it helps in maintaining a close tie with one's heritage (Tirone & Goodberry, 2011). Another crucial connection to culture for South Asian women comes from their views of cultural values and norms that originate from their parents' experiences, both in North America as well as their countries of origin in Southern Asia. While in some cases, South Asian women who are raised in North America do not necessarily agree with cultural values that originate from older generations of South Asians that are still alive within their parents (Tirone & Goodberry, 2011), many South Asian women begin to see value in some of these traditions, as their parents' primary goal is to ensure that their children are successful in all aspects of life. Along with traditions, part of maintaining cultural ties can come from having a certain set of values to follow. Sam expressed that with age and experience, it is easier to come

to terms with values that her parents grew up with and apply them to her own life in order to achieve success in other aspects of life.

“I think before I was just more lenient. But, I felt like I was wasting a lot of time. So, I wish I could go back in time and probably change a lot of things so that, like, my first and second year were better in terms of my grades but, yeah, so I think that's how my identity kind of changed, so I kind of just became super focused on school, education, career and stuff.”
(Sam)

Sam spoke about her earlier years of undergraduate studies at Western expressing that she was on a path that she was not proud of, which became apparent upon realizing the effect it had on her academic performance. Ethnic identity is seen as one of the factors that may steer young South Asian women away from certain paths that include compartmentalization; something that is done when these individuals feel a stronger connection to the dominant Canadian culture over South Asian culture (Ghosh 2013). While Sam spoke about her experience of the path she was partaking in, she reflected on how her parents had made a positive influence on how important her education is over leniency and certain forms of socialization that are more prominent in Canadian culture.

Participation in the community is also a crucial component when it comes to cultural connection for South Asians. Activities that are often organized as a result of being in a community that has a concentrated population of families that share a cultural background serves to connect the community with a deeper bond. Community involvement also typically includes participation in activities with other South Asian individuals in the age group to gain a sense of relatability within the culture (Tirone and Goodberry, 2011).

“For me to be culturally connected, I think that means being involved in the community, doing things with the community, family or even going to temple, and or doing something like that personally I think that I'm involved in the community to an aspect I'm definitely those where people

out there more connected than I am by personally I speak Tamil to an extent.” (Amirah)

Amirah, while living in an area that has a significant Tamil Sri Lankan population, finds cultural connection through being involved in the community through family events, and events organized through her local Temple. Cultural connection is also achieved through familial ties, such as those to one’s extended family.

“I’m really close with my cousins like now so like in the last two years that I grew, culturally in that aspect. I used to go to a Tamil class but personally I don’t think I learned much there I think I just made a lot of friends so that was nice like to know people that like, are the same background as you as well and you have like the same kind experiences sometimes and things like that.” (Amirah)

“Like really in tune with like where you’re from I don’t know like you just go out of your way to like learn more about like Tamil culture and like history. And I mean I was a Tamil class. We talked and. Yeah, I don’t know. I think it’s also the fact that like I just have just like a big network, more so on the social linking community now. Like obviously like I’m here. So I think it’s good that I have like, and experiencing being like not like just, like the majority and I’m getting the experience of being like finding myself in a group of like diverse people. Yeah, it’s almost the opposite of most people, right? There’s a minority.” (Nila)

For Nila, cultural connection means to be in touch with the traditions and history of the home country. While she is far from Sri Lanka and her family that lives there, she keeps her cultural connection alive in having a diverse group of friends who share similar traditions and ways of thinking.

So I would say... my family is not very religious, but we do one specific ceremony a year which is called Saraswati puja. And she’s a goddess of learning and education. So, that’s how you can tell that my dad really cares about it (laughs). I guess, not specifically in STEM. I would say, just overall learning. Also, like culture, music and dance. So, I don’t think there’s any aspect that particularly influences learning STEM. But I would say that learning is encouraged.” (Nila)

While Nila expresses that her family is not consistently religious, she describes a specific prayer that her family participates in, that promotes the importance of learning and education, as well as

cultural rituals such as music and dance. While this is not specific to STEM, Nila talks about the influence of education and how important it is in her religion. Nila's influences to pursue STEM mostly come from her family, religion, as well as self-interests.

Alara found difficulty in maintaining a connection to her culture and religion, while attending university in London. This was primarily because it was not something that was widely known or recognized by the majority of students at the university.

“Especially going to a university like Western, where there is a whole bunch of Caucasians...there was definitely a time where I wanted not to associate myself with my religion because of the lack of understanding. And my roommates do ask me certain questions. They obviously asked out of curiosity, but I have other people ask out of vain. And it's not like, from a negative thought, it's just like, it makes me want to steer away from it. But if I really just sit down and think about it, I should just like of not be concerned about what people think, and just be concerned about how I view it, and how important it is to me.” (Alara)

Alara faced a battle between accepting her culture and steering away from it as a result of not understanding reasons behind certain cultural practices or perhaps an all-around lack of understanding of the culture as a whole. As time went by, Alara began to realize that what others see about her culture is at a mere surface level. It is a widely accepted social construct group South Asians together and not recognize the difference in cultures of individuals from varying parts of South Asia (Ghosh 2013). Second generation Canadians struggle with the idea of biculturalism; participating in the traditions of two cultures simultaneously (Tirone & Goodberry, 2011). Alara knew her cultural practices were not common among the students she mingled with at her university. The unfamiliarity can brought on feelings of discomfort and a sense of not belonging due to cultural differences. Fortunately for Alara, her connection to her host culture was strong enough for her to maintain ties, as well as having the ability to go back and fourth to visit her parents and still consistently partake in cultural activities.

4.2 Attitudes and Influences in Education

The women who shared their experiences in this study speak generously about the support they are given from their parents and families with relation to their education, especially towards their interests in the STEM field. The participants of this study all expressed interest in STEM careers from an early age, which resulted in positive reactions from their families. This section of the chapter will discuss both the emphasis that is placed on education itself, as well as the importance of women being educated, especially in STEM fields.

Importance of Education

In Nila's interview, she expressed the importance of having South Asian representation, especially that of females, in certain career fields to help parents and families gain a better understanding of different academic paths to success.

“I think it's also about, like, having more representation of South Asian like women and like guys too so that you can have examples to point out. Like all these cousins did like social science and they're working like this and they're doing very well. So you have like certain reference points that make it more understandable.” (Nila)

Bagguley and Hussain (2014) bring recognition to the idea that South Asian women's social networks and role models in their ethnic group encourage attendance of these women in higher education programs. This also appears to be the case for all South Asian women who shared their experiences for this study. For Mili, her influence to pursue a university-level education, specifically in the sciences, came from her mother's influence. This resulted in a positive attitude toward education and a subsequent high-paying career. Representation of women who pursue careers in STEM while still maintaining a well-rounded lifestyle was an important factor in Mili's decision to want to pursue a career in the STEM field.

“My mother is a dentist, so she’s in the healthcare field. My dad, he has an MBA degree...but also, my parents never pressured me into doing anything. They were always like, you should do whatever makes you happy, and we’ll support it as long as you have a university-level education...I’d like to give back to the community and psychiatry is something really interesting. (Mili)

For Sam, her influence to pursue a degree and subsequent career in STEM comes from knowing that her parents will encourage her to pursue a career that provides her with stability. While she didn’t feel forced to pursue a degree in science, she felt encouragement from the early stages.

“I think it’s probably a positive kind of thing. I feel like, South Asian parents are very, like, ‘you should become a lawyer, a doctor, engineer,’ or that sort of thing. Yeah. So, it was never in a negative way. Never forced. But probably influenced in a positive way. ‘Cause, I guess, when they found out I wanted to be in medicine, they obviously supported me. But, I don’t know how they would’ve felt if I took, like, art (laughs). So, I wouldn’t know how they would react. But, like, my sister, she kind of doesn’t like science, and it’s too early to tell, but she kind of wants to do cooking and stuff. So, my parents are like, ‘Oh, ok.’ Like, I don’t see them objecting, so I don’t know how they would have reacted with me. But, yeah. Probably a positive influence.” (Sam)

Sam’s parents have always stressed the importance of education as well as their level of support in pursuit of higher education. Upon hearing that Sam was interested in medicine, she received an immense amount of support from her family and knew that this support would continue no matter which career path she had chosen. However, Sam expresses that it is always preferable to pursue a career in STEM, Finance, or Law.

Alara experienced similar type support from her family for her interest in medical sciences.

“I think that especially in religion, I was always taught, especially by my uncle...that knowledge is power. And he’s like, people always put a blind eye towards this, but it’s always been told that knowledge is very valuable... it might just be the most valuable thing on Earth. Any type of knowledge, whether it be STEM related, whether it be socially related, any type of knowledge is super valuable. And if you are a knowledgeable person, you are going to be more open towards the world, and how you

view the world. Because the more you learn, the more perspectives you get in your life.” (Alara)

In Alara’s family, education is placed high on the list of priorities. The importance of being educated is a generational expectation, as it carries on in the family. Education is seen as a staple in the families of all participants, as it is placed above other life aspects such as marriage and familial obligations. Comparative to available literature, education is also seen as a way to elevate the other aspects of a South Asian woman’s life and prepare her for her future (Bagguley and Hussain, 2016). The importance of being educated is a generational expectation, as pursuing engineering is a field that future generations are expected to excel at in comparison to the previous generation (Tirone and Goodberry, 2011). For all of the participants, the importance of education was a learned aspect in South Asian culture. While ’s perspective on the importance of education aligns with that of her family, she also expressed the pressure that can be felt when she is viewed as the primary role model for her younger cousins and family members. was raised knowing the importance of education and the expectations that her family has when it comes to her own educational pursuits.

Familial Influence

The role of family is one that is crucial to identity development in South Asian cultures, as this is the first point of contact for children, even prior to schooling experiences. Mili’s parents’ expectations, while they are open and supportive of any career she chooses to pursue so long as it is deemed a professional career, are still high for both herself as well as her sister. Mili’s mother stresses the importance of hard work and its rewards.

“I have like multiple times I talk with my parents and my dad's always like very supportive. He's like as long as you know it's a lot of work, and you're willing to do the work. And of course I'm happy with that. What will be better for me and my mom? She's the same way she's like, you know that

it's a lot of work, and a lot of effort, and you can't just be lazy and chill and expect to get into medical school and I'm like, yeah, you're right, my dad. He is very deeply personal. My mom sometimes...tries to make me understand the reality of how hard school is, and sometimes as her daughter. That can be frustrating. But sometimes I need that reminder from her too.” (Mili)

While previous data suggests that parents of South Asian women tend to prefer their daughters to pursue degrees that allow them to perform multiple domestic responsibilities (Bagguley & Hussain, 2016), current literature remains limited. Through my data collection, I uncovered that parents of the South Asian women in this study encourage their children to obtain a good education, and place this above most other priorities. For the participants' parents, education is seen as the highest priority, in order to be self-sufficient in today's society.

Sam's parents value the idea of her being successful before she shares her life with a partner. On a similar note, her parents prefer her to be with a partner who equally values their own education and self-sustainability.

“My mom just kind of believes that like if I am going to get married I should get married into a more wealthy household. She mentioned this like the other... I don't know. Like a year ago and I was like, that makes no sense to me but I was like as long as they're doing well for themselves and enough to sustain a family, I think it should be okay.” (Sam)

Sam's parents' views differ from her own when it comes to her partner and their success. In many South Asian households, parents believe that their daughter should be married to an individual who comes from either familial or self-achieved wealth as a means of financial security if the need arises. The need for independent financial stability is something that can provide personal security to South Asian women, as well as an avenue for identity construction.

Nila's family shares similar view's to Sam's family, with regards to her partner being equally or more financially stable, mostly due to the positive effect it has on their reputation in South Asian societies and social groups.

“I think they [my family] definitely speak higher of like, other couples where the male is the one who's like higher educated and working because that's more expected? I like, I think that that would be like an issue. I think once again that like sort of a presentation type of thing. Like this person is working right. They do have a good job. This is what they're doing. Like, it's definitely much more explaining.” (Nila)

Nila anticipates having a partner who, like herself, is a hard-working individual who is career-oriented. This is an important value for her, especially when she eventually has a family of her own with regards to financial stability as well as parental influence on her children.

While Nila herself is pursuing a STEM degree for a career in engineering, she believes that an individual can be successful in any career depending on their state of mind and level of discipline. While income level of her spouse is not a deciding factor for her, the opinion of her family would be to ensure that her partner is educated to a similar or higher level, along with a higher level of income. Nila explains that it is expected to have a partner who is well-rounded in their career along with other aspects, but also preferably have a higher level of income, as this is about presentation of her partner to the family, and is seen to be a high priority. Nila's own opinions are rooted in ensuring that she can pursue her own career and goals regardless of her partner's income, rather than depending on his income to survive, and giving up her own career. Nila believes that responsibilities in a marriage should be equal when it comes to household responsibilities as well as raising children.

“Personally,, I didn't face [pressure in career choice], because other than architecture, I didn't really look too much into social science. I had a couple of, actually all three of my best friends did go more into social science and media, and they definitely have to like explain what they're doing more.” (Nila)

Nila describes how while it is more difficult to convince South Asian parents and families that non-STEM degrees can also turn into fruitful careers, her friends were able to overcome this struggle with their parents, much like Nila's cousins and extended family. Ghosh (2013)'s

analysis on the cultural values of South Asians describes the pursuit of careers that conflict with familial values is perceived to be selfish, as the primary goal is not to support their family in old age (Ghosh, 2013; Phinney, 2003).

“For me, it’s just like, “Nila’s going into engineering.” Like yeah, I understand what that is, but, my friends are doing sociology, psychology and media production. So, I guess it’s a lot more explanation, but they’re all allowed to do it. I guess it took more effort to bring it up and it was definitely a little more confusing. And they had to prove that, yeah, with this degree I can get these jobs.” (Nila)

The most convincing argument in this scenario for her friends would be to ensure their families understand that there are long-term, sustainable jobs that result from degrees in the Social Sciences such as sociology, psychology, and media-based degrees. South Asian children are encouraged by their parents to pursue white-collar jobs, otherwise known as career fields that are higher paying and more conventional (Ghosh, 2013). For certain South Asian families, education is a sign of prestige for a daughter when the family is searching for a suitor (Charsley, 2013).

While the traditional ideas of the importance of education are to create a more respected image of the South Asian woman in order to attract a better marital suitor, the parents of the participants of this study have socialized their children to pursue education for their own independence and identity construction.

Support in STEM Pursuit

While most participants had generally positive experiences in their educational environments, Mili particularly expressed that this experience was not always positive, and could have possibly hindered her from enjoying sciences in her younger schooling years.

“As far as I’m concerned, I remember grade 8, I was the new student at my school. And kids in my class were really racist. A lot of them. But my teachers were very supportive and they helped me through a lot. There was one teacher though, a music teacher. I tried approaching him about

something that happened while we were on a two day field trip in Toronto, under his supervision. Like some really inappropriate things. And he was really unsupportive and he was just like these are amazing people, I've known them for years. All these people were White, and he was White." (Mili)

Mili's experiences in the classroom coincide with specific experiences that pertain to the dominant race in her elementary school. Such experiences are shaped by her teacher's behaviour towards Mili's actions and words in comparison with the non-racialized peers from her classroom.

When Nila was asked about how she would compare women in her family in North America to women who did not have as easy of an access to education back in Sri Lanka, she raised the point of how access to education can play a role in pursuit of education.

"If you don't have access to education or just wasn't encouraged, from a young age, it means that you don't have as many opportunities to like, branch out and like, get out of wherever you are. If you don't feel comfortable." (Nila)

Nila expressed that this was a more common situation for family that she had seen back home in Sri Lanka instead of family that she had in North America. Studies show that South Asian women who pursue education in Western countries tend to have access to more career opportunities, and in turn, are more motivated to pursue those opportunities to obtain professional careers, such as those in the STEM career fields. For South Asian children and adolescents, conflicts within the family can appear when career goals that are considered unconventional are pursued, as they are seen to be of lower prestige (Ghosh 2013).

Sam also expressed how her parents have always shown support in her desire to pursue higher education, and more specifically, a career in STEM. Ghosh, (2013) suggests that conflicts between parents and children occur when children want to pursue careers that are conventionally seen as 'lower prestige', as this is seen in their

eyes to be a corruption in their children from European cultural ideals. In the case of Sam's parents, the desire to pursue a career in the arts or other programs seems to me something that they hope their children grow out of as they grow older.

Amirah's primary motivation to pursue a career in STEM comes from experiences where she has seen the influence that women in medicinal programs have had on her own family members.

“Personally, I think it comes down to, even our personal experiences, especially in terms of the STEM aspect, recently, one of my uncles got really sick, and he was in the ICU, to the point where everyone knew it was really bad. And I know at that point everyone was thinking... there we didn't have much support with the healthcare system. And my cousin and I were talking, the one that's in England and he was like, this is what's encouraging ME to go into STEM. Because, if this kind of situation happened in the future, I don't want there to be no one. He was saying that there, everyone in their family has some sort of person who's in STEM, or they have relatives that they can go to, if that was to happen.” (Amirah)

“...In our family, nobody was educated to the point where, like in STEM or any kind of aspect. And so, I think for him, that was definitely a life changing point. Where he was like, I'm going to go into medicine, and I saw my uncle struggle. And so, I think that for me too, that would be more of a confirming thing. No one in our family is in STEM, really, and so, we were like, maybe if we go into it, more people will go into it. He's also like, my age. He's a year younger. And so, I think that because we're both from the outside countries, we're also encouraged in that aspect, to go into it somehow.” (Amirah)

Amirah's desire to pursue a career in STEM is significantly influenced by her family members and their interest, and subsequent careers in the field of medicine. Her passion for pursuing a career in STEM, and specifically, in medicine, comes from the experiences that she absorbed on behalf of her family in Sri Lanka. For Amirah, the situation in Sri Lanka, and specifically instances that have taken place that involve her family members, serve as motivation to be a role

model for her younger family members and encourage them to pursue careers in STEM. A pursuit in these careers can also serve to contribute to taking care of their elder family members. While literature that pertains to South Asian women in STEM commonly discusses the negative aspects of South Asian women trying to pursue careers in STEM and sometimes lacking familial support, Amirah expressed that her experiences were quite the opposite. As Ghosh (2003) mentions, it is more important to pursue goals that directly align with the best interest of the family. However, for Amirah, her interests coincidentally lined up with the type of career that carries prestige both in society as well as within her family's views and values.

Women in Education

“For them, it's always been about education. And so, like they came here and they're like were one of the only families in like our families like, that are outside of Sri Lanka like a few of the family then so for us we see like oh education grants and education here like we have so many opportunities and my mom always compares, like, her lifestyle our lifestyle and said we get to do all these things and we get to join those clubs and she was like that's such a big thing.” (Amirah)

Amirah's parents have always expressed the importance of her education and stress the fact that their move to North America, specifically Canada, is to ensure that Amirah and her siblings have access to better opportunities than they would have had in Sri Lanka. In comparing lifestyles in North America and Sri Lanka, Amirah's mother and father help their children understand how important it is to take advantage of opportunities that they have and how it will contribute to their own self development and success.

4.3 Gender

The conversation about gender roles in South Asian culture is an old idea that comes from generational experiences and traditions from the respective South Asian countries. Culture is celebrated through both substantial aspects as well as various methods of symbolism (Tirone &

Goodberry, 2011). Through the interviews conducted with the participants of this study, gender was a very important topic of conversation which sparked many different opinions and experiences. While some participants shared their experiences of being treated fairly compared to male children in their family, others reported that the gender gap was something they had heavily, and continue to heavily experience.

Dating and Relations

In South Asian cultures, the topic of dating and marriage is often mentioned in the early stages of adulthood for women. Mili shares similar views with her parents when it comes to dating and marriage.

That's one thing they're not so open minded about. And I get that because honestly, I don't want a relationship right now either. They definitely prefer someone of the same culture. And my mom is very blunt and honest about that so... I know that. And I understand that. I'm the same way (Mili).

For both herself and her family, it is important that Mili's partner share the same religion, culture, and values, as this helps in the process of creating her own family, as well as both her own, and her partner's relationships with each other's families.

When it came to dating, it was reported that parents of the participants expressed similar views to each other. Sam's parents emphasized that there should be more importance placed on education rather than dating life and possible prospects.

“So they were kind of fine with...like, they've never had problems with me, like, talking to guys and stuff. But, they found out that I was physical with someone. So, that's when they were like, cool it, stop. So, I think that's where the line crosses. So, since then, I felt like I became more focused towards my education...I felt like I was wasting time in terms of relationships and stuff.” (Sam)

Since Sam's parents have expressed that romantic relationships should come secondary to things such as education and career, Sam felt more comfortable prioritizing her personal goals above romantic interests and connections.

"I was like, well, a couple more years and then I guess they'll be okay with me doing whatever I want. So, I'd rather just wait and not have to lie to them." (Sam)

In many South Asian households, it is common for children to keep their personal affairs to themselves rather than being open with parents about prospective dating partners, especially in adolescent school years. While Sam's parents have not expressed concern with regards to her interacting with boys, there are specific limitations that are placed to ensure that she is respected as well as to help her maintain focused on her education. In South Asian families, women are often encouraged to maintain only friendships with classmates and individuals that they interact with until they reach a conventionally appropriate age to think about settling down; this age is typically seen to be in their mid-twenties.

Bagguley & Hussain (2016) suggest that communicative reflexivity can help us understand certain practices that South Asian women submerge themselves in and how outside influences can affect South Asian women's decisions about higher education. Communicative reflexivity is a means to accept structural constraints and allowances that South Asian children face in conversations and pursuits of higher education (Bagguley & Hussain, 2016).

"My mom always says that she doesn't think it would be possible for a woman that grew up here to marry somebody who grew up back home, because their lives are so different. And their thoughts are so different. And everything would just kind of, clash. But, the other way around might be a little easier. But, definitely in terms of a woman marrying a man from other there, she doesn't think that it's ever going to be possible, or work out in that way." (Alara).

Alara's mother expresses the "Cultural clash" that is likely to occur when people who were raised in different parts of the world in opposite cultural environments are

brought together and begin to discuss their ways of life (Charsley, 2013). For a man who was born and raised in a western society, it may be more socially acceptable and generally easier to marry a woman who is raised in a different part of the world. According to literature, it is more socially acceptable and encouraged in South Asian culture for a woman to compromise her living environment or way of life when she is married, given that a worthy and valuable proposal is presented to her and her family (Charsley, 2013). It is more commonly expected for integration (Ghosh, 2013) to be easier for women who move to the western world after marriage than men who move from the mother land.

"She's very open minded, so she doesn't really say...in my house it's probably not allowed right now. But, my mom says it's fine after a certain age. She just gets worried about distractions in general. I don't think it's even boys, I think that it's more about being distracted when doing school, or things like that. I also feel like she would be fine, but I think that comes down to like, family. Other people in other family saying things. Just, like, their social status. If you like other people, your reputation, because my cousins aren't dating either. So, I think that if we did...So my mom is like, in that aspect, she says to wait a while. I personally don't have any interest in it, so that's fine with me. But, I've had the conversation about marriage, and I always make a joke being like, I'm not going to get married, or something like, I'm just going to stay here. And she always goes, no! You have to. You're the first. And she says you can't get the younger children married unless the oldest gets married, apparently." (Amirah)

In Amirah's family, the role of dating is one that is discouraged while children are pursuing their education. The two main reasons for this point of view come down to maintaining focus on academic and career goals, as well as maintaining a specific type of reputation within the immediate and extended family. In certain instances, she is encouraged to hold back on certain behaviours in an effort to focus more on her academic performance rather than the pursuit of romantic interests.

“Now that I’m growing up and seeing all my friends, one of my best friends, I just found out, is getting married in January. But, to me, it’s just a little odd because every single time I go to her house, it’s always like, OK, well, when are *you* getting married? Or, when she told her mother that she wanted to pursue a Masters. And her mother was like, well, I don’t think it’s really needed. So it always really, like, baffles me. Maybe just because I was never really exposed to that kind of environment.”
(Alara)

The importance of education has always been a recurring topic of conversation in Alara’s family.

When comparing her relationship to her family to other families, Alara is heavily conscious of the differences in socialization and conversations that she has been exposed to while growing into adulthood.

Men vs. Women?

“I think that males don’t do as much, or they’re not encouraged to do as much...I think that females are definitely encouraged to do more around the house...Males, kind of, just, are allowed to lay back a little. Sometimes, they get told...For sure, when there’s girls and boys, girls are definitely encouraged more to do chores.”
(Amirah)

While the participants’ siblings who are males are all younger than them, Amirah, for example, still sees the downfalls of gender inequity among her immediate and extended family. Amirah expresses that while a family that consists only of sons and no daughters, the workload may fall on the sons, this dynamic would likely be different if there was a daughter. According to Amirah’s experiences and observations, girls are generally expected to take on more responsibility in the household. Literature about South Asian men and women’s expectations in their respective households express this gender gap by way of the level of responsibility that women are required to take on verses men.

“She encourages us to learn how to cook, and then we kind of didn’t pursue it. Even though I think that I should. I personally believe that I should be able to, but she’s never really been like, oh, you should. They

kind of count for privileges. So, if you don't do it, you don't get to do this. Or, you don't get to go out... so, I think that's a system I grew up with." (Amirah)

Amirah has been taught from a young age from her parents that completion of household responsibilities comes with its rewards. This is a common practice among South Asian families, especially for daughters, where, if certain tasks have been completed, it is more likely that the parent will be accepting of their daughter's wishes to pursue personal activities outside of the home, such as socializing with friends.

"I was never, ever told that hey, you can't do something because you're a woman. It was definitely like, there was stuff, especially when I went to University such as, please don't walk alone at night, or stuff like that. But, it was more out of safety concerns rather than my ability to do something, but it was more out of safety concerns rather than my ability to do something. And I think that has more to do with other people rather than yourself and how other people will behave." (Alara).

Alara's experience with her immediate and extended family show that gendered experiences are a reflection of others' behaviour more than her own. While she was never belittled based solely on her gender, Alara's family encouraged her to recognize the power imbalances between men and women and avoid certain situations as to not put herself in positions of compromise with regards to how others in South Asian culture will potentially perceive her. Ethnic identity formation is usually defined by a conscious commitment to a specific ethnic and cultural group (Ghosh, 2013).

All Fun and Games

"I've definitely seen, like, a lot of boys in South Asian cultures get pampered like their mom there under moms will be willing to do more for them than of they were a girl I think... that's like that's a joke now, like I see it." (Amirah)

Amirah notes that gender roles are often perpetuated through otherwise light-hearted-seeming humor that is present on various social media platforms. However, through our conversation, we both realized that these jokes reinforce real ideas about the gender roles that come with South Asian culture and the expectations that are put on men and women about their responsibilities when it comes to the household as well as their family.

Another joke that perpetuates stereotypes towards South Asian cultures involves the unity of two individuals who are related.

faced a battle between accepting her culture and steering away from it as a result of not understanding reasons behind certain cultural practices or perhaps an all-around lack of understanding of the culture as a whole. As time went by, Alara began to realize that what others see about her culture is at a mere surface level.

“People make jokes about us marrying our cousins, or like, the arranged marriage, and we just laugh it off. But I think us laughing it off is us internalizing it, because we feel like we can’t defend it without sounding silly.” (Alara)

There are certain aspects of South Asian culture that do not line up with Western culture, which can cause difficulty in teens and adolescents when it comes to the construction of their identity. When certain aspects of South Asian culture are talked about at the expense of the individual, it can cause individuals to be at odds with their dominant culture and produce a desire to gear towards their host culture (Tirone & Goodberry, 2011). An individual’s self-identity can be compromised in such situations as it produces a process that is referred to as “Self-stereotyping” (Stroink & Lalonde, 2009, p. 48). This causes individuals to perceive their dominant culture with the same defining features as the host culture would perceive rather than their own characteristics.

Summary

This chapter presented the findings from the interviews with the five participants of the study.

The emerging themes discussed include cultural connection, family influence to pursue STEM, influences in education, dating and marital expectations, and gender roles. These themes were then used to answer the initial research questions.

Chapter 5: Discussion and Conclusions

5.1 Discussion

This chapter focuses on discussing the resulting ideas from the stories told by five diverse South Asian participants. The goal of this research was to examine the experiences of first and second generation South Asian women who are pursuing degrees in STEM. The research questions discussed are: (1) How have South Asian woman's experiences in the home influenced their own perception of education? (2) What types of experiences have South Asian women had in different levels of schooling? (3) How does cultural identity inform the experiences of South Asian women in their education and social lives? In addition, this chapter will also discuss limitations of this study as well as influences and implications for future research.

5.2: How have South Asian woman's experiences in the home affected their own perception of education?

Throughout this study, the available literature has suggested that the choice to pursue higher education, and specifically STEM education for South Asian women has often involved both negotiation and conflict over outstanding motivations for South Asian women, such as their subject of study, the location, as well as future plans of marriage and starting their respective families (Bagguley & Hussain, 2016). Upon interviewing participants, it is evident that parents support their daughters' prioritizations of pursuing undergraduate degrees, and subsequent careers in STEM before deciding to pursue romantic relationships and consider settling down. For some of the participants, the parental expectations differed significantly from what is reported in available literature. For example, in Alara's family, women are encouraged to pursue high-demand careers such as those in STEM fields, as well as to maintain an active social life in the dominant culture. In Stroink & LaLonde's (2009) study, they explored the role of biculturalism and its impact on identity conflict and identity construction in second generation

South Asian Canadians. They found that when the individuals perceived both cultures to be somewhat similar, they were able to better identify with both their cultural dominant and host culture simultaneously. For Alara, this notion of biculturalism was difficult to grasp, as her host culture consisted of individuals who didn't otherwise identify with her in physical characteristics either. For racial minorities in a community where members distinctly differ in physical appearance, group membership can prove to be an even bigger challenge (Tirone & Goodberry, 2011). In the end, it is up to the individual to reconstruct their identity in combining their experiences from their dominant and host cultures.

Parents and family of the participants value educating their children about their culture as well as the importance of their education. In Milli's experience, the exposure given by having her mother as a role model in the field of STEM serves as a positive reinforcement to pursue such a career and a source of motivation to have a specific type of lifestyle. Similarly for Nila, growing up with her father being the parental figure and already sustaining a successful engineering career is positive reinforcement for the type of success she can obtain through pursuing a similar career path.

Parents utilize cultural socialization practices in various forms as a way to keep their heritage live in their children, and maintain certain core values in their lives (Chakawa & Hoglund, 2016). Amirah's parents use household responsibilities in a sort of "points system" to teach their children that they have various responsibilities to upkeep in order to maintain a well-rounded lifestyle. While maintaining a well-rounded sense of self and making sure their children are well-equipped in all aspects of their life is an important factor to South Asian parents in raising their children (Shariff, 2010), this does not hinder the importance that is placed on educational achievement. Nila also reported the expectation that her father put on both her and her brother to

complete tasks around the house to ensure that they would be capable of taking care of their own homes in adulthood. The participants' experiences with their parents' expectations coincide with their parents' desire for them to be well-rounded individuals, rather than to perpetuate gender roles.

5.3: What kinds of experiences have South Asian women had in different levels of schooling?

In schooling, all participants have had experiences in which they were encouraged for pursuing interest in STEM. As observed by the interviews of the participants, parents were always supportive and encouraging of the women's goals to pursue degrees and careers in the STEM fields. None of the participants reported being explicitly told by their parents to pursue degrees or careers in STEM. Nila, for example, had an interest in math-based subjects from an early age, as a result of her father's job. As she states, "I never showed interest in English classes." Having representation of both her father and other family members in STEM fields kept Nila motivated to pursue engineering. Similarly for Amirah, seeing her cousins pursue similar degrees, As discussed earlier, the available literature pertaining to the topic of women in STEM programs is limited. Where this literature is present, it oftentimes does not account for the unique experiences of minoritized women.

In topics such as dating, Amirah's parents perpetuate a common perspective for South Asian parents, which is to discourage their daughters from dating during their schooling years.

Amirah's parents have stated to her that they worry about "distractions," which is something that Amirah admits is also a personal worry for her. Sam's parents share similar views in that they perceive relationships to be a concern that can be pushed off until after Sam's education is complete. Children tend to adapt to what they see in their household. For Alara, despite what others around her were doing in her group of friends or cousins, her parents do not exhibit

pressure with regards to marriage or settling down. Her ethnic identity is defined by how she can perform academically and her ability to be a role model to her younger cousins.

Sam's experience in high school was that the support from teachers was more prominent in comparison to her years in undergraduate studies at the university. The experience with professors in undergraduate courses was nothing "Too prominent" as she put it, which raises questions about potential programs that could be put in place in universities to encourage South Asian women to maintain their interest in STEM both in and out of school experiences.

All participants in this study report to have had support from their parents throughout their schooling experiences, especially after expressing their interests in STEM careers. The storied experiences have shown the differences between certain cultural expectations in each household; however, all experiences have been as a result of pursuing conventional career paths (Ghosh, 2013). An ongoing topic for discussion is how parental support would differ if the participants of this study were pursuing career paths that are either not "White-Collar" careers or that are outside of the scope of STEM overall. Sam shared her observations of how her parents reacted when her sister announced that she wanted to pursue culinary arts. While this has the potential to be a successful career, it is still a career that will prove to be more difficult to thrive in. Nila also expressed the concern that her friend's parents have had upon learning about their children's interest for careers in social science, media, and other arts-based subjects. While, again, these careers have the potential to bring success, they had to "Prove that, with this degree, I can get these jobs." For the participants of this study, the support given from both teachers and their families contributed to a positive identity formation.

5.4: How does cultural identity inform the experiences of South Asian women in their education and social lives?

Identity is a concept deeply rooted in one's experiences, especially in cultural styles and patterns witnessed in upbringing (Hebert, 2001). Adolescence is seen as the primary opportunity for youth to begin to develop their own sense of identity (Tirone and Goodberry, 2011). When Sam, for example, expressed that her identity is tied to the taught values from her parents, she described it as an eye-opening moment for her, as her parents' teachings began to reflect the type of future she wanted for herself. In addition, the sense of 'freedom' that she did have in moving to a different city to pursue her undergraduate degree can be seen as an important opportunity to experience the dominant Canadian culture. While second generation Canadian children struggle with the difference in societal expectations of their parents and the dominant western culture (Tirone & Goodberry, 2011), gaining a better understanding of both cultures and coming to one's own conclusion is an important part of identity construction for young South Asian females.

Cultural identity is a crucial component in understanding how South Asian women's experiences are shaped and informed over various times and spaces. For the participants of this study, cultural practices and connection to South Asian culture is a prominent part of identity construction. Identity development can be challenging with the exposure that South Asian children naturally have to dominant cultural values and beliefs (Ghosh, 2013). It is also important to note that South Asian culture does not have one, homogeneous set of beliefs, values, and behaviours (Shariff, 2009). In addition, in most of the literature about women of colour and their role in education, South Asia is seen as one diasporic identity as a whole. In actuality, cultural practices and experiences differ based on geographical location and historical colonialism (Ghosh, 2013). For all five participants in this study, ethnic traditions were based on generational knowledge, which translates to learned behaviour by their parents and extended

families. In order to connect with their culture, and, in turn, to feel a sense of belonging to their culture, immersion in traditional cultural practices is crucial (Tirone & Goodberry, 2011).

5.5 Limitations

The limitations in this study are that while South Asian women in STEM are not confined to a specific city, for the purpose of this study, the experiences that are reported are those of only five women who attend university in London, Ontario, Canada. The experiences that are expressed and the conclusions that follow are individualized and do not account for the experiences of all South Asian women who are in STEM fields. The data presented in this study is dependent on the specific experiences of the participants as a result of their environment, education background, as well as the circumstances of their upbringing. While the participants were of diverse backgrounds, South Asians are individuals who identify themselves as coming from the region of Southern Asia which includes, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan, and Sri Lanka. Upon recruitment of five participants, they are reflective of Pakistan, India and Sri Lanka, which serves as a limitation, as the study does not have representation of individuals from Bangladesh, Butan, the Maldives, and Nepal. While the sample size is sufficient enough to start a conversation and critical thoughts about South Asian women's experiences in STEM fields, it is not sizeable enough to represent social and cultural implications, generational differences, gender roles, attitudes towards education, and familial influence of all South Asian women. While the sample size was small for this study, this allowed for the development of in-depth analyses of the very particular experiences of the participants. This also helped in developing more meaningful connections with each participant and helping them feel more comfortable sharing things about their cultural and societal experiences. This also helps to increase the validity of the data. While listening to the experiences of the participants, I

was able to develop a closer connection by sharing experiences, as well as asking questions that helped to develop a trusting relationship between myself, as the researcher, and the participant. In addition, the size and scope of this study did not allow for a sample of South Asian women from outside of Western University. The COVID-19 pandemic served as a struggle in terms of collecting data, as the interviews were unable to be done in person at the university. As a result, the interviews being conducted over Zoom, during the beginning of remote-learning was an obstacle, as connection issues as well as scheduling issues were common. While one-on-one interviews over Zoom are a practical alternative to in-person interviews, it caused a degree of disconnect between the research and the participant in terms of the sensitivity of the type of experiences being discussed for the study.

One of the limitations of our study is that due to COVID-19 restrictions and changes in procedures on conducting safe research, we were not able to schedule in-person meetings with our participants. While we utilized Zoom to host video meetings between the researcher and participant, this is not comparable to in-person interviews, where true emotion and context are felt in the environment. Furthermore, we were forced to speak about multiple topics that can be considered sensitive to our participants and their experiences within their home or schooling environments. While we continued with our best efforts to mitigate these limitations, some are unavoidable in this type of study.

Another inevitable limitation to the study is the inherent subjectivity of my interpretation of the data, and how this was affected by my own positionality. When initially looking at the results of the study, I was surprised to find that the experiences of the participants was significantly different than what I had read in past literature about South Asian women who pursue degrees in STEM. While I acknowledged my bias prior to beginning the research as well as before each

initial interview, the results may be distorted by a certain degree of subjectivity that cannot be completely eliminated. As I listened to the participants' stories and interpreted the data collected, I drew on my own experiences and how they differ from those of my participants.

5.6 Implications for Future Research

The purpose of this study was to examine the personalized experiences of five South Asian women in STWM undergraduate degree programs. Upon reviewing the literature as well as listening to five storied experiences, it is evident that the limited amount of research that focuses on experiences of women often does not account for unique experiences of South Asian women from different parts of the continent. Rather, the available research focuses on the experiences of women of colour in a more general sense. While this study reflects a small sample of South Asian women, the results from the experiences of these five South Asian women provides a greater understanding of the social and cultural influences that South Asian women are exposed to, and later, adapt into their own identity construction. Further research may provide more insight for educators as well as academic counsellors or other organizations who work with women of colour to encourage and provide access to educational resources. It is important to consider how such research will play out at the ground level with regards to practitioners, counselors, and teachers. It is also crucial to continue to review private university as well as public government policies to ensure that they are constantly evolving to include encouragement of women to pursue STEM careers.

5.7 Conclusion

Our study leaves us with questions and content for further research regarding South Asian women and their involvement in STEM undergraduate education for a subsequent career in STEM. While according to this study, the current generation of South Asian women pursuing

undergraduate receive more familial support than literature leads on to believe, it is crucial that encouragement to pursue these careers is exercised in all corridors of the educational experience starting at childhood. This data collected from this study has the potential to serve as a source to for potential improvements in the roles of educators in encouraging minoritized women to pursue careers in STEM while taking into account their unique experiences. Our work is buildable in providing specific experiences of women in pursuit of STEM careers and how other women can be encouraged to pursue similar career paths through influence and improved educational practices.

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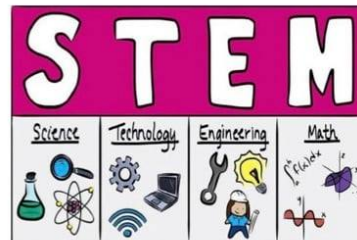
APPENDIX A



PARTICIPANTS NEEDED FOR Study on Women in STEM Undergraduate Degrees at Western University

We are looking for volunteers to take part in a study of the experiences of South Asian female undergraduate students in STEM degree programs who meet the following criteria

- ⇒ Undergraduate students at Western University
- ⇒ Female
- ⇒ First or Second generation South Asian (from India, Pakistan, Sri Lanka, Nepal, Maldives, Bhutan)
- ⇒ In STEM degree programs (Science, Technology, Engineering or Mathematics)
- ⇒ Willingness to talk openly about experiences in both school and home environments



If you are interested and agree to participate you will be asked to:

- Participate in informal interviews where you will be asked to tell your stories involving your educational and socialization experiences in the classroom, in the home and in society

Your participation would involve two Zoom sessions, and each session will be about 90 minutes long.

APPENDIX B



LETTER OF INFORMATION AND CONSENT

Project Title: South Asian Women in STEM Education: An Analysis on the Role of Culture, Socialization and its Implications on Women's Education

Principal Investigator: Anton Puvirajah -- [REDACTED]
Graduate Student Investigator: Kinza Shaukat -- [REDACTED]

Faculty of Education
The University of Western Ontario, London, ON, CA
Phone: 519 661 2111 ext. 87354

Invitation to Participate

You are being invited to participate in this research study that aims to examine the experiences of South Asian women who pursue undergraduate degrees in science, technology, engineering and mathematics (STEM).

Background/Purpose of the Study

In South Asian cultures, pursuit of careers in STEM (Science, Technology, Engineering, and Mathematics) is often discouraged by family, teachers, or a combination of both of these influences. The purpose of this study is to examine the unique experiences of South Asian women in Science, Technology, Engineering, and Mathematics (STEM) undergraduate degree programs, as well as how these unique experiences help to form ideas about their personal identities.

Study Design

This study focuses on the participation of South Asian women in undergraduate degrees in the STEM (Science, Technology, Engineering, and Mathematics), and anticipate future careers in these fields. Participants will be asked to share their stories with regards to their education and home lives; specifically, how South Asian culture is practiced and portrayed in their educational and familial lives.

Procedures

- Participants will be asked to:
- a) Be available for two 90 minute Zoom interview sessions. Participants must be in a private and relatively quiet space to ensure proper communication between the researcher and participant, as well as to ensure that participants feel comfortable and at ease when telling their stories.
 - b) Talk about their experiences growing up as a female in a South Asian household.

- a) Reflect on what kind of effect their upbringing has had on their views on education in general and specifically, relating to their prospective interests in STEM career fields.
- b) Talk about any experiences, whether positive or negative, that they have had with their own identity construction in relation to their experiences in common spaces such as classrooms and home environments.
- c) Be video and audio recorded for the duration of the interviews. This is a mandatory component of participation in the study.

Withdrawal from Study

Participants are entitled to withdraw from the study at any point for whatever reason, including at the point which they feel uncomfortable or unable to fulfill their responsibilities as a participant. Participants may be asked to provide a reason for their premature withdrawal from the study and data may be recorded in the study with the participant's consent.

Risks

There are no known risks for this study and participants will be encouraged to speak about matters that they are comfortable sharing.

Benefits

There is no direct benefit to participants, though there may be societal benefits. This study has the potential to allow participants to have an outlet to express their thoughts about specific topics pertaining to their own educational experiences and how they could have been supported differently.

Potential benefits to society will also include the study serving as a trailblazer to bring attention to the low levels of support that South Asian women and women of other minorities are given in academic environments. This study may serve as a stepping-stone for educators who are looking for ways to increase their role in female encouragement and empowerment in STEM-related studies.

Confidentiality

The interview data collected in this study will remain de-identified in its portrayal. Any data collected will only be accessible by the principal investigator and the student investigator of the study. After each interview, participants' data will be coded to mask the name and other identifiable information prior to storage, and real names or other identifiers will not be present in the data analysis. The master sheet that reveals the identities of participants will be stored securely and will only be accessible by the principal investigator and the graduate investigator of the study. All audio recordings, notes, and other forms of data will be securely stored on a password-protected networked server at Western (One Drive).

Video and Audio data collected during the interviews will be transcribed by the graduate student investigator. Video files will be stored safely on the password-protected networked server at Western (One Drive). Data will be stored for 7 years.

If the study is published, names and other identifiable markers will not be used.

Anonymized data may be published in an open – access journal. In this case, all identifiable information will be masked prior to publishing.

Compensation

Upon completion of the study, participants will be sent e-gift cards for Starbucks valued at \$15. Additionally, each participant will be entered in a draw to win ONE Amazon.ca gift card valued at \$30. Each participant’s name will be entered into the draw and a winner will be chosen at random.

Rights as a Participant

Participants have the right to withdraw from the study at any time by communicating their desire to withdraw to the principal investigator. At the time of withdrawal, participants will be asked whether they would like us to withdraw any data that we have collected so far to also be withdrawn. You do not waive any legal right by participating in this study.

Questions about the Study

If you have questions about this research study, please contact the Principal Investigator: Kinza Shaukat by email at [REDACTED] or by phone at [REDACTED]

If you have questions about your rights as a research participant, please contact The Office of Human Research Ethics at Western University by telephone, [REDACTED] or by email: [REDACTED]

This letter is yours to keep for future reference.

APPENDIX C

Consent to Participate in Research

- ⇒ I, _____ have read the letter of information and consent.
- ⇒ I have had the nature of the study explained to me and I agree to participate.
- ⇒ All questions have been answered to my satisfaction.

Signature of research participant

Signature of participant

Date (DD-MMM-YY)

My signature means that I have explained the study to the participant named above. I have answered all questions.

Signature of researcher

Date (DD-MMM-YY)

APPENDIX D
Interview Guide for SAW-STEM Study

1. Please tell me a little bit about yourself.
2. What made you choose your particular field of study?
3. How did your family respond upon discovering that you wanted to pursue a degree and potential career in STEM?
4. How would you describe your relationship with your immediate family?
5. What do the conversations with your family regarding your future involve? What specific topics have you discussed about how you see your own future?
6. How would you describe your relationship with yourself and your self-identity?
7. Please describe any defining moments that you can recall that contributed to your view on your own identity?
8. Please describe any defining moments you can recall when deciding to pursue a degree in STEM.
9. How would you identify yourself? Through which lenses?
10. Please explain the level of support you have received from teachers and educators throughout your schooling years.
11. Please describe your social circle from your schooling years. How has it changed overtime?
12. What kind of family influence do you think you had to pursue your degree in STEM?
13. Can you think of any instances either with your immediate family or your extended family, your relatives where they positively influenced your pursuit of STEM?
14. Can you think of any instances either with your immediate family or your extended family, your relatives where they negatively influenced your pursuit of STEM?
15. What kind of courses are you taking now? Out of the courses, which ones do you think would you consider to be STEM? What STEM courses are you planning on taking in the future before going into medicine?
16. So tell me a little bit about your family and the kind of relationship that you have with them? Mom, dad, siblings, extended family etc.
17. How does your relationship with your extended family, or family that is back home differ from your relationship with your immediate family?
18. Have you experienced any cultural differences in the way things are done in your household/family vs. other households?
19. How does you being a South Asian Canadian influenced you with respect to your education and career aspirations...
20. How do you think that your experiences as a South Asian Canadian are unique in the way that shaped the person you are now, and shaped your educational trajectory?
21. So your parents wanted you to pursue higher studies... etc. now in the family and friends circle is this the norm way of thinking, or were there different ways of thinking about education, STEM education, girls?
22. Parental attitudes about education mom vs. dad... Are your parents in STEM fields?
23. What does it mean for you to be culturally connected? Would you think of your self as culturally connected? What culture would that be?

Curriculum Vitae

Name: Kinza Shaukat

Education:

09/2018 – Present M.A., Curriculum Studies, University of Western Ontario
Supervisor: Dr. Anton Puvirajah

09/2013 – 06/2018 University of Toronto – Bachelor of Arts (Honours) Degree
Double Major: English, Philosophy

EXPERIENCE

09/2014 – 04/2014 Research Assistant - University of Toronto

VOLUNTEER EXPERIENCE

09/2012 – 06/2013 Teaching Assistant – Stephen Lewis Secondary School

CONFERENCES AND SYMPOSIUMS ATTENDED

05/2020 Canadian Society for the Study of Education (Virtual Attendance)

03/2020 Robert Macmillan Symposium in Education (Virtual Attendance)

07/2021 Gender & STEM (Virtual Attendance)

MEMBERSHIPS AND AFFILIATIONS

09/2018 – Present Society of Graduate Students – University of Western Ontario

09/2018 – Present Education Graduate Student's Association – University of Western
Ontario

06/2018 – Present University of Toronto Alumni