

July 2019

# Evaluating the effectiveness of reproductive health trainings within the Apopka farmworker community

Alexandria Mickler

Rollins College, amickler@rollins.edu

Follow this and additional works at: <https://scholarship.rollins.edu/honors-in-the-major-anthropology>



Part of the [Other Anthropology Commons](#), and the [Social and Cultural Anthropology Commons](#)

---

## Recommended Citation

Mickler, Alexandria, "Evaluating the effectiveness of reproductive health trainings within the Apopka farmworker community" (2019). *Anthropology*. 1.  
<https://scholarship.rollins.edu/honors-in-the-major-anthropology/1>

This is brought to you for free and open access by the Honors in the Major Theses at Rollins Scholarship Online. It has been accepted for inclusion in Anthropology by an authorized administrator of Rollins Scholarship Online. For more information, please contact [rwalton@rollins.edu](mailto:rwalton@rollins.edu).

**Evaluating the effectiveness of reproductive health trainings  
within the Apopka farmworker community**

**Alexandria Mickler**

Rollins College Department of Anthropology  
Honors in the Anthropology Major Thesis

## Acknowledgements

This work truly would not have been possible without the enthusiastic collaboration and earnest support of the Apopka Farmworker Association. To Yesica Ramierz, thank you for your indispensable help with coordinating the focus groups and encouraging women to participate. Your leadership during the reproductive health trainings is admirable and it was an honor to work alongside you. To Jeannie Economos, thank you for personifying what it means to be an ally and advocate, and for helping me to see the true power of strength through solidarity. Your thoughts, suggestions, and ideas were crucial to the development of this research, and I am so grateful to have learned from you. To Dr. Antonio Tovar, thank you for your feedback and assistance in developing the research instruments. As a future medical anthropologist, it has been a pleasure to be mentored by someone who is so established and successful within the field of Latino health.

To the Center for Leadership and Community Engagement, including Micki Meyer, Meredith Hein, and Marissa Corrente, thank you for your financial and moral support of this research. I feel so privileged to attend an institution that invests crucial resources to our greater community, and I am thankful for the service-learning opportunities I have had within CLCE. Truly, they have helped shape my perspectives and trajectory of study.

To Dr. Patricia Tome, thank you for your help in translating portions of the focus groups. I have loved being a student in your class appreciate the genuine interest you take in your students.

To my thesis committee, Dr. Ashley Kistler and Dr. Carol Lauer, thank you for your edits, suggestions, and continuous support throughout the thesis writing process. The Anthropology department has shaped my Rollins experience in so many ways, and I am so grateful to have been a student in your courses.

To my academic and thesis advisor, Dr. Rachel Newcomb, thank you for your endless encouragement and support not only in pursuing Honors in the Major, but also from day one of “Women and Globalization.” That course and the subsequent field study to Morocco helped me to realize my true passions and ultimately work towards the Rollins mission of becoming a responsible leader and global citizen. Your work is inspiring, but it is your approach towards teaching anthropology and engaging students that has left an immeasurable impact on me. From the countless references, emails, and Skype sessions, thank you for always having my (and all students’) best interests at heart. Thank you for being an invaluable professor, mentor, and friend throughout my four years at Rollins.

Finally, this work would be meaningless without the shared opinions, perspectives, and experiences of each of the 33 participants. Thank you for sharing your stories; it was an honor to help create a space in which your voices were heard and to help promote the FWF mission towards advancing justice for farmworkers.

## Table of Contents

<b>Preface</b>	<b>4</b>
<b>Introduction</b>	<b>5</b>
<b>Part I: Literature Review</b>	
<b>Introduction</b>	<b>6</b>
<b>Farmworkers in the United States</b>	<b>7</b>
<b>Pesticide Background</b>	<b>9</b>
<b>Health Risks of Pesticides</b>	<b>11</b>
<b>Additional Occupational Health Risks</b>	<b>17</b>
<b>Community Partner: Farmworker Association of Florida</b>	<b>18</b>
<b>Reproductive Health Trainings</b>	<b>19</b>
<b>Applied Anthropology and Social Justice</b>	<b>24</b>
<b>Part II: Research Study</b>	
<b>Chapter 1: Methodology</b>	<b>26</b>
<b>Chapter 2: Results</b>	<b>29</b>
<b>Chapter 3: Analysis</b>	<b>41</b>
<b>Chapter 4: Conclusions</b>	<b>50</b>
<b>Chapter 5: Recommendations</b>	<b>53</b>
<b>Chapter 6: Reflections</b>	<b>55</b>
<b>Appendix A: Informed Consent</b>	<b>59</b>
<b>Appendix B: Focus Group Questions</b>	<b>60</b>
<b>Appendix C: Control Group Questions</b>	<b>62</b>
<b>Part III: Works Cited</b>	<b>63</b>

## Preface

As an anthropology major and global health minor with interests in public health, Hispanic culture, and social justice issues, my goal was to conduct my senior thesis research study in a collaborative and meaningful way. My involvement with the FWAF began in the summer of 2015 after being introduced to Jeannie Economos, the Pesticide-Safety and Environmental Health Project Coordinator through her connection with Dr. Rachel Newcomb. To further my knowledge and interests within the field of maternal health, I attended a Reproductive Health Training in July and found that although participants were fully engaged in the training, there was no formal evaluation system besides a few follow-up questions at the end of the session. Additionally, the FWAF continually has to seek out additional external funding in order to continue and update the training, especially since funding has been depleted as of December 2015. Thus, the idea for an outcomes assessment and evaluation of the Reproductive Health Training came to fruition between Jeannie and myself, along with Yesica Ramierz, the leader of the Apopka trainings, and the FWAF medical anthropologist, Antonio Tovar.

This study aligns with my own research interests as an anthropology student as well as my passion for community engagement. Throughout my time working alongside FWAF, I have been able to not only conduct meaningful and impactful focus groups with farmworker women for the purpose of this study, but also participate in their annual “Woman 2 Woman” conference, learn how Medicaid and food stamp applications are processed, and gain a greater overall perspective on the resources and services the FWAF offers to community members. The FWAF truly engages the farmworker population and supports them in navigating issues of health, legal rights, immigration policies, and social justice awareness. This study highlights the multifaceted

approach and result of just one element of the FWAF's programming – the Reproductive Health Trainings.

### **Introduction**

The purpose of this research is to better understand the risks that pesticide exposure poses to farmworker mothers and to examine the effectiveness of the maternal reproductive health training in terms of both educating and empowering Latina women. Through focus groups, discourse, and dialogue with participants of the Reproductive Health Trainings and FWAF staff, this study aims to contribute new information regarding how organizations and workforces can share information about pesticide exposure prevention in an effectively and culturally-sensitive way. Additionally, this study aims to provide information on how workforces can monitor a training program's progress toward its goals. From this information, I hope to learn how participants interpret information from the training and how they later implement the information in their daily life. I will also examine how women share information among their family and peers, and based off of their feedback, provide recommendations for improvements or modifications to the Reproductive Health Training.

From a collaborative anthropology approach, this research will assist the FWAF in understanding which components of the program are most effective and are meeting the needs of their target population through a formal evaluation. Additionally, this research aims to contribute new findings relating to the cultural perceptions of occupational and maternal health within the Latina farmworker community.

Based on my observations and the data I've collected from women who have participated in a reproductive health training, compounded with the perspective of women who had not participated in one of the trainings, I will argue that these reproductive health trainings are

informative, effective, and essential ways to reach, educate, and empower the FWAF's female Apopka farmworkers. As such, and based off of the suggestions of community members, these trainings should continue on a monthly basis due to their demonstrated efficiency and necessity in four main areas:

1. The trainings teach farmworker women new information that is not covered in workplace training regarding how to protect themselves from occupational hazards.
2. The training method as it has been developed is an effective way to reach the targeted population.
3. The targeted population has been shown to suffer from various health conditions covered in the training.
4. The trainings are valued opportunities for community engagement and empowerment from both the perspective of participants and the FWAF staff.

## **Part I: Literature Review**

### **Introduction**

Agricultural work is widely regarded as one of the most physically demanding occupations within the United States. Not only do farmworkers face heightened occupational hazards from pesticide exposure, intense labor, and high levels of heat, but the majority of farmworkers are immigrants or racial minorities who live in poverty and face a myriad of social justice issues exacerbated by structural violence. Based on the concerns of the Central Florida farmworker community, as well as my personal research interests in the realm of maternal health and program evaluation, the purpose of this study is to better understand the potential risks, concerns, and initiatives related to maternal health outcomes of the Central Florida Latina farmworker community and to evaluate the effectiveness of community-based educational workshops.

### **Farmworkers in the United States**

Within the United States, there are an estimated 3 to 5 million farmworkers; however, it is often difficult to exactly quantify the number of hired farm laborers due to their social, economic, political, and cultural marginalization. The most recent National Agricultural Workers Survey (NAWS) conducted by the United States Department of Labor estimated that 82 percent of farmworkers are of Hispanic ethnicity, and over 75 percent were born in Mexico. Among all farm workers, 24 percent were female. Furthermore, the average farmworker is young – with over half of all workers ranging from 14 to 34 years old. Additionally, 51 percent of farmworkers reported being married with an average of two children (U.S. Department of Labor 2005).

The states with the largest farmworker populations in the United States are California, Texas, Washington, Florida, Oregon, and North Carolina. Within Florida alone, over 300,000 people identify as farmworkers and are particularly concentrated in the Central and Southern areas of Florida. Farmworker income levels place over 60 percent of workers at or below the national poverty line. For example, in 2007, the national Federal Poverty Guidelines indicated a household income of \$20,650 for a family of four as living at the poverty line. According to the NAWS, the average household income for farmworkers ranged from \$150,000 to \$17,499, with more than three-fourths of farmworkers earning less than \$10,000 annually. The average hourly wage currently ranges from \$6 to \$8 per hour (Farmworker Justice 2014).

Agricultural labor is regarded as one of the most physically demanding occupations, and includes planting, cultivating, harvesting, and preparing crops for either market or storage. Agricultural workers can be classified as migrant or seasonal<sup>1</sup>. Migrant farmworkers, in general, will relocate residencies during the course of a growing season to align with a specific crop's growth schedule. Seasonal workers are not migratory and instead live in one place year-round

---

<sup>1</sup> According to the U.S Department of Housing and Urban Development, the populations of migrant and seasonal farmworkers are very different in terms of the types of services that are needed to support these workers, particularly with regard to housing.



and work in agriculture seasonally, depending on the types of crops being planted or harvested. Between 2000 and 2009, the proportion of seasonal farmworkers grew from 58 to 72 percent, while the proportion of migrant farmworkers fell from 42 to 28 percent – highlighting a trend of farmworkers towards seasonal work and away from migratory work. The hardships of migratory and seasonal farmworkers within the United States were first brought to national attention during the 1960s, when a documentary by Edward R. Murrow, “Harvest of Shame” was aired on Thanksgiving Day and depicted the living and working conditions of migrant and seasonal farmworkers (MSFWs). However, even fifty years later, MSFWs suffer rates of morbidity and mortality that are higher than the majority of the United States Population (Harvest of Shame 1960) and the harmful working conditions, as well as protective legislation, have not dramatically improved.

According to the United States Department of Agriculture, “women, and ethnic and racial minorities, fill many roles in agriculture,” and this field of work has some of the highest rates of occupational injuries, illnesses, and accidents within the United States (USDA 2016). Farmworkers are exposed to excessive heat, face a high risk of falls, pesticide exposure, and injuries due to repetitive motion. Although substantial research has examined the risks and hazards faced by farmworkers, relatively few studies have directly examined the effect of this occupation on female health within the context of maternal health. Furthermore, few studies have resulted in conclusive epidemiological evidence, and even fewer have examined the efficacy of preventative programs in terms of educating and promoting women to protect themselves while working in the field.

## **Pesticide Background**

Chemical pesticides are the most widely-used form of pest management in agricultural work. Within the United States, more than 18,000 products are licensed for pesticidal use, and each year over 2 billion pounds of pesticides are applied to crops, homes, schools, parks, and forests, with 75 percent of pesticide usage occurring in agricultural work (Alvanja 2009). The prevalence of these chemicals began following World War II with the use of organic substances derived from natural sources and inorganic substances that were by-products of industrial coal production. However, these “first generation” pesticides were found to be highly toxic and ineffective – ultimately killing the plants rather than pests. The use of synthetic pesticides, or the “second generation,” began in the 1940s following the discovery of dichlorodiphenyltrichloroethane (DDT), dieldrin, BHC, aldrin, endrin, and 2,4D (Delaplane 1996). These compounds were inexpensive and effective, which promoted their use in both residential and commercial contexts. DDT was particularly popular due to its broad-spectrum of insecticidal properties, meaning that it controlled pests that affected both agricultural products, as well as human health issues. DDT dramatically reduced insect-borne diseases such as malaria and yellow fever over the years – ultimately meriting the Nobel Prize in Medicine in 1949.

However, in the 1960s, public confidence in synthetic pesticides was challenged following the publication of Rachel Carson’s book, *Silent Spring*, which highlighted the environmental damages pesticides created, as well as reports of pests becoming resistant to the pesticides and non-target plants and animals being harmed by the liberal exposure to these chemicals. The extensive use of pesticides was argued to have caused both direct and indirect toxicity to humans. Direct toxicity refers to the uptake of the pesticides not only by insects, but also by other organisms that come into direct contact with the pesticide. For example, rainwater runoff results in pesticide-exposed soil being deposited into rivers and streams, which in turn

directly exposes fish, crabs, and other aquatic life to the chemicals. Indirect toxicity relates to the persistence of the pesticide after direct exposure. Synthetic pesticides (like DDT) are insoluble, meaning that they cannot dissolve in water, and many microorganisms lack the enzymes responsible for breaking down these synthetic chemical compounds. Thus, organisms face indirect exposure to these pesticides via bioconcentration, the process by which insoluble compounds can accumulate in an organism's tissues over time, resulting in a higher concentration of the pesticide within the organism. Additionally, indirect toxicity can occur through biomagnification, which is defined as "the process whereby the tissue concentrations of a contaminant increase as it passes up the food chain through two or more trophic levels" (Nowell 1999: 241). For example, DDT exposure can cause trace amounts of the pesticide to accumulate in the cells of phytoplankton, which are eaten by fish. Through this transmission, the fish accumulate the DDT levels of the phytoplankton at a higher concentration. As the predator-prey relationship progresses up the food chain, the concentrations increase so that by the time a human consumes this fish, the levels of DDT may be up to 400 times greater than the original concentration within the phytoplankton. These processes are important in understanding how synthetic pesticides affect human health because humans can be both directly and indirectly exposed to pesticides through the application and use of household and agricultural pesticides as well as through food consumed.

The result of these findings on synthetic pesticides has prompted a shift towards creating pesticides that are pest-specific and more "natural." This means that the compounds mimic pyrethroids, natural plant-derived poisons. However, the full extent to which pyrethroids are used is unknown, and the combinations of various pesticide types has still been shown to be toxic to not only non-target organisms, but also to humans (Goldman 2004).

Agricultural work exposes farmworkers to high levels of toxic pesticides, which numerous studies have shown to be increasingly damaging to the health of farmworkers. The Environmental Protection Agency estimates that over 300,000 farmworkers suffer acute pesticide poisoning each year, making MSFWs the group suffering from the highest rates of toxic chemical injuries of any group of workers in the United States (U.S General Accounting Office 1992). However, the full extent of pesticide-related poisoning, injury, or toxicity is unknown due to the lack of established and formalized pesticide reporting systems. Out of the 87,000 chemicals that are registered in the United States, only one tenth of these substances had been tested for potential adverse health effects as of 2010 (ARHP 2010). Furthermore, the extent to which particular pesticides are used is also ambiguous, and very few organized, preventative programs exist to protect farmworkers from pesticide exposure while on the job (Flocks 2011).

### **Health Risks of Pesticides**

According to Florida Department of Health, farmworkers may come into contact with large concentrations of pesticides through mixing and applying pesticides as well as weeding and hand-harvesting crops. Additionally, farmworkers face indirect spray of pesticides from wind, exposure to contaminated water, and can come into direct contact with pesticide residue on crops, which may later be transferred from contaminated hands into the body when eating, smoking, or defecating (Hansen 2002). Workers may also expose their families by carrying pesticide residue home on their clothing and shoes.

Beginning in the 1970s, numerous cases of infertility were discovered among men working in a pesticide factory in California, which prompted further research regarding the effects of pesticide exposure on overall health in both men and women (Whorton 1977). Various

studies have linked pesticide exposure to negative pregnancy risks, unfavorable birth outcomes, congenital deformities, reproductive challenges, and permanent endocrine disruptions.

Additionally, repeated pesticide exposure is associated with neurological defects and has been identified as a carcinogen.

The reproductive health challenges associated with pesticide exposure are numerous. First, fecundability refers to the probability of a woman becoming pregnant within a single menstrual cycle, whereas fecundity is the probability of achieving a pregnancy that amounts to a live birth within a single cycle. Various studies have demonstrated a possible link between greenhouse and agricultural work and decreased fecundability and fecundity rates, although a causal link has not been established. For example, a study among female greenhouse workers demonstrated that exposure to pesticides within flower greenhouses resulted in lower average fecundity rates (Idrovo 2005), which was supported by another study in Colombia that found that women and men who had been exposed to synthetic pesticides had a slightly higher “time to pregnancy,” indicating that couples exposed to pesticides had a longer period of trying to conceive before a successful conception occurred (Sanin 2009).

Outside of the challenges posed by pesticide exposure for reproductive success, these harmful chemicals have also been shown to severely impact the health of children who were exposed to pesticides in-utero. A 2005 study in Florida analyzed three infants who were born with congenital anomalies to mothers who all worked for the same tomato grower in Collier County. The infants were born within eight weeks of one another, and the abnormalities faced by the infants ranged from tetra-amelia (absence of all four limbs), Pierre Robin syndrome, cleft lip and palate, and ambiguous genitalia. This study not only highlighted the severe deformities that the infants faced as a probable result of pesticide exposure, but also the illegal working

conditions that the mothers unknowingly participated in. According to the Worker Protection Standard, an agricultural employer shall not allow or direct any worker to enter or remain in a treated area after the application of any pesticide on an agricultural establishment before the restricted entry interval (REI) has expired (U.S EPA 1997). The only exception to this law is if a worker is provided personal protective equipment (PPE), they may be allowed to enter the agricultural area exposed to pesticides. However, in this case study, there is evidence that all three mothers unknowingly worked in violation of REI days without any evidence of PPE having been provided. Additionally, the mothers worked in REI during the period of pregnancy when birth defects are most likely to occur (approximately 14-59 days following fertilization) and the fields had been treated with pesticides that were proven teratogens (cancer-causing substances) in various animals (Calvert 2007: Table 2). Although this study failed to provide a direct and causal link between the mothers' exposure to pesticide and the congenital abnormalities of their children, it is evident that a relationship may exist because each mother was exposed to a variety of pesticides during the period of maximum sensitivity for all organ systems that were affected in their offspring. Additionally, all three mothers had three potential routes for pesticide exposure: dermal, inhalation, and oral, and it is highly likely that pesticides were ingested – raising significant concerns that exposure to unsafe pesticides may impact the etiology for the observed birth defects.

This study is not alone in identifying a relationship between congenital abnormalities and occupational pesticide exposure. A retrospective review of 34 epidemiological studies examining agricultural risk and birth defects from 1980 to 1996 revealed a positive association between exposure to pesticides and congenital malformations; however, workers were assumed to have been exposed to pesticides based on their job titles and were not interviewed about their

exposure (Garcia 1998). Alongside developmental disorders, reproductive disorders were also examined in over 80 studies from 1984 to 2004 and identified that “parental employment in agriculture could increase the risk of congenital malformations in the offspring” (Hanke 2004: 223). Yet as the former study indicated, before a definitive association between parental pesticide exposure and disorders in the offspring can be proven, the methods employed by researchers must be improved since many confounding variables are still at play, as many birth defects are caused by unknown etiologies. However, numerous international studies have found similar patterns of increased pesticide exposure and heightened levels of birth defects in newborns, and these results have been increasingly supported as more research is done within the realm of environmental influences on maternal health.

Outside of the aforementioned drastic physical malformations, pesticide exposure has also been linked to the low birth weight of newborn babies. According to the World Health Organization, low birth weight is a critical determinant of mortality, morbidity, and disability during infancy and childhood and can also impact overall health outcomes in adult life (WHO 2014). Low birth weight is when a baby is born at less than 5 pounds, 8 ounces (March of Dimes 2015) and in the United States, approximately 1 out of every 12 babies falls into this classification. These babies face high risks for brain bleeding, respiratory distress syndrome, and infections following birth. Chronic health conditions can include high blood pressure, diabetes, and heart disease. Known medical risk factors for having a low birth weight baby include chronic maternal health conditions, preterm labor, and problems with the placental growth during pregnancy.

Research has also shown that occupational hazards while pregnant can contribute to birthing low birth weight children, and in particular, exposure to pesticide residue may affect this

risk. A study in Poland examined over 100 mothers who reported involvement in agricultural fieldwork and had birthed a single live infant over the period of ten years. After controlling for varying pregnancy durations, the researchers found that exposure to synthetic pesticides, particularly pyrethroids, within the first and second trimester of pregnancy was associated with a statistically significant decrease in birth weight. Since the population of women studied was homogenous in terms of socio-economic status, age, and lifestyle habits (i.e, no smoking or drinking during pregnancy), this study controlled for both the external social determinants of health and potential varying medical risk factors within the individual women and was able to highlight pesticide exposure as a significant environmental and occupational risk factor for low birth weight babies. A similar study also highlighted how women who were living within three miles of gas pesticide-treated fields in California gave birth to babies weighing an average of four ounces less than their counterparts who were not living near fields exposed to pesticides (Gemmill 2013). Thus, these studies represent a potentially causal link between pesticide exposure and the risk of giving birth to a low birth weight baby – a maternal, child, and overall public health concern due to both the imminent birth risks, as well as the prolonged, chronic health affects.

Preterm birth, defined as a birth that occurs at less than 37 weeks of gestational age, has also been related to maternal pesticide exposure. Preterm babies face similar risks as low birth weight babies, and the two conditions may coexist or occur separately. The earlier in pregnancy a baby is born, the more likely the child is to face health problems including apnea, anemia, jaundice, lung dysplasia as well as chronic neurological disorders including cerebral palsy, autism, and developmental delays (March of Dimes 2013). Approximately 10 percent of babies



within the United States are born prematurely, and similar to low birth weight babies, it is difficult to pinpoint a singular cause.

Following a 2007 study, however, it was found that the increasing prematurity birth rate within the United States was positively associated with the increased use of pesticides during peak agricultural seasons (April-July) over the course of four years (Indiana University 2007). More than 27 million births were studied, and the overall highest rate of prematurity within the sample occurred between May and June regardless of the mother's age, race, education, lifestyle habits, or location of residency. Additionally, an extensive survey of DDT exposure, specifically, measured maternal serum levels within the third trimester of pregnancy. Within the two thousand women surveyed, researchers found that the odds of preterm birth occurring increased both steadily and significantly as the concentrations of a chemical isomer of DDT increased in prevalence in the serum (Longnecker 2001). Similar studies in India, Israel, and Brazil corroborate this trend and link persistent pesticide exposure by both the father and the mother as potential risks for preterm delivery (Saxena 1980, Wasserman 1982, Procianoy 1981).

Reproductive health challenges due to pesticide exposure are not limited only to women. Several studies have suggested that male farmworkers have experienced decreased semen quality and reduce fertility as a result of organophosphate pesticide exposure (Recio-Vega 2007, Roeleveld 2008). In general, the results of cross-sectional studies have shown that men with the poorest sperm quality tend to have higher levels of pesticides present in urine samples than those with higher sperm quality, which also increases the time-to-pregnancy (Bretveld 2007). Additionally, male farmworkers who are exposed to pesticides may contribute to adverse pregnancy outcomes including miscarriage, preterm birth, and low birth weight babies (Savitz 1997). Although it is difficult to confirm a causal association due to gaps in the types of

pesticides that have been studied with regard to male reproductive health, it is necessary to understand the potential impact of male farmworker's pesticide exposure when examining maternal health outcomes.

### **Additional Occupational Health Risks**

Farmworkers face a variety of health risks outside of pesticide exposure that may also contribute to adverse maternal health outcomes. The agricultural industry overall has some of the highest rates of injuries and illnesses resulting from falls, heat exposure, repetitive motions, and other ergonomic stressors (Runkle 2014). Furthermore, physically strenuous work conditions have been associated with pregnancy risks including, but not limited to, spontaneous abortions, low birth weight babies, preterm births, and chronic health problems throughout the neonate's childhood (Runkle 2014). Not only does pregnancy already strain the musculoskeletal system and alter a mother's center of gravity, but it also puts the mother at an elevated risk for injury. Thus, for pregnant farmworkers, the occupational risks that can impact their health are particularly compounded.

In a comprehensive study that examined the working conditions of fernery and nursery workers within the Apopka farmworker community, over half of the women surveyed worked throughout their entire pregnancy. Compared to the nursery workers, the fernery workers reported significantly more body pain or discomfort due to the occupational hazards of lifting heavy objects, sitting or standing over the fernery work, and repetitive, tedious motions such as cutting and trimming the plants. Aside from nausea and eye irritation, no major pregnancy risks were reported; however, a significant portion of the women working within the ferneries reported having a child with a chronic health problem (Runkle 2014). Although this individual study did

not observe spontaneous abortions, preterm births, or low birth weight babies, it highlights the need for more research in this area in order to better understand the relationship between occupational health risks and maternal health outcomes within this population.

Within the Florida farmworker community, exposure to intense levels of heat is a notable occupational risk. Strenuous outdoor labor, combined with few rest periods, contributes to higher incidences of heat stroke, heat exhaustion, and heat cramps (Hansen 2002: 158). Additionally, farmworkers are approximately four times more likely than those who do not work in the agricultural industry to experience heat-related illnesses (National Rural Health Care Association 2007). In Florida in particular, farmworkers face high temperatures and humidity levels, which only exacerbates the risk for heat-related illnesses, dehydration, and fatigue. Although the risks involved with working in this type of environment are widely understood, the extent to which heat exposure can impact pregnancy is relatively uninvestigated and remains a topic of future studies within the Florida farmworker community.

### **Community Partner: The Farmworker Association of Florida**

The Farmworker Association of Florida (FWAF) was established by a group of farmworkers in Mascotte, Florida in 1983 in order to respond to needs of the community within Central Florida and better organize farmworkers in their campaign for improved wages, housing opportunities, and overall working conditions. Throughout the last three decades, FWAF has expanded to five locations throughout Florida and has over 8,000 members. The association estimates that 94 percent of the members are Latino, 3 percent are Haitian, and 3 percent are African American (Kline 2010). The FWAF has celebrated major legal, education, community, and collaborative accomplishments over the years, all the while encouraging farmworkers to

respond to and gain control over the various issues that impact their lives. The official vision of FWAF is to be a “social environment where farmworkers’ contribution, dignity, and worth is acknowledged, appreciated, and respected through economic, social, and environmental justice. This vision includes farmworkers being treated as equals, and not exploited and discriminated against based on race, ethnicity, immigrant status, or socioeconomic status” (FWAF 2015).

The FWAF has roots within the Hispanic, Haitian, and African-American communities throughout Central and South Florida, including Pierson, Tallahassee, Fellsmere, Immokalee, and Apopka. Through grassroots work as a community-based and community-driven nonprofit, each FWAF location aims to meet the needs of the individual community in which it serves, while also focusing on broad issues including workers justice, immigrant rights, health issues and education, and disaster response.

### **Reproductive Health Trainings**

The FWAF established the Women's Reproductive Health trainings as a result of a collaborative research project with Emory University. The training is an interactive presentation that not only educates women and their families about health issues in the field, but also empowers the participants to protect their health, know their rights in the workplace, and improve the health of their families and share the information with their friends. The curriculum is conducted entirely in Spanish and consists of a multi-media presentation, participant interaction, and group activities. Although the training is focused on maternal and women’s health within the workplace, it is not uncommon for spouses to attend the presentation, as well as children. However, since the target population of the training is female farmworkers, participants will be referred to herein as women.

According to the FWAF, the goals of the Reproductive Health Trainings are to:

- Improve reproductive health and pregnancy outcomes among farmworker and minority women in high-risk communities.
- Develop leadership skills among farmworker women
- Promote healthy choices among mothers, children, families, and communities. (FWAF 2015)

### *Summary of Trainings*

The Reproductive Health Trainings begin with a group introduction, where each participant introduces the woman beside her and asks how many children the woman has, as well as their names and the reasoning behind the name choice. This introduction not only breaks the ice, but also builds rapport between the participants as they all generally have the commonality of being mothers, or soon-to-be mothers. The presentation then moves into an introduction of the topics that will be covered, as well as the background of the information being presented. The women are asked about any experiences they themselves or friends may have had in the workplace that has affected their maternal health. Participants are encouraged to share, and then are also asked at what point, after deciding to try to become pregnant, they should begin to take care of themselves. This question has, in my observations, helped to show the women that certain myths will be dispelled regarding maternal health and that physician care is very important during their pregnancy. Participants are asked what advice they already know of regarding maternal health and working during a pregnancy, and the instructor emphasizes the importance of not smoking or drinking when trying to become pregnant, as well as when pregnant.

The presentation then moves into the three main areas of focus: heat stress, ergonomic risks, and pesticide exposure. During the heat stress section, participants are shown graphs of Florida's average temperatures and how they've increased over time throughout each season, followed by a video produced by the FWAF and Emory. This video shows a dramatization of

two friends seeing each other in the grocery store, and one announcing she is pregnant. The older friend, accompanied by her daughter, gives her advice about advocating for herself in the field and making sure to hydrate appropriately while working, especially while pregnant.

Additionally, a video is shown in which a young Latina women discusses her pregnancy with her doctor. The doctor asks questions about her occupation and stresses the importance of how the patient needs to take care of herself and know the risks of working in the agricultural sector while pregnant, which is an appropriate segue into the theme of the overall training. Participants are encouraged to share any experiences they may have had at work where appropriate care was not provided. Additionally, resources are provided at the end of each section so that participants are well informed about what information is relevant to report, as well as how they can seek support from the FWAF when needed. <sup>2</sup>

The ergonomic stress section of the presentation focuses on the stressors of repetitive motions, since many women working in ferneries or nurseries spend the majority of their time cutting the ferns and plants, which can lead to carpal tunnel syndrome or problems resulting from overuse. In the multidisciplinary nature of the training, the participants are each given a colored label and are asked to put the label where they currently, or more frequently, experience pain or tension. In the trainings I have been a part of so far, the majority of the participants put the label on their shoulders, hands, spine or lower back, and explain the source of their frequent pain to be from leaning over and straining their back over the ferns and plants. Participants are encouraged to share their personal experiences, and the leader of the session also contributes a story about a friend who suffers from carpal tunnel syndrome and how she navigated the challenges of the syndrome while working in the ferneries. The presentation then transitions into a discussion of

---

<sup>2</sup> All statistics and figures shown in the training that involve a percentage of farmworker women surveyed come from collaborative studies between Emory University and the FWAF, rather than outside material.

how a woman's body and center of gravity changes when pregnant to focus on the physical risks of agricultural work during a pregnancy. Women are asked if they have ever fallen, or known someone who has, and watch an informational video about proper postures to assume while in the fernery or nursery. The instructor has a participant demonstrate the proper technique to lift heavy objects, and then a video demonstrating the cat and cow yoga poses is shown to provide participants with an example of stretches to alleviate both workplace and pregnancy pain.

Additionally, the importance of taking "*descansos*" or rest, is emphasized, which puts individual rights and a knowledge of these rights in the workplace at the forefront of the discussion. The FWAF is again listed as a resource to call if the workers believe their rights are being infringed upon, or to report unjust working conditions. Although each part of the training contains useful information, group discussion, and interactive videos, the importance of individual empowerment brings the information in each section to a conclusion, further underscoring the goal of the training to develop leadership skills within the female Latina farmworker community.

The presentation then transitions into the topic of pesticide danger and protection, which has a much more activist tone and urgent message to the participants. The results from surveys conducted in collaboration with Emory University and FWAF are presented, with particular emphasis on the levels of pesticides found in urine samples. Participants are asked to brainstorm ways that they come into contact with pesticides, as well as ways to prevent the spread of their pesticide exposure when returning home. Suggestions given by the instructor include changing virtually every part of their work clothing before entering the home, doing separate loads of laundry with their work clothes, and washing hands before using the bathroom or showering. The participants are encouraged to pay attention to warnings informing them when pesticides have been sprayed and know their rights involving when they are and aren't required to enter these

potentially toxic areas. A video showing the dangers of pesticides is shown, which has a similar theme as the previous video in which a friend offers advice and experiences based off of the theme of protecting ones self from pesticide exposure. These videos are not only relatable, but also emphasize the importance of sharing the information learned from the presentation with other coworkers, family, and friends. The FWAF makes a final push in advocating for farmworker rights by ending the pesticide exposure section with resources, future studies, and opening the floor for any discussion points or personal experiences.

The Reproductive Health Training wraps up with a variety of role-playing scenarios in which participants are divided into groups and given prompts that discuss some aspect of the information presented. The participants create and present a skit that illustrates how they would respond to the situation in the prompt, and other participants outside the group are encouraged to share additional information they feel is necessary. This group activity ties together all of the information presented regarding the occupational risks of farm work, ways to protect one's self, and the resources and avenues available to go to for help or support. Then, to finish up the approximately two and a half hour training, the participants share a meal together and give oral feedback regarding the presentation. However, the evaluation is not formally organized and the questions and responses are not standardized. Participants can call out suggestions or answers as they please or neglect to answer any questions at all. Thus, the current organization of the post-training evaluation highlights the importance and necessity of a more in-depth program review.

From the two health trainings I have attended, I observed that the average number of women participants ranges between 4 and 12 people. Approximately half of the participants came with their spouse or child, and the majority were young and within childbearing years. From the beginning of the training, an informal environment is established in which participants



have appeared to feel comfortable interrupting the presentation for questions or concerns, as well as sharing personal anecdotes. Additionally, I think that the videos shown within the presentation, which contain Latina farmworker community members, help to make the information relatable and unthreatening. The information in the videos primarily comes from friends helping one another, which I think underscores the tendency within not only Latina culture, but also within the farmworker community, to work together towards farmworker justice and standing up for their rights. Participants truly seem to connect with the videos and are more likely to share their experiences after connecting to a situation shown in one of the videos. Additionally, I observed that the participants tend to be most vocal in the sections regarding work-related stressors and pesticide exposure, rather than the heat section. During the two trainings I attended, multiple participants also shared pregnancy stories about how working in the field affected their health during the pregnancy. The camaraderie during the training is impressive, and it seems to be something that contributes to the overall effectiveness of the Reproductive Health Trainings.

### **Collaborative Anthropology and Social Justice**

Anthropology as a discipline has undergone a variety of paradigms and approaches to human research since its inception as a field of study during the 19<sup>th</sup> century. From focusing disproportionately on “the other” from a Western point of view, to a “crisis of representation” in the 1980s (Kline and Newcomb 2013: 160) where fieldwork methodologies took a questionable turn under anthropologists like Napoleon Chagnon and Marvin Harris, many anthropologists in the 21<sup>st</sup> century have shifted their research towards an approach that focuses on collaborative and activism-based methodology. Furthermore, collaborative research alongside community activist organizations has been suggested as a way to mitigate neoliberal policies that currently intensify

and exacerbate social inequalities and infringements on social justice issues (Kline and Newcomb 2013). This approach focuses on a reciprocal relationship between the anthropologist and the population of study – one in which the research conducted is not only for the anthropologist’s personal or professional gain, but also to create a product that benefits the population in a way that is relevant and meaningful to them.

Anthropologist Bruce Grindal founded the Society for Humanistic Anthropology and worked to mitigate a major shortcoming of anthropology – the failure to share research with those outside the field. As Ashley Kistler notes in her collaborative anthropology work, “Writing about Aj Pop B’atz,” Grindal aimed to shift the focus of ethnographic work by writing creatively to capture the cultures, personalities, and friendships encountered in an anthropologists work (Kistler 2015). By engaging local collaborators in this research process and working alongside community members, collaborative anthropology approaches research in a way that gives agency to the community and alters the historically unequal power dynamic between the researchers and the locals (Lassiter 2005, Clifford 1986).

Medical anthropologist Paul Farmer refers to structural violence as historically and economically driven arrangements that put individuals and populations in harms way (Farmer 2004:1686). Comprised of processes that constrain individual agency and contribute to the suffering of the disenfranchised, structural violence is often embedded in longstanding structures that have been normalized. Within the Apopka farmworker population, structural violence is evident in their marginalization not only as agricultural laborers, but also as minorities within an underserved area. The FWAF aim to not only bring attention to these issues of the disenfranchised, but also work towards culturally appropriate and meaningful solutions to one of the main concerns of farmworkers – healthcare.

## Part II: Research Study

### Chapter 1: Methodology

#### Pilot Study

In order to evaluate how effective the reproductive health trainings were in educating women in the Apopka farmworker community, my original plan was to implement a brief survey and conduct an interview with training attendees after the training session was completed. After attending and participating in one of the trainings over the summer, I began collaborating with the FWAF to create survey instruments. (Appendices B & C) This questionnaire contained various statements referring to the goals of the survey and the participant's opinions. Statements were written in Spanish in the first person, and participants were asked to circle the corresponding number between 1 and 5 depending on the degree to which they agreed or disagreed with the statement. This methodology would allow for a more quantitative approach to qualitative data and also ensured all participants were answering the same questions for a cross-comparison. Additionally, open-ended interview questions were developed with the goal of also providing participants an opportunity to discuss their opinions and perceptions of the training with myself in a more in-depth fashion. Informed consents outlined the procedures and study guidelines, and all materials were IRB-approved.

In November 2015, I tested the survey instruments in a pilot study. Before the reproductive health training began, I introduced myself alongside the instructor, Yesica, and explained the goals of my research and asked for those willing to participate in a 15-20 minute survey to please stay after the training. I attended and participated in the entire reproductive health training, so as to both support the training and build camaraderie within the group. Among the group of 7 women, which is on the smaller side, 5 women agreed to stay after and complete

the questionnaire. However, due to the time of night and the general sense of participants being somewhat anxious to leave, Yesica and I decided it was best not to test the individual interview questions, as well.

Several challenges arose during the pilot test. First, the training typically lasts approximately 3 hours. In this particular focus group, the training lasted 2.5 hours since the group was on the smaller side. However, this is still a considerable amount of time to spend at the FWAF on a weekday evening, especially since many women either have children with them or families at home. I believe this led to the challenging initial results I received, in which most participants rated all questions as “5,” or “strongly agree” on the scale. Written feedback and commentary on the surveys was rare and brief at best, and commentary was typically “*todo fue bien*” (*Everything was great*) or “*me gustó todo*” (*I liked everything*). Additionally, we had to incentivize participation by offering a bag a food from the FWAF’s pantry.

Following this experience, as well as suggestions from my fall thesis presentation, the FWAF and I planned to schedule the interviews for after the trainings that occurred throughout the semester. However, another obstacle arose because the source of funding for the reproductive health trainings had run out in December 2015. Therefore, it would not be possible to interview participants following their attendance of a training, since November 2015 was the last reproductive health training. Based on the FWAF’s past successes with focus groups, we collectively decided that these could be the best approach for surveying past participants and evaluating how effective and productive the trainings were. Thus, this research became even more pertinent following the depletion of funds, meaning that future funding proposals could be enhanced by the information discovered in this research. Ultimately, I hope that my research will

be culturally relevant and produce meaningful and useful results to the FWAF and the people it serves.

### Focus Groups

This alternative approach to evaluating the reproductive health training proved to be easier to organize and ultimately conduct. I based the focus group design off of a previous study that the FWAF had done with Emory University where groups of participants ranged from 5-12 participants. Since Yesica frequently comes into contact with women who have attended the trainings while she processes their Medicaid applications, she assisted me in organizing the groups by calling potential participants and scheduling them for the date that best fit their availability. All focus groups began at 6 pm and participation was incentivized by offering a \$20 gift card to the Dollar Tree – a store that is both accessible to our study population through bus routes and frequented often, per the FWAF's suggestion.

Four focus groups ranging from 6 to 10 participants were conducted from February to April and lasted approximately two hours each. After all participants signed in, I read the informed consent aloud and ensured everyone was aware of their rights as a participant before signing the form. We also discussed ground rules, including turning cell phones off and minimizing side conversations, as well as allowing all participants the opportunity to speak in the group. After I led the introduction, Yesica introduced our ice-breaker, in which participants would get to know the woman to their left and share her name and how many children she has, as well as their names, with the group. This established camaraderie and familiarity with the group before starting the formal questions, while also helping to develop an environment of respect and open-mindedness to other participants' opinions.

Questions for the focus groups were developed based off of the original survey and included open-ended questions separated into three categories: general questions about the participants' backgrounds and their opinions of the reproductive health trainings, health questions referencing their own personal experiences and perceptions, and then improvement questions concerning changes that could be made to future reproductive health trainings. After all questions were administered and the group discussion came to a close, participants were given the gift card and initialed the sign-in paper upon receipt.

In order to understand how effective these trainings are in educating and empowering the women, it is also important to consider the background knowledge and perceptions of women who have not participated in the training. Therefore, I also developed questions for a control group comprised of women who have not yet attended a reproductive health training, yet also frequent the FWAF for various other services. As with the previous focus groups, Yesica assisted with calling potential participants and inviting them to the study due to the rapport she has built with them over time. This control group study took place on April 6<sup>th</sup> and consisted of ten women who worked in agriculture, yet had not yet attended a reproductive health training. The questions asked modeled the sequence of the questions for all of the other focus groups; however, the control group was asked more general questions regarding how they could or would protect themselves from workplace dangers they identified, without referring to specific parts of the training. These questions assessed baseline knowledge of workplace conditions and risks, health conditions and pregnancy health, and methods of protection.

## **Chapter 2: Results**

### **2.1 Group Demographics**

*Group 1*

The first focus group conducted on February 16 consisted of 6 female participants who currently work in both nurseries and mushroom farming locations. Among the 4 women who currently work in the nurseries, their duration of time working in this location ranged from 1 to 8 years.

*Group 2*

The second focus group was held on February 22 and consisted of 7 female and 2 male participants. Although this study is aimed toward examining the female perceptions and opinions of the reproductive health trainings, men are also allowed to attend the trainings, and thus two spouses of the focus group participants attended this group with their wives. One male participant did not work in agriculture and did not contribute during the group. Therefore, he has not been included in the total count of participants. However, the other male participant was an integral part of our discussion and offered his perspectives as an agriculture worker throughout the session. His contributions will be included as part of this study, but will be noted as coming from a male participant. Within this group of 8 total participants, 4 women worked in a nursery for time periods ranging from 9 months to 15 years. 2 women currently work in the nursery, 1 woman has worked in agriculture (did not specify what type) for 15 years and counting, and the 1 male participant has worked in agriculture for 5 years and counting. Antonio Tovar, a medical anthropologist who works for the Department of Health was also in attendance during this focus group as an observer.

*Group 3*

The third focus group consisted of 9 female participants and had the greatest diversity with regard to type of work. 5 participants worked or currently work in a fernery, 1 participant worked in gardening, 1 participant worked in a “bodega,” or fruit and vegetable shop, and 1 participant worked in agriculture (did not specify which type). Additionally, 2 participants who previously worked in a fernery now work in a plant laboratory. Women held these positions for lengths of time ranging from 6 months to 19 years.

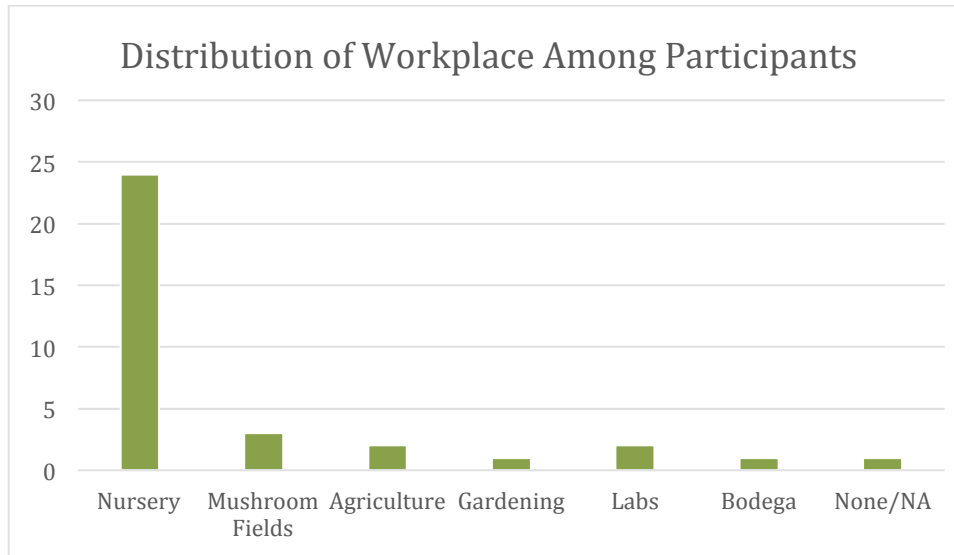
#### *Control Group*

The control group was comprised of ten women who had not yet attended reproductive health training. The majority of this group either previously or currently worked in a nursery (9 women), while 4 of these women had split their time between vegetable and citrus farming. One woman worked in mushroom agriculture. Women in this group held positions from 3 months to 18 years, with some work being seasonal and other women moving to different nurseries over time.

#### *Overall Group Demographics*

The total number of participants in the first three focus groups was 23. Ten women participated in the control group for an overall total of 33 participants in the entire study.





*Table 3.1 This graph demonstrates the type of farm work that the 33 participants in the focus groups engaged or currently engage in.*

## 2.2 Responses to Section I

The first part of the focus group contained questions relating to the participants' opinions of and experiences during the reproductive health training. Following the first question about the type of workplace, questions asked what information the participants remembered most from the training, what information was new to them, and what information surprised them or impacted them the most (See Appendix B). Across all three groups, several themes arose. First, in each of the three focus groups, the first participant to respond to the question about what they remembered the most answered with a comment regarding the dangers of pesticide exposure, particularly when the chemicals are currently being sprayed or following their application. Multiple participants in each group noted how they had not heard of this information prior to the training, and those who did know that pesticides were dangerous were not aware that their supervisors should be posting adequate warnings to ensure employees were not entering recently-sprayed areas. Secondly, in each focus group, participants discussed at length the information about removing work clothing before entering the house and washing these items

separately. In each of these discussions, participants noted how mothers, in particular, should ensure they remove work clothing before hugging their children when they arrive home from work. Third, each group discussed the importance of wearing gloves while at work, and two of the three focus groups shared additional information about their various supervisors' policies regarding providing versus selling gloves to the workers. Finally, the fourth most-discussed theme in this section was the retention of information about heat stress and drinking sufficient water throughout the workday.

Following the questions asking what information was retained after the training, Part I of questions transitioned into prompts about whether participants changed their habits or shared the information with friends, family, and coworkers. Across all three groups, the habits and information participants shared appeared to mirror the general responses to the first few questions. For example, participants noted that they now wear gloves while working, if they had not before, and wash their hands before and after using the bathroom when working. Additionally, participants explained how they changed their habits to now separate their clothing before washing it with other clothes, including that of their family, and three participants noted how they run a load of laundry without clothing in between to flush out excess pesticide residue that may be in the washing machine. Furthermore, all groups discussed how they are now more careful to not only read and adhere to pesticide exposure signage, but also ensure that their coworkers are aware of the signs and that the supervisors are displaying the signs after chemicals have been sprayed.

Although the majority of the participants noted that they have shared the information with their coworkers, friends, or families, the method through which they told them about the information was not clearly shared among the group. Some participants said that friends would

say they did not have time to attend the training or that they were too busy, but that those who had attended understood the value of going and participating in a training. One woman in the second group felt so passionately about the importance of the trainings that she shared how she has offered to sit through multiple trainings again with friends just so that they attend. Overall, participants discussed how the information was important and so they felt compelled to either share the information or encourage friends and coworkers to attend a training.

### **2.3 Responses to Section II**

The second portion of the focus group moved into questions about participants' overall health, pregnancy experiences, and whether or not they felt they have been exposed to pesticides or were at risk for occupational hazards. The first question asks about the birth weight of the women's children, if they had children or could remember their weights. Of the participants who responded, none of the weights were below 6 pounds, with all reported birth weights ranging from 6 to 8 pounds, 3 ounces at maximum. One woman noted that her daughter was born at a very low birth weight, although not premature, due to her complications with combatting cancer during the pregnancy. However, she could not recall the exact birth weight.

Although only one participant experienced a low birth weight baby, a handful of others had pregnancy complications. Experiences ranged from having a child with muscular dystrophy and spina bifida to having a daughter with a urinary tract birth defect. Although these defects could not be traced directly to harmful work experiences or pesticide exposure, some women noted that they did work during their entire pregnancies, while more than half stopped working either at the start of their pregnancy or midway through.

Participants also shared the health problems that they themselves currently mitigate. At the start of this discussion in each group, many participants expressed that they were in good health and did not have any chronic health issues. However, when prompted to think about how they feel before, during, and after work, almost every respondent in each of the groups touched on one or many of these four main themes: headaches, heat exhaustion (including dehydration and sun exposure), allergies, and coughs/throat irritation. Two participants discussed their experiences being hospitalized, and four women shared that they had experienced accidents while working, including cuts, slipping, falling, and fainting. Two women in different groups shared how they feel the need to mentally relax and meditate briefly after work, but before returning to their home. A majority of participants were mothers and expressed how their work does not end when they leave their agricultural positions, since they have a family and children to attend to when they get home.

Following the discussion of health problems prompted, or at least exacerbated by these workplaces, the dialogue in this section shifted to workplace risks or perceived occupational dangers. Pesticide exposure was a common concern throughout all of the groups, with many participants sharing narratives of being in areas where pesticides were being sprayed or had currently been applied. They could tell when pesticides were recently sprayed by the smell in the air or by the quick onset of a headache. For women who worked in the nurseries, the plant beds are low to the ground and the floor was often very wet. These participants discussed the risks of slips and falls, but were also quick to acknowledge that it is one's own responsibility to be careful where they step and be aware of potential hazards at work. Concerns for the people who spray the pesticides were also raised, particularly during the second group because the male participant is responsible for spraying pesticides in his workplace. Additionally, multiple women

who worked indoors in plant laboratories or nurseries without fans felt the need to go outside and get a breath of fresh air or take a break, but did not always do so for fear of their supervisors seeing or punishing them. Although a few participants noted that their supervisors were good people, many more talked about how their workplace environment was strict, full of regulations, and often difficult to navigate when trying to report accidents or issues. One woman noted that her coworkers only report an incident if it is major, since these events would go on their record and stay with them – potentially harming their ability to obtain work in the future.

Our conversation usually shifted at this point to questions from the participants about steps they can take to mitigate violations or resources that are available to report anonymously. Jeannie, Yesica, and for the second group, Antonio, stepped in to the conversation during this point to explain resources, reporting protocol, and options for reporting within the FWAFF for an anonymous option with a quicker turnaround time. Many participants expressed the desire for a workshop that explains all of this in detail and helps to inform them of their rights and options at greater length than was covered in the reproductive health training. This helped to segue the discussion into the next section of questions.

## **2.4 Responses to Section III**

Section III questions focuses on participant suggestions for workshop improvement and ideas for future topics to include. The responses started off similar to the results of my original survey design (post-training surveys) meaning that participants said everything was great, they loved the information, and that the trainer did a good job making the information easy to understand. However, since the focus group allowed us to encourage more discussion, rather

than one-word answers, participants were able to expand on their ideas, while also sharing testimonials about the benefit of the training.

Suggestions for additional topics were diverse and included a wide range of issues. Multiple participants in Groups 1 and 2 suggested creating a workshop on chemicals in the household, including potential dangers of paint and furniture chemical composition. Women also talked about how they know plastics contain dangerous chemicals and wanted to learn more about alternatives for baby bottles and water bottles. Participants also mentioned how the workshop does explain some of their basic workplace rights, but they wanted to learn more about this, particularly along the lines of becoming more self-empowered. One woman in the first group spoke up about including information about how to help people (potentially recent immigrants) from particular countries, and expanded on this idea by discussing how many farmworker women come from marginalized and underserved countries and communities where they suffer personal and occupational violations that can be difficult to overcome. This woman expressed her overwhelming gratitude for the reproductive health trainings, as they give women the opportunity to be heard, express themselves, and form support networks for both mothers and their children who often grow up in challenging home environments.

Although many participants had suggestions for additions to the training, no one felt that the information already in the training should be changed or eliminated. All participants thought that the duration of the training was fine and necessary for the quantity of information shared, and also allowed them more time to express themselves and ask questions. Multiple women also noted that they do not think their supervisors like that they attend these trainings because they leave more informed, which resonated with the group in an ironic way.

When I prompted the participants about whether they had any other comments or opinions to share, the conversation shifted towards a discussion of the information from the trainings that they had not mentioned. The most common aspects of the reproductive health trainings that were *not* discussed in the focus group included the study that the FWAF did alongside Emory, which demonstrated levels of pesticide in urine samples among farmworker women. Participants seemed to recall this information once Jeannie, Yesica, or I summarized it for them, yet it was not something that would have been brought up in the focus group otherwise. Additionally, participants failed to mention aspects of the ergonomic risk section of the training, including stretches and proper lifting techniques. Although a few women talked about how they are aware of carpal tunnel syndrome and risks associated with working in the same position for hours on end, they tended to laugh when asked if they actually do any of the stretches or exercises and said no.

## **2.5 Control Group Responses**

The control group survey began with questions about the participants' workplaces and if they perceived there to be any dangers in their jobs. All participants agreed that their jobs do contain dangers, with pesticide exposure being the first topic discussed. Over half of the women were very vocal about how in the nurseries, in particular, they have worked while someone was spraying chemicals without any protective equipment and without providing the workers masks. One woman even elaborated on how supervisors have told her and her coworkers that the pesticides they were spraying cannot hurt them, even though they knew that to be untrue. Multiple women expressed concern for the person spraying chemicals, who they have seen not wearing protective equipment, either. Participants noted that some nurseries provide gloves,

although they found them to be cheap and useless, while others require workers to pay for them. Additionally, two women asked what happens, or what they should do, when their supervisors require them to enter an area recently sprayed by pesticides that they should not be entering.

The discussion quickly turned to health side effects from the pesticide exposure, with participants discussing the allergies they experience, watery and red eyes, as well as throat irritation and skin infections from the pesticides. When asked if they knew how to protect themselves from pesticide exposure, participants listed wearing long pants, proper shoes, hats, long-sleeved shirts, and masks – but did not mention any strategies to protect themselves from transferring pesticides into their home. The next set of questions transitioned to ask if participants also knew how to protect themselves from heat exposure and dehydration, as well as ergonomic risks. Women in this group knew that drinking water and Gatorade, while also staying out of the sun when possible, was important, yet also had questions for us regarding whether their employer was required to provide them water. One woman noted how working so hard in the sun can make her feel like vomiting occasionally, and how everyone should be aware of taking their time and working slowly when they feel overexerted. However, women in this group did not discuss ways to protect themselves from physical risks in detail, aside from mentioning that one should be careful with scissors when cutting plants and that a few women think that they are given harder work than the men. Another point that was raised in the control group was that the level and intensity of supervision varies depending on the ethnicity of their boss. All women in the group were in unanimous agreement that Hispanic supervisors are stricter and rush them along in their duties, whereas American supervisors have encouraged them to slow down and be more careful in the workplace. Although Apopka has multiple farms managed by Korean families, this group was not mentioned in the discussion.



The following questions asked where the women would go to seek out information regarding how to protect themselves from workplace hazards. Two participants brought up the videos that their supervisors show approximately every 5 months, and the group discussed how supervisors often walk the workplace questioning workers if they have seen the video. However, in the video, participants said the workers are shown doing all tasks slowly and carefully, whereas in reality, they have to work fast and under pressure since they are paid on production, rather than hourly wages. Three women spoke up about how they have to be able to stand up for themselves and know their rights in order to protect themselves, since their workplace and supervisors will not necessarily do it for them. However, other women countered this point, saying that people are often afraid to speak up because they could be fired, even though their bosses often exploit their rights.

When questioned about experiencing any birth problems or pregnancy complications, participants did not have any experiences to share, yet did elaborate on chronic symptoms of asthma and how these often tend to go away once they leave the workplace. Additionally, they knew to identify recent pesticide application by residue on plants, the smell, and how the chemicals generally made them feel ill or develop a cough. One woman shared how she had to go to the hospital, which led to a discussion about how healthcare providers often do not know to diagnose health problems caused by exposure to pesticides – a systemic issue that can often exacerbate negative health outcomes.

Since these women had not yet attended a reproductive health training, I asked them whether they would attend a training that discussed the topics we had mentioned in greater detail. All women said yes, but when asked about the length of time, they said it should be closer to an hour or hour and a half at the end of the week, since their schedules are busy and they have to

attend to their families. Following these questions, women asked questions about the long-term effects of pesticides and what the legal requirements were in the workplace regarding provisions of water and restrooms. Data collection ended at this point, since Jeannie and Yesica shared this knowledge with the group.

### **Chapter 3: Analysis**

Throughout hours of discussion with 33 participants and four focus groups, farmworkers shared their stories, expressed their frustrations, and asked many questions. Within this section, I will examine interview responses and analyze the results in order to support my overall argument that reproductive health trainings are informative and effective ways to reach Apopka farmworkers, educate them on safety measures, and empower them to recognize and speak up against injustices.

#### **3.1 Sub-argument 1: The trainings teach farmworker women new information that is not covered in workplace training regarding how to protect themselves from occupational hazards.**

Throughout the three focus groups of women who had participated in a reproductive health training, it is clear that these trainings have taught the women new information that they have both implemented in their workplace and shared with friends. The most common themes of information that were remembered most by the women included methods to protect themselves from pesticide exposure, the dangers that pesticides can cause, and to be aware of sun exposure and dehydration risks. Although the supervisors are legally required to show farmworker employees videos covering workplace hazards and safety measures, these focus groups have revealed a discrepancy in whether the videos are shown as regularly as they should be, if at all. Multiple anecdotes revealed many occasions where women were required to go into areas where

pesticides had been recently sprayed. For example, Group 2 participant Graciela<sup>3</sup> shared, “I learned a lot because in the nursery where I was working for 9 months, sometimes they’d have us taking out plants and they were spraying the pesticides. But I didn’t know that it was bad and the supervisor didn’t come and tell me that we had to leave. Here in this training is when I learned that it’s bad, and I learned a lot. I learned how to separate my work clothing and my shoes. I learned a lot, truthfully.” Another woman, Clara, chimed in, mentioning, “We had never heard *all* of this information. Except for the work videos that they show us, but most of the things we’d never heard of. When someone can recognize these problems and have awareness, this is when the changes start.” Although most women knew that they should not enter, they did not know the legal requirements and their rights before attending the training. Additionally, many women pointed out how the videos shown do not reflect reality, as they are often pressured to work quickly and without breaks – especially since their pay can be based on production costs, rather than hourly wages. Thus, the training expanded on their existing knowledge by teaching them new information within the realm of legal rights.

Women most commonly remembered how important it is to separate their clothing, especially for the protection of their children. As most participants were mothers (and some were daughters accompanied by their mothers), this information was demonstrated to be especially relevant and meaningful to the target population, and as such, as most easily recalled during the discussion. Overall, when asked what they remembered as well as what they found most impactful, participants tended to answer along the same topics – pesticide exposure, the importance of separating clothing, and to be aware of how they feel physically when working in the heat or sun. This represents how women were most apt to remember the new information that could be implemented through fairly easy routine changes.

---

<sup>3</sup> All names have been changed to protect the participants’ confidentiality

These trainings have been shown throughout the focus groups to not only educate women on new information, but also empower them to utilize the information, acknowledge their rights, and develop attitudes receptive to change. As participant Marisol said, “It’s so important that we try to protect ourselves, because accidents are inevitable. They can always happen but these conversations help so much since they orient us to know what we should do. We are so thankful you all teach us.” During the control group, another woman Maria mentioned, “You have to know your rights in order to defend yourself.”

Women have taken more ownership of their positions after going through the trainings. They know what their responsibilities are when reporting an accident in the workplace, yet many still expressed concerns about losing their positions after reporting too many accidents. For example, participant Sara said, “Sometimes people don’t speak up or take a break because they’re afraid of the bosses. But it’s also your own mistake if you don’t report an accident.” In each group, however, there was always at least woman who spoke up how important it is to “levanta tu voz” (raise your voice) about issues in their workplaces. Being educated from workshops like these, they argued, were ways to be knowledgeable enough about your rights to be able to defend them and know when an employer is violating them. Additionally, women who had attended the training were more apt to advocate for their self and others. Marisol continued, “I’m the only person who speaks up, and there are a lot of people who don’t speak out of fear, of course. But I talk, and sometimes they [my bosses] tell me that I can find other work if I don’t like it.” Very frequently during the focus group, women would ask how they could file complaints anonymously, and Jeannie and Yesica would step in and explain the role of the FWAF and the resources available.

Although some women talked about how their supervisors were generally good people, anecdotes like Sol's underscore other challenges that farmworker women may face. When recounting the workplace risks at the nursery where she works, she noted, "There's a tree that you need to be careful near because it's easy to slip. Our boss told us he won't get mad if we walk slowly by it. But now some people walk too slowly around it and take advantage. If you're going to use the system, the system will use you." As such, even when concerns are brought to the attention of a supervisor and seemingly resolved, there are arguably always people who will take advantage of those concessions and make it harder for workers to be trusted and granted any sort of relaxations on rules. Nonetheless, farmworker women expressed that they have implemented the knowledge from the trainings and feel more empowered to speak up. I found the discussion in the control group about how Hispanic supervisors tend to be especially strict in comparison to white, American supervisors to be very interesting. A lot of egoism (egoísmo) exists within Hispanic society, according to some of the participants I spoke with, and those in charge of the farmworkers feel, and thus act, superior. Analyzing this idea alongside the threat of other workers abusing the system reveals deeper challenges in this work environment, outside of the inherently dangerous risks already present.

Through the results of the focus groups regarding whether people share the information, it is clear that women who have participated in a workshop recognize the importance of learning this information and are eager to share it with their friends, or even encourage their friends to come. During the third focus group, participant Ana shared, "Yeah, I've shared the information but sometimes my friends say 'oh, I don't have time.' Sometimes there's a workshop but they don't have interest because they don't understand how important it is. When one is informed about how it's good for your health to prevent these sicknesses, then you're interested more."

During the second focus group, Ines' statement also reflected a similar sentiment. "I've shared information with my friends and later sometimes they say 'yeah, I'll go,' but sometimes I'll go again too because I like to support my friends and coworkers. We all need to do what we can."

Additionally, they are passionate enough about the material to participate in a focus group in which we discussed ways to improve the training, as well. Based on the high level of ownership of the workshops that past participants have taken, it is evident that these trainings teach women how to better protect themselves through the absorption of new material, enhance a sense of empowerment and group solidarity, and promote the sharing of information throughout workplaces or friend groups.

### **3.2 Sub-argument 2: The training method as it has been developed is an effective way to reach the target population**

Not only have the discussions revealed that participants would rather add more content than remove anything that is already part of the training, but the focus groups have also demonstrated how the training methodology is effective in teaching the women what they need to know in a fun and interactive environment. When we asked what they would add, women expressed interest in learning more about chemicals in the household, as well as learning more specific information about workplace laws and regulations that their employers should abide by. One woman in Group 2 even noted, "I don't think our bosses like that we go to these trainings, because we learn a lot more about our rights," followed by the other members of the group exclaiming, "Oh, of course they don't!"

Following the initial difficulty of trying to have women stay after a training to do a survey, I was interested to know what the participants thought of the overall time duration of the trainings. However, their responses were overwhelmingly positive and in support of the lengthy

time requirement. For example, Luisa from Group 3 expressed, “Although it’s a lot of time, there’s so much information to cover so it’s fine.” Another participant agreed, and said, “It’s better when there are more people so that we can share experiences and learn from each other, too.” These results continue to support the idea that the approach is effective, and the weeknight, post-dinner time frame allows the women to arrive at home, cook dinner for their families, and then travel to the FWAF to attend the training. Although women in the control group thought this time frame was a bit excessive, the support of the women who have attended underscores how once a person attends the training, they recognize and understand the benefit of giving a relatively large amount of their evening to attend the training. Thus, based on how none of the focus group participants regretted or wanted to change the two and a half hour training time, and on top of that, wanted to add more material to the training, it is evident that this methodology is an effective way to reach the farmworker women of Apopka.

### **3.3 Sub-argument 3: The targeted population has been shown to suffer from various health conditions covered in the training**

Although no direct associations between the women surveyed and negative birth outcomes were prevalent within these focus groups, many women did suffer from other health conditions that the training covers. In general, the population of women surveyed was healthy, yet the multiple experiences of having been hospitalized or experiencing recurrent asthma cannot be understated. One anecdote that stood out to me was Clara, in Group 2, who shared that she was continually in and out of the hospital throughout her time working in agriculture. However, once she stopped working, she immediately began to recover:

“I was working in agriculture for 15 years and at first I didn’t know about any of the risks. I was having a lot of headaches, and later when I worked in the nursery I was near a lot of chemicals. I had so much pain in my head and body, and every six months I was in

the hospital with chronic pain and a lot of medication. They never could diagnose anything. But, when I left my job, I felt better.”

The overwhelming majority of participants discussed their health symptoms including chronic coughs, throat irritation, and difficulty breathing in areas recently sprayed by chemicals. Allergies that appeared at work, yet disappeared when at home, were very prevalent in this group, suggesting the toxic effects of pesticide exposure. Even when workers are not in areas recently sprayed, they are still in contact with plants that have been sprayed. During Group 3, Sol stated, “We leave work and we feel fine. But when we return to work, we start coughing. The workplace is closed off without any air conditioning, too.” Their work environment in general is filled with risks, including slippery floors, heavy loads to lift, and uneven terrain to walk on. The woman who discussed being in and out of hospitals every 6 months highlighted another challenge for farmworker women. Aside from typically not having health insurance, farmworkers working conditions are often not entirely understood by healthcare providers. The symptoms they present may not, at first, be interpreted as being caused by pesticides. However, in order for regulations and policies to be created to protect farmworkers from these chemicals, statistics and reports need to show that these illnesses are occurring. It is a vicious and self-perpetuating cycle. Workers continue to get sick and go to the doctor, doctors do not diagnose causes of illnesses as coming from pesticides (due to a lack of information, among other potential factors), and workers have to go back to work in the same conditions they were originally part of. Thus, many participants also expressed a need for better health care and recommendations for navigating the health system with more efficiency.

Although this study was designed to evaluate risks of pregnancy outcomes resulting from pesticide exposure, most of the participants did not experience adverse birth outcomes. The majority of women worked during their pregnancies, although a few mentioned how they



stopped working in order to protect their babies. Three women discussed conditions that their children were born with, but they were not sure if they were linked to genetic causes or side effects from the pesticides. Additionally, although we asked about birth weights, no women had unusually low birth weight babies, and the one woman who shared her preterm birth said she believed it was because she was also fighting cancer at the time. It is difficult to analyze this without scientific data, but the general consensus was that women recognized that working in nurseries or agriculture presents inherent risks that one should avoid when pregnant. Although no one in this group suffered direct adverse outcomes from pesticide exposure, it is clear that the other types of health issues covered in the training were very much present within the study group. Chronic pain, fatigue, allergies, and physical labor risks (i.e. slips and falls) are covered in the training, and the survey group demonstrated an advanced level of knowledge of how to prevent and be more aware of these issues. Thus, these trainings are effective in that they contain health information that is directly applicable to the targeted group of Apopka farmworker women.

#### **3.4 Sub-argument 4: The trainings are valued opportunities for community engagement and empowerment from both the perspective of participants and the FWAFF staff.**

A common thread of solidarity alongside female empowerment wove each of the three focus groups together without a doubt. As the other sub-arguments have delineated, the reproductive health trainings provide participants and opportunity to learn new information and share it with others; however, these workshops have also proven to be a forum and opportunity for voices to be heard. Perhaps one of the most impactful moments of conducting these focus groups was when a woman spoke out earnestly about women's roles in Hispanic society and the importance of support and solidarity:

“When we stay quiet about everything that happens to us, this doesn’t do anything because we can’t do anything but feel shame. As women, it’s like we don’t have rights and sometimes we are silenced. Therefore, trainings like these are so great because they give us the opportunity to express ourselves. But in our countries, women are marginalized. We can’t express ourselves....like me, I come from a family in which the women are not respected, without any reason. But I always say ‘no.’ We come from very low countries, in the sentiment of how society is structured. It’s so important that we express ourselves and have the opportunity to raise our voices.” – Caterina, Group 1

This woman’s testimonial was moving and emotional, as she also started to cry when describing her family’s background, which included domestic violence and an environment “lacking love” for the children. Although she was one of the few who spoke out so honestly, she is not alone in facing environments such as the one she described. Farmworker women are often silenced as being not only in a laborious position, but also because they may be escaping dangerous work or social conditions in their countries of origin, or have arrived to the United States illegally. They work in an environment with no health insurance, but one that presents them to a multitude of health risks, and can be left feeling like they do not have many options. However, in training groups like these, women can not only be educated and empowered in a community of peers and community members, but also have their voices heard. Throughout each of the groups, participants have expressed their gratitude for the workshops again and again and spoken out about how without these trainings, they never would have learned this information. Education regarding how to handle specific situations was also valued, as participant Theresa expressed. “Thank you all so much, because these trainings help us so much. They help us to grow a lot and know what to do in various situations that we may find ourselves in.”

Not only do these workshops give farmworker community members an opportunity to have their voice heard, but they also allow the FWAf an ideal platform to share upcoming events and announcements to the women. For example, at the end of the reproductive health trainings I attended, Yesica always made an announcement about the upcoming “Woman 2 Woman”

conference that the FWAF was conducting. Additionally, during the second focus group, Antonio was able to share his resources for reporting workplace violations, while Jeannie also had the opportunity to engage the women in discussion about knowing what resources their supervisors are mandated to provide. As Economos told me afterward, “In my experience, in communities where there is a farmworker organization presence, even if all the people in the community aren’t reached, the level of knowledge overall seems to be much higher – even just through word-of-mouth. In communities where there are no organizations, the workers level of knowledge is much less.” Through face-to-face interaction during the trainings and these focus groups alike, women establish relationships and are able to make connections with FWAF staff and take advantage of the resources offered to them. Thus, these trainings are valued by both the women who participate in them and the staff of the FWAF alike, for they provide an optimal setting to share, discuss, and disseminate knowledge with farmworker women.

#### **Chapter 4: Conclusions**

Throughout each of the four focus groups, it became increasingly apparent that the work done by the FWAF in not only the reproductive health trainings, but also in the multitude of other resources offered by the Association, is valued by the farmworker community and frequently accessed. Through the assessment of the reproductive health trainings, I have assessed the success of the trainings and observed a demonstrated need for these workshops to continue.

The three focus groups including participants who had attended the training demonstrated the usefulness of the reproductive health training in three primary areas. First, the trainings successfully educated farmworker women about multitude of health risks in the workplace. Second, the trainings helped to develop and enhance the communication and leadership skills of

farmworker women, both within their communities by sharing information as well as in the workplace by knowing their rights and how they can speak up against injustices. Third, the trainings have promoted behavioral changes that the women have implemented into their daily routines. When compared to the goals of the reproductive health trainings as developed by Emory and the FWAF (Page 20), the results of the focus groups almost directly coincide with the three main foci of the trainings. “[Improving] reproductive health and pregnancy outcomes among farmworker and minority women in high-risk communities” was demonstrated in the increased level of knowledge of the reproductive and pregnancy risks the participants expressed, despite the fact that the participants did not experience any negative pregnancy outcomes attribute to pesticide exposure.

Additionally, the focus group participants represented the targeted demographic of minority farmworker women, with almost all falling into the “high-risk” category when discussing dangers at their workplace. “[Developing] leadership skills among farmworker women” was extremely evident throughout all three groups, as women and the male participant discussed the importance of speaking up, knowing their rights, and sharing important information with friends and coworkers. Finally, the goal of “[Promoting] healthy choices among mothers, children, families, and communities” was a central theme within each of the focus groups. All women who participated were mothers with concern for how their actions may impact their families and children. In particular, mothers were concerned about pesticide residue on their clothing and how the first thing they wanted to do when arriving home was hug their children, yet they must take the precautionary steps to remove their work clothing beforehand. Women who had attended the trainings reflected upon how a mother cannot adequately take care of her children and family if she herself is not well, too. Although this sentiment may have been

developed before attending the trainings, the participants in the first three focus groups highlighted the success of the trainings in promoting healthy choices and actions within their homes and communities.

Although the control group reflected some baseline knowledge of the dangers of pesticide exposure, it also represented the importance of these trainings continuing in the future. Within this group, women who had not attended a reproductive health training were not aware of the reproductive and pregnancy-related dangers of pesticide exposure, but rather only noted how pesticides did not make them feel well and made them experience asthma-like symptoms. Participants discussed the necessity of speaking up within the workplace, but did not express the importance of it as vehemently as the women in other groups had done. Women in the control group mainly discussed how they knew they could protect themselves by wearing proper clothing, but did not mention the importance of washing work clothes separately. Interestingly, this was the most-remembered topic within the other three focus groups. Therefore, it is evident that reproductive health trainings have filled a gap in knowledge in this capacity. Additionally, participants in the control group mentioned the workplace videos that their employers are required to show, but when compared with how much information the other three groups were able to recall about workplace safety, the control group had much less information to share than those who had seen the videos *and* attended a training.

The contrast between the levels of knowledge of women who had attended the reproductive health training alongside that of those who have not clearly illustrates how these trainings have fulfilled their goals and achieved measurable and fulfilling outcomes. The effectiveness of the trainings was evident throughout all four of the groups – not only in the level of knowledge, but also in each group’s spirit and attitude towards farmworker empowerment.

Furthermore, the need for these trainings was further underscored by the enthusiasm of participants when brainstorming new topics for future trainings. In “at-risk” populations such as the Apopka farmworker community, these reproductive health trainings have proven themselves to be effective, inclusive, and empowering experiences that should continue on a monthly basis for the betterment of the farmworker community and to support the promotion of farmworker justice.

## **Chapter 5: Recommendations**

Throughout the first three focus groups, participants expressed their contentment with the quantity of information presented and even suggested various additions. However, based on my observations, two main components of the trainings were either remembered the least or never brought up during the focus groups. Both the ergonomic stressors and the scientific studies regarding pesticide levels in urine samples were underrepresented in the focus group conversations.

Interestingly, during my observations of the reproductive health trainings, participants were most vocal and participatory when Yesica presented different stretches, yoga poses, and on-the-job precautions that women could take to alleviate bodily discomfort that results from the often repetitive, strenuous work assumed by farmworker women. However, throughout the focus groups, this topic was only brought up when Jeannie, Yesica, or I asked the participants what they thought about it. Although some participants knew that their work could often be painful or risky – such as those who repetitively clipped plants or women who had to lift heavy loads – this information was not mentioned as impactful, new, or surprising information to the participants. When we talked to the participants about the stretches, they also did not seem receptive to

implementing the exercises in their daily routines. I hypothesize that this may be because within Hispanic culture, physical activity is not a priority or major concern. For example, during my time abroad in Perú and Chile, younger generations were creating health campaigns against “sedentarismo,” or the traditionally sedentary lifestyles of their parents and grandparents. Perhaps the culturally-linked practice of not putting physical activity at the forefront of one’s concept of personal well-being is linked to this focus group result. Additionally, it is difficult in general for many people to implement new physical exercises alone and without additional support. However, since the ergonomic stress and physical wellness component of the training is connected to the information about protecting one’s self from the heat (which was brought up often in discussion), I recommend that this information stay within the training, but perhaps be taught in a different way. By emphasizing the consequences of workplace injuries in terms of missing work or having to stop working completely due to injury, this information might resonate with participants and encourage implementation in a more effective way.

Additionally, the reproductive health trainings include an overview and diagrams of a study completed by Emory and the FWAF. The results showed heightened levels of pesticides within urine samples of both nursery and fernery workers. Since the levels were higher within the nursery workers than the fernery workers, this information is especially relevant for the majority of the women who attended the trainings, since most worked in nurseries. However, this study was also not mentioned by the participants during discussion, and two out of the three focus groups did not seem to recognize the study at all, even when prompted by Yesica and me. For future trainings, I could foresee the FWAF still including this information, but instead of reviewing the study in detail during the training, I would add this component of pesticide dangers to the section that reviews the pesticide risks overall. With the extra time now available in the

training, I think it would be beneficial to add more information about farmworkers' legal rights, as well as requirements that their workplaces should be adhering to since these topics came up extensively during the focus groups.

## **Chapter 6: Reflections**

Conducting this research alongside the FWAF has been a powerful experience. Throughout four focus groups, six months of collaboration and teamwork, and approximately 10 hours of conversation with 33 farmworkers, I have learned so much not only about the obstacles faced by this population, but also developed a greater understanding of the challenges and triumphs of conducting fieldwork alongside a community organization. Furthermore, I have gained invaluable experience conducting collaborative ethnography and feel that I was able to apply much of what I have learned throughout my anthropology studies in how I approached this study.

A common adage within the Center for Leadership and Community Engagement is that “service is messy and unpredictable.” In my experience, the same can be said for ethnography. For example, despite Yesica having called potential participants multiple days to weeks in advance to invite them to the focus groups, she was often calling the same women minutes before the expected start time to remind them to come, find out where they were, and go and pick them up. At the start of the control group, no one arrived until about an hour after the scheduled start time, and participants continued to trickle in throughout the following half hour once we did start. Multiple participants throughout all four focus groups brought their children along, and although childcare was provided by the FWAF, it was not uncommon for some parts of the recordings to be inaudible due to the upset children. Additionally, despite being proficient in



Spanish conversation, there were still some phrases or vocabulary that I was unfamiliar with, and times when the group did not understand the pronunciation of a word or phrasing of a question.

However, all of these challenges were very minor and easily solved throughout the study process. Although participants were late, they did come, and on two occasions, the groups were larger than expected – resulting in having to compensate some participants at a later date. The Spanish barrier was easily overcome with the assistance of Yesica and Dr. Patricia Tome. Both were extremely helpful in understanding terms that I had never heard before, such as *la honguerra* – the term for mushroom fields that does not directly translate to English – as well as slang terms from various countries, and, in multiple cases, helping me to realize that some of the sections I did not understand were actually jokes.

When developing this study, I aimed to measure the idea of empowerment within and among women who had attended the training. When reflecting on the conversations and perspectives shared throughout the focus groups, it became evident to me that empowerment is something that you cannot always measure, yet you can certainly feel. The women who participated in the focus groups represent some of Apopka's most marginalized and underserved populations, yet within the space of the FWAF, these women were able to talk to one another, reinforce relationships, and discuss the importance of being able to speak out against injustices, even if they are not always able to do so in practice. Since many participants were recounting violations or injustices in hindsight, it was often frustrating to hear about these instances and know that the notion of confronting a supervisor is not always realistic. Collectively, we recognized that often the idea of being able to protect oneself is more feasible, due to risks of employers firing or mistreating employees if they speak out against violations. However, the overwhelming support and positivity the women shared demonstrated how empowerment against

injustices can also take the form of being better educated and informed about their own rights, as well as undertaking the responsibility to share what they have learned with others.

When reflecting on the successes of the focus groups, it would be remiss not to mention the occasional feeling of futility of one small collaborative anthropology pursuit in relation to the overall problem. The issues of farmworker injustices spread far beyond reproductive health, occupational stressors, and legal awareness. The matrix of social inequality, gender-based discrimination, and issues of privilege and supremacy create deeply seeded issues that require a multitude of resources and actors in order to solve. Although it is easy to become overwhelmed by the complexity of these violations from the perspective of one individual project, I have come to realize that the importance of individual relationships cannot be understated in the context of anthropological work. The opportunity to create forums where individual voices can be heard and stories are shared is a driving force towards creating change, and one small step forward is certainly more impactful than a small step back.

The concepts of cultural competency and humility are often discussed within the field of medical anthropology global health. Throughout this research, I have seen the importance of these ideas in action. As a researcher, anthropologist, ethnographer, and community member, it is essential to not only create a space where individual voices can be heard, but also make sure that research is being conducted in a way that is appropriate and beneficial for the populations, cultures, and individuals. Cultural competency and the commitment to facilitating partnerships that create policies and practices for diverse populations is a continuum, a way to ensure that individual rights are observed, and a way to foster increased understanding and progress.

Throughout the stories and perspectives shared during the focus groups, I have felt incredibly humbled and grateful to both contribute to this effort of culturally appropriate and

mutually-beneficial research and also to have had such an amazing opportunity to work alongside a community organization that taught me so much throughout the entire process. The field of anthropology encourages the mindset of understanding and community engagement, and I am so thankful for all I have learned both in the classroom and in fieldwork.

## Appendix A – Informed Consent (Spanish)

### Consentimiento Informado

#### Evaluación del Taller de la Salud Reproductiva de las Trabajadores Agrícolas

*Costos y Beneficios:* Con su participación en este investigación, tiene la oportunidad de compartir sus opiniones, experiencias e información sobre usted y su trabajo. No hay un costo para participar en este estudio. Usted le ayudará a la Asociación Campesina de Florida para identificar las principales fortalezas y debilidades del Taller de Salud Reproductiva, así como compartir sus experiencias en el campo.

*Procedimientos:* Esta investigación consiste de un grupo de enfoque en que podemos compartir sus opiniones y sugerencias. Voy a usar una grabadora de voz para las entrevistas, pero toda la información es confidencial y nunca usaré su nombre ni información de identificación.

*Participación:* Usted puede retirar su consentimiento en cualquier punto durante el estudio sin ninguna consecuencia. Usted tiene el derecho a no responder a ciertas preguntas parcialmente o totalmente si no quiere contestar. Además, su participación es completamente voluntaria y sus respuestas no afectará ninguno de los derechos de ninguna manera. Si usted elige a participar, recibirá una tarjeta de regalo de \$20.00 a Dollar Store para compensación al fin del grupo.

*Para más información:* Usted puede contactar la investigadora:

Alexandria Mickler

[amickler@rollins.edu](mailto:amickler@rollins.edu)

407-462-2534

**Yo estoy voluntariamente de acuerdo en participar en este estudio. Entiendo toda la información presentada.**

Nombre: \_\_\_\_\_

Firma: \_\_\_\_\_

Fecha: \_\_\_\_\_

## Appendix B – Focus Group Questions (Spanish)

### Grupos de Enfoque

Bienvenidas a todas. Hoy, vamos a hablar de los talleres de la salud reproductiva que ustedes asistieron en el pasado aquí con Yesica. Para continuar y mejorar los talleres, queremos evaluarlos con ustedes. Nosotros apreciamos mucho su ayuda, sus opiniones, y sus sugerencias.

#### Sugerencias

- Por favor, no usa su teléfono durante las conversaciones. Si tiene que usarlo, hágalo afuera.
- Tenemos que grabar la conversación. Entonces, por favor, hable claramente y solo una persona a la vez. También, compartir el espacio con sus compañeras y dar a todas una oportunidad de hablar.
- Por favor mantenga conversaciones paralelas al mínimo.
- Más importante: toda la información de que comentamos hoy es confidencial. Además, respetar las opiniones de sus compañeras y lo que se dice en esta sala se queda aquí.

#### Rompehielos

- Con la persona a su izquierda, compartir su nombre y cuantos hijos tienes. Decirle porque elegiste esos nombres y cuantos años tienen sus hijos.
- Ahora, presentar su compañera al grupo para que todas la conozcamos.

#### Repaso breve de las secciones del taller

##### Preguntas Generales

Esta sección es sobre sus opiniones y experiencias con el taller.

1. (Para todas): ¿Cuál es su trabajo? ¿Trabajas en la agricultura o trabajaste en el pasado? ¿Por cuánto tiempo?
2. ¿Qué recuerdas más sobre el taller de la salud reproductiva?
3. ¿Qué parte del taller tenía el impacto más grande para ti? ¿Qué te sorprendió o fue información nueva?
4. ¿Qué piensas que fue la información más importante que aprendiste durante el taller?
5. ¿Cambiaste tus hábitos en tu trabajo como resultado del taller? ¿Sus hábitos en su casa? ¿Qué cambiaste y cómo?
6. ¿Compartiste la información del taller con sus compañeras, amigas, o familia? ¿Qué compartiste y cómo? Compartir cómo eran sus reacciones y si cambió sus hábitos en sus trabajos o en casa.
7. ¿Si no has compartido que aprendiste, vas a compartir la información en el futuro? ¿Cómo piensas es la mejor manera para hacerlo?

##### Preguntas de Salud

Esta sección tiene preguntas sobre su salud y embarazos.

1. ¿Cuánto pesaron al nacer sus hijos? ¿Si no puedes recordar el número exacto, está bien, pero eran algunos de bajo peso?

2. ¿Has tenido una complicación de embarazo? ¿Por ejemplo, un parto prematuro, o niños con problemas del desarrollo mental, o problemas físicos? Por favor, comparte cuales eran los problemas y que piensas fue la causa de los problemas.
3. ¿Tienes algunos problemas de salud en tu vida diaria? ¿Cómo piensas que empezaron los problemas?
4. ¿Piensas que has experimentado la exposición alta de pesticidas en su trabajo? ¿Por qué, y como puedes decidir si hay un nivel alto de pesticidas?
5. Dinos sobre tu trabajo. ¿Hay unos peligros en tu lugar de trabajo? ¿Qué son? ¿Cómo puedes protegerte?

### **Preguntas de Mejoramiento**

Esta sección tiene preguntas sobre cómo podemos mejorar el taller.

1. ¿Qué otra información sobre riesgos de salud o de trabajo le gustaría aprender durante el taller?
2. ¿Piensas que hay partes del taller que podrían ser mejor? ¿Cómo los mejorarías?
3. ¿Qué piensas sobre la duración del taller? ¿Cómo podemos modificarla? ¿Qué información cambiarías o eliminar?
4. ¿Hay algunos otros comentarios u opiniones que le gustaría compartir?

### **Fin**

Como una muestra de nuestra apreciación, tenemos una tarjeta de regalo para ustedes. Muchas gracias por su tiempo y ayuda.

## Appendix B – Control Group Questions

### Grupos de Enfoque – Control

- ¿Cuál es su trabajo? ¿Trabajas en la agricultura o trabajaste en el pasado? ¿Por cuánto tiempo?
- Dinos sobre su trabajo. ¿Piensas que hay peligros en su ocupación? Cuales son, y porque son peligrosos?
- ¿Sabes como protegerse contra peligros de trabajo, incluyendo:
  - las pesticidas
  - el calor muy alta
  - la deshidración
  - los riesgos ergonómicos o físicos
 ¿Cómo puedes protegerse? Por favor, comparten algunos estrategias o ideas que ustedes y sus compañeras utilizan en su trabajo. También, comparten si hay regulaciones o protecciones en su trabajo o que su jefe proviene.
- ¿Dónde buscarás información sobre como protegerse cuando trabajando en la agricultura?
- ¿Qué información encontrarás útil con respecto a riesgos en su trabajo?
- ¿Has experimentado una complicación de parto? Por ejemplo, ¿un parto prematuro? Por favor, comparten cual era la problema y la causa.
- ¿Tienes algunos problemas de salud en su vida diaria? ¿Cómo piensas que empezaron los problemas?
- ¿Piensas que has experimentado la exposición alta de pesticidas en su trabajo? ¿Por qué, y como puedes decidir si hay un nivel alto de pesticidas?
- ¿Asistirás una taller que les enseña las campesinas y los miembros de la comunidad a protegerse de los riesgos del trabajo?
  - ¿Cuánto tiempo crees que un entrenamiento como este debería durar?

**Part III: Works Cited**

- Alavanja, Michael C.R  
2009 Pesticides Use and Exposure Extensive Worldwide. *Environmental Health Review* 24(4): 303-309.
- Bretveld, RW  
2008 Reproductive disorders among male and female greenhouse workers. *Reproductive Toxicology* 25(1): 104-114.
- Calvert, Geoffery M  
2007 Case Report: Three farmworkers who gave birth to infants with birth defects closely grouped in time and place – Florida and North Carolina, 2004-2005. *Environmental Health Perspectives* 115(5): 787-791.
- Clifford, James  
1986 On Ethnographic Allegory. *In Writing Cultures: The Poetics and Politics of Ethnography*. James Clifford and George E. Marcus, eds. Pp. 98-121. Berkeley: University of California Press.
- Delaplane, Keith S  
1996 *Pesticide Usage in the United States: History, Benefits, Risks, and Trends*. Cooperative Extension Service, The University of Georgia.
- Farmer, Paul F.  
2004 An Anthropology of Structural Violence. *Current Anthropology* 45(3): 305-325.
- Farmworker Justice  
2014 Selected Statistics on Farmworkers. <https://www.farmworkerjustice.org/> accessed September 20, 2015.
- Flocks, Joan, Kelley, M, Economos J, and McCauley L  
2011 Female Farmworkers' Perceptions of Pesticide Exposure and Pregnancy Health. *Journal of Immigrant and Minority Health* 14: 626-632.
- Garcia, Ana M  
1998 Paternal exposure to pesticides and congenital malformations. *Scandinavian Journal of Work, Environment & Health*. 24(6): 473-480.
- Gemmill, Alison  
2013 Residential proximity to methyl bromide use and birth outcomes in an agricultural population in California. *Environmental Health Perspectives* 121(6): 737-743.
- Goldman, L and Eskenazi B.



- 2004 Risk behaviors for pesticide exposure among pregnant women living in farmworker households in Salinas, California. *American Journal of Industrial Medicine* 45(6): 491-499.
- Hanke, W  
2004 The risk of adverse reproductive and developmental disorders due to occupational pesticide exposure: an overview of current epidemiological evidence. *International Journal of Occupational Medicine and Environmental Health*. 17(2): 223-243.
- Hansen, Eric and Donohoe, Martin  
2002 Health Issues of Migrant and Seasonal Farmworkers: Guest Editorial. *Journal of Health Care for the Poor and Underserved*. 14(2) 153-164.
- Idrovo, AJ  
2005 Time to first pregnancy among women working in agricultural production. *International Archives of Occupational and Environmental Health*. 78:493-500.
- Indiana University  
2007 Premature births peak seasonally when pesticides and nitrates in surface water are highest. *ScienceDaily*, 7 May 2007.
- Kistler, S. Ashley  
2015 Writing about Aj Pop B'Atz': Bruce Grindal and the Transformation of Ethnographic Writing. *Anthropology and Humanism* 40(2): 157-176
- Kline, Nolan and Rachel Newcomb  
2013 The Forgotten Farmworkers of Apopka, Florida: Prospects for Collaborative Research and Activism to Assist African American Former Farmworkers. *Anthropology and Humanism* 38(2): 160-175.
- Kline, Nolan  
2010 Disparate Power and Disparate Resources: Collaboration between Faith-Based and Activist Organizations for Central Florida Farmworkers. *NAPA Bulletin* 33(1): 126-142.
- Lassiter, Luke Eric  
2006 *The Chicago Guide to Collaborative Ethnography*. Chicago. University of Chicago Press.
- Longnecker MP  
2001 Association between maternal serum concentrations of the DDT metabolite DDE and preterm and small-for-gestational-age babies at birth. 358(9276): 110-114.
- March of Dimes  
2014 Low birthweight. <http://www.marchofdimes.org/complications/low-birthweight> accessed November 1, 2015.

March of Dimes

2013 Premature babies. <http://www.marchofdimes.org/complications/premature-babies>, accessed November 1, 2015.

Murrow, Edward R.

1960 Harvest of Shame. CBS Productions.

National Rural Health Care Association

2007 What's Different About Rural Health Care?

<http://www.ruralhealthweb.org/go/left/about-rural-health/what-s-different-about-rural-health-care>, accessed October 12, 2015.

Nowell, L.H. and Capel P.D

1999 Pesticides in stream sediment and aquatic biota – Distribution, trends, and governing factors: Boca Raton, FL. Lewis Publishers. p.1001.

Procianoy, R

1981 Blood pesticide concentration in mothers and their newborn infants: Relation to prematurity. *Acta Paediatrica Scandinavia* 70: 925-928.

Recio-Vega, R

2008 Organophosphorus pesticide exposure decreases sperm quality: association between sperm parameters and urinary pesticide levels. *Journal of Applied Toxicology* 28: 674-680.

Roeleveld, N

2008 The impact of pesticides on male fertility. *Current Opinion in Obstetrics and Gynecology* 20(3): 229-233. doi: 10.1097/GCO.0b013e3282fcc334.

Runkle, Jennifer

2014 Occupational risks and pregnancy and infant health outcomes in Florida farmworkers. *International Journal of Environmental Research and Public Health*. 11(8): 7820-7840. doi: 10.3390/ijerph110807820.

Sanin, L

2009 Regional Differences in time to pregnancy among fertile women from five Colombian regions with different use of glyphosphate. *Journal of Toxicology and Environmental Health* 72: 949-960.

Savitz, DA

1997 Male pesticide exposure and pregnancy outcome. *American Journal of Epidemiology* 146(12): 1025-1036.

Saxina, MC

1980 Organochlorine pesticides in specimens from women undergoing spontaneous abortion, premature or full-term delivery. *Journal of Analytical Toxicology* 5(1981): 6-9.

U.S. Department of Agriculture Library

2016 Women and Minorities in Agriculture. <https://afsic.nal.usda.gov/farms-and-community/women-and-minorities-agriculture>, accessed 25 April 2016

U.S. Department of Housing and Urban Development

2015 Common Questions about Migrant/Farmworkers.  
<http://portal.hud.gov/hudportal/HUD?src=/states/florida/working/farmworker/commonquestions>, accessed October 15 2015.

U.S. Department of Labor

2005 Findings from the National Agricultural Workers Survey (NAWS) 2001-2002: A Demographic and Employment Profile of United States Farmworkers. Office of the Assistant Secretary for Policy. Office of Programmatic Policy.  
[https://www.doleta.gov/agworker/report9/naaws\\_rpt9.pdf](https://www.doleta.gov/agworker/report9/naaws_rpt9.pdf), accessed November 3 2015.

U.S. General Accounting Office

1992 Hired Farmworkers: Health and Well-Being at Risk. Report to Congressional Requesters. <http://www.gao.gov/assets/160/151490.pdf>, accessed 23 October 2015.

Wasserman, M

1982 Premature delivery and organochlorine compounds: polychlorinated biphenyls and some organochlorine insecticide. *Environmental Research* 28: 106-112.

Whorton, D

1977 Infertility in male pesticide workers. *The Lancet* 2(8051): 1259-1261.  
doi:10.1016/S0140-6736(77)92665-4.

WHO

2014 WHA Global Nutrition Targets 2025: Low Birth Weight Policy Brief.  
[http://www.who.int/nutrition/topics/globaltargets\\_lowbirthweight\\_policybrief.pdf](http://www.who.int/nutrition/topics/globaltargets_lowbirthweight_policybrief.pdf).