

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

Kinza Shaukat, University of Western Ontario, Canada  
Anton Puvirajah, University of Western Ontario, Canada

The Paris Conference on Education 2023  
Official Conference Proceedings

**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.

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

**iafor**

The International Academic Forum  
[www.iafor.org](http://www.iafor.org)

## **Introduction**

The purpose of this study is to inform readers about the social and cultural factors of a group of women who are identified as South Asian Women, who have taken the career path of pursuing the STEM (Science, Technology, Engineering, and Mathematics) Fields. I worked as a participant interviewer to uncover the stories of five South Asian women in STEM programs at the University of Western Ontario. Through narrative inquiry, specifically storytelling, I explore how both cultural socialization as well as schooling experiences work together to build a South Asian woman's understanding of the importance of her education. Current relevant literature suggests that South Asian women are socialized to prioritize family life and maintain dependent (Ghosh 2013). Experiences in early ages may shape the way that South Asian women view themselves and their societal roles through way of dressing, interactions, food, and social demeanors (Inman, 2006). Through my study, I have uncovered gaps in previous literature that show how the experiences of young South Asian women have changed over time through personalized and storied experiences.

## **Theoretical Framework**

### ***Intersectional Feminism***

Intersectional feminism combines the axes of race, class, gender, sexuality, to define an individual. The theory sets out to explore how these axes intersect to create unique experiences (Pande, 2014). The purpose of using this framework for the study was to help understand the experiences of women in relation to the social categories of race, class, gender, and ethnicity. The experiences of racialized and non-racialized women differ as gender, race, and class can create different results when combined in the oppression of underrepresented minorities (Ralston, 1999). The importance of utilizing an intersectional feminism framework in this study is that while women are fighting for equity in academia and the workforce, these experiences are unique to each individual woman because of the way that her race, class, and ethnicity provide an identity that is unique to her as an individual (Sang, 2018).

### ***Diasporic Studies***

Diasporic studies as a framework can show how the process of migration from one's home country effects self-perception and identity (Dwyer, 2000). The changing of cultural practices when entering a new geographic location can have a significant impact on the type of socialization that is received and practiced. When South Asian women experience a clash between the culture they inherit from their parents and the western culture they encounter through schooling or social experiences, there can be a negative affect when realizing that the cultures can clash with one another (Inman, 2006). Migrants grapple with the concept of reconstructing their identities in new spaces while still trying to maintain important cultural and religious practices when they are exposed to more western ways of life (Samuel, 2010). For children, and South Asian female children in particular, the learned cultural and religious practices can often create difficult boundaries when socializing with individuals in school environments (Dwyer, 2000).

## **Rationale**

The rationale to explore the experiences of South Asian women that choose to pursue careers in STEM is motivated by my personal experiences in seeing South Asian women struggle in

navigating around cultural expectations. For the experiences that I have encountered through my own family, STEM careers are seen to typically be more encouraged for men rather than women, as these careers take time to develop; this means that if a woman were to pursue a career in STEM, the timeline that is expected for marriage and starting a family would be the second priority, which, according to my experience, is frowned upon. The literature available at the time of this study did not focus on experiences of South Asian women specifically. My research aims to close this gap and show the importance of research that focuses on specific groups of minoritized women and their unique experiences in relation to cultural socialization. While this is an experience specific to my own family, the aim of this study was to identify the prevalence of these types of situations today, and possibly explore the changes that have come to be as we see more women entering the STEM workforce. I work constantly to call out my own positionality in the research as many of my own experiences may not necessarily mirror those of my participants. For this reason, it is important to conduct a smaller scale study to gain more insight on specific experiences for the newer generations of women.

### **Existing Literature**

Current literature expresses that minoritized women are not given the same level of support and encouragement in their specific educational experiences pertaining to careers in STEM (Leaper & Starr, 2019). The most current literature at the time of this study emphasized the structure of the nuclear family (Williams, 2014), which meant that women were encouraged to prioritize their families above their desire to be educated or to define their success through education. Generational gaps occurred when parents migrated from South Asian countries to Canada, and the education system their children were exposed to encouraged women to pursue careers that were once seen as more popular for men (Inman, 2006).

According to the literature, parents of South Asian children express that it is important for their children to learn the significance of cultural practices for instances where they may encounter any form of discrimination (Iqbal, 2014). A cultural identity can prepare children to make sense of their own experiences and maintain positive attitudes towards their culture (Rivas-Drake, Huges, & Way, 2009). In later stages of life, children will take the practices learned from their parents and adapt them into their own lives – carrying traditions on for generations (Chakawa & Hoglund, 2016).

Many previous studies express the importance of marriage and the responsibility of creating and maintaining the family as one of the primary identities of South Asian women (Sohal, 2009; Samuel, 2010). Men maintain their status and respect through providing for their families through their work and income, while women maintain their reputation through their femininity, maternal instincts, and their ability to keep their home in working order (Sohal, 2009; Dwyer, 2000). Women are expected to take on domestic responsibilities from a young age to build their reputation over time, while for men, the importance of education is emphasized on a greater level (Bhopal, 1997).

### **Methodology**

Narrative inquiry was used to tell participants' experiences through storytelling. By holding semi-structured interviews, we were able to uncover their unique experiences layer by layer as comfort and trust was built between the researcher and the participant. Storytelling is seen to be a primary structural part of the human experience (Connelly & Clandinin, 1990). By asking open-ended questions and allowing participants to freely tell their stories, we were

able to develop better relationships with our participants while still maintaining their anonymity.

| Mili                      | Amirah                     | Sam                       | Nila                       | Alara                     |
|---------------------------|----------------------------|---------------------------|----------------------------|---------------------------|
| Pakistani                 | Tamil-Sri Lankan           | Indian                    | Tamil Sri Lankan           | Pakistani                 |
| Med-Sci                   | 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                    |

Figure 1: Table of Participants

The importance of using storytelling as a method of data collection was to ensure that participants felt in control of the information that they were giving, and how their stories would be interpreted. As the participants' stories were told and retold, the process creates a sense of meaning-making when reflecting on their experiences (Clandinin & Connelly, 1991). When participants were telling their stories, they were simultaneously reflecting on their past experiences and viewing them from a different lens; this contributes to meaning making of their own experiences and helps the participants understand their experiences in a different perspective.

## Conclusions

### *Findings*

While the findings in this study are not inclusive to all South Asian women due to the sample size, it is evident that experiences of young South Asian women have changed due to cultural influence, socialization and family support. Participants reported that connection to their culture was important in shaping their cultural identity (Tirone & Goodberry, 2011). A positive self-identity emerged for all participants as a result of support given from teachers and family figures. The core values in the families of the participants included the importance of education, along with cultural practices (Chakawa & Høglund, 2016). This meant that along with an education, participants maintained a "well-rounded" sense of self (Shariff, 2010), which they owe to their parents' teachings. For all participants, education was a big contributor in maintaining a positive self-identity, and cultural experiences encouraged them to pursue their desired STEM careers.

It was important to note that all five participants from the study come from backgrounds where parents were educated regardless of gender. This influence served as motivation for these participants to maintain academic excellence, and consequently, pursue careers in STEM. The representation that participants saw in their immediate families and social networks will encourage participation in STEM (Bagguley and Hussain, 2014), and evidently, was an important factor to choosing their prospective career paths. It was crucial for the participants to see their family members as well as members of their social network succeed in their STEM-related careers to decide to pursue their dreams in STEM careers as well. Education is seen as a quality attribute in the families of South Asian women (Tirone & Goodberry, 2011). Participants were raised knowing the importance and value of their

education as it is a way for them to assert their independence and power in both their social lives and the working world.

### ***Limitations***

This study was conducted during the height of the COVID-19 pandemic; this meant that extra measures had to be taken to ensure the safety of our participants while maintaining authenticity in the data collection and interpretation processes. Instead of holding in-person meetings, we scheduled two rounds of Zoom interviews with each of the five participants. This created difficulty in regard to having conversations about more sensitive topics, as the closeness and trust between the researcher and the participant is more of a challenge to achieve during a virtual conversation rather than one that were to take place in person.

The sample size of this study remained small to ensure that storied experiences were captured with as much detail as possible, and connections made with participants were further developed and meaningful. This allowed a sense of comfort between the researcher and participant, which helped to uncover more sensitive topics with regards to the participants' social or cultural experience. While the participants all come from diverse backgrounds, the study does not account for various areas of South Asia such as Bangladesh, Bhutan, the Maldives, and Nepal. A larger scale study would be beneficial to capture a larger scope of unique experiences of South Asian women in STEM careers.

Positionality of the researcher can provide many variations in the interpretation of the data collected for a qualitative research study. Looking back on personal experiences both before and after the study can affect how the stories given by the participants are interpreted in the final stages of the study. For this reason, it was important to add a step for the validation of the interpretations made by the researcher by providing the participant an opportunity to review these interpretations before the work is data analysis is completed.

### ***Implications***

The results from this study provide a greater understanding of how the social and cultural experiences of South Asian women can influence their decisions in pursuing careers in STEM. Upon a review of the current literature as well as the five storied experiences of the participants from this study, it is evident that the current research pertaining to minoritized women in STEM would benefit from being analyzed from more specific lenses, such as one that would pertain to individual groups of South Asian women rather than minoritized women as a whole. The findings from the study can help educators, academic counsellors or other organizations who work with women of colour uncover ways to encourage South Asian women to pursue careers that they are interested in by providing inclusive programs and resources.

### **Acknowledgements**

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.

## References

- Bhopal, K. (1997). *Gender, 'Race' and Patriarchy: A Study of South Asian Women*, Aldershot: Ashgate.
- Chakwawa, A & Hoglund, W. L. G (2016). Measuring parent cultural socialization practices: extending the research to diverse racial-ethnic groups in Canada. *Canadian journal of behavioural science*, 48, 121-131. DOI: 10.1037/cbs0000028
- Connelly, F. M., and Clandinin D. J. (1990). Stories of experience and narrative inquiry. *Educational Researcher*, 19(5), 2-14.
- Dwyer, C (2000). Negotiating diasporic identities: young British South Asian Muslim women. *Women's studies international forum*, 23(4), 475-486. DOI:10.1016/s02775395(00)00110-2
- Ghosh, S. (2013). 'Am I a South Asian, really?' Constructing 'South Asians' in Canada and being South Asian in Toronto. *South Asian Diaspora*, 5(1), 35-55.
- Inman, A. G (2006). South Asian women: identities and conflicts. *Cultural diversity and ethnic minority psychology*, 12(2), 306-319. DOI: 10.1037/1099-9809.12.2.306
- Leaper, C. & Starr, C. R. (2019). Helping and hindering undergraduate women's STEM motivation: experiences with STEM encouragement, STEM-related gender bias, sexual harassment. *Psychology of Women Quarterly*, 43(2), 165183. <https://doi.org/10.1177/0361684318806302>
- Pande, R (2014). Challenges to feminism in the 21st century: a South Asian perspective, with special focus on India. *Revista Artemis*, 17(3). Retrieved from <http://go.galegroup.com.proxy1.lib.uwo.ca/ps/i.do?p=AONE&u=lond95336&id=GALLE A395846830&v=2.1&it=r&sid=summon#>
- Ralston, H (1999). *Identity and lived experience of daughters of South Asian immigrant women in Halifax and Vancouver, Canada: an exploratory study* (Doctoral dissertation). Retrieved from <https://sites.ualberta.ca/~pcerii/Virtual%20Library/ConferencePapers/ralston99.pdf>
- Samuel, L (2010). Mating, dating and marriage, intergenerational cultural retention and the construction of diasporic identities among South Asian immigrants in Canada. *Journal of intercultural studies*, 31(1), 95-110, DOI: 10.1080/07256860903477712
- Sang, K. J. C (2018). Gender, ethnicity and feminism: an intersectional analysis of the lived experiences feminist academic women in UK higher education. *Journal of genderstudies*, 27(2), 192-206. DOI: 10.1080/09589236.2016.1199380
- Shariff, A. (2009). Ethnic identity and parenting stress in South Asian families: implications for culturally sensitive counselling. *Canadian journal of counselling*, 43(1), 35-46.

Sohal, A (2009). *Negotiating identities: second generation South Asian women's endogamous marital relationships* (Master's thesis). Retrieved from <https://pdfs.semanticscholar.org/b7cc/e99e35c7588dd15e5357e39ffc5842ad9aaa.pdf>

Tirone, S & Goodberry, A. (2011). Leisure, Biculturalism, and Second-Generation Canadians. *Journal of Leisure Research*, 43(3), 427-444, DOI: 10.1080/00222216.2011.11950244!!

Williams, T (2014). Demystifying male dominance in STEM subjects. *Women in higher education*. 23, 9-19. doi:10.1002/whe.20142

**Contact email:** [kinza.shaukat@gmail.com](mailto:kinza.shaukat@gmail.com)s