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**SANKARA EYE FOUNDATION**

# Empowering Women: The Social Impact of Vision Care Technician Training

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**Santa Clara University**  
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# Vision Care Technician Social Impact Study Overview

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Since 2002, the Vision Care Technician program has continually worked to recruit bright young women from rural villages to engage in comprehensive training in ophthalmic nursing. Two Global Social Benefit Fellows collected both qualitative and quantitative data by interviewing a large cohort of student and staff Vision Care Technicians in different phases of the program. In order to document the social impact of two cohorts, this comparative analysis intends to further understand how the Vision Care Technician program has impacted women's lives. Through this study, the findings can be used for marketing material of the Vision Care Technician program, to further donor or investor acquisition efforts, and for Sankara's administration to understand the depth of the qualitative and quantitative findings.

## *From Dream to Reality: A Narrative Perspective of Student Vision Care Technicians*

The first part of the study is based on the observations of the Sankara student and staff technicians who shared their insights and stories. While the vignettes below maintain participant confidentiality, they reveal, in a personal way, the social impact experienced by the technicians. These vignettes can be used to report this impact to benefactors and investors of Sankara Eye Foundation India.

## *Family, Finance, and Society: A Quantitative Study of Social Impact for the Vision Care Technician Program*

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To complement the qualitative narratives, the second part of the study draws upon the key quantitative findings that can be used as outcome indicators for stakeholders, such as partnering organizations, investors, and donors. Since no quantitative study has been undertaken of the Vision Care Technician program in the past, this part of the study will highlight important results for Sankara's administrative team. Key findings from this section may be used to address areas of strengthening the Vision Care Technician Program.

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# From Dream to Reality:

## A Narrative Perspective of Student Vision Care Technicians

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# Part 1: Culture, Responsibility, and Identity

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## *A Day in Coonoor Village, South India*

Lakshmi, a friendly 18-year-old from Coonoor village, had always dreamt about college ever since she was in high school. However, with two older twin brothers, Lakshmi was told that tuition costs for her education were too expensive, and because she was a woman, her two older brothers' education took precedence. This is merely one of many examples for which an education gap still persists in India, an unfortunate cultural belief contributing to the young women who are left behind. Because parents have the most autonomy when making decisions for their children, young women have no choice but to give up their career aspirations to meet the needs of their families. This situation has pushed many women to take on permanent roles in the household, fulfilling traditional roles of work.

This preconceived notion of work, however, is beginning to change within many parts of India. A few weeks ago, a neighbor from her village introduced the Vision Care Technician program to Lakshmi's parents and advised that this could fulfill Lakshmi's idea of higher education. Although her parents were hesitant at first, they supported the program because Lakshmi could earn her own income through a Rs. 2,000 monthly stipend, which would not only qualify her as an income-earner for her household, but it would also be a higher living wage than simply managing her home.

## *On Recruitment*

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Diya stuffs her favorite bangles in a cosmetic pouch that symbolize little remnants of home, as she readies herself for a new chapter in her life. Several months before, she recalls stepping into Sankara's main hospital with her parents, waiting to be interviewed by upper-management for a Vision Care Technician position. These interviews often cause nervousness and uncertainty for individuals like Diya, who has never been formally interviewed – let alone questioned – in her life. However, since the program requires both applicant and parental understanding in the detailed components of the program, this phase should ensure that all parties have agreed to the expectations of the 3-year program.

Diya joins a cohort of approximately 20 young women in Sankara's Vision Care Technician program, embarking on a unique opportunity that trains women in ophthalmic nursing and high-quality patient care. New technicians are often recruited from villages located near a Sankara hospital, and Sankara works with family members to provide an overall summary of expectations for the program. In addition to this stringent selection process, every applicant must meet the eligibility requirements of having up to 12<sup>th</sup> standard of education, equivalent to a high school diploma in the U.S., with some background of basic chemistry, biology, and math courses. To complement the hands-on experiential learning, technicians are also taught courses concentrated in basic health sciences, encompassing a strict course load of anatomy, physiology, optic and vision science, and public health that leads to an eventual university diploma. This work and study balance becomes core components of the Vision Care Technician program.

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### *The Meaning of Acceptance*

Every year, a new batch of Vision Care Technicians is selected among many applicants. This year, Aditi and her older sister, Aanya, were both selected from the Ludhiana Sankara branch located in the northern state of Punjab. To them, the experiences were incredibly new and invigorating. For the first time, Aditi and Aanya travelled 2,815 kilometers from their hometown to Sankara's headquarters in south India, arguably the most exciting adventure they had ever been on. They were not alone. The first couple months of the Vision Care Technician program requires newly admitted student technicians to visit Coimbatore in order to take classes from eye doctors or practicing professionals and learn from elder, second-year Vision Care Technicians. This academic environment prepares new technicians with not only the educational aspects of the program, but it also provides technicians with the career development they would not know that existed.

Individuals like Aditi and Aanya first arrive in Coimbatore with a sense of awe at the massive scale of Sankara's hospital. With three floors dedicated to paying and non-paying beneficiaries, it was easy to get lost in the multiple hospital wings since technicians work in almost every ward ranging from the operation theatre to the nursing station. The present opportunity highlights the feelings of empowerment felt by the new technicians who are surrounded by a plethora of female role models who power the organization internally.

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*Meeting new faces of Vision Care Technicians at Sankara's Coimbatore hospital.*

### *The Start of Something New*

Kashvi groans in Tamil to her friends, as she glances at her laptop's clock. "I don't want to wake up early tomorrow," she explains with a sour look on her face. Her group of friends had just finished watching an Indian romance movie, a common way to hangout after dinner. With multiple singing acts, the technicians giggled in excitement at reenacting the songs with the complex dance moves that they had just seen. Another Vision Care Technician exclaims, "Oh Kashvi, we all have to do it." While Kashvi despises waking up early, she has grown quite fond of her role in the nursing ward after only 4 months of the program, particularly due to her quick learning potential. This time, it is Kashvi's turn to wake up as early as 6 in the morning to prepare patients for cataract operations. Because the program combines an educational enrichment with a hands-on work experience, student technicians spend 15 days on an assignment or "shift" in a specific ward before they are assigned to another placement.

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*A pair of student technicians checks patients in during a scheduled weekend eye camp.*

Although she has loved every minute of her technician experience, Kashvi had never felt such a strong sense of responsibility before. With a full-time working schedule and classes that occupy her free time, she discovers that striking the balance between these two priorities is no simple task. Her full-time working schedule includes the management of the non-paying patients who often wander around the hospital, constantly asking student technicians when they would get to eat. Sankara has generously offered to cover several hundred non-paying patients' transportation, housing, and dining expenses during patients' stays, the hospital requires a systematic organization of these patients during the dining periods. Student technicians were exhaustively explaining the dining schedules for many of the inpatients, adding to the understandably tiresome hours of their work. As student technicians become more familiar with their work, the Vision Care Technician program encourages them to ponder their future aspirations.

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### *More Experience, More Responsibility*

The van shakes as it passes an unpaved dirt road and after several minutes, it slowly rolls to a stop. Tanvi, asleep for most of the van ride, awakes at the sight of palm trees and farm fields. She follows six other women, or commonly known as “sisters,” out of the bus, unloads the suitcases in the trunk, and heads inside a purple pastel school building. This is the view of her first eye camp, located just a few hours from Sankara’s main hospital in Coimbatore. She waits for instructions from other sisters, who clearly have expertise in setting up the 6 organized stations of: registration, testing for visual acuity, seeing an eye doctor, laboratory work, fitness tests, and consulting. Participating in the Vision Care Technicians for more than a year now, Tanvi is assigned to attend Gift of Vision eye camps which are organized by Sankara’s outreach team. By coordinating with other local or government sponsors, this partnership allows community members to market and spread word about Sankara’s free screening and surgical services for the rural villagers of India who often suffer from some kind of visual impairment but may not know it. Thus, Tanvi, along with 6 of her nursing sisters, are assigned to travel with their makeshift team for an entire weekend on a mission to save the most rural and poor villagers through these services.

Working within weekend eye camps reminds student technicians about their own native backgrounds. While student technicians spoke about how they favored work in the hospital, the community service they provided also led them to believe that they were making a positive impact on patients’ lives. With more experience in the field, the student technicians are also given more responsibilities, assisting eye doctors, testing patients’ visual acuity, and

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organizing paper work after screening hundreds of patients in a 4-hour timeframe.



*Towards the end of the eye camp, a staff technician determines the total number of patients served.*

### *Aiming Higher Than Ever Imagined*

What are the next steps for the Vision Care Technicians? After graduation, most of the student technicians will continue to work at their respective Sankara hospitals because familiarity with the internal and external outreach services offers them an advantage in the workforce. This was the case for all of the staff technicians, as they had transitioned from student technicians to staff technicians. Others, however, return home to their families and will take a leave of absence for a couple months before they decide whether or not to return to Sankara's workforce. Lastly, still others will contemplate the possibilities of graduate school or pursuing a more specialized medical profession after they have been able to save for tuition costs. It is

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important to highlight the remarkable opportunities the Vision Care Technician program has offered these women, accelerating their career aspirations that go beyond the traditional norms. There have been countless stories of young women who were not able to have higher education due to their family's financial hardships, along with the added societal pressures, leading to the disapproval of women seeking employment. Thus, the Vision Care Technician program not only portrayed the immediate benefits of participation, but it also revealed how education and training can empower multiple generations of women in India.



*Student technicians (pictured in light blue on the left) and staff technicians (pictured in bright blue and orange saris in threes on the right) smile brightly at the camera, after being thanked for their hard work.*

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# Family, Finance, and Society: A Quantitative Study of Social Impact for the Vision Care Technician Program

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## Part 2: A Quantitative Study of Social Impact

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### *Categorizing The Sample*

Vision Care Technicians were interviewed in multiple stages of the program. Student technicians were categorized as young women who were in the Vision Care Technician program at the time of their interviews. This cohort included technicians who had completed two months, 1 year, or 2 years of the program at Sankara's main hospital in Coimbatore, south India. Similarly, staff members represented women who have completed the program and were currently working at the hospital as staff members. For the purposes of this assessment, the data have been organized to reflect the differences between these two cohorts of Vision Care Technicians.

### *Action Research Methodology*

While in the field, the fellows developed two social impact questionnaires for both the student students and staff members. Staff members were interviewed at 7 Sankara hospitals via teleconferencing technology, which contributed to a geographically varied data set (Table 1a). After signing consent forms, Vision Care Technicians were individually interviewed in English to capture stories based on their demographics, education level, family situations, economics, professional developments, program evaluations, and husband information, if applicable. Due to convenience sampling, 40 Vision Care Technicians were interviewed at Sankara's main hospital in Coimbatore, Tamil Nadu with 30 student technicians and 10 staff technicians. A cumulative

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total of 105 Vision Care Technicians were interviewed. For a more detailed action research methodology, please see the Appendix.

1a)

<b>Sankara Hospitals (7)</b>	<b>Sample Size</b>
Coimbatore	40
Ludhiana	14
Anand	14
Bangalore	8
Krishnankoil	6
Shimoga	14
Guntur	9
<b>Total</b>	<b>105</b>

1b)

<b>Coimbatore Hospital</b>	
Student Technicians	Staff Technicians
30	10

**Table 1:** Geographical distribution and numerical breakdown of Vision Care Technicians according to the number of interviews collected by hospital (N=105).

### *Student Vision Care Technician Demographics*

Throughout every Sankara hospital in India, all of the Vision Care Technicians who were employed were women. In this sample of 30 student Vision Care Technicians, the average age of these young women were 18 years and none of the women were married at the time of the interviews (Table 2). Only 20% of the student technicians had received some college or a college degree, but 60% were the first persons in their families to receive higher education.

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### *Staff Vision Care Technician Demographics*

Age had an important role in achieving higher education as well. This sample of 75 staff Vision Care Technicians had an average of 26-years-old (Table 2). 45% of the staff technicians were married and 33% had more exposure to some college or received a college degree compared to the student Vision Care Technicians who were interviewed.

<b>Vision Care Technician Demographics</b>		
	Student VCTs	Staff VCTs
Average Age	18	26
Percent of VCTs Married	0%	45%
<b>Level of Education</b>		
Up to 12th Standard	80%	67%
Have some college / college degree	20%	33%
1st Person to Receive Higher Ed	60%	67%
<b>Total Technicians Interviewed</b>	30	75

**Table 2:** Percentage demographics of Vision Care Technicians, categorized by student and staff technicians ( $N_{\text{total}}=105$ )

### *Similarities in the Vision Care Technicians*

While the Vision Care Technicians differed by the percentages of achieving higher education, more than half of the technicians in each group

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were the first in their families to receive higher education (60% for student technicians and 67% for staff technicians). Because education is a fair predictor for other variables, this assessment will identify the impact of education on Vision Care Technicians' familial relationships, future success, and societal expectations.

## Key Findings

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### *A Delicately Braided Relationship Between Family and Finances*

As seen in the qualitative vignettes, Sankara's Vision Care Technicians typically want to continue schooling in a traditional college setting. However, many Vision Care Technicians and their families fall financially short of the tuition costs in India. Currently, there is controversy over the educational gap in India's female population, where an estimated 30.1 million female children are not enrolled in primary or secondary school, affecting higher education statistics<sup>1</sup>. This program is not considered a back-up option for technicians; rather, Sankara is merely addressing the educational gender gap by offering a high-quality training program, providing opportunities to those women challenged with financial hardships. Through the Vision Care Technicians program, technicians earn a Rs. 2,000 per month their first year and Rs. 3,000 per month during their second year, allowing for a monthly income of \$30-45 U.S. dollars<sup>2</sup>. Keeping in mind that the cost of living in India is much lower than

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<sup>1</sup> UNESCO Institute for Statistics. (2015, October 14). Children out of school, primary, female. Retrieved November 2, 2015, from <http://data.worldbank.org/indicator/SE.PRM.UNER.FE/countries/1W?display=graph>

<sup>2</sup> Vidyarthi, A., & Chabba, R. (2010). Engendering Rural Eye Care for Access to Education. *United Nations Girls' Education Initiative*. Retrieved November 2, 2015, from [http://www.e4conference.org/e4e/w4/attachment/d-ajita\\_vidyarthi](http://www.e4conference.org/e4e/w4/attachment/d-ajita_vidyarthi)

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that of the U.S., this stipend provides income for technicians. Sankara's Vision Care Technician program also covers student and staff technicians' transportation to eye camps, dining, and housing costs, which alleviates expenses that would have otherwise gone to everyday expenses.

In the Southern Indian culture, one's familial ties often determine the choices that she makes. For Vision Care Technicians from different regions of India, this cultural practice is no different. Both student and staff Vision Care Technicians were likely to send a portion of their incomes to their immediate families. Among the student Vision Care Technicians, 43% of technicians sends a portion of their income home / saves some for herself, 40% of technicians sends all her stipend home, and 17% of technicians saves for herself only (Figure 1). These statistics contrasted the 75 staff Vision Care Technicians interviewed, where 33% sent all their stipend home, 31% sent a portion or all their income to in-laws, and 20% sent a portion of their income home / saved some for herself (Figure 2). These findings indicated the extent to which technicians felt strong obligations to send money back home, even if only a portion of their income was sent back. Since technicians most often felt the duty to provide for their families and a majority of them had siblings, technicians were observed as income earners for their households. This financial benefit helped student and staff technicians' parents and families, with the capability to stabilize any economic hardships for families.

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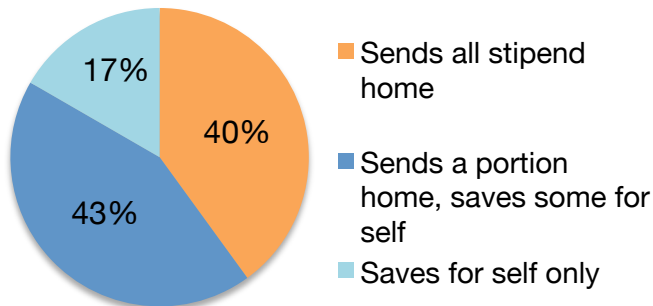


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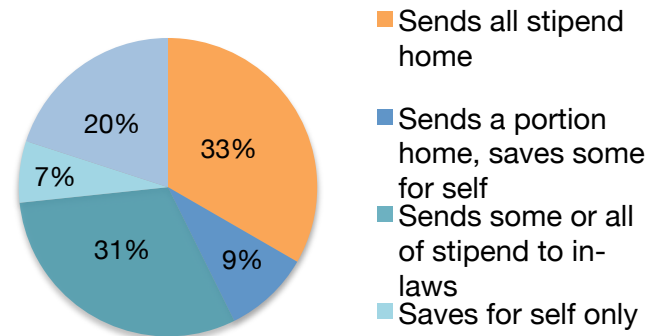
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### How Student Technicians Plan to Use Their Income



**Figure 1:** Student Vision Care Technicians Plan of Using Their Income (N=30)

### How Staff Technicians are Using Their Income



**Figure 2:** Staff Vision Care Technicians Current Use of Their Income (N=75)



*Staff Vision Care Technicians emanate with excitement on the rare occasion of seeing their loved ones after work.*

### *An Inextricable Link of Education and Income*

Two major attractions to the Vision Care Technician program are the educational opportunities provided and the income technicians received on a

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monthly basis. Technicians come from an array of academic backgrounds, where some technicians hold college degrees. Linking this data with technicians' income use will better understanding how tradition and culture are embodied among Indian women.

There are a few findings worth mentioning. For student technicians who were first generation college students, 50% of student technicians sent all of their income back to their families, and 39% sent a portion of their income home and saved the rest for themselves (N=18, Figure 3). This pattern was less pronounced for the staff technicians. For staff technicians who were first generation college students, 35% of staff technicians sent all of their income back to their immediate families, with 33% sending a portion of their income home and saved the rest for themselves (N=48, Figure 4). While these percentages were less than that of the student Vision Care Technicians, our research indicated that staff technicians had more adult priorities in their lives, including a higher percentage of their income that contributed solely to their household expenses. Staff technicians were more likely to be married than student technicians, suggesting a further division in responsibilities for the home. Overall, student and staff Vision Care Technicians were more likely to send some portion of their incomes home if they were the first in their families to receive higher education.

It is important to note that since this specific cohort had just begun, 67% of the responses for student technicians only indicates how they *planned* to use their income and is not a recollection of how they actually used it. Likewise, staff technicians had reported on how they had used their income, but we did not check the validity of their responses due to privacy concerns.

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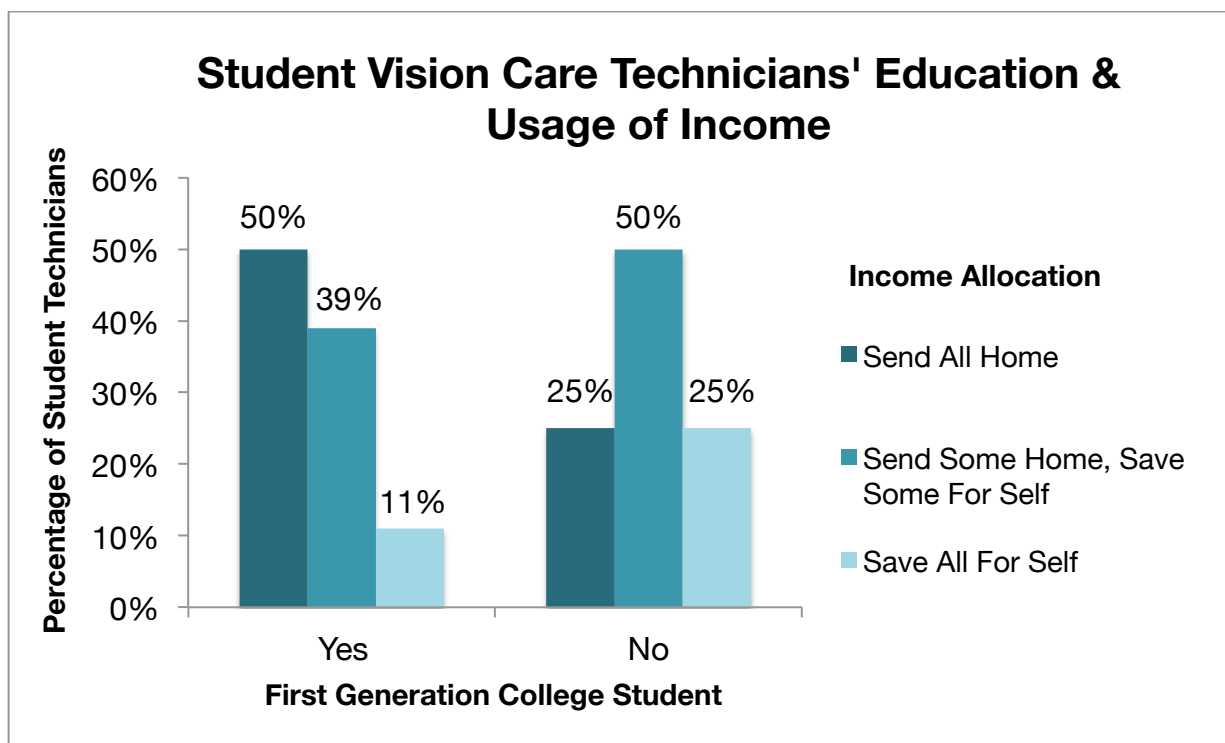


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Lastly, there are additional correlations worth noting. Among the staff technicians interviewed, the percentages ranged between technicians who were first generation college students and technicians who were not first generation college students. 4% of staff technicians who were also first generation college students sent most or all of their income to their in-laws, while 19% of non-first generation college students sent all or most of their incomes to their in-laws. It was unclear why non-first generation college student technicians were more likely to give their income to in-laws, but it is important to account for cultural differences that may be present among married staff technicians.



**Figure 3.** A bar graph displaying how first generation student technicians planned to use their income (N=30).

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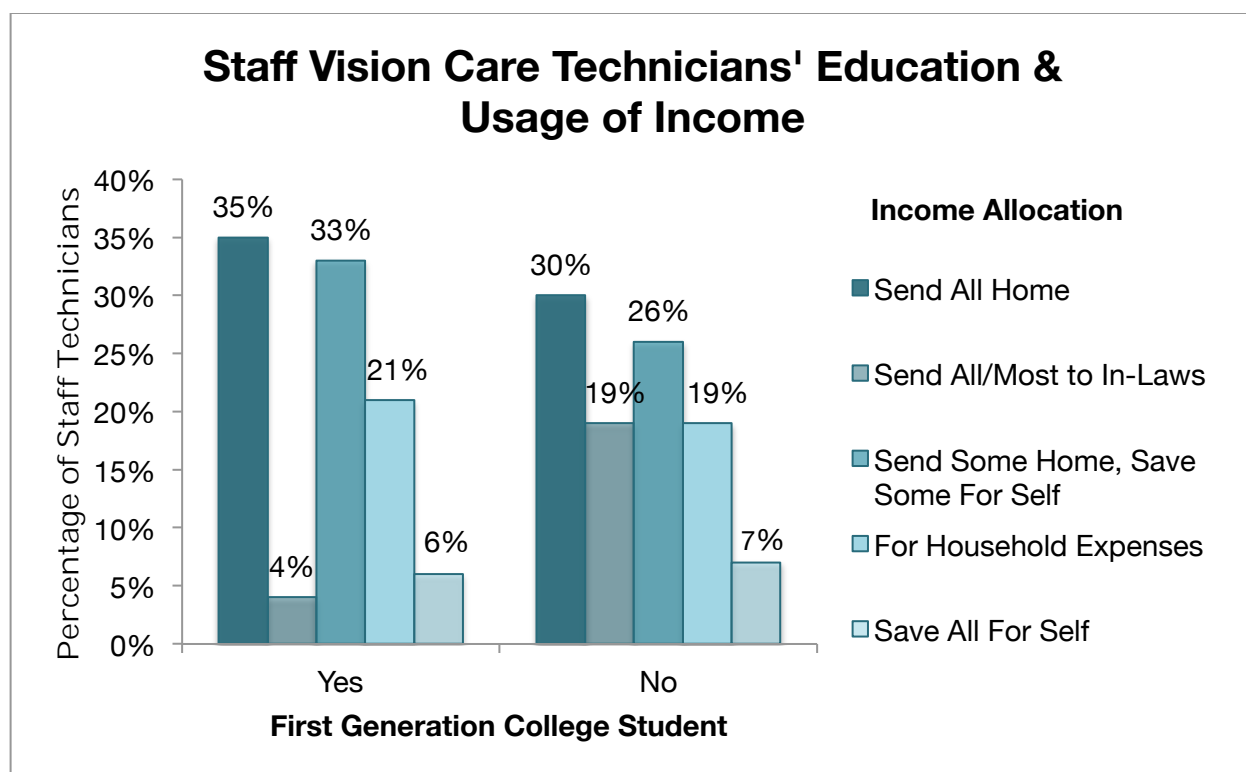


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**Figure 4.** A bar graph showing how first generation staff technicians used their income (N=75).

### *The Outcomes of Personal Investment – Short Term*

The Vision Care Technician provided short term physical and personal benefits. Physical benefits comprised of the known benefits of the program, such as the expense coverage of all technicians' transportation, housing, food, and income. It was clear that both student and staff technicians were drawn to the program because a majority of the women had financial hardships. Since many of the student technicians shared that higher education would not have been an option if not for the Vision Care Technician program, technicians viewed this opportunity as a chance to study nursing and work in a prestigious hospital. Through this program, technicians were able to explore the nursing field, discovering what areas of nursing they had liked the most. This program

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simulated a typical Western college experience, and technicians were exposed to a variety of fields within nursing, improving their future career outlook.

### *The Outcomes of Personal Investment – Long Term*

This program, however, did more than just offer short term benefits; instead, Vision Care Technicians were given the opportunities to examine their own personal career aspirations and identify future goals in the nurturing environment that drifted through the hospital headquarters. While we were not able to survey the technicians over multiple periods of time to examine individual growth, we did observe that most technicians had a general sense of who they wanted to be and what they wanted to do in the future, using the program as a stepping-stone to pursue their higher career aspirations.

While we did not interview technicians who had completed the program and were working in other organizations, it is important to note that completing the Vision Care Technician program could open more opportunities in the working world. We encountered a few student and staff technicians who had taken a short leave of absence ranging from a few weeks to several months in order to handle family affairs. Upon returning to Sankara, they had easily restarted work and adjusted to the flow of the hospital. Similarly, opportunities from other organizations would also employ technicians who had undergone the strict academic course load and comprehensive patient training. This suggests that the Vision Care Technician program has also benefited technicians by securing other economic opportunities. These themes were echoed in many of qualitative vignettes and were, to some degree, explicated by the quantitative data.

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*A second-year Vision Care Technician dresses the patient's eye in preparation for cataract surgery in the right eye.*

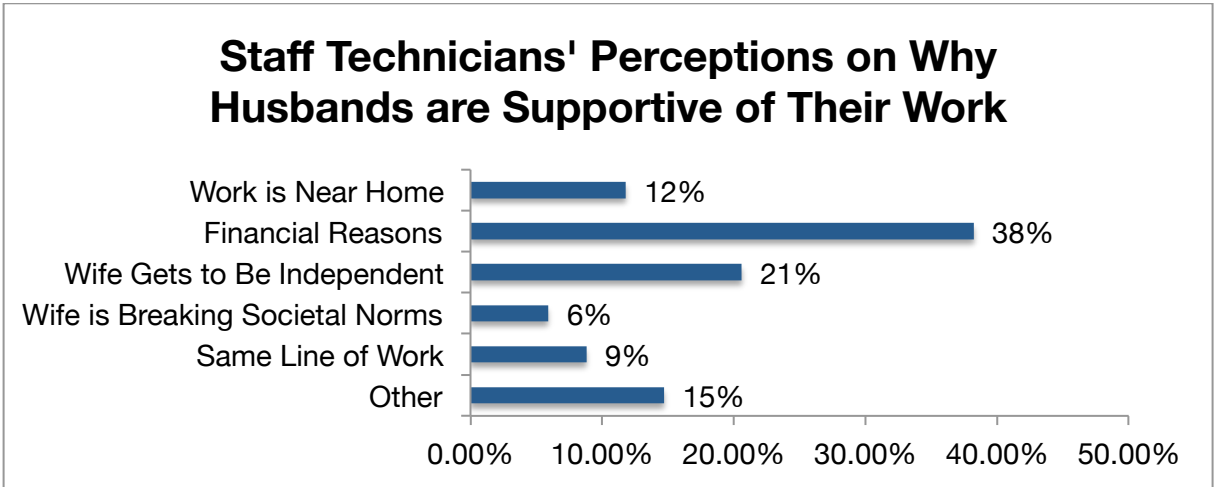
### *Shifting Career Trajectories for Indian Women*

The Vision Care Technician program had a large impact on women who came from rural villages. South India's prominent community-driven culture and traditional beliefs may steer women away from obtaining full-time job opportunities. Within our findings, however, 60% of student technicians and 67% of staff technicians were the first in their families to pursue higher education (Table 2), and many of these women alternatively left their hometowns to work at Sankara.

During our interviews, the fellows asked the staff Vision Care Technicians questions pertaining to their marital status, including the perceptions of husband support on the women's work. Staff technicians reported that not surprisingly, 38% of their husbands supported their work due to financial reasons (Figure 5). More interestingly, the woman's societal status followed

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second, with 21% and 6% of staff Vision Care Technicians believing that their independence and breaking societal norms had been perceptions for husband support. These findings are critical given the barriers many Indian women must overcome to fulfill their own career aspirations, signifying the importance of support within married couples. Additionally, it is important to note that these responses were staff technicians' personal beliefs about their husbands support.



**Figure 5:** Staff technicians’ responses on why husbands are supportive of their work (N=34).

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# A Dream Met by the Vision Care Technician Program

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For student and staff technicians, Sankara's Vision Care Technician program encouraged young women to gain medical knowledge and work with underserved populations, thereby positioning women to realize the degree of their impact on their own communities. The program has a win-win situation for technicians and Sankara's administration because it not only supports women endeavors in higher education and employment, but it also contributes to the sustainability of Sankara and its mission.

Since many of the interview questions required a response from technicians, these verbatim replies were illustrated within a word cloud. Understanding the word cloud arrangement is simple; the higher the frequencies responded in the interviews, the larger the word is represented in the display. From this portrayal of data, blue words marked the similarities between the student and staff technicians.



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**Figure 6:** A word cloud of student technicians' career aspirations, suggesting most students were planning to further their education or work at Sankara Eye Foundation India (SEF) after completing the Vision Care Technician Program<sup>3</sup>.



**Figure 7:** A word cloud of staff technicians' career aspirations, suggesting that most staff wanted to study further, become full-time nurses, work at the operation ward, and continue employment at Sankara Eye Foundation India <sup>3,4</sup>.

<sup>3</sup> “SEF” = Sankara Eye Foundation India; “B.Sc.” = Bachelor of Science; “VCT” = Vision Care Technician; “theatre” = operation theatre, a work station at Sankara

<sup>4</sup> Many staff technicians wanted to work at Sankara until they were married and had children; “operation” = operation theatre, a nursing station at Sankara; other technicians bravely shared their personal career ambitions: to become an air hostess and become a singer, etc.

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*A staff Vision Care Technician manually measures the blood pressure of a Mangalore village patient.*

### *Discussion*

There are many similarities between the two responses, including two major themes where both groups of technicians wanted to either study nursing further or continue working in Sankara (denoted as SEF in Figures 6 and 7). Both student and staff technicians wanted to “become” nurses in future, which meant that student and staff technicians wanted to continue with their jobs at Sankara. Other technicians were more specific towards their career aspirations, and they indicated that they wanted to eventually work in the “operation ward” or “operation theatre” during or after the Vision Care Technician Program.

Relating to technicians’ career goals, staff technicians were more likely to state that becoming a faculty might be an occupation they would enjoy, but it was not clear what kind of faculty they would want to become. Technicians

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stated that they wanted to pursue a BSE degree, or Bachelor of Science Education, which was a degree headed along that specific career.

The powerful responses, insights, and observations reflect the meaningful experiences the Vision Care Technicians shared during the interviews. The epidemiological demographics, research findings, and overall understanding of the Vision Care Technician profiles explain the intricate relationships of family, finances, societal influences, and personal goals that have socially impacted student and staff technicians.

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# Appendix A: Research Methodology

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## *Narratives*

The narratives were written based on student technicians' experiences in the field. It was important to note that technicians were given aliases, so their privacy is protected.

## *Questionnaires*

We developed two questionnaires that were approved by Sankara's administrative team before the interviews started. One questionnaire was developed for the student technicians, which considered their overall expectations of Sankara since the student technicians only had 2 months of training. The questionnaire included demographic, educational, familial, economic, career, and program evaluation to understand the scope of the impact. A total of 23 questions were asked in the interviews.

Another questionnaire we developed was written for staff members. While the process of data collection was similar, this questionnaire was phrased in the past tense because all staff members had already completed the Vision Care Technician program at the time of the interview. In addition, staff members were also more likely to be married, resulting in either a 23 or 26-question survey, depending on the technicians' relationship status. Questions also included demographic, educational, familial, economic, career, program evaluation, and husband-related questions, similar to the student technician questionnaire.

## *Vision Care Technician Selection*

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Interviews were arranged through the Partner Relations Manager, Dr. Pooja Sanghvi, and through the nurse's ward. This was a convenience-based sample because we interviewed all technicians who were available.

### *Consent Forms*

All Vision Care Technicians were required to sign two consent forms for both Sankara Eye Foundation India and the Miller Center for Social Entrepreneurship. While most technicians' chose to sign their names, some resorted to fingerprinting as a form of consent.

### *Interviews*

We interviewed 105 student and staff technicians across 7 Sankara units in India. Due to the limited translators, our data was translated in Tamil through Arthi and Thilaga, our Vision Care Technician translators. 57 of our interviews were conducted through teleconferencing, and 8 were conducted through the use of a telephone, as the connection had been unstable.

### *Field Notes*

As language barriers persisted during the interview process, many notes were rephrased and agreed upon before recording technicians' personal information. All notes were recorded verbatim in a Moleskin notebook and immediately transferred to a Microsoft Excel document, in order to preserve the specific details obtained from the interviews.

### *Photographs*

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Photographs were taken of the fellows interviewing Vision Care Technicians. All technicians signed consent forms regarding the use of their photos within Sankara Eye Foundation India and the Miller Center for Social Entrepreneurship at Santa Clara University. Many technicians were eager to be photographed, especially with the fellows.

### *Word Clouds*

The word clouds were generated through QSR's NVivo, a social science software program that displayed verbatim responses to the question, "What are some of your career aspirations," in both the student and staff technicians. Graphs for analysis of the student and staff technician data involved creating a new query, selecting "word frequency," and included exact wording the technicians used.



*In the midst of a busy workday, this staff technician reveals her experiences of the Vision Care Technician Program.*

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## Appendix B: Research Limitations

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Language barriers proved to be the most difficult aspect during the interviews. For a majority of the interviews collected in Coimbatore, we had limited access to a translator who was fluent in both Tamil and English. Thus, during our interview process, it was challenging to delve deeper into technicians' responses because English was not their first language. We often had to creatively rephrase our questions in order for the Vision Care Technicians to understand. Technicians, who did not understand the question, forced us to prompt the question in a manner that may have sounded similar to a force-choice question. In light of this limitation, we patiently worked with technicians by rephrasing questions, so the data is not entirely invalid.

In terms of staff interviews, since we used teleconferencing to connect with Vision Care Technicians from several hospitals in India, questions may have been phrased in different Indian languages, based on the location of the hospital. However, almost all interviews conducted via teleconferencing had a translator.

Similarly, group dynamics may have affected student technicians' abilities to answer questions. Interviews with the student technicians were conducted in a peer-influenced group setting, where questions were asked and subsequent translations occurred in an open environment by peer technicians. As these translations were done in Hindi and Tamil, there may have been response bias when technicians responded to the questions.

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In addition, most of the questions from our questionnaires reflected the individual perceptions that women held. For example, when asked about husband's support in staff technicians' work, the responses garnered by the interviews only reflected a one-sided view, so this finding is limited to understanding the effects of these perceptions and cannot be stretched further.

Lastly, the Vision Care Technicians interviewed may not have been representative of the entire population. We were only able to collect data from 30 student Vision Care Technicians, who had primarily come from Ludhiana and Kanpur, northern and central, regions of India. Similarly, while our staff technician sample was strongly representative of the Coimbatore Sankara hospital, it may not be representative of other Sankara hospitals. We acknowledge that this sample set had been conveniently sampled, which may have affected the results of this study.

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# Appendix C: Questionnaires

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## **Vision Care Technicians Program Student Technician Questionnaire**

### Demographic questions

1. What is your name?
2. How old are you?
3. What is your marital status?
4. Where are you from originally?

### Education

1. What is the highest level of education you achieved?
2. What challenges, if any, did you face while receiving education? Select all that apply.
  - a. Financial restrictions
  - b. Familial restrictions
  - c. Societal or cultural concerns
3. Do you intend to pursue higher education?
  - a. Yes
  - b. No
4. Do you have an email id?
  - a. Yes
  - b. No

### Family Questions

1. What is the highest level of education that your parents received?
  - a. No formal education
  - b. Some primary education
  - c. Primary education
  - d. Secondary or higher
2. What are your parent's expectations for you?
  - a. Work outside home
  - b. Work inside home
  - c. No preference
3. How do your parents feel about the VCT program?
  - a. Supportive
  - b. Unsupportive
4. If your parents are supportive, what is the primary reason behind their support?
5. Do you have any siblings?

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6. If you have siblings, what are they doing?
7. Are you the first in your family to pursue higher education?

#### Husband Questions (if applicable)

1. How does your husband feel about your participation in the VCT program?
  - a. Supportive
  - b. Unsupportive
  - c. Indifferent
2. If your husband is supportive, what is the primary reason behind his support?
3. What is the highest level of education that your husband received?
  - a. No formal education
  - b. Some primary education
  - c. Primary education
  - d. Secondary or higher
4. Is your husband currently employed?
  - a. Yes
  - b. No

#### Economic Status

1. Before the VCT program, did you work? If so, what did you do?
2. How do you use your VCT income?

#### Occupation

1. What was the primary reason you chose to participate in the VCT program?
2. How long do you plan on working as a VCT?
3. What are some of your career aspirations or goals?
4. Are you the first person from your village to join the VCT program?

#### Program evaluation

1. What do you hope to get out of this program?
2. What is your favorite part of the VCT program?
3. What is your least favorite part?

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## Vision Care Technicians Program Staff Technician Questionnaire

### Demographic questions

1. What is your name?
2. How old are you?
3. What is your marital status?
4. Where are you from originally?

### Education

1. What is the highest level of education you achieved?
2. What challenges, if any, did you face while receiving education? Select all that apply:
  - d. Financial restrictions – my family could not afford school, I had to help at home
  - e. Familial restrictions- my parents would not let me go to school
  - f. Societal or cultural concerns – many women in my community did not go to school, fear of stigmatization from community; independence – unable to voice opinion about individual's wants, etc.
  - g. Other- I lived too far away from a school, I did not have a way to get to school, I did not want to go to school etc.
3. Do you intend to pursue higher education?
  - c. Yes
  - d. No
  - e. Already completed
  - f. Currently completing
4. Do you have an email id?
  - g. Yes
  - h. No

### Family Questions

1. What is the highest level of education that your parents received?
  - a. No formal education
  - b. Some primary education
  - c. Primary education
  - d. Secondary or higher
2. What are you parent's expectations for you?
  - d. Work outside home
  - e. Work inside home
  - f. Do not work
  - g. Obtain higher education
3. How do you parents feel about the VCT program?

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- e. Supportive
  - f. Unsupportive
  - g. Indifferent
4. If you parents are supportive, what is the primary reason behind their support?
  5. Do you have any siblings? If so, are they also working?
  6. Are you the first in your family to pursue higher education?

#### Husband Questions (if applicable)

1. How does your husband feel about your participation in the VCT program?
  - c. Supportive
  - d. Unsupportive
  - e. Indifferent
2. If you husband is supportive, what is the primary reason behind his support?
3. What is the highest level of education that you husband received?
  - f. No formal education
  - g. Some primary education
  - h. Primary education
  - i. Secondary or higher

#### Economic Status

1. Before the VCT program, did you work? If so, what did you do?
2. How do you use your VCT income?

#### Occupation

1. What was the primary reason you chose to participate in the VCT program?
2. How long do you plan on working as a VCT
3. What are some of your career aspirations or goals?
4. Do you feel you have contributed to Sankara? If so, how?
5. Do you feel that your participation in the VCT program goes against typical gender roles in India?

#### Program evaluation

1. How has your self-confidence changed since beginning this program?
  - a. More confident
  - b. Less confident
  - c. No change
2. Do you feel the VCT program has increased your independence?
  - a. Yes
  - b. No
3. Would you recommend the VCT program to other women?
  - a. Yes
  - b. No

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