PATHWAYS TO AGRICULTURE: FAMILY AND ADDITIONAL INFLUENCES OF SOUTH AFRICAN YOUTH ENGAGED IN THE AGRICULTURAL SCIENCES.

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by
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ABSTRACT:

With the global population expected to reach 9.1 billion people by the year 2050, with 1.3 billion being youths, ages 15-24, it must be we must ask who and how we will feed our growing population (The World Bank, 2013)? As this question looms for many countries, their agricultural workforce is dwindling as the aging population retires, and the younger generations lack the desire to seek agricultural degrees and jobs. In addition to dwindling skilled agricultural workers, enrollment in agricultural colleges is low and there has been a mass exodus of youth from rural areas (Scott & Lavergne, 2004; Smith & Baggett, 2012; FAO, 2012).

Sub Saharan Africa is a region faced with many youth employment and agricultural challenges while also experiencing economic growth from those same industries. Youth in South Africa face an additional challenge in finding jobs, where unemployment rates for youth are well above the global average. The South African unemployment rate for youth, ages 15-24, in 2014 was 52.6 percent (The World Bank, 2016). To help address the unemployment, outmigration, and educational needs of youth, several agriculturally focused, youth-based programs have been developed that focus on youth exposure to agricultural related fields and skills training (The World Bank, 2016).

There are many factors that influence an individual’s decision to seek agricultural related higher education and enter the agricultural career field. Research indicates that family, education, background, race, and economics directly influence an individual's desire, ability and drive to enter the agricultural sector (The World Bank, 2016). Parental figures have a profound influence, financially, emotionally and mentally, over the careers and education that their children pursue (Whiston & Keller, 2004).

This study uses a qualitative approach, in-depth interviews, to provide further information on the complex interplay between youth and parental figures, especially regarding career and higher education decisions. Findings reveal and indicate that agriculturally involved youth in Western Cape, South Africa were influenced, inspired and encouraged by a plethora of individuals: family, mentors, friends, teachers, professors, and industry professionals. The youth also spoke about varying levels of support from these individuals and community, in the forms of financial, emotional, and informational support. All of these various components helped youth see value in the agricultural sciences and ultimately decide to pursue it as an education and career choice.

The research findings will be used to make recommendations that place a value and priority on family driven efforts that engage youths involved in agriculture, and to help create a positive view of agriculture as a valued livelihood. In order to meet the demand for skilled and educated agricultural workers, we must encourage and inspire youth to engage within agricultural related sciences.
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Chapter 1
Introduction

The need for individuals with agricultural higher education and desire to pursue agricultural careers is increasingly important in this day and age. As the world continues to rapidly grow, exponential problems continue to spring up globally, with agriculture at the forefront of many of these societal, environmental and economic issues. With the global population expected to reach 9.1 billion people by the year 2050, with 1.3 billion being youths, ages 15-24, it must be asked who and how we will feed the growing population (The World Bank, 2013; FAO, CTA & IFAD, 2014)? Projections from the FAO have indicated that to feed this increasing population, agricultural production must grow by 70 percent between 2007 and 2050. As this question looms for many countries, their agricultural workforce is dwindling as the aging population retires, and the younger generations lack the desire to seek agricultural degrees and jobs. Understanding the complex nature and pieces that drive and prevent individuals to seek agricultural education and go into the agricultural workforce is essential in addressing the many global food system issues facing the world.

As our population increases, so does the global economy. Globalization has contributed to worldwide economic and industrial growth that spans across borders and seas. Included in these rapidly expanding industries are the commercial agricultural sectors. In 2009, the global agricultural sector employed over 1 billion people worldwide (The World Bank, 2013). Although the global agricultural industry is growing, there are disconnects between job supply and demand. Finding individuals to meet the growing demand in the agricultural labor force is critical in many countries, developed and developing.

Sub Saharan Africa is a region faced with many agricultural challenges while also experiencing economic growth from those same industries. According to the Food and Agricultural Organization (FAO), agriculture accounted for half of all employment growth between the years 1999 and 2009 in sub-Saharan Africa (FAO, 2012). Moreover, agriculture moreover accounts for one-third of the gross domestic product and three-quarters of employment in the sub-Saharan region (The World Bank, 2013). Coupled with this growth is the worsening effects of climate change on the region’s food systems. Water scarcity, prolonged drought, unpredictable weather, heavy rainfall, and increases in pests are only a few of the many environmental challenges facing sub-Saharan food systems as a result of climate change (FAO, 2015). In the region, farmers and the agricultural industry need to adapt and create mitigation strategies to combat these issues, and youth are essential in solving both the demand for agricultural workers and climate-related agricultural problems.
There is a growing demand to produce skilled and educated workers that are capable of identifying and solving many of the problems facing global agriculture in the 21st century. In addition to dwindling skilled agricultural workers, enrollment in agricultural colleges is low and there has been a mass exodus of youth from rural areas (Scott & Lavergne, 2004; Smith & Baggett, 2012; FAO, 2012). Rural youth are more likely to face challenges of unemployment, underemployment, and poverty, and as a response many are migrating. This youth outmigration grew from 23.2 million in 1990 to 28.2 million in 2013 and is an increasing challenge globally, particularly in sub-Saharan Africa (Deotti & Estruch, 2016). According to the Department for International Development of the United Kingdom Government (DFID) about 50 to 80 percent of rural households in sub-Saharan Africa include at least one migrant member (DFID, 2004). Rural youth outmigration is further exacerbating major employment challenges in this region (FAO, 2012). While research suggests that many rural youths are more likely to seek employment in more urban areas to satisfy their own personal aspirations, other causes include their desire to diversify household income, earn higher future returns, and gain valuable livelihood employment (FAO, 2012). These findings suggest that diversifying and expanding on and off-farm employment opportunities may help reduce both rural youth outmigration and the subsequent losses in the agricultural knowledge base.

Research indicates that education is a key factor in helping overcome development challenges in rural areas. The FAO has found strong links between food security and education of rural youth, and that basic skills and education in numeracy and literacy have been shown to help farmers’ livelihoods (2007). Unfortunately, in many developing countries agricultural education in rural schools has all but disappeared or is inadequate or outdated. Many education ministers view agriculture as a pointless subject, and working in the fields is often used as a form of punishment in both school and home settings (FAO, 2007). These current practices and attitudes can discourage rural youth from going into the agricultural field.

Higher education has been found to impact and shape the development of the agricultural sector deeply. In sub-Saharan Africa, only 2 to 4 percent of university students are enrolled in an agricultural related field of study (“African Economic Outlook,” 2012). Universities, which provide agricultural education and research and form symbiotic connections with local farming communities have shown to have valuable benefits on the countries’ agricultural sectors (“African Economic Outlook,” 2012). The relationships and linkages between universities that offer agricultural education and local farm communities help increase knowledge, spread research, and development and strengthen problem-solving of these rural areas (“African Economic Outlook,” 2012). Another important dimension involves universities creating partnerships with employers and labor markets to ensure young graduates have employment skills and opportunities upon graduation. In many developing countries, these pipelines from
educational institutes to labor markets and industries are weak (“African Economic Outlook,” 2012).

Youth in South Africa face an additional challenge in finding jobs, where unemployment rates for youth are well above the global average. According to the World Bank, the South African unemployment rate for youth, ages 15-24, in 2014 was 52.6 percent (The World Bank, 2016). The Western Cape Ministry of Agriculture stated that currently, 70% of South African youths are currently unemployed (“Western Cape Government: Agriculture,” 2016). Youth coming straight out of school are often the most affected and, face an unemployment rate of 65.5 percent (Lehohla, 2011). The situation is particularly discouraging for women, and more so for women of color (The World Bank, 2016). Female unemployment rates are significantly higher than their male counterparts (“National and provincial labour market: Youth,” 2014). Women face difficult labor markets and are one of the most vulnerable groups in the labor market (“National and provincial labour market: Youth,” 2014). Additionally, the unemployment rate for the Black population was higher compared to the Coloured and White population groups (“National and provincial labour market: Youth,” 2014). Many job-seeking youths face discouraging statistics and employment challenges, leading to despair and eventually giving up on the job search completely (The World Bank, 2016).

To help address the unemployment, outmigration, and educational needs of youth, several agriculturally focused, youth-based programs have been developed that focus on youth exposure to agricultural related fields and skills training (The World Bank, 2016). Many factors influence an individual’s decision to seek agricultural related higher education and enter the agricultural career field. Research indicates that family, education, background, race, and economics directly influence an individual’s desire, ability and drive to enter the agricultural sector (The World Bank, 2016). Also, how family members influence a child’s decision to pursue higher education and careers in agriculture needs to be further explored.

Parental figures have a profound influence, financially, emotionally and mentally, over the careers and education that their children pursue (Whiston & Keller, 2004). Analyzing parent/child factors that are in play regarding decision making in the pursuit of agriculture education and careers in an international setting can provide critical insights on the deficit of youth agricultural workers. A better understanding of the processes of parental and family member influence on children’s career paths can be useful when developing education programs and outreach efforts aimed at reducing rural poverty, increase food security, address unemployment and relieve the pressure of rural youth outmigration.
Key Definitions

Agriculture – the science, art, or practice of cultivating the soil, producing crops, and raising livestock and in varying degrees the preparation and marketing of the resulting products (Merriam Webster, 2018).

Agricultural Sciences – n. The application of science to agriculture; the field of study concerned with this (Oxford Dictionaries, 2018).

Degree – n. Education: A title conferred on students by a college, university, or professional school on completion of a program of study (Merriam Webster, 2018).

Youth – n. state of being young; early life; a young person; young persons collectively (Merriam Webster, 2018).

Youth – According to the African Youth Charter “youth” means “every person between the ages of 15 and 35 years” (African Union Commission, 2006).

Youth – “‘Youth’ is best understood as a period of transition from the dependence of childhood to adulthood’s independence and awareness of our interdependence as members of a community. Youth is a more fluid category than a fixed age-group.” The United Nations (UN) define youth as persons between the ages of 15 and 24 years (United Nations Education, Scientific and Cultural Organization, 2017).

Nuclear Family – n. a family group that consists only of parents and children (Merriam Webster, 2018).

Extended Family: – a family that includes in one household near relatives (such as grandparents, aunts, or uncles) in addition to a nuclear family also an extensive group of people who are related by blood or marriage or who otherwise regard themselves as a large family (Merriam Webster, 2018).


1.)

a.) one that begets or brings forth offspring

b.) a person who brings up and cares for another (Merriam Webster, 2018).

Culture – n. the skills, arts, etc. of a given people in a given period; the customary beliefs, social forms, and material traits or a religious, social, or racial group (Merriam Webster, 2018).
Minority – n. a racial, religious, or political group that differs from the larger, controlling group (Merriam Webster, 2018).


Afrikaans – n. A language of southern Africa, derived from the form of Dutch brought to the Cape by Protestant settlers in the 17th century. It is an official language of South Africa, spoken by around 6 million people as their first language (Oxford Dictionaries, 2018).

Need for the Study

Studies have shown that parental figures play a significant role in determining children’s career development and that without parental support and approval, children are less likely to explore diverse career possibilities, including agriculture (Shumba & Naong, 2012). However, current research provides little understanding of the lived experiences youth express in regards to their career and educational decisions, specifically through a qualitative lens. Diving deeper, there is a further gap and disconnect in research that looks directly at the agricultural sector, and the relationship parental figures have on children choosing this career path.

In recent decades, many researchers have explored the complex relationship between parental influence and children’s career and education decisions, producing a plethora of scholarly works. However, while there is a large breadth of study regarding factors that influence children’s career and higher education decisions, there is limited research conducted particularly focusing on agricultural sciences in an African context and using a qualitative lens. As a result of these gaps, additional research is needed. Previous studies make recommendations that focus on parental involvement, programming, and marketing to increase student enrollment in agricultural colleges and to enhance interests in the agricultural sciences (Rayfield, Murphrey, Skaggs & Shafer, 2013; Kyei, 2015).

The proposed research aims to identify a body of knowledge regarding family and other influences that drive youth to pursue agricultural related degrees and education, by heeding the lived experiences of participants. This study will provide further information on the complex interplay between youth and parental figures, especially regarding career and higher education decisions. In order to meet the demand for skilled and educated agricultural workers, domestically and internationally, youth must be
encouraged and inspired to engage in agricultural related sciences. The research findings will be used to make recommendations that place value and priority on family driven efforts that engage youth involved in agriculture, and to help create a positive view of agriculture as a valued livelihood.

**Impact of Study**

Increasing youth enrollment in agricultural and related science degrees is an ambitious goal. This research will provide opportunities for the advancement and creation of family-centered career programming. Outreach and extension services on South Africa, and other countries can use the research to help open family communication about agriculture healthily and productively. Additionally, as previously mentioned sub-Saharan Africa is experiencing rural outmigration. Creating valued employment opportunities through the agricultural sector could help eventually curb this migration pattern. Continued research and programming surrounding parental opinions, attitudes, opinions and agricultural degrees and career aspirations could help solve some of the major environmental, social and economic challenges facing South Africa and the globe.

**Considerations of the South African Context**

In the case of South Africa, the agricultural industry involves many components and has become more global, complex and vast over the past several decades. South Africa has a burgeoning economy and as a result, many industrial and global agricultural companies have migrated their offices and jobs to South Africa. South Africa plans to further grow their agricultural sector with 300,000 smallholder schemes, 145,000 agro-processing jobs, and 660,000 commercial farming jobs (Department of Economic Development, 2011). These jobs will be created through smallholder schemes in industrial products such as wine and fruit, and extension services. Additionally, the Revitalisation of the Agriculture and Agro-Processing Value Chain (RAAVC) plans to help drive economic growth and job creation through the target of creating one million jobs by 2030 (“South African Government: Agriculture,” 2018). The number of people employed in South Africa’s agricultural sector rose by 6.9 percent in the fourth quarter of 2016, increasing from 860,000. The RAAVC key areas of focus for 2017-2018 includes Land Reform, Market Access and Trade, Producer Support, Research and Innovation and Production, while also supporting key industries such as fruit, vegetables, poultry, red meat, grains, and aquaculture. Additionally, the LandCare Programme grant through the Department of Agriculture is hoping to contribute to job creation by establishing more arable farmland through promoting sustainable land practices, prevention of land degradation, and desertification in rural areas. That Department also plans on giving additional support to 435,000 subsistence and smallholder farmers by providing farm equipment, fencing, fertilizers, seedlings, and other essentials. Job growth and expansion through the agricultural
industry for both the public and private sectors provide more employment opportunities for youth and helps strengthen the food industry and food security. The goals of the Department of Agriculture for job creation and smallholder farmer support will help develop rural economies. Due to the high percentage of youth unemployment in South Africa, further job creation in the agricultural sectors will provide youth with opportunities, livelihoods, and growth.

South Africa’s complex history has greatly shaped where the country is today. Briefly exploring and understanding key aspects of South Africa’s history will give a fuller and complete view of the country, problems facing the country, the current agricultural sector situation, future recommendations, and the need of family-based agricultural career influence research. South Africa is still dealing with complex issues associated with its history, and there are still lingering effects of apartheid on education, land division, and employment. Many older generations and parental figures lived during the apartheid era and possibly experienced suffering and oppression during this period. Understanding apartheid’s historical context and its relation to present day will offer insight on the future directions of the agricultural sector within South Africa and the role youth and parental figures play within the agricultural field.

**Historical lens: South Africa apartheid**

South Africa was oppressed by racial injustices, human right violations, and apartheid for decades. Although the apartheid officially came to South Africa in 1948 after the pro-Afrikaner National Party (NP) came to power, many previous governments paved the way for discrimination and dispossession. Land repression in South Africa has a long history, with laws dating back to the late 1800s. In 1913, the Natives’ Land Act was established which excluded Black South Africans from purchasing and acquiring land and freehold titles. The Land Act also established areas where South Africans could live, and ultimately restricted Black land ownership to the seven percent of the country designated as homelands or native reserves (Gibson, 2009). The legislation stripped away power, ownership, and livelihoods from Black South Africans, and replaced land ownership with labor tenancy. The 1913 Land Act paved the way for years to come for further land-centered segregation. In 1936, a subsequent legislation, the 1936 Development Trust and Land Act No. 18, was passed, continuing the restriction of Black people’s settlement to constitutionally-defined areas. That act expanded the reserves to a total of 13.6 percent of land in South Africa and authorized the removal and elimination of “Black spots” (Black occupied land, surrounded by White-owned land). This small allotment of land designated as homelands, and later to be known a Bantustans, held 80 percent of the population (Gibson, 2009).

In 1948, the pro-Afrikaner National Party came into power. Afrikaners are a Southern African
ethnic group who are descendants of Dutch settlers. The party’s vision of segregation was harsh, and some considered their policies to be more extreme than past governing parties. To oppose the White South Africans power, political structures, and systems, the political group African National Congress (ANC) Youth League was created by Nelson Mandela, Oliver Tambo, and Walter Sisulu (Tibane, 2017).

In 1961, a Whites-only referendum solidified the power of NP Government under the Prime Minister HF Verwoerd, who began enforcing residential segregation. A policy was created that divided African populations into ethnic nations, each with its homeland. Between 1960 and 1980, there was a mass removal of Blacks from White areas, displacing as many as 3.5 million people into rural slums known as Bantustans. Black South Africans were forcibly removed from farms, cities, and towns, with at least one-third of those removed being farm workers, many providing labor for White farmers (Mather, 2002). “Black spots,” land which was owned or occupied by Africans in areas which were designated for Whites by the apartheid, were eliminated and thousands of individuals and households were forcibly removed from these areas and into land reserves. Many Black residents were removed from farmland where they had resources for cattle, maize, and vegetable. The new slums and rural villages lacked the arable and grazing land, leaving households with fewer opportunities for livelihoods (Walker, 2003).

In the 1960s, agricultural policies were created that encouraged farmers to increase and switch to mechanized farming practices, which resulted in a decrease and substitution of on-farm labor. The maize industry was one of the most affected by the introduction of mechanized combine harvesters, further declining labor needs. Once Black farm workers were removed from land and White farms, they were transported by influx control laws into different homeland centers based on their ethnicity. The relocation of farm workers from White farms was hastened by policies aimed at preventing countryside ‘beswarting’, literal translation meaning “blackening.”

During this time, policymakers were paying special attention to labor tenants, a contractual agreement between owners and tenants where Black households were given access to land for livestock grazing and arable agriculture in return for several months of paid or unpaid labor (Gibson, 2009). During the 1900s, several regions and policymakers tried to create regulations or abolish labor tenants. However, in the 1960s and 1970s, as agricultural mechanization increased, political attempts to eradicate labor tenants diminished as White farmers demanded the use of labor tenants to maintain their control over the land.

In response to the forcible removals of Black South Africans from their homes and land, the ANC Youth League called for non-violent protests, strikes, and demonstrations to oppose White domination and rule. Soon mass organizations, like the ANC and Pan-Africanist Congress (PAC), were
banned, and in March 1960, sixty-nine PAC demonstrators were killed. Black political organization leaders were either arrested or went into exile. ANC members, including Nelson Mandela, were arrested, convicted, and sentenced to life imprisonment. Resistance surged in the 1970s as anti-apartheid and youths revolted against systems of oppression, such as the apartheid education system.

To respond to protests, the government tried a series of reform efforts in the 1980s. In 1983, Congress reformed to allow limited participation of Coloured and Indian minorities in a separate, less powerful house of parliament, and in 1986 certain apartheid laws were set aside (Walker, 2003). The international community openly supported the anti-apartheid movement and the growing resistance increased the pressure to dismantle apartheid. As democracy loomed in the near distance, White farmers began evicting thousands of labor tenants, as they feared potential land claims (Walker, 2003).

The economy, international pressure, and domestic opposition led to the fall of the apartheid. A small group of Afrikaner elite soon began advocating for a more all-encompassing society, and several apartheid laws and symbols were challenged and eventually removed. The first democratic election in South Africa was in April 1994, and Nelson Mandela and the ANC won with the majority.

**Post-apartheid era land redistribution.**

The Land Acts were a fundamental element of the apartheid era, resulting in the removal of millions of Blacks, many of whom were farm workers. As a result of the Land Act policies, evictions of farm owners continued until the 1990s, partly because of White farmers concerns that farm workers would lay claim to some or all of the land.

Land reform policies faced many difficult issues and challenges related to economic rationales and had implications for justice and equity. Land removal and segregation occurred in both rural and urban areas, making the situation increasingly complicated. Additionally, policymakers faced issues surrounding tenure insecurity. As many as 3 million South African farm workers, labor tenants, and urban residents were now living in informal settlements and residents of homelands. In White South African areas, many individuals still owned land from freehold tenure, while the state owned most of the land in the previously Black homelands (Walker, 2003).

As the democratic elections began, policymakers faced issues of different rural constituencies and tenure demand. Individuals involved in commercial agriculture wanted private ownership to further their ability to obtain housing subsidies and loans. Traditional authorities needed and demanded land transfers directly to them so that they could distribute land to members of the community. The traditional authorities faced several challenges and concerns. Additionally, traditional authority systems routinely
discriminated against women by not allowing them autonomous access to land, thus reducing their ability to have livelihoods related to farming (Walker, 2003).

In 1994, one of the most important laws since the apartheid laws were created, The Restitution of Land Rights Act of 1994, with high aims and goals. The policy attempted to deal with many social, historical, and spatial inequalities and complexities through three programs: land restitution, land redistribution, and land tenure reform. Land restitution concerned the right for restoration or compensation for dispossession at the hands of past racially discriminatory laws (Gibson, 2009). Land retribution created a government assistance program to help individuals seeking to purchase lands, primarily for agricultural purposes. Lastly, land tenure reform created changes in the legal basis of land ownership to provide legal security and to stand in land ownership.

Another important outcome from the 1994 Restitution of Land Rights Act was the establishment of a Chief Land Claims Commissioner, a Lands Claims Court, and five regional commissioners. At first, the court and commissioners processed claims at a slow pace, but quickly improved. As of March 2000, 67,531 claims had been filed, with about 4,000 being settled. A year later in 2005, an additional 12,000 claims had been finalized. Through these claims, the South African government has spent millions of rands (South African currency) for land restitution and land compensation (Gibson, 2009). While the effort for justice is commendable and the claim processing pace has quickened, there have been several issues associated with claim filing and successful claims. Most of the successful claimants have been individuals from urban areas, compared to rural claimants, who claim as a group or community (Mather, 2002). Rural claimants have seen lower levels of claim success. As of 2002, only 20 percent of claims had been resolved, representing only a small proportion of the overall number of people making claims through the restitution program. Additionally, one estimate using the current budget allocated for land claims assessed that it would take until the year 2200 before all the claims have been fully resolved (Toit, 2000).

The land tenure reform program passed two pieces of legislation aimed to improve the security of tenure of rural people. The Extension of Security of Tenure Act of 1997 provides protection for illegally evicted farm workers, and The Labour Tenants Act of 1996 protects the rights of labor tenants. The legislation also provided opportunities and rights for tenants to claim land from White landowners. While both of these land tenure reform programs aimed to be beneficially and to make right some of the injustices of the last discriminatory laws, they were met with resistance and issues which is detailed in the following section.

The redistribution programs purpose was to assist rural people in becoming involved in
agricultural production. There were several disagreements on the direction and type of support that should be provided. The World Bank advisors wanted to provide more grants to fewer beneficiaries to establish a smaller class of ‘yeoman’ (smallholder, landowner, family labor) farmers, who would form the center and building blocks of rural development (Mather, 2002). However, South African advisors and policymakers had contradicting views and decided to use redistribution grants differently, with the hopes of improving the welfare of poor rural people. To help in facilitating these endeavors, policymakers created The Settlement/Land Acquisition Grant (SLAG), which gave R16,000 to individual marginalized applicants (Mather, 2002). Due to the small size of the grants, rural households were encouraged to pool together grants to buy land.

Land redistribution has also affected South African geography. After the democratic elections, the land of South Africa was re-divided into nine provinces to replace the existing four provinces and ten Black homelands (Tibane, 2017).

**Land reform issues.**

As more time distances South Africa from the horrifying era of the apartheid, researchers and policymakers have been able to look back and see the results and effects of land reform policies. Land reform policies have faced an uphill battle since their creation. Based on the historical contexts of deep inequalities and injustices present at the time of their emergence, many of the programs have had slow starts and impacts. Many studies have found an underutilization of land redistribution because of a lack in post-settlement support services, scarce access to capital, and inept planning by key players, including officials and consultants (Murphy et al., 1998).

In 1994, legislative created the initial target to redistribute 24.6 million hectares (about 30 percent) of White-owned agricultural land by 1999, using both the grant-based redistribution and a rights-based restitution program (O’Laughlin, Bernstein, Cousins & Peters, 2013). However, despite high hopes, by the end of 1999 less than a million hectares, only about 1.2 percent of White-owned farmland, had been transferred and redistributed to Black farmers. The target data was revised to 2014 (Jacobs, Lahiff & Hall, 2003). However, by March 2011 only 7.2 percent, 6.3 million hectares, had been transferred and the date goal for achieving the 30 percent target was pushed back further to 2025 (O’Laughlin, Bernstein, Cousins & Peters, 2013).

Another key criticism was the overall size of the grant (R16,000), with many arguing that the size was too small. Based on the size, rural people were unable to take full advantage to mobilize and use the grant to its full benefit and potential. The grant was not suitable for enhancing the livelihoods and food security of small subsistence farmers, or commercial farmers. The grant also came with stipulations to
receive funds, which included the development of a business plan. Approval of the plans lay with the Minister of Land Affairs. Many Black farmers struggled to develop a suitable business plan, and coupled with the approval Minister’s process; these factors created long waiting periods.

As stated above, one of the key legislation out of land reform was the extension of The Security of Tenure Act of 1997, and The Labour Tenants Act of 1996, which aimed to protect both farmworkers and labor tenants. However, these pieces of legislation seemed to have opposing effects. As the new legislative loomed in the early and mid-1990s, White farmers dashed to evict farmworkers and laborers they feared would lay claim to their land in efforts to avoid future land claims. Some estimates show that as many as 700,000 farm workers lost employment during 1994-1997 (Mather, 2002).

The Land Reform Acts had many implications for agriculture, farmworkers, farmers, and commercial agriculture. Several of the key issues which arose from the implementation and aftermath of the tenure, redistribution and restitution, are tightly bound and associated with South African agriculture. Taking a closer look at South African agriculture, and the interplay and relationships the field has had with The Land Reform Acts helps yield deeper understandings of complex issues, current programs, and future recommendations.

**Land reform and agriculture.**

The land reform acts which occurred prior to and during the apartheid era had deep implications for farmers and farm workers, for both commercial and subsistence, small-scale endeavors. The land reform effects of the post-apartheid era added more layers to the complex problems facing South African agriculture.

Originally, The Reconstruction and Development Program of 1994 did not seek to form or restructure land reform legislation to benefit large-scale commercial farms. However, over the past decade government objectives have shifted and have created more explicit goals surrounding large-scale commercial agriculture (O’Laughlin, Bernstein, Cousins & Peters, 2013). White farmers received massive amounts of state support during the time of the apartheid. These levels were downsized starting in the mid-1980s as part of apartheid ‘reform’ efforts and were then completely cut in 1994 by deregulation and liberalization policies. The agricultural sector and market reforms created a greater concentration of commercial farm ownership and production. A few Black farmers with access to capital have been able to purchase large farms, but overall the number is low and how these transactions occurred remain unclear (O’Laughlin, Bernstein, Cousins & Peters, 2013).

Over the years, commercial agriculture has progressively integrated into global markets for both
farm inputs and outputs, and therefore revenues are strongly influenced by global conditions and exchanges. Horticultural outputs have increased by four percent since the early 1990s, while field crops and livestock outputs have decreased. This small shift is likely a result of many farmers diversifying their production systems as a risk management technique (Vink & Rooyen, 2009).

On the other side, an estimated 2.5 million rural Black households, mostly located in former Bantustans, engage in some form of subsistence farming. Many people still live in former Bantustan regions, where the area of arable land not currently under cultivation is increasing. Additionally, the proportion of people involved in farming has been declining, likely as a result of population growth and a lack of access to land (O’Laughlin, Bernstein, Cousins & Peters, 2013).

The dualism nature between commercial agriculture and small-scale subsistence agriculture has many layers which are interconnected to South Africa’s history and current agricultural status. Understanding the multifaceted nature, along with other problems brought on by the apartheid and reform help give insight on current agricultural programs.

While land redistribution was one large legislative outcome from the post-apartheid era, other institutions and sectors were also greatly changing and trying to adapt. Among these are the educational institutes.

**South African education reform and current problems.**

The dismantling of apartheid and the restructuring of the apartheid higher education greatly impacted education in South Africa. During the apartheid era, segregated education was rampant and a way to limit education, aspirations, and resources to Black South Africans. Once apartheid was dismantled, desegregation was promised and became a major premise of education reform. Educator reform included several key components, desegregation, and integration. Schools needed to become inclusive, nurturing, and productive environments for all South Africans. Additionally, high and low performing public and private schools needed to be integrated into a single educational system.

Higher education faced similar and additional challenges since they wanted to maintain their national and international prestige. Many White institutions were protected from large institutional rearrangements and changes, while Black institutions were reorganized and merged (Weber, 2008).

Higher education institutes in South Africa have had to deal with many new issues such as globalization, change in languages and other policies, changes in government funding, changes in technology, increased access to higher education, mergers, HIV/AIDS, increased competition, and changing student demographics (Jansen, 2003). Several of these challenges in higher education were
reflected in the studies interviews. Several youths spoke about their experiences with increased competition, especially concerning veterinary school. Additionally, students and faculty talked about recent protests at their schools and national schools. Many Black students were protesting for the English language to be commonplace and the official language of their schools, instead of Afrikaans. These challenges and themes will be discussed more in depth in chapter five.

Reforming the reform.

In light of the criticisms and slow progress, there have been several efforts to reform the initial policies of The Land Reform Acts of 1994. In the late 2000s The Land Reform for Agricultural Development (LRAD) created a new approach to redistribution. The goal focused on revitalizing and changing several components of the former land reform and to help stimulate the productive potential of redistribution. Replacing the single, R16,000 grant system, LRAD created three different kinds of beneficiary grants, all of varying sizes. Subsistence farmers continued to receive the original amount of R16,000. However, medium or large scale commercial farmers could now apply for grants ranging from R20,000 to R100,000, depending on their size. The new program was aimed to help establish Black commercial farmers who would now have the means and ability to compete with their White counterparts (Mather, 2002). Again, there have been many concerns and criticisms that the new reform shifted the focus away from the needs of the rural poor: access to land and resources, employment opportunities, and tenure security.

Statement of the Problem

South Africa is located in sub-Saharan Africa and is on the southern-most point of the continent. South Africa is home to 55.7 million individuals. The country is composed of nine provinces: Western Cape, Eastern Cape, Northern Cape, North West, Free State, KwaZulu Natal, Gauteng, Limpopo, and Mpumalanga. Each province is unique in its natural environment, people, living conditions, and economy. South Africa has 11 official languages: Afrikaans, English, Ndebele, Northern Sotho, Sotho, Swazi, Tsonga, Tswana, Venda, Xhosa, and Zulu. For the purpose of the paper and study, gaining a better understanding and wider picture of the Western Cape province is essential.

The Western Cape is located on the south-western tip of the African continent, whose area contains a total of 129,386 kilometers. The region is situated next to the cold Atlantic Ocean along the west coast and the warm Indian Ocean along the southern edge. There are several mountain ranges, well-watered valleys, and beaches. In 2014, the Statistics South Africa reported that the Western Cape contained a population of 6,082,849 million people, with a working population of 4,149,922 individuals, 68 percent of those aged between 15 and 64 years old (Western Cape Provincial Profile, 2014). Age
demographics include: 26.03 percent between 0-14 years of age, 33.93 percent between 15-34 years old age, 34.29 percent between 35-64 years of age, and 5.74 percent 65 years or older. Western Cape is a diverse region, which is reflected in the population race statistics 18 percent are White, 29 percent are African Black, 1 percent are Indian/Asian, and 52 percent are Coloured (Western Cape Provincial Profile, 2014).

Figure 1 illustrates the geography of the Western Cape Province and highlights key agricultural research locations, district municipalities, and important agricultural products and commodities.

![Figure 1. Map of Western Cape highlighting key agricultural research locations, district municipalities, and agricultural products.](image)

Western Cape has a rich horticultural, field crop and animal agricultural sector. Horticultural crops, such as wine grapes and citrus have a gross value of production of South African Rand (R) 46,481 billion (Western Cape Provincial Profile, 2014). Field crop production, maize and soybean, gross value is R 51,783 billion, and animal production accounts for R 84,610 billion gross value production (Western Cape Provincial Profile, 2014). The Western Cape employs 23 percent of the total national agricultural workforce, which is the largest number per region. The large numbers of agricultural employment in
Western Cape is a direct result of the region's large horticultural industry, which is labor intensive. The educational levels of the Western Cape agricultural sector vary. Fifty-three percent of workers have completed between grade 1 and 10, five percent have no schooling, twenty-two percent have completed grade 12, nineteen percent have completed tertiary, and one percent count as other (Western Cape Provincial Profile, 2014). The Western Cape Ministry of Agriculture and Elsenburg Agricultural Training Institute collaborate with industry and communities to help meet the needs of the large horticultural/agricultural industry, specifically the labor-intensive horticultural sector.

Over the past several years, the Western Cape region in South Africa has been experiencing a debilitating drought. Rains usually come during the winter in South Africa, between May-August. However, low rainfalls over the past several years have resulted in low dam waters. Elandskloof Dam, which is a series of dams set in place for farmers, villages, and Cape Town, is almost completely dried up. In a region with rich horticultural crops, such as citrus, grapes, and pears, the consequences have been devastating for farmers and livelihoods. Livestock farmers are also facing tough decisions - truck in animal feed or slaughter the majority of their herds. The Farmers’ group, AgriSA stated that the drought had cost about 50,000 permanent farm jobs in the Western Cape (Latham, 2017). Additionally, wine-grape producers have had their water resources slashed by 60 percent (Latham, 2017). As a result of the drought, restrictions on personal water consumptions have been put in place. Cape Town has declared “Day Zero,” a date where no water will be left in the dams. Heavy restrictions have also been put in place for agricultural uses. Understanding the context and importance of the drought within the Western Cape region of South Africa is critical when looking at particular questions regarding agricultural production in the participant interviews.

2011 census information provided by Statistics South Africa reveal data on the age, gender, and internal migration patterns of South Africa. Internal migration can be defined as the movement of people between different provinces, regions, and cities, as well as movement from rural to urban areas and vice versa (Mostert, 1998). Migration streams are a body of migrations made that have a common place of origin and common area of destination (United Nations, 1970). Migration corridors refer to a two-way migration flows. South Africa has ten major inter-provincial migration streams in the country. The third largest stream is between Eastern Cape to Western Cape, accounting for 7.67 percent of all inter-provincial migratory moves (Lehohla, 2011). Western Cape is home to the city of Cape Town, which is the second largest metropolitan municipality in the country, and is the economic center of the Western Cape Province. There are many demographic and socioeconomic characteristics of the migrants in the Eastern Cape-to-Western Cape migration streams. Male and female migrants are equally represented, 50 percent each (Lehohla, 2011). The proportion of migrants who are between the ages of 20-24 years old is
high, accounting for 28 percent. Black African stream migration is high compared to other regional streams, at 86 percent, while the proportion of Whites, eight percent, is much lower (Lehohla, 2011).

Coupled with the rural outmigration is a youth unemployment crisis. In 2009, unemployment rates for young people between the ages of 16 to 30 were forty percent (Department of Economic Development, 2011). These figures help support further findings that there is a mass exodus of youth from rural to urban areas (Deotti & Estruch, 2016).

Young South Africans need and deserve to find valued employment and livelihoods. South Africa is the home to many global agricultural companies. Adecoagro, AgriSA, along with other leading global agribusiness companies such as Monsanto, Agria, and Archer Daniels Midland, all have a stake in the South African agricultural economy and offices in the country. As the public and private agricultural sectors expand and grow, the demand for educated and skilled workers increases. To meet this demand, address problems associated with agriculture and climate change, and meet the needs of rural and youth populations, further family and youth-based agricultural research are needed. Dialogue needs to be created between families and youths about the agricultural industry. Researching the influences, and in particularly the family influences of youth to pursue agricultural sciences degrees and careers will provide an opportunity to explore these relationships and make recommendations to address these complex problems.

**Purpose and Objectives of the Study**

The purpose of this study was to assess and identify influences that youth perceive to have impacted their decision to obtain agricultural education and related careers. This study was unique and important since it will be examined the influences on career paths of youths with a focus on family influences. The following objectives guided the study:

1. Assessment of the influences, attitudes, values, and motivations that influence youth to pursue agricultural related education and careers.
2. Assessment of the perceived barriers that might prevent parental and family support of youth seeking agricultural related education and careers.
3. Identification of the characteristics, values, and systems of support of parental figures of youth seeking agricultural related education and careers.

**Research Questions**

1. How do youth who choose to engage in agriculture perceive external and internal support systems, and how do these levels of support impact their decisions to pursue agricultural related education and careers?
a. How do youths describe, perceive and value parental and other family influences, or lack thereof, in their lives and decisions to pursue an agricultural related degree and career?

b. What are the influences that agriculturally engaged youth describe as impacting their decision to pursue an agricultural related degree and career?
Chapter 2
Review of Literature

A review of the literature indicates that there has been a broad array of research conducted concerning the perceptions and influences that parental figures have on children’s higher education and career development. This review focuses on research related to factors influencing children’s desire to seek higher education in agriculture and agricultural careers. Parental figures have been found in numerous studies to be one of the most influential factors guiding youths’ occupational decision making (Whiston & Keller, 2004).

Dividing the current research into categories was important in identifying gaps and further examining the factors and relationships of parental figures, children’s higher education and career decisions, and their connections to the agricultural field. Section One examines a historical context of family influence in career decision-making and certain key theories. Section Two discusses the multiple factors that influence children’s career and education decision-making. Section Three looks at the influences on diverse student populations. The fourth focuses on student’s decisions to pursue agriculture and agriculture-related degrees. The fifth section examines at the topic and research from the parental figures point of view. The last section looks at aspects of parental career influence within a South African context and include specific case studies and research from the sub-Saharan region. Lastly, the chapter concludes with a summary of the prior sections.

Background and History of Family Influence on Career Decisions

There have been multiple of studies conducted investigating family influences, especially concerning career choices, on children. Studies of this topic have produced different theories with contradicting and varying results. Understanding the history associated with this topic is helpful in finding gaps, recommendations, and theories that can be used as a basis for our parental influence study in South Africa.

Early predominant career theorists began addressing family influences during the 1940s and 1950s. Works by early developmental theorists Super (1942) and Ginzberg, Ginzberg, Axelrad, and Herman (1951) identified a range of factors influencing an individual’s career development and decision processes. Super (1957) hypothesized that families have a large impact on an individual’s career choices and paths. Roe (1957) theorized about the connection between parental styles and children’s career focus. More recent research that was conducted in the 1980s and which still is ongoing, has looked at career influences through a family systems lens. Family systems theory suggests that families operate as a system or unit, where interactions either evolve or stay the same and each member affects, and is affected by, other members. Goldenberg and Goldenberg (1980) defined family as: “Natural social systems with
properties all on its own, one that has evolved a set of rules, roles, a power structure, forms of communication, and ways of negotiation and problem solving that allows various tasks to be performed effectively (p. 3).”

Bratcher (1982) used family system theory to provide a framework for understanding and speculating how families affect career decision making, suggesting that familial beliefs, values, traditions, roles, and boundaries all strongly guide career decisions. Bowlby (1982) used his attachment theory of separation and individuality to explain how personal family attachment and anxiety impact career and other life decisions. Zingaro (1983) theorized that children had trouble differentiating their career aspirations from their parental figures expectations. Lopez and Andrew’s (1987) research expanded upon this and have focused primarily on how family dynamics affect career indecision. However, Eigen, Hartman, and Hartman (1987) found no evidence of this and concluded that family interactions do not have an effect on career indecision. Studies such as these have been critical in the development of a family system, occupational decision research, and theories. The different opinions, outcomes, and results also suggest how varying this topic can be. Understanding the breadth of past research in this area helped focus the qualitative interview questions on unraveling further the multi-level influences parental figures and other family members can have on youth’s career and education decisions.

In addition to early theorists and their studies, there have been two comprehensive literature reviews on the subject of family influences on career development (Schulenburg, Vondracek & Crouter, 1984; Whiston & Keller 2004). Whiston and Keller (2004) combined 77 global studies that all centered around the topic of family influences on occupational choices. Their major contribution to this research topic focused on children, adolescents, and college students. Looking at these studies have provided more information and knowledge concerning this broad topic and theme. Whiston and Keller’s (2004) expansive study has also pointed and highlighted gaps within this field of study, identifying a need for more qualitative research approaches and research. Based on their recommendations, this study incorporated a qualitative lens, while looking at this area.

Factors and Influences on Children’s Career Choice and Development

Other variables specifically related to families, can influence an individual’s education and career decisions. This section highlights several of those factors and variables that can impact occupational paths.

Some familial influences on career aspirations can be indirect. Throughout the years, there have been several studies that suggest genetic factors might influence children’s career decisions (Betsworth & Fouad, 1997). One study found that the mothers, fathers, and siblings played a significant role in young
adults’ career development by indirect means (Schultheiss, Kress, Manzi & Glasscock, 2001). These indirect means were described as being emotional, informational, and educational support. The study also indicated that other family members, siblings, grandparents, and extended members played a significant role in career development. These findings are consistent with others in the field that state that grandparents, aunts, uncles, other relatives, and siblings all influence career decisions (Kotrlik & Harrison, 1989).

Occupational aspirations influence career development and decision-making. Aspirations are described as being what individuals want to pursue (Whiston & Keller, 2004). Youth aspirations affect occupational choices, since the lower the aspirations of the child, the fewer occupational choices are available to them (Whiston & Keller, 2004). Several studies have looked at work values and their relationship to career development and choice. Values are defined as what an individual views as being important and what they have created as lifestyle priorities (Whiston & Keller, 2004). It has been argued that individual values have the most significant influence on occupation development (Brown, 1996). One study found there was a significant relationship linking mothers’ and children’s work values, and that girls were more likely to have similar values as their mothers compared to boys (Mannhein & Seger, 1993).

Family living situations also influence career development in youths as well. Trice, McClellan, and Hughes (1992) discovered through interviews that elementary children living in single-parent households, with extended family, or in foster care were significantly less likely to express not having career aspirations than counterparts living within two-parent households. Scott and Church (2001) found that family stability affected students’ career decisions, and that students from divorced families were more likely to exhibit career indecisiveness.

Income and socio-economic factors can play a role in education and occupation decisions as well. In his study, Ngesi (2003) found that youth from poorer backgrounds and disadvantaged communities were more likely to avoid certain educational programs and career paths, especially based on program length. Students were less likely to pursue educational programs and career tracks that took a longer period to obtain, likely as a result of their lack of financial support. These results suggest that youth from low-income areas and lower socio-economic backgrounds have less career and educational opportunities and independence.

In addition to family members, research reveals that other people of influence and other factors help in youth’s decisions to pursue a certain educational and occupational field. Friends, teachers, counselors, role models, the internet, hobbies, and college recruiters all help guide youth (Jones & Larke,
Parental Influence on Occupation: A Gender Lens

Many studies have investigated the role that gender plays in occupational development, exploration, and decision-making. Gender of both the parental figures and the youth impact career aspirations. Lavine (1982) found that young girls whose mothers had more household power were more likely to be open to gender-neutral careers, and less likely to prefer feminine-stereotype careers. One study from Young, Fiesen, and Pearson (1988) found that parents interacted with daughters and sons differently, often favoring their male children. An example of gender bias is parents giving boys more information about careers, and caring more about their male children’s career choices than their female children. However, another research study found that parents were more involved in their daughters’ career development compared to their sons’ (Trusty & Erdman, 1997). The varying results of the two studies could be a result of differing methodology.

Research suggests family support and parental figures’ expectations greatly impact female children’s career decisions (Whiston & Keller, 2004). Houser and Garvey (1983) found that women enrolled in gender-nontraditional training programs received more support from immediate family members compared to those in gender-traditional programs. Houser and Garvey (1983) also found that as women grew older and more mature, they were more influenced by an older adult male in their families. These findings were substantiated by continued research by Weishaar, Green, and Craighead (1981), which found that women seeking nontraditional college degrees were more likely to be influenced by male figures.

Gender plays an important role in educational and occupational development. Understanding the past research related to this topic will give insights into the possible influences gender might have for the research presented here. The parental figures’ gender, and the gender of their adolescent children seemed to have an influence over the support, attitudes, and opinions parental figures have concerning agriculture as an education and career choice.

Diversity Effects of Parental Influences of Career and Education

There are many studies examining minority and diverse populations and the influences of parental figures on career aspirations. Since South Africa is a diverse country with many ethnic groups, exploring this theme of diversity is important. There are several studies looking at parental figures’ influences on occupation and educational choices, and some specifically looking at agricultural higher education and fields.
Jones and Larke (2001) found that African Americans and Hispanics enrolled in agricultural sciences at land-grant colleges were affected and influenced by the encouragement of other people of color to enter the agricultural career field both before or after college. Paternal employment was also an influential factor. Participants were more likely to pursue an agricultural career if their fathers’ occupations were agricultural-related (Jones & Larke, 2001). However, parental figures’ levels of education did not have a significant effect on participants’ agricultural occupational decisions.

A study conducted by Gomez et al. (2001) found that family members highly influenced Latina women in their career decisions. These women reported feeling extreme pressure and conflict and felt forced to pick between their families and certain career opportunities.

Fisher and Padmawidjaja (1999) found that parental encouragement was a significant factor for career development of African American and Mexican American college students. Parental encouragement was most frequently cited as being available for their children. Sixty-five percent of participants indicated that their parents’ encouragement and availability were significant factors in maintaining open communication between parental figures and participants when discussing career choices. Parents were also found to be guiding figures, giving beneficial feedback to adolescents. Thirty-five percent of students stated that occupation and education acceptance was the most important factors when choosing their career, while twenty-five percent highlighted career freedom was the most important (Fisher & Padmawidjaja, 1999). Students did not want to be pressured by parental figures and found motivation in their career choice freedom. An important component identified throughout this study related to parents wanting more for their children then they themselves had. Parents wished for their children’s success and had goals for their children’s careers that would help their children achieve certain societal and professional milestones. Children understood and could identify that their parents had lived harder lives, and faced racism, poverty, and other negative factors. Since their parents had little educational and occupational opportunities, several students felt the need to obtain as much schooling as possible (Fisher & Padmawidjaja, 1999).

Many diverse parental figures faced afflictions throughout their lifetimes. The hardships they experienced and still experience directly impact their children. Parental figures want success, achievement, high levels of education, and productive careers for their children, and children are aware of this pressure (Fisher & Padmawidjaja, 1999). Parental education and occupational pressure associated with lifetime hardships is still present in South Africa, due to the history of apartheid. South African parental figures are likely still affected by this long historical event. The researched performed during this study examined the relationships between diversity and career influences, to gain understanding of the possible lingering effects of apartheid on parental figures.
Influences on Student Decision to Pursue Agriculture and Agriculture Related Degrees

Several researchers identified factors related to youths’ enrollment in agricultural colleges and majors. In the past several decades, enrollment and retention of students seeking agricultural related degrees from U.S. land grant colleges of agriculture had been waning. However, in more recently years, numbers are shifting and degrees from agricultural colleges have been steadily increasing. While there is an increase in degrees sought and given, the increases still do not meet the demands and needs of agriculture and agriculture-related industries. Several studies from the United States have researched factors influencing children’s decision to enroll in land-grant universities colleges of agriculture and enter the agricultural industry.

One study comparing factors that influenced students’ decisions to pursue agriculture versus nonagricultural degree programs found that parental figures were the most significant people of influence for both agricultural and nonagricultural degrees (Williams, 2007). The study found that parental figures scored one of the highest regarding persons of influence by nonagricultural students. These findings were in accordance with others within the field.

A study conducted in Oklahoma surveying external factors influencing undergraduate students’ decisions to enroll in the College of Agricultural Sciences and Natural Resources found that parents and guardians were the most used and selected individual of influence (Herren, Cartmell & Robertson, 2011). The study’s authors recommended that research looking at how parental figures influence students’ college decisions should be further examined (Herren, Cartmell & Robertson, 2011).

Smith-Hollins, Elbert, Baggett, and Wallace (2015) looked at undergraduates and graduate students enrolled in 14 land-grant universities college of agricultural sciences. The study divided results into two categories: “personal influences” and “school-related influences.” Results indicated that there was a significant gender difference among personal influence, with males significantly higher than females on the decision to choose a career related to agriculture from personal experience. However, there were no significant differences for school-related influences. Significant differences were observed for race and ethnicity, showing that Whites regarded personal influences higher for the decision to choose a career related to agriculture than non-Whites. There was no significant difference among Whites and non-Whites regarding school related influences. It was also found that family members involved in agriculture careers and lifestyles were most likely to influence students’ decisions to enroll in a college of agriculture (Smith-Hollins, Elbert, Baggett & Wallace, 2015).

In a study from Rayfield, Murphrey, Skaggs, and Shafer (2013), 18.1 percent of participating college students stated that their parents were the most influential persons regarding their decisions to
enroll into an agricultural subject college major. This low percentage was unanticipated by researchers, who concluded this small number may hint at changing generations and family influences of a newer generation (Rayfield, Murphrey, Skaggs & Shafer, 2013). Other significant influences were exposure to agriculture, recruitment activities and materials, and job considerations. Researchers suggested developing recruitment materials that will resonate with parental figures and other relatives may be beneficial.

Although these particular studies were performed in the U.S., their outcomes are likely to still be relevant to youths’ decisions with regard to pursuing agricultural sciences in other regions of the globe. Previous studies made recommendations that focus on parental involvement, programming, and marketing to increase student enrollment in agricultural colleges and to in general enhance interests in the agricultural sciences (Rayfield, Murphrey, Skaggs & Shafer, 2013; Kyei, 2015).

The Other Side of the Looking Glass: Parental and Family Perspectives

There has been relatively less research conducted on parental and family perspectives with respects to their children’s career and educational aspirations. In recent years, more studies have been conducted concerning parents’ perspectives. When Birk and Brimline (1984) asked both mothers and fathers to rank who was the most influential person on their child’s career explorations, both parents ranked themselves as the most influential. Another study looking at Indian parent’s reactions and opinions of computer-based education and learning found that while many parents did not understand computer skills, they understood the importance of this education and were in favor of it (Pal, Lakshmanan & Toyama, 2009). Parents saw computers as a tool for children to learn English and as a shared communal resource.

Restubog, Florentino, and Garcia (2010) surveyed undergraduate students along with one of their parental figures and found that both the parents’ and students’ perceptions of the parental support influenced career choice and decision. Nota, Ginevra, Ferrari, and Soresi (2012) studied parents of elementary, middle, and high schoolers and found that mothers provided more support than fathers for career decisions. Another study looking at the relationship perceived between parental support and the child’s perceived parental support, found that parents’ perceptions of their support helped predict the support perceptions of their children (Ginevra, Nota & Ferrari, 2015). Findings also found that mothers perceived themselves as being more supportive to their children than compared to fathers. The study made recommendations that career counselors should not only look and work with children, but integrate parents into the process and provide parental training to help create parental awareness concerning the important role they play in their children’s education and career development (Ginevra, Nota & Ferrari, 2015).
Whiston and Keller (2004) recommended that future research focus on parental behaviors that might have a positive influence on career development. They stressed the importance of identifying positive and negative parental behaviors and the relationship these have on the career decision-making process.

**South African Context**

Many studies have been conducted in the United States, looking at U. S. families and students. While many of the U.S. studies can be used to make more general considerations and interpretations globally, research conducted in South Africa is essential in understanding this section of the globe.

Several researchers have looked specifically at Western Cape, South Africa, and its agricultural sector. Since wine and fruit farming is such a large industry in the Western Cape’s agricultural sector, several studies used these types of crop farms in their research. Several researchers conducted a variety of studies looking at family farm workers, their children, gender factors, mobility, and future expectations (Waldman, 1993; Kritzinger & Vorster 1995; Kritzinger 2002). In one study, Waldman (1993) studied the mobility levels of female and male adolescents on two different wine farms in the Western Cape. She found that the male participants exhibited more mobility between farms, while the young women had higher mobility levels between the farm and the city (Waldman 1993). For those who were able to find urban work, usually domestic work, eventually moved and relocated back to the farm based on outside factors beyond their control, such as family ties, insufficient education, and financial burdens. There were also several adolescents who were never able to leave the farm.

Kritzinger (2002) qualitatively explored the life experiences, worlds and future expectations of teenage daughters of Coloured farm workers currently living on farms in the Boland and wineland regions of Western Cape, South Africa. Kritzinger’s (2002) research questions of the paper included, “Do teenage girls wish to leave the farm or do they eventually want to live and work on the farm? What are the considerations underlying their preferences, and what lifestyles do they choose for themselves?” (p. 547). The goal of the paper was to help fill the gap in research of the agricultural sector and life world of people and youth who live on farms. The interviewed girls were between ages 15-18 years old, all spoke Afrikaans, the majority had lived on farms their whole lives, 70 percent of participants came from two-generation household structures, and the majority had both parents working on the farm. The study recorded that the teenage girls found the farm work to be hard, with low wages for themselves and parents, and their work and living situation was associated with low social status (Kritzinger, 2002). While the girls acknowledged their low social statuses, it was not always a point of contention. Many
took pride in their lives, seeing themselves as more disciplined and having better manners, compared to children living in villages and cities (Kritzinger, 2002). The girls also discussed alcohol abuse among farm worker family members, a lack of privacy, social isolation and boredom. The girls did mention positives to living on a farm, such as a close bond with family, family friends, and inexpensive living. However, the teenage girls did not want to continue living on the farm or doing farm work after receiving an education, mostly for economic reasons. When asked about their expectations of the future, most responded that they wanted to complete school, get married and find full-time employment outside of farm work (Kritzinger, 2002).

In another study conducted by Kritzinger and Vorster (1995), they found that women fruit farm workers wanted their children to complete their education and seek different employment opportunities outside of farm work (Kritzinger & Vorster, 1995). The mothers, who were farm workers, wanted their children to complete school. Additionally, of the women who had children, 90 percent indicated that they preferred that their children work in other fields and jobs beside farm work (Kritzinger & Vorster, 1995). When coupled with the previous study, assumptions can be made that the teenage girls’ desire to seek further education and jobs outside of farm work is a reflection and reiteration of their parent’s expectations.

A study conducted by Hull (2014), examined the relationship between unemployment, family structure and labor allocation in rural South Africa. The qualitative study interviewed parental figures to discover why many South African youths were refusing to engage in agricultural work. One mother indicated that she believed youth people were too “lazy” to help the family with subsistence agricultural work, and wanted to be paid (Hull, 2014). Another parent stated that he did not want his son to assist him in the fields since they both agreed and felt that it was more important that he find paid employment elsewhere, and other types of work were a more productive use of his son’s time. Many parental figures and older caretakers wanted youth to be able to establish economic independence through personal gains. The study also highlighted some of the social and family structural changes that have occurred as a result of unemployment and changing times. More youth have independent control over their separate incomes, spending whatever income they have individually instead of as collective budgeting.

A recent study conducted from the University of Venda in Limpopo, South Africa examined parental influence in the choice of tertiary institutes for their children and found that 51 percent of participants were influenced by their parents (Kyei, 2015). Further analysis showed that the parents influenced female students in their decision for selecting a higher education institute more, compared to their male counterparts (Kyei, 2015). Kyei (2015) recommended that parents start a dialogue with their young children about their future to help convey information and knowledge for children’s future
decision-making.

Another South African study conducted by Shumba and Naong (2012) looked at first and second-year undergraduate students from three South African universities. They found that parents had a significant influence on children’s career decisions and that mothers particularly were more influential. The researchers made recommendations that parents and families should not force individuals into certain careers, but instead be encouraging and allow youth to explore a variety of options (Shumba & Naong, 2012).

Other South African research investigating the familial impact on children’s career aspirations yielded similar results. A study from the University of Venda conducted specifically on South African psychology undergraduates found that parental education and source of career information played a role in their decision to pursue psychology education and careers (Mudhovozi & Chireshe, 2012). More female students had both parents with post-secondary education and mothers with post-secondary education, suggesting that female students benefit more from higher educated mothers compared to males.

Other important influences and variables for education and career decisions identified in these studies include teachers, friends, campus location and age of the participant. Understanding the role that parental figures play in tertiary education, and career choices within South Africa helped influence and guide this study. Our research findings will add continued value and knowledge to this field and topic.
Chapter 3: Methodology and Procedures

Overview

This chapter provides an overview of the methods used throughout the study to conduct interviews, gather data, and analyze the results. The section presents and discusses the different steps taken throughout the research process for the analysis of youths’ perceptions, values, opinions, beliefs and influences associated with their agriculture-related degrees and careers pursuits. The study was set in the Western Cape, South Africa. This chapter lies out and further discusses the research design, site selection, sampling, data collection procedures, validation, and reliability of data collection.

Statement of Purpose

The purpose of this study will be to assess the attitudes, beliefs, and values that influence youth to obtain agricultural education and related careers. Youth will be asked to identify influences that impacted their decision to obtain agricultural education and related careers. The study will be grounded in the following research questions:

Research Questions

1. How do youth who choose to engage in agriculture perceive external and internal support systems, and how do these levels of support impact their decisions to pursue agricultural related education and careers?
   a. How do youths describe, perceive and value parental and other family influences, or lack thereof, in their lives and decisions to pursue an agricultural related degree and career?
   b. What are the influences agriculturally engaged youth describe as impacting their decision to pursue an agricultural-related degree and career?

Qualitative Approach

This research aims to report and describe the statements expressed by individuals. Qualitative research is used to provide an in-depth understanding of an issue, concept or a phenomenon. Qualitative approaches help provide researchers with greater insight into a topic of study and with a detailed explanation of phenomena or problem area. The new and detailed insights expressed through qualitative work can generate new theories and hypothesis, which can be further explored using quantitative and qualitative research methods. In this study, semi-structured interviews were used to collect data from diverse youth participants. The interviews gathered in-depth, detailed and situated knowledge regarding the life experiences of participants. The research findings will be used to make recommendations that place value and priority on family driven efforts that engage youths involved in agriculture to create positive change in different livelihoods.
Research Site: Western Cape, South Africa

South Africa has faced a long and arduous battle to right the wrongs of previous governments and the apartheid era, especially surrounding land redistribution. Black farmers and rural households have experienced centuries and decades of racial discrimination and injustices. The effects can still be seen and felt through South Africa to this day, and younger generations who were born during the post-apartheid era are still affected by their country’s history. Youth unemployment rate is high, further exacerbating and driving outmigration from rural to urban areas. Fewer young people, specifically Black youth, are interested in pursuing agricultural-related sciences as a viable career option because they prefer wage jobs and see agricultural work as unprofitable and difficult (Hull, 2014). To help solve and address some of these issues, the Ministry of Agriculture and the Western Cape Government created a variety of agriculturally focused, youth-based programs aimed at increasing youth awareness and interest in agricultural-related education and careers, and giving professional development opportunities. The program aims to increase youth awareness and interest in the agricultural sciences, increase youth enrollment in the agricultural sciences, give youth work experience, and help create positive youth development. Additionally, the country has a large and burgeoning industrialized agricultural sector that needs diverse, educated and skilled workers.

Western Cape, South Africa was chosen as the site for research based on several factors. The site was selected because of the work the Western Cape Ministry of Agriculture is conducting about youth, the proximity of the Elsenburg Agricultural Training Institute, and the high level of agricultural production occurring in the region.

Description of Western Cape Ministry of Agriculture Youth Programs

To help address youth unemployment and further the advancement of agriculture in the county, the Western Cape Ministry of Agriculture created several youth programs tasked with providing professional, educational, leadership, and career development. The youth programs work with a variety of ages and experiences to help youths who are in grade school, recent high school graduates, undergraduates and graduate students develop valuable skills and gain practical experience. The youth programs include the Western Cape Department Internship Program, the Department Premier’s Advancement of Youth (PAY) Interns, APFRYD Project: Agricultural Partnership for Rural Youth Development, the Young Professional Persons Programmes (YPP), and School Education Summer Programs.

The Western Cape Department of Agriculture Internship Program is an exchange program that places matriculates, undergraduate and graduate students within the department to provide practical
mentoring and training experience. The Department Premier’s Advancement of Youth (PAY) Interns program works with youths who are about to enter university (grade 12). Youths spend a year interning and learning about agriculture from the Western Cape Ministry of Agriculture, and the Ministry’s different inter-departments. Interns gain exposure, agricultural skills and experience in different agricultural career paths by rotating between different Western Cape Ministry of Agriculture departments. They receive mentoring and coaching from agriculture professionals. The goal of the program is to help youths enter the agricultural market at an earlier age, have more marketable job skills, and provide scholarships for continued studies in agricultural-related degrees. The APFRYD Project: Agricultural Partnership for Rural Youth Development focuses on developing and increasing skills, career opportunities and employability of disadvantaged skilled rural youth and children of farm workers. Opportunities to participate are given to youths in grade 12 who are unemployed to gain further exposure to agricultural careers and education. The program includes financial assistance for further education and studies in the agricultural field, internships, and annual trainings. The Young Professional Persons Programmes (YPP) offers opportunities to help empower previously disadvantaged youths from certain ethnic and racial groups, including Black, Coloured, Indian, females (White females included) and people with disabilities. The youths selected for the Young Professional Persons Programmes have already been accepted by a higher education institution to pursue their masters, honors or doctorate degrees. The program allows these youths to gain experience, mentorship, other qualifications, and agriculture skills. The School Education Summer Programs takes place throughout the summer to help market agriculture to youths. Each of these programs aims to combat the country's high youth unemployment rates and increase youth participation in agricultural related fields. This thesis research focused on a portion of youths who were participants of the Western Cape Ministry of Agricultural youth programs.

Research Philosophy and Design

This study addresses youth’s perceptions, values, opinions, beliefs and influences associated with their agriculture-related degrees and career pursuits. Qualitative research methods were used, which included in-depth qualitative interviews. Participants gave a narrative and account of events and actions. The nature of the narrative study included phenomenological research since all the participants described the meaning of their lived experience of a common phenomenon (Creswell, 2013).

The qualitative data were collected from semi-structured interviews conducted with a range of youth to obtain information related to perceptions, values, opinions, beliefs, and influences associated with their agriculture related degrees and careers pursuits. Youths who were connected with the Western Cape Ministry of Agriculture youth programs and local universities were interviewed to obtain information related to their decisions and influential factors that resulted in their choice to study an
agricultural-related degree and career. Sets of data from each population help depict a complete picture and narrative of the lived experience related to the concerns and obstacles as seen through the eyes of the youths.

Between May and August 2017, interviews were conducted with participants at neutral locations in Western Cape, South Africa. The youth participants were interviewed using the same semi-structured script. Interviews were recorded after obtaining verbal consent and took approximately 60-90 minutes to complete. A convenience sample of 55 participants was selected for interviews. During the interviews, the participants could opt out at any time. The universities President’s and other administration at Elsenburg Agricultural Training Institute and Stellenbosch University were contacted for approval to find interviewees. The researcher had all necessary clearances as an employee of the Pennsylvania State University and recruited for the interviews in the presence of the Western Cape Ministry of Agriculture and university employees. Data was collected from interviews with each participant. After the interview was completed, the participant returned to their normal activities for the remainder of their day.

Interviews were conducted with selected youth-based program participants and students studying agricultural sciences subjects between the ages of 18-26. The youth interviews helped gather information on who and what influenced youths to pursue education and careers in agricultural related fields.

Population and Sample

Participants lived in Western Cape, South Africa and self-identify as being a current university student studying an agricultural related degree; a youth who earned an agricultural related degree; or a youth who is currently working in the agricultural sector. Any youths that were not currently or previously involved in the agricultural related field were not included. Youths were no younger than 18 years of age and no older than 26 years of age. Youths had the option to cease participation at any point in the study.

The interviews were used to collect data from youth on agricultural opinions, perceptions and background with a convenience sample of 55 students. Students were identified through the youth-based programs at the Western Cape Ministry of Agriculture and the local universities, Elsenburg Agricultural Training Institute and Stellenbosch University. Youths from each program (Western Cape Department of Agriculture Internship Program, Young Professional Persons Programmes (YPP) APFRYD Project: Agricultural Partnership for Rural Youth Development, Department Premier’s Advancement of Youth (PAY) Interns, summer programs) were selected and interviewed. Ministry Director, Program supervisors and University administrators were informed of the study and given a copy of the consent forms and recruitment letter. All subjects were youth involved in agriculture-related degrees and careers.
Human Subject Considerations

The study was conducted in accordance with regulations and guidelines laid out by The Pennsylvania State University Institutional Review Board (IRB). The researcher followed the regulations of The Office for Research Protections at The Pennsylvania State University for the protection of any human subject involved in research studies. The Institutional Review Board (IRB) reviewed the procedures, methods, participant forms, and all other data collection methods to help offer further protection to the welfare, rights, and safety of any and all participants involved in the study.

Due to the study contexts, the researcher read aloud the informed consent to each study participant before their interview and participation in the study. The study involved minimal risk to participants. Participants signed their consent form (Appendix A), which included important study information. The informed consent form included: the purpose of the study, procedures involved, risks to subjects, benefits of the study for participants and their community, and researcher contact information. Participants were asked if they understood the study and consent form and were offered clarifications if requested. Each participant received a number and pseudonym to replace his or her name throughout the study to ensure participant anonymity. All of the transcripts, recording devices and notes were collected, labeled and are being stored under lock and key for a period not to exceed five years. The study was approved and deemed exempt by for Human Research by The Office for Research Protections at The Pennsylvania State University Institutional Review Board on May 24th, 2016 (see Appendix B).

Instrumentation

The methods selected for the study included semi-structured interviews, using an interview guide. The researcher used digital recording devices to record each interview. The researcher interviewed youths to record their lived experiences, perceptions, attitudes and influences. The interviews were semi-structured, allowing participant to share information in a more non-formal manner, and share information not included in the interview guide. The interviewer used an interview guide (see Appendix C) to help elicit responses to questions and topic areas. The interview guide served as a map to help steer responses towards certain topics and to help ensure information comparability between each youth participant. The interview guide included the same open-ended questions for each of the participants.

Recruitment for the Study

Working with local area representatives from Stellenbosch University, the Western Cape Ministry of Agriculture and Elsenburg Agricultural Training Institute allowed the researcher to recruit subjects. The university staff at Stellenbosch University, Elsenburg Training Institute, and Western Cape Department of Agriculture was instrumental in finding student participants. Administrative faculty and staff at the University of Stellenbosch reached out to students to see if they were willing to participant. Many responded and were enthusiastic about being a part of the study. Overall, around 80 participants
were approached and were willing to participate, but due to time constraints and feasibility in transcribing and coding no everyone was selected to participate. Participants were chosen based on the time of their responses and ability to schedule without conflicts.

**Youth program participants.**

After receiving IRB approval, the researcher worked with the Ministry of Agriculture director and youth program supervisors to contact interns. A youth program participant was a youth who was a participant of one of the department’s agricultural youth programs during the 2017 program duration. The interns had applied and been selected to be a part of the program. All interns were asked to participate. Outreach also included observing youth intern meetings and programs at both the Department of Agriculture and at community centers in Western Cape.

**Students.**

After receiving IRB approval, the researcher worked with administrators and faculty members to recruit students studying an agricultural-related degree. A student was someone enrolled in and studying an agriculturally-related science degree at either Stellenbosch University or Elsenburg Agricultural Training Institute during the 2017 school year. The researcher lived at Elsenburg Training Institute and visiting Stellenbosch to meet and recruit students.

**Recruitment Challenges.**

There were times throughout the field study when finding participants was a challenge. There were lags, in the forms of days and some weeks, when it was difficult to find participants. This situation was due to many students being away on their winter holidays. However, many graduate students were still on campuses and working in the Department of Agriculture during this time frame.

**Data Analysis**

After gathering data, several analytical strategies were employed to help analyze and produce research results. Transcripts and memos were produced upon the completion of data collection. From these documents, the researcher used a variety of coding strategies to uncover and identify key themes and elements of the interviews.

The researcher conducted all of the interviews and wrote field notes. The researcher approached the data using multiple angles and processes. Step one included transcribing the audio files verbatim. Transcribing the data gave the researcher more familiarity with the data. The researcher next gave an initial read to the transcriptions. The second layer of analysis included memoing and grouping based on pre-conceptualized themes. From these documents, the researcher manually coded by charting and highlighting words, phrases, and patterns into Word tables and charts. The researcher used a variety of coding strategies to uncover and identify key themes and elements of the interviews for the third level of
Value coding helps reflect and identify the worldwide values, attitudes, and beliefs of participants. Values coding is a term that includes values, attitudes, and beliefs. Values are defined as “the importance we attribute to oneself, another person, thing or idea (Saldana, 2009).” An attitude is defined as “the way we think and feel about oneself, another person, thing or idea (Saldana, 2009).” A belief “is part of a system that includes our values and attitudes, plus our personal knowledge, experiences, opinions, prejudices, morals and other interpretive perceptions of the social world (Salada, 2009).” Value coding is used and is appropriate for almost all qualitative studies, but is particularly important for case studies exploring cultural values, and interpersonal participant experiences and actions (Salada, 2009).

In addition to coding, phenomenological data analysis and horizontalization was utilized to highlight significant statements, sentences and quotes within the transcripts, to provide a deeper understanding for how the participants experienced the phenomena of youth influences surrounding agricultural-related education and degrees (Creswell, 2013). Next, the researcher created and developed “clusters of meaning” from the selected significant statements to generate themes.

Analysis of Potential Errors and Limitations in the Study

Qualitative research approaches can generate several problems in studies. Narrative and Phenomenological research can be deeply personal for both the participant and researcher and also involves some level of collaboration and trust between the two parties. Researchers’ must be reflective about their backgrounds, and how this might “reshape” the analysis and retelling of the interviews. Within social research, there are many power dynamics, including those between the researcher and participants, between participants, and the community at large. As a researcher, it is important to be reflexive of your work, interactions and relationships with participants, and to avoid manipulative dialogue, harmful biases, ruling the interview, and creating a one-way dialogue (Kvale, 2006).

While English is a commonly used language in South Africa, there are 11 official languages. Many of the participants spoke Afrikaans and Xhosa. Many participants had heavy accents, and several were not very comfortable speaking English. The language and accent barriers provided opportunities for misunderstandings and misinterpretations. To help combat the complex communication barriers anticipated and encountered during data collection and transcribing, the researcher asked participants to explain and reiterate themselves during times of confusion.

The nature of qualitative interviews relies on the willingness of participants to share their lived experiences. For this reason, participants will be telling their truths and experiences. Since the research
data focuses on the perspectives, values and opinions of a select number of individuals, it is not possible to use them as generalizations of larger populations. Lastly, the research is exploratory in its essence. The purpose was to explore a common and shared phenomenon and not explain, predict or correlate. Therefore, all conclusions, implications, and recommendations should be understood and implemented in a localized context and nature.

Validity

Validity is defined as the extent the researcher measured what he or she sets to measure, using logic, links, and objectives to formulate appropriate questions (Kumar, 2011). The researcher worked with faculty experts from The Pennsylvania State University to create and review questions that measured the stated objectives of the study. For example, to assess the influences, attitudes, values, and motivations that influence youth to pursue agricultural related education and careers, appropriate questions might include the following: What influenced your decision to study and go into the agricultural field? Did anyone influence or help with your decision to study and go into the agricultural field?

In addition to using a panel of experts, the researcher also used several other processes to help ensure the validity and reliability of the qualitative research used in the study, particularly related to transferability and confirmability (Kumar, 2011). To ensure the study and information gathered could be transferred into other settings, the study was heavily documented so future researchers could follow similar procedures. Additionally, confirmability also helps obtain validity by allowing researchers to obtain similar results if they follow similar procedures.

Positionality

The researcher is a youth who studied an agricultural related science for both her undergraduate and graduate degree. Upon completing her research proposal, the researcher realized she was researching and writing about a population that reflected her own life. Growing up in the suburbs and without a farming or agricultural background, she deeply pondered the reasons she decided to go into the agricultural sciences field. Examining her own life and influences, she realized how her grandfather's job as a forest ecologist had influenced her decision. When writing the semi-structured interview questions, the researcher looked at her own life and experience to help form questions and dig deep into the objective.

The researcher chose to focus the study on youth’s perceptions, values, opinions, beliefs and influences associated with their agriculture-related degrees and careers pursuits because she knew from her background and experience that family plays a big role in education and career decision making for
youth. The researcher felt grateful to receive so much family support when she declared she was going to study agricultural sciences for her bachelor's degree. However, her parents had concerns related to job availability and options, which were reflected through conversations. She also had conversations growing up concerning education, and her parents had the attitude and opinion that she would always attend college. Growing up with these spoken and unspoken expectations influenced her educational path.

Additionally, the researcher is a White female. Based on the complex racial history in South Africa, the researcher’s race played an important role in data collection and participant interactions. The researcher’s race and gender seemed to make a slight difference in the interview answers and interactions with participants. During interviews with some of the White youth participants, they disclosed racial feelings and perspectives that the researcher felt was divulged to her based on her race. Also, the female participants seemed comfortable talking about the gender-bias they faced in the agricultural industry.

Overall, the researcher’s position as a youth involved in agricultural sciences led her to be interested in this type of research and the responses of the participants. The researcher had commonality with her participants, giving her a unique perspective on the topic of the study.

Summary

Chapter three details the qualitative design of this thesis study. Demographic data of the site location and participants were also included. The study’s design was created to further explore youth’s perceptions, values, opinions, beliefs and influences associated with their agriculture-related degrees and careers pursuits. The chapter also includes information on data sources, and procedures for collection and analysis.
Chapter 4: Findings

Overview

This chapter includes findings from the data analysis of the study, using the context of emerged themes. The chapter includes a detailed review of the coded themes and coding process. Continuing, the chapter lays out a summary of findings and discusses how they relate and address to the research questions. The goal of the chapter is to analyze the youth interview data to address the following research questions:

1. How do youth who choose to engage in agriculture perceive external and internal support systems, and how do these levels of support impact their decisions to pursue agricultural related education and careers?
   a. How do youths describe, perceive and value parental and other family influences, or lack thereof, in their lives and decisions to pursue an agricultural related degree and career?
   b. What are the influences agriculturally engaged youth describe as impacting their decision to pursue an agricultural related degree and career?

Data Coding and Analysis

The researcher conducted all of the interviews and wrote field notes. After gathering data, several analytical strategies were employed to help analyze and produce research results. The researcher approached the data using multiple angles and processes. The training and coding process took place and was completed during a six-month period, August 2017 to January 2018. The researcher worked with an experienced coder to train. The experienced coder has a PhD. in Agriculture and Extension Education and has been conducting qualitative research and coding for over 15 years. The researcher received training from the experienced coder.

The researcher conducted all of the interviews and wrote field notes, giving her familiarly with the data. The researcher approached the data using multiple layers and processes. The data coding and analysis consisted of a three-step layered process:

1.) Step one included transcribing the audio files verbatim and memoing. Transcribing the data gave the researcher more familiarity with the data. Due to the amount of data collected, the process of transcribing took four months to complete. Once completed, the researcher gave an initial read to the transcriptions to ensure accuracy and verification of the audio files. Memos were created during the transcription process. During and after
each youth interview transcription, the researcher created a memo highlighting her observations, ideas, identified relationships, key phrases, and other thoughts. The process of memoing was reflective and aided the researcher in learning from the data.

2.) The second layer of analysis included grouping common patterns, phrases, and words from the transcriptions and field notes based on pre-conceptualized themes. From the transcription documents, the researcher manually coded by charting and highlighting words, phrases, and patterns into tables and charts. The charts and highlighted phrases looked at common patterns, phrases, and words. The researcher has several pre-conceptualized themes based on the interview questions. These themes became more defined throughout the interview, transcription and coding processes. Additionally, new themes emerged during the grouping and organizing phase, based on evidence and commonality in the data. The researcher also re-read the field notes taken after each interview to help organize, determine and verify the themes.

3.) The third layer of analysis included using a variety of coding and data analysis strategies to uncover further and verify key themes, subthemes, and elements of the interviews. The data was furthered coded and analyzed using value coding and phenomenological data analysis and horizontalization. Value coding helped reflect and identify the worldwide values, attitudes, and beliefs of participants. Phenomenological data analysis and horizontalization were utilized to highlight significant statements, sentences and quotes within the transcripts, to provide a deeper understanding for how the participants experienced the phenomena of youth influences surrounding agricultural-related education and degrees (Creswell, 2013). The researcher then created and developed “clusters of meaning” from the selected significant statements to generate further themes. The themes and subthemes were compared for commonality and verification.

The three-fold process used for coding and data analysis help provide a comprehensive evaluation of the data. The researcher used a variety of methods to develop themes and subthemes. The process also helped ensure appropriate themes and subthemes based on the data collected and the stated objectives.

Data Collection Procedures

Interview and Participant Information

Between May and August 2017, approximately 55 youths were interviewed using the same semi-structured interview questions. These youths presented a diverse group of students and participants who are currently engaged in the agricultural sciences. Ages ranged from 18-27 years old, with a mix of youth who self-identified as White, Coloured or Black. There was a mix of educational level. Some youths were participants of the Department of Agriculture Youth Programs, and had graduated from high school but
not entered college or higher education. Several of the participants were pursuing graduate level degrees—masters or Ph.D.’s, while others were getting their honors (four years) or degrees (three years). Students were studying a plethora of agricultural sciences programs including agronomy, oenology, animal science, plant pathology, conservation ecology, entomology, forestry and wood science, soil science and agricultural economics from either Elsenburg Training Institute or Stellenbosch University. Table 1 provides a profile description of each youth participant based on their age, degree, gender, area of study, location of study (school/program), and race.
Table 1
Profile of Participants

<table>
<thead>
<tr>
<th>Participant</th>
<th>Age</th>
<th>Degree</th>
<th>Area of Study</th>
<th>Gender</th>
<th>School/ Program</th>
<th>Race</th>
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Based on the research objects and questions, semi-formal interview questions were created to dig deep into the heart of the family and additional influences, and to explore these influences and interactions further. The vast amount of data and responses lead to the creation of further sub-themes within the context and area of family and additional career and education themes. Figure 2 shows the following themes and subthemes.

*Figure 2. Themes and subthemes: family and additional education and career influences.*
Themes and Subthemes

Themes: Family

Many of the interview questions revolve around family influences, support, opinions, interactions, and communication. As a result, many answers reflected and showed that most interviewee’s families played a major role in their education and career decisions. The answers show and give a glimpse into the lives of these families and how they communicate and interact with one another. To further understand the complex interactions, structures and role families play as an education and career influence, themes were created to explore the phenomenon further. Table 2 demonstrates the subthemes for family themes.

Table 2
Family related subthemes.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-Theme</th>
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<tbody>
<tr>
<td>Family Themes</td>
<td>Defining Family</td>
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<td>Interaction and Communication</td>
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<td>Decision Making/Power structures</td>
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<td>Parental Opinions of Agriculture</td>
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<td>Communication: Careers, Education, Agriculture</td>
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<td>Support Level</td>
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<td>Influence</td>
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Table 2 maps the family-centered questions that each participant was asked and the corresponding theme that was derived from each question. The following sections take an in-depth look at interviewee’s responses about each of the family categorized sub-themes.

Table 3
Interview Questions and Corresponding Family Subthemes

<table>
<thead>
<tr>
<th>Interview Question</th>
<th>Sub-Theme</th>
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<tbody>
<tr>
<td>Can you tell me about your family? What your family is like? Who do you consider family?</td>
<td>Defining Family</td>
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<tr>
<td>What are your family dynamics? How do you interact with each other? How does your family communicate with one another?</td>
<td>Family Interactions and Communication</td>
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</table>
How does your family make decisions? Who makes the decisions in your family?

<table>
<thead>
<tr>
<th>Question</th>
<th>Topic</th>
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</thead>
<tbody>
<tr>
<td>What are your parent’s opinions of agriculture?</td>
<td>Parental Opinions of Agriculture</td>
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<tr>
<td>What types of career and education conversations did you have with your parents? Can you give me an example?</td>
<td>Family Communication about Careers, Education and Agriculture</td>
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<tr>
<td>How has your family supported your education and career choices?</td>
<td>Family Support Level</td>
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<tr>
<td>How has your family been unsupported about your education and career choices?</td>
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<tr>
<td>Did anyone influence or help with your decision to study and go into the agricultural field?</td>
<td>Family Influence</td>
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<td>Who are the most influential people in your life?</td>
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**Defining family.**

The first sub-theme is family definitions and structures. Globally, family structures are diverse and abundant. The idyllic Western family picture with a mother, father and two children has been replaced with a plethora of other images. It is commonplace for grandparents and other extended family members to be key members of families in the Western Cape. Participants expressed the diversity in their families. More of the Black and Coloured participants described living with extended family members and having larger families. Within the qualitative sample, more Coloured and Black youth shared stories of their large families. One Black male who was studying plant pathology described his large family stating:

“I consider everyone that stays under my house family. I come from an extended family and we stayed at my grandmother's house. I have cousins, my own siblings, uncles, aunts, it’s a really nice big family. I wouldn’t trade it for anything.”

Similarly, another interviewee, who was a Coloured intern with the Department of Agriculture, shared similar experiences and family definitions, stating, “My family is really quite close. We are 6 people in the house, my grandparents live with us. My mother, my father, and I have older brothers, so I'm the...
While some interviewees described large families, others spoke of smaller family units consisting of mainly parents and siblings. One White female participant who was studying animal sciences, discussed her relationship with nuclear family members and her extended family. She described her family structure as consisting of, “My parents and I’ve got one sister. I’d say, we’re not so close with most of my extended family, but, my grandmother - I only met my one grandmother.”

Additionally, while some youth spoke about close family ties, others discussed a disconnect between themselves and their family. They expressed more individualistic opinions about their families and their roles within their family units. One Coloured male intern stated, “Okay personally I am not the family type of guy.”

Another alternative view expressed and discussed was the feeling that friends count as family. While friends might not be blood relatives, some youth considered and defined them to be a part of their families. One male participant, Colin, a 21-year-old oenology student stated, “I consider a lot of my close friends as family because you can talk to them about stuff that you can’t necessarily talk to your family about.”

The youth participants highlight the diversity represented within families in South Africa. Understanding how youth participants view their families and who is a key member of their families helps offer further insight into career and educational influences by family, regarding agricultural sciences. Another common narrative to emerge surrounding the topic of family structures was divorce and the absence of certain key family members like a mother or father. Of the youth who had divorced or absent family members, it was more common for the father not to live or be involved in the lives of their children. One White female student, who was 21, described how her father left her mother when she was very young. She went on to explain how growing up with a single mother influenced her perspective and outlook on life, especially when it came to her independence and trust. She stated:

My parents got a divorce and then me and my mom and my little sister we moved to Cape Town and then that’s where everything started. So, I have a big family. I have two sisters and a brother. So, I am one of four children…. because my parents go divorced when I was still very young, my mom always told me, and she raised me to not be dependent on anyone… I think that’s the wrong mentality to have, not to depend on anyone. But that’s how I, that’s how I want to move forward… We [her and her dad] see each other but not as often. Maybe once every three to four months. He works overseas, he’s a pilot. He works for six weeks in South Africa and then six weeks overseas. But yeah, my dad he left us when we were still very young, he left my mom. It’s so sad, he just left us. He gave us 10 rands a day and then he left. And then he locked us in the house and he said, just feed the children with 10 rand a day. So, I don’t have that much respect.
for him. Because I won’t forget that ever. But I still see him and he’s good to us now. He pays for my studies and he brought me a car, and he brought us a house. He’s good to us but I won’t ever forget what he did 20 years ago. Sometimes I just struggle to forget and my mom keeps telling me, ‘people change’ and then I say, ‘no people don’t change.’ So, I’m just trying to protect myself so that is why we don’t have such a good relationship but we speak every day. But we are not as close.

Another youth, a Coloured male intern, described how he grew up in a single-headed household. He stated, “I grew up with a single parent, so it was a bit hard growing up. I don’t have a father figure in my life, so I had to man up and be a man.”

**Family interactions and communication.**

The second sub-theme was family interactions and communication, learning how the youth participants interacted and communicated within their family units. There was a wide range of responses and descriptions, highlighting the diversity among South African families. Overall, the majority of youth described close bonds they had to their family members. Several participants discussed feeling close and connected to their families.

Simon, a Black 21-year-old plant pathology honors student, lives with a large extended family. He discussed how his family structure influenced the way his family interacts and communicates with one another. He explained the close bond he has with his cousins, who he considers siblings, and how their home and house also shapes family interactions. He described:

In terms of interactions, we all stay in one house, one kitchen, one lounge, we watch TV together. We have to interact as a family. Not as, ‘oh you're his or her children.’ No, we don’t have that. We have a nice integrated family. With my cousins, I am using cousin because this is the formal saying, but I actually refer to them as sisters and brothers. Cause we grew up together, we understand one another quite well. So, I think that makes it much easier to interact with one another, to communicate with one another.

Another connected sub-theme to emerge from the questions and answers was family communication. Families communicate in a plethora of different ways and settings. As stated in the previous section, “Defining Family,” many youths live with extended family members. The diversity among nuclear family structures is closely tied to how families interact and communicate with one another. One Coloured intern described how her relationships, interactions, and communication with her mother and aunt are different. She explained:
We have a really close relationship, my aunt and I, we’re basically like sisters, and another like a mother figure. She’ll always motivate me, and like, my mother would as well but, I just have a more open relationship, like I can speak about experiences as a teenager with my aunt, whereas with my mother she might not understand that well.

Another Coloured intern described how the loudness in his family was an indicator for getting along. He also was honest about the fact that his family fights with one another. He explained:

We are a very loud family. On Saturdays you can tell, there are all the noises. You can tell when there is a fight, because there won’t be any noise. You’ll know, when it is quiet, something is wrong. Or let’s say you went out and you came back and it’s quiet, just keep quiet yourself because someone might actually burst out on you. So, it’s a happy home, it’s a happy home. Yes, there are fights, there are fights. But it is a happy home.

Another intern also discussed family arguments in his interview. He described how his homes physical space is used to communicate and interact with one another, stating,

As all families, we have fights, and we sit together around the table and drink and speak about each other’s days. And when there are fights, we all sit around the table and discuss what’s the best solution to solve the problem.

Other participants also mentioned fighting. Shane, a horticultural student, described how his mother and father interact with one another. His father left the family and didn’t return until Shane was five, something he struggles with and has caused inter-family conflict. He explained how his parents sometimes argue and fight with one another for this reason and for his father’s inability to accept some personal life decisions of Shane. He stated:

Me and my father don’t have a very good relationship because to be honest, my father wasn’t with me and my mother since I was 5 years old. So that’s when my father came in the picture, before then it was just me and my mother. I have to accept that...My mother supports me but my father decided not to support me in certain decisions. That's why things don’t go so well in our family, because my father and my mother have to argue but one thing that remains is I am still their child.

One Coloured student, Johan, who is currently getting his Master’s degree in Food Science and is a part of the Western Cape Ministry of Agriculture Young Professionals Program, explained how his immediate family interacts with one another. He explained:
My family my parents, my mom and my step dad, my dad passed away when I was little, and my two sisters...My sisters are all at the teenage stage, so everyone is in their own space. I have my own space as well. We don’t really interact unless it’s suppertime. But other than that, weekends maybe or when we go out. But it’s mostly very quiet.

Today, the world has an increasing amount of technology available. Technology is a progressive and common way for people and families to communicate. Several students discussed how they used technology to stay connected and involved with their families. One female, a White oenology student, discussed the close relationship she has with her mother and siblings. She explained how, although they live far away and don’t get to see each other as much as they would like they used technology such as the app, Whatsapp, and phone calls to stay connected. She explained:

I have always been very close to my family. So, everything I do I do with, I keep in mind how this is going to affect my family in the long run… We, me and my mom and my two sisters and my brother, we have a very good relationship so we all, if something happens, we call each other. All families have like a Whatsapp group, there we talk about everything that’s happened and so we like being together because we all know that family is the most important part of your life. So that’s why because my brother and my sister live far away, two hours live. So, we don’t see each other that often, but we call each other every day. So, yeah, I think we are a very close-knit family.

Trisha, a Masters student studying plant pathology, is the youngest of 4 children. She discussed how her family relationship has changed as she’s gotten older and that although her family is spread out physically, they still communicate every day with the help of technology. She stated:

They are all older, my brother and my siblings; they are all older. Most of the time I was the only one in the house because they were all studying or overseas. But now we are much closer because we are in the same phases of our lives. I am much older now. How we communicate, I don’t see them a lot because my two sisters, they are quite far away in Johannesburg, and my brother stays in Cape town, so I see him quite often. We talk almost every day…. if I struggle with anything I can phone my sister or my brother. Because they have already gone through it, so they are very influential in my life at this stage.

Family decision making/power structures.

The third subtheme centered on how families make decisions and the power structures within families. Again, there were a variety of answers to questions on the theme of family power and decision
making. Many youths discussed power structures consisting of parental figures, describing either mothers or fathers, or a combination of both as head of households. However, most youths did express and describe having the power to make their own decisions. Some youth expressed a more traditional, patriarchal power structure and decision-making process; this was commonplace in White, Coloured and Black families. Natasha, a 20-year-old Coloured female studying animal science described the juxtaposition between her father’s role and her own. When responding to who makes the decisions in her family, she described, “My dad. He allows us to make our own decisions. But obviously, if he feels, ‘ok no, this isn’t the right path,’ he will steer us in another direction.”

Similarly, one of the Coloured interns explained a similar situation, where his father made most of the family decisions in an advising manor. He stated, “My father usually makes the decision, like forever as a family I mean. He just advises us for the decisions, even like our own personal decisions.”

Other students echoed similar statements of more traditional, patriarchal power structures within their families. Lily, a White Master’s student studying animal science, stated, “My father is like the main guy that makes the decisions and he’s the breadwinner.”

Another student discussed her parent’s decision-making process, and cited that although both help, her father ultimately makes the decisions. She said, “My dad mostly, but my mom also plays a role. So, it’s kind of a give and take but, my dad mostly makes most of the decisions.”

One White male Master’s student, Dustin, who studied forestry and wood science discussed how the decision making and power structures in his family shifted based on who was the main provider. He described the complex situation:

My father, when he was on the farm, the director and we stayed on the farm premises and he provided the main income. So, he was the head of the family. But since he became, a consultant, he doesn't earn as much and he also had a lot of health problems... Then, my mom had to take the role of the main provider... So, she sort of took over the role of supply or being the head of the family. I think just because my dad also like allowed it because he didn’t want to have animosity and stuff, so he’s just keeping the peace. It used to be my dad always while I was growing up. Nowadays it’s both.

Alternatively, several youths stated their mothers as being the main decision maker. During this study, more of the Coloured and Black youth responded that their mothers make the decisions for their households. A food scientist, Shane, who has his Ph.D., is Coloured and is currently working for the Department of Agriculture explained that even though his father is the main financial provider, his mother makes the decisions. He explained, “My mother usually makes the decisions. My dad was the
breadwinner so he was working. So basically, she manages funds and she ultimately has the last say...my dad goes along with the saying ‘happy wife, happy life.’"

One of the Department of Agriculture intern described a similar situation, stating, “My mother is still the queen of the house. So, yeah my father- just income.”

A Coloured food science student, Alex, currently getting his Master’s, expressed a similar sentiment about his mother's role, “My mom is often the one that makes most of the decisions in the house.”

One of the Coloured interns, stated that his mother was responsible for the household decision making. He said, “Mommy makes the decision at home, but not in our personal life. If I want to do something I have to do it myself, and carry the consequences.”

Comparably, youth who lived with their extended families, such as grandparents and aunts and uncles described how age played a role in who makes or made the decisions. These family structures and power roles seem to reflect the view that the eldest family member held power. More of the Black participants expressed roles of power within this lineage. Grandparents headed families were more commonplace with the Black demographics of the study. One 21-year-old Black female studying agribusiness, Mary, described the role her grandmother had in their family and how things changed once she died, stating:

“...My grandmother, she was the head of everything. Even the bigger family, because what she said goes. Decisions were made by her until she passed away. And then she left, I am the one who, umm, kind of follows in her footsteps. Because I knew most of the time what she wants and what she doesn’t want. And I never really lived with my mom because she was working in Pretoria, so she’s still there. But then during holidays she goes to Johannesburg. So, well, obviously bigger decisions I can’t make, and then she makes. But usually in terms of following customs, structure, we usually follow the way my gran used to do things.

Another youth expressed similar family structures and power relationships, dependent on age. Simon, a Black 21-year-old plant pathology Honor’s student, stated, “My mother makes decisions, because she is the eldest one. That is the line, my grandmother, both my grandparents passed away, so she’s like the head of the family. She makes the decisions, the rules.”

Another common narrative the young people discussed reflected the concept of open communication and involving all family members in the decision-making process. The youth described how they worked with their parents to make family and personal decisions. Several youths described democratic systems, where every family member had a voice. Tyler, a White 24-year-old Master's student
studying animal science, described how his family shifted from his father making the decision to a more open style of decision making. He described:

It’s normal, in the olden days you had my parents, my dad like decided everything. But now a day it’s more integrated, everybody has a voice. So, if I am with my gran or uncles or mom, doesn’t matter, everybody can voice their opinion and we go from there. But usually somebody just has to take the lead, it doesn’t matter who it is. We aren't like patriarchal or matriarchal. It’s anything goes actually. . .. but you're still respectful to the people who are older than you but anyone has a say.

Another student, Jerome described the balance of independence and guidance they were given in making their own decisions, and how the interplay has shaped his view and life experiences, specifically surrounding respect. The 19-year-old male, Coloured intern stated:

Nobody is superior actually. We are all given a platform where we can give our opinions. And I like that about my family because you are not excluded, you are treated as an adult, you are given the responsibilities as to how to teach yourself, how to behave yourself, and how to treat others and behave around others. Maybe outside of your house. And I would say that that pretty much instilled some respect towards others around me, in the workplace, school, and community.

Another student, Cassandra, a 21-year-old, White honors student studying animal sciences explained how her parent’s decisions helped guide her own independence:

I’d say my parents primarily but my sister and I are quite independent...there are certain things that I can’t decide, but, I think our family is very, my parents aren’t controlling at all. So, they’ve always been open to, family ideas and discussing everything as a family. They’re really nice.

Trisha, a 23-year-old plant pathology Master’s student, described how although her parents make most of the household decisions, she is given the freedom to make decisions, especially concerning university and her education. She also stated how her father is likely the head of the household. She said:

Well I think generally my parents. But I think especially with university and studying they weren’t like ‘you have to go and study thing’ or they just, they were quite supportive but they were very lenient in my decisions. I didn’t think they pushed me directly into a direction. If I listened to other people, I think my parents were more free and they let me make my own path. Generally, probably my parents, and I would say my father.
Parental opinions of agriculture.

The fourth theme is parental opinions of agriculture. First, youth were asked about their own opinions and thoughts related to the agricultural field. Later in the interviews, the youth were asked to speculate what their parent’s opinions of agriculture might be. Most used their descriptions, opinions and attitudes to describe what they thought their parent’s opinions were. Phrases such as, “similar to mine,” and “the same as me” were commonplace among the youth participants.

Several of the youth interviewees grew up on farms or had extended family members with farms and agricultural operations. They cited these childhood experiences as having influenced their own opinions of agriculture. Additionally, since their parental figures had experiences with agriculture, they shared how this background likely influenced their parental figures opinions of agriculture. An oenology student shared his father and grandfather’s experience studying and working within the agricultural field, and how this might have influenced their opinions:

They think more or less the same [as me]. My dad also studied at Elsenburg but he did pigs and stuff like that, and my granddad also worked in agriculture. More like the cows, wheat and the sheep, that’s what they know. Also, not the technology, but the harvest machines and stuff, they worked with that. So, they also kind of like grew up with that kind of agriculture, but not the wine side. So, they also had the stereotype of the cows and the sheep and the wheat. That’s, their scene. And I think they also think that you need agriculture to get food and stuff to people, it’s not just another job.

Another youth indicated a similar parental opinion. Tyler, whose mother grew up on a farm, shared how his family’s background, education, and jobs play a role in their opinion of agriculture and his ability to communicate with his parents, siblings and extended family members. He shared:

My mom’s viewpoint is, well she comes from a farm so her viewpoint is the same as mine more or less. So, she understands. She helped pull calves when she was little and all those things, due to my grandfather. My dad is a pure city boy, born and raised. So, certain aspects he doesn’t understand. Then you just have to bring it down a bit, so just layman terms. Just so he can understand the basics, and then from the basics you can just add on. So, the scientific sides, my mom understands because she is a natural science and chemistry teacher. So, she understands the science behind it, so I can speak more in depth with her. But my dad, he understands some but not all of it. My mom and dad understand everything, more or less, we talk about it. My sister is in medicine so if I talk about anatomy she understands. Human and animal in that way are more or less the same. I can speak freely and they understand, so I am not on my own.
One participant who grew up with extended family members expressed how the family’s experience with subsistence agriculture and weather might have played a role in how his family forms opinions concerning agriculture. Simon, a Black plant pathology student, explained how his family’s experiences and opinions have changed, but how they still struggle to understand the science components he is studying:

I think it has evolved over the years. My grandparents were very involved in agriculture. But on a small scale, because we each have plots in the villages. You would have like an area which is used for housing, and an area which is basically used for planting. So, growing up we planted maize there once a year. But over time people get too busy and the product doesn’t look as good because of the climate conditions. I think my family has, sort of, adapted to all of that and are actually trying to implement more viable ways of planting in a form of agriculture. Moving away from planting maize and just waiting for the rain to fall, you can plant and have a really nice big vegetable garden and then water it yourself. So, basically, I think they are well aware of what agriculture is and what is required of a person who wants to be involved in agriculture but I still feel that the research component is still lacking. Because they are not people who are trained in agriculture so I think that is something that I must instill in them.

Trisha, a Master’s student in plant pathology, described how her parents own experience growing up and owning a farm in the 1970’s influenced their opinions of agriculture. After a terrible drought, her parents gave up farming. She described the deep passion her parents have for agriculture and how their experiences shape their opinion and beliefs. She stated:

They grew up on farms, both of them and they farmed for a little while in their young days. Yeah, that didn’t work out. It was a very dry time, there was a big drought back in the 1970’s so they stopped farming. . . Because they come back the background, my father always said that it is a very hard industry. Like your life, if it doesn’t rain it doesn't rain, you can't help it. Especially for their situation, you don’t have control over everything so it's not, it can change so quickly and for them they literally had to pack up and leave because it didn’t rain and it was very bad conditions. So, I think they think it's a very tough industry but I think they do miss it a lot. I think that they, especially if you grew up in that environment and you’re used to it….I think they have a lot of respect for it because they know really how hard it actually can be and it's not a glamorous work, I think.

A Master’s student in food science, Johan, expressed how his parent’s views on agriculture have changed, as he explains to them what he does and has been studying. He explained that, at first his parents did not
know much about agriculture, but their opinions have changed and grown as he learns and shares more with them. He stated:

My parents, I basically feed them information about agriculture because they honestly don’t really know much. As my experiences grow over the years, I feed them information at home, that’s what they know about agriculture. As I get more experiences, they get them as well.

Proximity to the agricultural industry was commonly described as a reason for parental figures having knowledgeable and mainly positive views of agriculture. As highlighted above, many parents grew up on farms. However, some did not but were still connected to the industry by friends and communities. One animal science student getting her Master’s described how these interactions likely influenced her parent’s opinions:

I don’t think they think too in depth about agriculture and such as where their food comes from and products and the farmers and everything. But we have a lot of farmer friends, so they do kind of have that kind of circle they move in. So, they quite aware but I don’t think it runs through their mind quite often about agriculture and everything around it.

Several youth participants did not grow up on or near agriculture, and neither did their family members. One participant explained how certain family members have struggled to understand her field of study, agribusiness. She stated how several of her family members had mistaken her agribusiness degree for a business communications degree:

They didn’t understand. My mom particularly doesn’t understand still. My uncle really does understand because he’s like, he’s so interested in what I am studying. But my mom, she actually has the idea that I am in BComm, more than the agriculture side. And my gran, I think she also thought, she just thought it was more BComm than agriculture. So, I don’t know, I don’t really discuss or get opinions about what they think I am really doing. Because I think the only time it really makes sense is when I explain to them, ‘Oh at work, I do this.’

One of the youth interns talked about a similar miscommunication and lack of agricultural understanding from his mother. He described how his father and grandfather grew up on a farm, but that his mother doesn’t understand what he does as part of his internship within the Department of Agriculture. He explained how even though he talks about his daily duties, she still assumes he’s solely working with crops, commonly requesting him to bring some home. He explained:

My parents don’t really understand, my father knows about agriculture because what he grew up with. A very poor community, almost a farm, like, he grew up in a shack. My grandfather had a
lot of livestock, so he knew about agriculture in that sense. My mother is not really so aware of agriculture. Like she thinks I work in the fields, even though I explain my job to her. She always asks me to bring her some fruit home and stuff and I tell her I don't even see fruit here.

Youth consistently discussed background and proximity as a reason for their parental figures view on agriculture. Further examination of the role background and community plays within the family acceptance of agriculture is crucial and will be further explored in the following section.

**Family communication about careers, education, and agriculture.**

The fifth subtheme to emerge within family themes centers on communication regarding careers and education, particularly agriculture. Many youths described having conversations with parental figures about educational choices, careers, and agriculture. The youth described the hands-on role their parents and close family members played through discussions. The participants gave many concrete examples of conversations they had with their parental figures regarding education, careers and agriculture. While there was overlap between conversations related to education, career and agriculture, to further explore these topics the subtheme is further divided by education, career, and agriculture-specific experiences.

**Careers.**

Youth described having conversations with parental figures regarding careers. Simon, a Black plant pathology student, explained how his mother constantly talked and reminded him of school and education obligations, stating:

My mother was very hands on, so everything that we spoke about, careers always came up. You came home with your school report, the careers come up. If you didn't do well, they reminded you that you aren't going to become a doctor if you keep working like this. You need to work, succeed and work a little bit harder. So, it was always there but I wouldn’t say it was an everyday thing. But they would remind you about homework and stuff like that, every morning you must wake up and go to school. If you have Saturday classes, holiday classes, you need to go. It is a must. So, I think that they were very, very involved in terms of talking to us about careers and stuff like that.

Other students shared similar experiences, particularly about careers. Victoria, a Black 20-year-old undergraduate student studying animal science explained the conversations, support, and advice her parents gave her when she kept switching career ideas. She explained:

I’ve had many conversations about my careers. My careers have changed so many times over the
years. But I have always come back to agriculture. . . . I can’t make my own decisions just yet. They [my parents] definitely helped me. They are always supportive. If I would say, ‘I think I want to do this,’ they would say, ‘Okay, you know you can do some research and see if you like what you hear.’ They were very supportive.

Another student, a White female studying oenology spoke about the conversations she had with her father about her career. She stated how he would talk to her about his desire for her to get a job where she could make money and support herself. She stated:

My dad kept telling me, ‘you don’t want to be in a job where you don’t make enough money and you can’t support yourself. You have to do something where you’ll make enough money. And you will be happy.’ And I said, ‘yeah I understand.’

A food science student, Johan, who is Coloured, explained how he was initially interested in graphic design, psychology, and English. He explained how his parents wanted him to use certain skills and subjects to pursue engineering. His parents stressed the importance of studying a more science and math subject. He stated:

I remember my uncles and my mom and dad would be like, ‘be an engineer’ that was all they said then. And then as I got to the high school stage, that's when I started discovering all these others fields like English and I really liked psychology and all these things. But mostly it was that type of career path, ‘make use of your maths, use art as your hobby.’

Education.

Many students described how their parental figures had strong feelings regarding their education. Many described knowing they would always go into higher education, or that “not studying was not an option.” One female student, a White 21-year-old studying oenology, explained this strong sentiment: “They just always told me that I had to go study. Not studying wasn’t an option. It was always like, ‘we don’t care what you study, you just have to go study.’”

She continued the conversation explained how her father gave her an ultimatum about studying, and threatened to cut her off financially if she did not go directly to college. She said:

…. he just told me, ‘if you don’t go and study I am not going to support you anymore.’ Because my dad still, he gives me pocket money every month. But he told me if I don’t go and study, if I took a year off, he’s not going to give me any money, and I’ll have to find a job. So that was the main thing.
Another participant echoed a similar statement, saying he always knew he was going to further his education. He explained that although not studying was not an option, his parents did give him some freedom regarding a potential major. He also described how his mother wanted him to advance his education and not take any breaks away from school. Nelson, a 26-year-old White graduate student, getting his Ph.D. in animal science described:

I am not going to lie and say, I am fairly privileged enough that it was always going to be the case of I was always going to come and study. It was just the case of what. But they luckily, they let me choose at least. My mom insisting that I come and do something, and not take a gap year, just to remain with my education.

Other students expressed similar experiences, conversations and feelings. Many highlighted the deep importance their families and parents placed on education. An 18-year-old Coloured female intern, Jasmine, described:

We always, like, every night I'd go sit by my parents so that we could like have a conversation about things we did during the day and things. And to them like education is the key, like everything, education comes first. Nothing else, that's your first priority.

Another Coloured female intern described the pressure her mother puts on her education so she can do better than previous generations. She said:

My mother her whole thing was I should do well in school, I should go in university, I should get a good job, I should get money. She just wants me to do better than the previous generation, everyone wants us to improve.

Cassandra, a Master’s student studying animal science mirrored similar family feelings on education. She also described locations where her family held education-based discussions and how the seriousness evolved as she grew older. She said:

My parents are strong advocates for going on with your education, studying, doing something. Especially my mom, she’s always the one that says, ‘do what you love, not just doing something for the money or the lifestyle or anything.’ My dad it’s the same. … Small type conversations, maybe driving from school. They were never like a big thing. They were always more saying, ‘do what you love’ when we talked about ‘oh what are you going to do’ like you know matric or grade 11, when I just started planning on what I was going to do then. That’s when the conversations more became, like more focused. But it just generally flowed into normal conversations it was never a big discussion.
Trisha, a 23-year-old plant pathology student, described how she always knew she was going to and had to go to university. She described:

Definitely, I think in like, the definite thing was I was going to go to university. I think it didn’t matter what I studied but it was very important. Like they [family] always said ‘you have to get a degree behind your name,’ that was the big thing and I never thought of another option. I knew this was the only option and I really wanted to go, it was not like I didn’t look forward to it or anything. I felt that the only, the idea they stored it in me like, ‘if you don’t have a degree, you’re really going to struggle. Or it’s going to be much harder to start working. But if you have a degree it's going to be much easier and you almost, you have to educate and train yourself in a field that's a specialty’. You have to be able to have something that other people don’t have. So that was always cultured by me and taught from a young age and what we always discussed.

She continued by talking about how proud and happy her parents were when she decided to continue studying and get her master’s:

They have always been very supportive, especially with the Master’s, my parents are like ‘study as long as you can and qualify yourself as high as possible.’ So that was always the motivation behind it, I never think they discourage me in any way. . . . I think they are very proud, especially my father I think because, especially in their case, they didn’t have the opportunity to go and study. That was never an option for them, it was always just for the really clever kids. And in their time, even it was not that common as it is these days, to go study. So, I think for them he tells everyone ‘yeah, she’s busy with her master’s degree and she's discovering new things,’ he tells everyone, it’s a little bit embarrassing somethings. I think he's really, really proud in that way. And just too that I am striving for something even more, not just a degree, even more than that, a master’s degree. Yeah, it’s just that little bit extra and they are very proud of that and happy.

A couple of youth talked about the discussions and conversations they have with outside family members, especially regarding education. One Coloured female intern, Maggie, spoke about the relationship she has with her sister and how she has helped her in her educational pursuits, since her parents never went to university. While Maggie’s parents always encouraged her to study, her sister has at the time have been more helpful since she has more experience in formal education. She stated:

My parents always encouraged me to do my best, and they always try to give me their best. But they never really went to, they didn’t study, neither of them studied. So, they don’t really know,
but they just push me to go study. But my sister studied so she’d always encourage me to study, and like, the different fields I wanted to go into. So, she’d always help me out with research and stuff.

**Agriculture.**

Several students most who were raised on farms described how their parents had conversations with them, specifically surrounding the topic of agriculture. Many of the males described how their parents discussed the role agriculture would play in their future careers. Dustin explained how his family grew up on a farm they did not own. His father was the farm manager, yet many of the workers did not know or understand that his family did not own the land. He grew up with many of them telling him he would one day own the farm. He explained how these interactions influenced him, and about the conversations, his father had warned him against a similar career as him. He explained:

> It was implanted at an early age in my head that I am going to take over the farm or be a farmer at a stage, even though my dad sort of warned me against becoming a farm manager. Because he said, you work very hard for not a lot of money. And my mom, she didn’t care what I became . . . . He [my dad] was negative but he emphasized ‘if you can avoid being just a manager of people that own land, you should, rather have your own land.’

Another common experience several students shared centered on going back to their family farm. Several students, mostly White male population, who grew up on multi-generation farms, described having conversations with their fathers about returning to run the operation someday. Zane, a 21-year-old White oenology student, grew up on a large table grape and vegetable farm. He described having conversations with his father regarding farm management:

> My dad told me like he called me and said, ‘We must buy more soil, more ground so we can expand, so that I can come to the farm.’ He never said to me, ‘you must farm.’ We talk a lot about it, and from a young age he made me part of the farming, because I am the future. So, he included me in his decisions and told me ‘I want to do this, I want to do this. What do you think about this?’ And that is actually very cool.

Another male student, who was studying agronomy, described how his father encouraged him to get a degree associated with agriculture. He said:

> I decided at the age of 13 that I was going to be a farmer. I was on a tractor in the middle of my farm and I was like, ‘this is the job for me. I love this too much, I can’t see myself behind a desk.’ And I was like, ‘dad, I’m going to work on the farm.’ I was in matric and I was like ‘let’s go, let’s go farm.’ And he’s like Larry, you can’t go do that, you have to go get a degree.’
These types of experiences, specifically regarding farm ownership and management were more commonplace among the White males that were interviewed. However, several female youth detailed conversations they had with parental figures surrounding agriculture. Victoria, a 20-year-old Coloured student studying animal science, described how her father saw her passion for agriculture and used it to encourage her to go into the field. She explained:

My dad would always go the extra mile. . . just the little conversations we would have about agriculture. And he would notice, like the way I am around the animals. And he would see my love for animals and he would tell me, ‘agriculture is where you need to go.’ Yeah, he would always motivate me, and if I had ideas he would support them and not say like, ‘no that is a bad idea.’ He would say, ‘okay, maybe you can do this or that.’ He, yeah, he’s a great guy.

Another youth, a female intern, Mara, discussed how her family was excited about her internship with the Department of Agriculture. She explained how she and her parents engage in conversations about what she is doing, and that she has helped spark their interest in agriculture. She takes the opportunity to teach her parents and others about what she does and about the agricultural field. She stated:

“My parents are very interested in agriculture now because I'm part of the department. So, every day we would have discussions, every day they ask me what am I doing. Because we're doing different things and we're exposed to different things. So, I think it's cool I get teach them and the other people I speak to.”

A male student studying viticulture explained how his parents, especially his mother, helped him research to find universities with viticulture and oenology programs. His initial interest was sparked after a dream, coupled with growing up surrounded by agriculture. After he explained his desire to study winemaking, his parents helped his dream come to fruition. He explained:

One night my mom and I were lying on the bed and just chatting and chatting and whatever. And she asked me what I would like to study, they are very supportive. Whatever I said they would have supportive. And I said, ‘I want to go study winemaking’ and we didn’t even know, coming from the Freestate there’s no wine there, there’s no vineyards in the Freestate. And umm. . . .and she was like ‘the reasons therefore?’ And I told her I had this dream of working in the ministry. . . . I had a dream of doing that, but because wine symbolizes Jesus’s blood, I thought that, that was the dream I had. Talking to people, and I am very shy, so I don’t always talk in front of people and then we tried to do research and we found this place Elsenberg, that had a very good agricultural history. And that’s how I suddenly found a love for agriculture. I always had it a love
for it from a young age from my uncles and whenever we went and visited. I always said I wanted to do that, but never the wine part. So, agriculture has always been a big part of my life. The wine making part not really. But now it has become a really big part of everything I want to do…. Yeah, I did research as well, and then my parents also. We never, the part that we were struggling with is we didn’t really know where I could study winemaking or viticulture and stuff like that. So, we found out about Stellenbosch and we knew that I could do it there so we sent in an application to Stellenbosch, then we found this place. We phoned lots of the farms actually, like the wine farms and we asked them, where would they recommend I go study this. And lots of the farms around here said Elsenburg. Probably 80-90 percent said Elsenburg is the best place to study wine and agriculture. So then, this was the first time we had heard of Elsenburg, we did research and we found the website and we did an application and then I came in here and it was strange and didn’t even worry about the Stellenbosch application anymore because I came in here and ahhhh yeah it was the best decision ever. Yeah, really awesome.

**Family support level.**

The sixth sub-theme is family support level. Many youths expressed strong levels of support from their families. However, several did mention they had experienced varying degrees of support. As a result, the following sub-theme has been divided into two categories, supportive and unsupportive.

**Supportive.**

The vast majority of interviewees expressed great levels of support from parents. The most common answer when asked about family support, related to finance. Most youths interpreted the question about how their family helped them finance their college degrees. Tyler, an animal science master’s student, expressed how his parents and extended family offered him financial support, “Supportive, always. They, if I had money troubles my mom and dad, or even my uncles they would help me in a second. Just a phone call away. I always got support in any which way.”

Other students echoed these sentiments and financial experiences. Another student getting a degree in animal science, Blair, explained, “They’ve been fully supportive throughout, and they have put away money for me and my brother to go to school and to go to university.”

Dustin, a graduate student studying forestry and wood science, talked about his parent’s financial support, how they eventually wanted him to get financial aid (bursaries), and how complex the process was. He discussed how his parents supported him financially through his undergraduate degree program and currently is still supporting him through his master’s, stating:

I was very lucky. My dad had this saying that he would fully pay for the first two years of
university and then we should get either a bursary or get a loan from the bank. Because in their
day they got bursaries easy in undergrad, whereas now we don’t really get undergraduate
bursaries anymore. So, they did pay for me, I did get an undergrad bursary in my 3rd year like
they asked, but it was hard because it didn’t pay for everything. But they did help out, so they
ended up paying for everything still. Today they still help out if I don’t have enough money
because we don’t get enough money to live in Stellenbosch to be honest. The rent and everything
is expensive. So, they do help me out occasionally still with finances, and it helped a lot. I mean
other people don’t have this benefit that I do.

Another student discussed how his family and community came together to help support him financially
with his educational endeavors. He spoke fondly of people coming together to help support him and how
the support helped further influence him and his education decisions. He explained:

They’ve always been supportive. In the beginning, it was very hard before my mother actually
started going into business. Ummm, because coming into Stellenbosch cost me close to 2,500
rands. That’s just leaving home and coming this side. But growing in that, sort of disadvantaged
family, that money is needed elsewhere. But during time for me to come back to school, everyone
would put their heads together, even my mother's friends, and teachers from school. Cause I
regard those people as my family. Had it not been for those people, I would not be where I am.
But, they really, really played a vital role in me making my decision to come and study, and
making sure I was in school, when the vacation time was over. And making sure I had money to
come home when it was vacation time, to just spend time with family. And I think that was really,
really nice of them. I never thought of it in that extend. They are very, very nice.

In addition to financial support, several youths spoke about the emotional support and encouragement
they received from family members. One youth who struggled to complete her coursework and excel
academically explained the support her family offered when she failed classes. She explained:

They have been very supportive. I failed a few modules my first year, so that was a big problem. I
was just expecting the worst. I was expecting them to be like, ‘you can’t be wasting money like
this, you can’t be doing this and that.’ But actually like, they call literally every day to ask how I
am, and what is happening and like, I am able to say, ‘I wrote a bad test today.’ And they will
understand where I am coming from. And I am able to still complain to them about certain things
like the tests, the workload. So, support is quite great... in terms of drowning, they’re there.
They’re there when I am drowning.
A plant pathology student, Trisha, who is getting her master’s described the deep support her parents and older provide. She described that her since her siblings have gone through university and therefore understand the pressures. She also described how her mother and her boyfriend’s mother support her. She stated:

Because I am the youngest, and with my siblings being so much older and my parents as well, I think they are very influential because they are very adult approach to things because I am the youngest, so maybe they already knew, they went through 3 children, they knew ‘this is how it is done.’ I always had a lot of people to look up to, so anything, if I struggle with anything I can just phone my sister or my brother. Because they have already gone through it, so they are very influential in my life at this stage...They [my parents] have been extremely supportive. I think every time I write a test or exam my mother is more stressed than I am. She’s like ‘I have been thinking about you all morning and I was worrying about, what if she forgets something?’ So, she is very stressed and I think my boyfriend's parents are also very supportive. His mom, she was a math and science teacher, so I can always talk to her. She went to university, so on the academic side she is also very supportive because she has been through it.

Another student spoke of the emotional and physical support her mother gave her, especially at the start of her educational career, and during the busy and hectic parts of the school year. Dona, an oenology student, explained during the fall semester, students spend up to 24-48 hours in the wine cellar. The long day and nights can be exhausting and difficult. She explained how her mother, who lives relatively close by, helped support her during the harvest season. She stated:

In my first year, I was still a little, I knew this was what I wanted to do but I was still on the edge. And second year, I kept telling myself, ‘maybe this isn’t the right thing for you’ cause the first and second year is all about theory. And I couldn't, I’m not a very theory driven person. And I was sitting in classes and I kept doubting myself, and then my mom she kept telling me, ‘just go on with it, if you get some practical experiences you’ll find out if you really like it or not. Finished it and if you don’t like it then, your still so young you can do something else.’ And this year when I got here and we were actually working, I realized this was actually for me. Even when we are working through the night I can call my mom and tell her ‘I am so tired and I am so hungry’ and I live 40 minutes away from here and then my mom would drive through and bring me some food. Then she’ll be like ‘it's fine’ and she goes again. My mom was very supportive of it, throughout everything…. I don’t really see my dad often, so he wasn’t really a support system through harvest time because he lives in Johannesburg or overseas. So, he isn't really a support system now, but my mom is, and basically that's all that matters…. It's good if people support you
Shane, a 21-year-old horticultural student, described how his mother gives him advice and alternative perspectives when he struggles. He explained:

My mother always supports me in everything I want to do. If I am unhappy I tell my mother ‘this makes me unhappy because of this,’ and then my mother tells me, ‘don’t let small things upset you because it is not worth it.’ . . . My mother asks me if I did something bad, ‘why did you do this, because you know it is wrong,’ when with bad things my mother is supportive.

*Unsupportive.*

When asked if there were any ways their families had ever been unsupportive of their career and education choices, many youths simply stated, “no” or “not really.” Some expanded on these types of responses, offering greater insights into ways and actions youth might perceive as being unsupportive.

Tyler, an animal science student receiving his Master’s expressed how although he thought his parents were mostly supportive; their early questioning of his career and education choices was a way of maybe being unsupportive at the time. He explained, “Unsupportive, not really. At the beginning, ‘are you sure you want to do it?’ Those were a lot of the questions I got. That same question, ‘are you sure?’ But as soon as I said ‘yes,’ it was fine.”

Another student who is getting his Master’s in food science, described how his family was hesitant of his decision to get his masters. He stated:

The initial decision making they weren’t really supportive of it, but now that I am doing it they are supporting me 100%. The initial decision, they thought I was going to be overqualified, so they said, ‘if you want to make this decision it's up to you to sort it out.’

Additionally, another food scientist expressed similar sentiments regarding his parents questioning of him furthering his education. He explained:

Unsupportive, not really but maybe for Ph.D. and master’s. They asked, “why do you want to study for so long?” They aren’t used to the studying component. For them its study and get a job, it’s that dynamic. They don’t understand, that’s where it comes from. I needed to understand where they were coming from. . . . they are more concerned about the work factor, ‘when are you leaving my house?’

Other participants discussed examples and ways they thought their families had been unsupportive. Similar to Tyler’s experience, many participants referenced time. Youth explained how their families had
misgivings when they first started pursuing an agricultural related science degree. Simon, a plant pathology student who plans on attending graduate school, described how his mother’s initial response could be interpreted as unsupportive, but how her stance ultimately shifted through conversations, stating:

I think at first my mother was not happy at first, but with time, when I told her, ‘this is what we are doing now, this is what I am learning,’ Like if there isn't someone who lays the foundation for others in the family, it’s always difficult for the people around you to understand what you're doing. So, for me going into agriculture and understanding what agriculture was about, actually allowed my family to think, ‘Oh, there is a future in agriculture, he’s making the best out of it, so let’s try to understand what is going on and be supportive.’ Cause I know she just wanted me to do my honors degree and just get out of the system and get a job. But she was actually the one that said, ‘what about a master's degree?’ And I was like, ‘okay, if you are going to support me, why not?’

One male student studying horticulture described how his father was unsupportive of him because of his personal life decisions. This lack of support has created barriers between them. He described, “My father is unsupportive in different kind of things. . . So, I think that is a barrier between me and my father, because he doesn’t accept me for what and who I am. At times there are distances.”

Influencing factors: family.

Many of the youth discussed how their parental figures or other family members were main driving influences in their decisions to study an agricultural related science. Some of the students who grew up near agriculture, by either growing up on a farm or having other family members in the industry cited these experiences and people as being fundamental. Tyler, whose grandparents owned a farm, described how his family was a major influencer in his decision to study an agricultural related science. He stated:

My mom and my grandfather influenced me. He [my grandfather] does the exact same thing and I do now. Like he also studied animal science at Stellenbosch, and worked in Pretoria. So, I just did the reverse. I started in Pretoria and now I am in Stellenbosch. He influenced me in a big way as well and I can talk to him about anything because he understands everything that I talk about because he’s done it. So, it was my grandfather and my mom.

Another student, who grew up on a farm explained how his father played a big role in his decisions to study oenology. He said, “He’s [my father] got a big role in my life towards agriculture, towards everything. Yeah, because he’s very successful in what he’s doing and I like what he’s doing.”
Paul, a master’s student studying forestry, also cited his father as the main influencer in his decision to pursue an agricultural sciences-related degree. He explained how his father originally wanted to study forestry, but his grandmother thought of the subject as a lower-tier position. Paul described that he was drawn to forestry because he wanted to be like his father. He explained:

My father because he always said and it’s a funny story, that he wanted to be in conservation or in forestry when he was in school. And he went to his mother and he told her, he wants to do forestry, and she said. Back in the day, forestry was, it’s a funny story. In South Africa, we had these people that lived in the forest, and they were very poor people. They were like, in America, you’d call them trailer trash almost. And my grandmother told my dad, please stay out of the forest because she saw that being a forester was being one of those people. Which is a big misconception. There’s a lot of money in forestry. So, my dad never did what he wanted. But his influence was dire because I wanted to be like my dad one day. He was definitely the bigger influence in my life.

Additionally, students were asked to identify the most influential people in their lives. Almost all of the youth participants stated one or both of their parents, or other members of their extended family. Time and time again, youth expressed deep admiration for their parents and other close family members. Cassandra, a 21-year-old animal science student, stated, “I think it’s my dad. He’s, like, it’s really nice because I see him as like a very close friend, which is cool. My sister, definitely. A lot of respect for her.”

Another female student also mentioned her father stating, “I think my dad, a lot . . . . I think mostly my dad. Definitely. My mom, yes, she would support me, but my dad would always, I want to say, go the extra mile.”

Jonas, a conversation ecology student, explained why he chooses his mother, saying:

I have a lot of like, like I talk a lot with my mother so she really influences me. Many new ideas for new situations, we spend a long time talking in circles about it. So, she definitely influences me, number one.

Another participant, a female whose parents were divorced, discussed why her mother and older sister were the most influential people in her life. She described the hardships her mother and sister have endured and the strength they exhume. She stated:

My mom and my older sister. My mom because she raised our whole family by herself. We started with nothing and now we have, I go to bed every night with a belly full of food and a
warm bed. And my older sister because she has 2 children and her husband left them. And I feel like, if they can survive, anyone can.

Several youths choose extended family members as the person who has influenced them the most. Mary, a Black student studying agribusiness, detailed how her uncle, mother, and father are the most influential figures in her life:

Definitely my mom and uncle, and my dad indirectly. Because I don’t live with him so, we are quite tight. But he is an influence from a distance. And with my uncle, he is very academic based. So, everything has to do with academics, everything has to do with where you are going, your plans. And every time I ask those questions, it’s improving how I do certain things, the decisions I make. So, he actually, he’s my voice of reasoning in more circumstances.

A Coloured intern for the Department of Agriculture spoke about the close bond she has with her aunt and explained why she is one of the most influential people in her life. She also included her mother, and then went on to discuss the contrast between the relationship she has with her mother and the relationship she has with her aunt. She stated:

The most influential person in my life would be my mother, as well as her sister, my aunt. We have a really close relationship, my aunt and I, we’re basically like sisters, and she’s like a mother figure. She’ll always motivate me, and like, my mother would as well but, I just have a more open relationship, like I can speak about experiences as a teenager, whereas with my mother she might not understand that well. But, they both motivate me to do things because they grew up in a really poor household so they never got to finish school or study; they only did it later in life like once they reached 40. And I wouldn’t want to go through life like that.

Themes: Additional Influences

Many of the interview prompts questioned what people, events, places, and other factors influenced youth to pursue an agricultural-related degree and career. As a result, many answers reflected and indicated that most interviewees were influenced by several factors, such as their environment, location, culture, society, outside family members, and passions and interests. These additional factors helped play a major role in their education and career decisions. The answers give a glimpse into the lives of how these individuals and how they make decisions, interact with others, and which people have influenced their lives. To further understand the complex interactions, structures and role these additional influences, people and places play as an education and career influence, additional themes were created to
explore the phenomenon further. Table 4 demonstrates the subthemes for additional career and educational influences themes.

Table 4. Additional career and educational influences.

<table>
<thead>
<tr>
<th>Theme</th>
<th>Sub-theme</th>
</tr>
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<tbody>
<tr>
<td>Career and Education Influences Themes</td>
<td>Proximity to Agriculture: Environment and Geography</td>
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<tr>
<td></td>
<td>Culture, Society and Race</td>
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<tr>
<td></td>
<td>Mentors, Professors, and Professionals</td>
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<td></td>
<td>Veterinary and Animals: Interests and Passions</td>
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</tbody>
</table>

Table 5 charts the questions that each participant was asked, and the corresponding theme that was derived from each question. The following sections take an in-depth look at interviewees responses about each of the additional categorized themes.

Table 5

Interview Questions and Corresponding Additional Subthemes

<table>
<thead>
<tr>
<th>Interview Question</th>
<th>Sub-Theme</th>
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</thead>
<tbody>
<tr>
<td>What is your opinion of agriculture?</td>
<td>Proximity to Agriculture: Environment and Geography</td>
</tr>
<tr>
<td>Can you tell me about your experiences with agriculture or farming?</td>
<td></td>
</tr>
<tr>
<td>*Many questions created the corresponding sub-theme</td>
<td>Culture, Society and Race</td>
</tr>
<tr>
<td>Did anyone influence or help with your decision to study and go into the agricultural field?</td>
<td>Mentors, Professors, and Professionals</td>
</tr>
<tr>
<td>Who are the most influential people in your life?</td>
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</tr>
<tr>
<td>What influenced your decision to study and go into the agricultural field?</td>
<td>Veterinary and Animals: Interests and Passions</td>
</tr>
<tr>
<td>What did/do you want to be when you grew up?</td>
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</tbody>
</table>
Proximity to agriculture: environment and geography.

As stated in the previous Family Theme section, many of the youth participants came from family farms or rural and farming communities, or and had experiences on extended family members farms. The previous family theme section highlighted and focused on how these family-centric relationships influenced the youth. The next section and subtheme: Proximity to Agriculture: Environment and Geography further explore how experiences in farms, rural communities and the natural environment influenced and affected the youth’s decisions to study an agricultural related science, particularly focusing on the geographic interactions. Several youth participants described their experiences growing up on a farm, visiting local or family farms as children, and the experiences in the natural environment that led them to an agricultural sciences degree. The youth who had these experiences discussed how these interactions, moments, and memories greatly influenced their later life decisions.

Several youths whose families owned farms described how growing up on farms led them to study an agricultural-related science. One male who was studying agronomy and grew up on a fifth-generation livestock and wheat farm explained how his life’s direction was completely altered based on his childhood. He stated, “We are fifth generation and so you know farming has always been within us...I don’t think, if I wasn’t born on a farm, I wouldn’t be a farmer. I wouldn’t have even wanted to go into agriculture.”

Another agronomy student who also grew up on a fifth-generation farm expressed a similar sentiment. He stated, “Because I was brought up on a farm, because my dad was a forester, it was a massive influence into my life and into my decision.”

Several youths grew up with extended family members owning farms. While they might not have spent all their time raised on a farm, the moments and interactions that they did experience made a major impact on their love, passion, and interest in the agricultural sciences. One Master’s student studying animal science described the juxtaposition of growing up in the city, but spending holidays at his grandparents and uncle’s farms. He stated:

I grew up in Johannesburg, so more or less a city. Yeah, just city but I grew up in the holidays my gran’s farm, it’s more or less in the North of the country, Limpopo. So that’s where I grew up, so that’s where I started to get my love for, like animals and farming...each holiday we would go to my gran’s farm. They didn’t farm in the traditional sense with crops or animals. They just had a guest house on a big piece of land and my uncle kept some of his horses there. So, from a small child I rode and the neighbors they usually graze the cattle on my gran’s farm. So, I would help my grandfather take them from paddock to paddock. So, from a small child that was my introduction.
Another student, a male studying oenology described how growing up in a farming community, along with having uncles and family friends who farmed, and friends who were similarly interested in agriculture helped spark his interest and passions. He expressed:

I grew up in the Free State, I was born in Valbor. It’s a very small town, also like a farming town. But I don’t come from a farm myself but there are farms in the family. Two farms, both my uncles farm. Yeah so and I went to school in the free state till like grade ten then from there I went to Pretoria for swimming and then there I was also exposed to quite a lot of, not agriculture, but lot of guys are involved in agriculture and that is also their passion. And that also had an influence on what I wanted to do...Whenever I went home I mean my uncle would come visit. Also, they were always talking about that what they had to do and so on, always. Friends, family, everyone plays a role.... Agriculture has always been a part of our lives, like always if I spoke to my uncle or I spoke to, we’ve got a lot of family friends that also farm, and we also use to go there and I would be interested in what they were doing. And I would go to the land and I would be interested in what they were planting and what they were doing.

Several youths described how their experiences on farms influenced them years later, especially concerning their decisions to study or enter an agricultural related field. One youth participant stated, “Okay when I was a kid I grew up on a farm so I wanted to be a farmer. And now…I still want to be a farmer but not exactly, I want to like give other people advice on agriculture.”

A youth intern, with farming on both sides of his family explained:

Because I grew up on a farm and, um, on my mother’s side they were farming, and on my father’s side they were also farming and so I grew up with a farming background and so on. So that influenced me.

While several youths described how their background and proximity to agriculture and farming influenced their decisions, other youth described how being around nature and other elements of the natural environment influenced their decisions. One male, studying conservation ecology and entomology had a unique childhood. His parents are missionaries, therefore he spent most of his childhood moving to and from various locations. He described some of the places he had lived and how his experience in the mountains, coasts, and highlands influenced his decision to study an agricultural related science. He explained:

The initial years I don’t remember much, but the place where I stayed seven years, it really was my home and it really, that was a tough move. But in the year or so after that, we spent a while staying for a month or so, then moving on to another place, and it was a good, good time.
Because it was also really beautiful. We moved basically from the mountains towards to coast.
So, initially still quite close to the area where we were which was the highlands, and then we moved towards the area that was like forests, and I enjoyed that. It was also very quiet, and then we moved straight onto the coast onto a small island. It was like the nature, it really inspired me. That’s literally where I made the choice to study what I am studying…. but quickly once I moved to South Africa I was out of all the nature I’d seen before, and suddenly I realized how much I enjoyed that and so with that I was like I want a job which I can get back into that.

Another student highlights a similar experience related to the natural environment. Phillip, a youth studying forestry and wood science described how his experience growing up in a rural and forested area motivated his decision to study an agriculturally-related career. He described how forests and nature played a role in his daily life and ultimately impacted his education and career choices. He also speculated that his classmates and others in his field had similar experiences, motivations, and influences. He described:

For me, and what I’ve realized for a lot of people in forestry, is that I was exposed to a forestry environment. People don’t do forestry when they don’t even know what it is and have never seen forestry. Because a lot of the people [studying forestry] come from the regions that are big forestry regions, so they see logs getting transported, there’s plantations all around them. My region had a little bit of forestry - more than most regions - and I saw forestry on a constant basis. So, it was in my head the whole time, just never clicked that I was going to be good at it. And I do enjoy it at the end, but I think it’s a big influence if it’s in your region. I think agrosciences or agriculture is a big thing if you grew up around it.

Culture, society, and race.

South Africa has a long and arduous history related to race, society, and culture. Based on the recent history of the apartheid, which was abolished in 1994, the after effects still effect youth today. Several youths discussed race in their interviews. Contexts varied depending on the youth’s race.

It was more common in this study for White participants to bring up issues of race. Several of the White males whose families owned farms described how they and their parents were nervous that their farmland would be taken away. While farmland has not been taken away from White farmers in South Africa it has in the neighboring country of Zimbabwe. This potential fear strongly resonated with a few of the White participants in the study.
One White male, who was from a farming background expressed how he and this family was nervous of their farmland being taken away. He describes the need to have a degree in agriculture as a credential and backup plan. He described:

I think that, there are a lot of reasons guys study agriculture, to have a degree, because South Africa, you don’t really know. I don’t want South Africa to sound bad in any way. But our farmers you don’t always know if your land will maybe be taken away in like ten years’ time. And then you need something alongside your name.

Another student described how her father was fearful that Black South Africans were going to take the agricultural jobs and replace Whites. Dona, a White female who was studying oenology, explained how her father was racists and held racist views about winemaking workers and her field of study. She adamantly denied sharing his feelings. She explained how he felt nervous about her working in the wine industry. She stated:

My dad he just keeps telling me that I have to remember it’s really hard work, and I know that. And he, my dad is very racist and I don’t agree with that at all. So, he keeps telling me ‘just remember that the Black people are going to take your jobs’ and I’m just like ‘yeah but it’s fine.’ So that’s the things my dad doesn’t like about the agriculture. Because lots of the Black people work in the farms and in the cellars so, but ah that doesn’t bother me.

Later in our interview, Dona shared how she believed wine could bring people together and help connect people from different cultures. She spoke passionately about using wine as a vehicle to break down barriers. She stated how wine has the ability to bring people together, and this natural effect of wine helped draw her into the industry. She stated:

The thing about wine is it brings people together, so that’s what I like. If I go now out to China or something and I go sit at a bar and someone else sits there with a glass of wine we can talk for hours. I think that’s the thing with wine, it brings people together. And that’s what I want to do, I just want to bring people together and create happiness. So, for me it’s not about creating necessarily making lots of money and making great wine. Or not lots of wine, I want to make great wine, quality over quantity. And just that’s what I want to do. Bring people together and make people. Cause especially in South Africa the people are so, I don’t know if you’ve notice. People are kind of against each other. Like the White people don’t like the Black people, and the Coloured people don’t like the Black people. So, everything is like ‘uhhh.’ So, you can sit, we can sit, if I can fit this whole lab with Asian people, Indian people, White people, Coloured people, I want everyone to be able to sit and talk for hours and forget about everything that
happened. Cause that’s the thing, people in South Africa are struggling to forget about the apartheid and stuff like that. And they need to forget and move on. That’s what I want to do, bring people together.

Other White students, especially those who had previously wanted to be vets, spoke about how their skin color and race made it more difficult for them to be accepted into veterinary school. One White male youth stated, “In South Africa if you are a White male you’re very low on the priority list. So, everyone above you gets picked to get in before you so that’s why I said this doesn’t work for me.”

Another White student shared a similar sentiment. She stated, “I am White so I’m probably not going to get in.”

While the White students shared their experiences of dealing with a changing society more focused on inclusively and equality, Black and Coloured students shared their varying experiences. Many of the Black and Coloured youth’s parents grew up during the time of apartheid. Several youths spoke of their parent’s expectations and “wanting more” for their children than they had or were given:

My mother was not really like- her whole thing was I should do well in school, I should go in university, I should get a good job, I should get money. She just wants me to do better than the previous generation, everyone wants us to improve.

A Coloured food science Ph.D. student, Johan, discussed how his mother and step fathers’ decision to move to a new, predominantly White neighborhood greatly influenced him. He discussed how the move affected other members of his family. He explained:

My mom and my dad, we grew up in a good area. They didn’t want us to grow up in an area where we would be involved in drugs and crime. So, by them making the decisions to move and live in a better area, because at that time there was a dynamic of this is a White area, or this was a Coloured area, so they made the decisions to move to the White area when we were really young. Initially, my parent’s family were very against their decision to move because they wanted to be in contact and they felt they were taking away their grandchildren or cousins. But then, if I look back on it now, that decision, that sacrifice they made to move us had a big impact, when I look at myself now, at what I could have been if I had grown up in that area. And also, the dedication and hard work they have, I would say they were very influential at that point and still are now.

In addition to minority youth speaking about their parents wanting more, some also expanded to talk about the pressure they felt from their parents. Monica, a student studying agricultural economics,
discussed the pressure she got from her family regarding jobs and money. Her education level was a major success and as a result family members had certain expectations. She stated:

I don’t know if it’s different from your knowledge about Black people. Once you’re in varsity you're going to make it, to them. So right now, ‘Sure she’s going to finish and work.’ So, they don’t think about the internships you need to apply for. Starting salary, they don’t know about that. To them, you’re just going to come out great. So, I don’t know how else I am going to explain that part, especially to the elders cause they don’t understand that part. So right now they just view me as someone who is going to be successful, immediately. It’s too much [pressure] actually. I was actually addressing it during the holidays, that it’s so much pressure and my friends, most of my friends graduated last year. One got a job like only this week, since November. So, she’s been chilling at home. The other one is still looking, she studied accounting. And I’ve been trying to explain it’s not that easy. I won’t just make thousands and thousands, and usually I’m going you start off as an intern. So, there just so much explaining to do cause, they base it on material things. Once you are successful: car, house and stuff. And my thinking is actually not like that. So, it’s also going to be a big transition to them. ‘So why aren't you doing this?’ ‘Because I am trying to avoid debts.’ Ummm, cause usually I feel like, so many people graduate and because we have that thing, the pressure, of building up material stuff, I actually want to do some of this stuff before and also try to invest before I get my assets so I’m not stuck in debt. Stuff like that. So, my uncle does understand actually. But my mom is just like, not having it. Until I actually told her, ‘and then she’ll see from me.’ I just want to do things differently from the way they think and characterize success.

Other students spoke about race and culture in regard to agriculture. One 21-year-old student, who was studying horticulture and was Coloured, discussed how his parents were labor farm workers. He spoke about the hard work they endured and unpredictability of their job. He stated:

We didn’t have the best childhood. For me, make the best of what you have. My mother was working and my father was working. They were very, very tired. In agriculture it is hard work, especially if you are Coloured farmworker. But for me it was a normal childhood because we made the best of everything.

Later in the conversation, he spoke about the limitation and denial of rights, like transportation, were taken away from the farmworkers at his mother’s farm. He said:

The farm that my mother works on, their rights were taken away. Because they get transported into town on the weekends, and that was taken away. And other rights were taken away, like my
little brother’s school, it’s a provincial school, it’s on a farm somewhere and so my little brother had transportation as well, and his transportation was taken away.

A White female obtaining her Master’s in plant pathology, explained how her opinion of agriculture was strongly tied the South Africa’s racially charged past and politics. She talked about the injustices she observed towards farmworkers:

I think in South Africa it is very, especially in our whole history, the whole thing from apartheid and the democracy I think it is very badly understood by some people. Because the general farms are White males and they are all Afrikaans, so they are a certain group of people. And then you have the workers and they aren’t educated, they work and they are usually underpaid and there are always strikes involving that. Sometimes when I think of agriculture in South Africa it is very political still in my mind, and that’s very bad for me. Because I feel like it’s not going forward. And when you go on farms and talk to people it still feels like that, it’s still like the White farmers on top and the workers and they are underpaid and they work under these really bad conditions and it’s really hard to work every day in the sun. Sometimes I have a political connection to that, and that’s bad. And I really want that to change, and I feel that it is changing if it is future focused and technology involved. I feel like it’s definitely changing but it’s really slow sometimes.

Society can also have a deep impact on someone's decision to study an agricultural science. Trisha, a current student, getting her Master’s in plant pathology, switched majors after she finished her bachelors. She originally studied viticulture and oenology. However, after taking an internship and studying the subject, she quickly realized winemaking wasn’t for her. She described her desire to switch was formed on her desire to help more people, the masses. Her perspective was only a few people drink wine, but the world needs fruits and vegetables. She explained her decision for the switch:

Because I felt it was such a dynamic industry and it has so many elements that I like, specifically it was a bit glamorous as well. Because there are all these fancy events and I thought I liked that and it would be great. And also, you work hand, you work with your hands and people and each season is different, the wine each year is different. So that was the big motivation behind it. Chemistry and, but I came to realize it, administration-y and to get into the industry is it very hard, especially for women. It is definitely difficult. And I just felt, even though everyone drinks wine, I didn’t feel like it was an essential thing to keep living. It’s not the other side of agriculture, which is food. Everyone eats every day. So, I just felt like the wine, it’s only for a certain group of people that drink and consumes alcohol and not for everyone, like the other side-fruits and vegetables, grains- that people need every day.
Several women participants discussed their role as women in the agricultural field. They highlighted experiences, opinions, and views that centered on the difficulty it was to be a woman in their field. They spoke passionately about how they fit into certain roles, broke perceptions and had to fight to be taken seriously. They also detailed struggling against their own views and self-prejudices. Trisha, a plant pathology master’s student, discussed how her opinion of agriculture originally was male-centric, yet changed throughout her education. She described:

First comes to mind is farmers, I think that's what everyone things, but I don’t think only guys anymore. I don’t see only men, I see woman and I see something that, I see environmental friendly and forward and new ways and future focused. Especially in my project, it is something completely new and there is no work being done on it, I see so much opportunities in it, that's what I think about agriculture and I just think about water and the environment and how we can use that better to optimize everything better, that's what first comes to mind.

Another female participant explained how one of her friend’s parents had a negative view of women in agriculture. She explained how he said:

‘There is no place for a woman in farming and agriculture.’ He talks down to women. None of his own daughters are in school/studying; they all work in town as secretaries or other similar jobs. They don’t see themselves as having the ability or opportunity to do more because of how they were raised and what their father told them. I found it to be quite horrible and it really bothered me.

She continued by later talking about some of the challenges her peers have discussed with her while working with farmers. Although some women face challenges, she ultimately didn’t feel out of place within the agricultural industry. She stated:

I’ve talked to a lot of women who are working, not necessarily in farming but working in feed companies and they said exactly the same, like if you’ve got your degree and you know what you’re talking about, obviously it takes a little more convincing, like especially those people who go around to farms to sell stuff or to give technical assistance, like it takes you a little bit more to convince them to gain their trust. But once you’re there then it’s fine…I don’t feel at all out of place or that there’s no place for me.

**Mentors, professors, and professionals.**

The third sub-theme is mentors, professors, and professionals. When asked who influenced their decisions to study agricultural sciences, several students named people who were outside of their families.
Youth described their interactions and experiences working and observing professionals, professors and other individuals who helped foster a passion and interest in the agricultural sciences.

Several youths explained how working with certain professors in the agricultural sciences and select fields gave them a new insight into the possibilities included in agricultural sciences. One youth, Simon, who was previously studying biology, explained how he took a job in the plant pathology department. The professor he was working with included him in various aspects and helped open his mind and spark an interest in plant pathology and agriculture. He explained:

When I had to sit in meetings, research meetings, where you plan what you’re going to do. I was lost, I was confused, I didn’t know what was going on. But I was still working at that time as Professor McDonald’s assistant, and that exposure allowed me to see, ‘actually, this is an interesting field, it’s not just one thing,’ cause when I came into the university all I was thinking was, ‘it is just genetics, just genetics, DNA extraction,’ and that’s it. But with the projects she has doing there is a very wide scope, so in one project you get to do a lot of things... I would like to believe, being allowed to come into this space and being exposed to things I didn’t know existed, actually helped me decide, ‘actually agriculture is where I want to be.’

Simon continued by talking about his mentor, a previous colleague in the plant pathology department who has since left. He discussed the personal connections they shared, coming from a similar geographical area, outside of Western Cape. He then explained how comfortable he felt in the department socially and how important it was for him to have a tight-knit and comfortable working environment, which he found in the plant pathology department. He spoke how his classmates, colleagues, and mentor challenged him, made him think more critically and made his experience enjoyable. He stated:

I also have a mentor, she's not here anymore. She worked for our plant disease clinic, she was from a town next to my hometown. So that created a really nice relationship between the two of us. And also, the magnitude of this department is not very big where you lose touch with other people. I think that is also quite helpful, because I am a very social person. I don’t like being closed up in my own little corner, where you think a scientist should be [laugh]. I want to make jokes in the lab and laugh [laugh]. So, I think that, like it’s more like a place where I wanted to be, than a place I wanted to come in and leave immediately, as soon as I get my qualification. Not that I want to come in and stay for too long, eventually I want to go out and go into the real world, where I get a proper job and start making a living. But I think the influence she played in introducing me into all these other area, where they do data analysis, all of that, to me it's stuff I never thought existed. When I finished my undergrad it never clicked, that actually there is a bigger picture to just being a scientist, you need to think critically, ‘why are you going
something? Why?’ You must ask five ‘why’s’ at least [laugh]. To actually come to a decision as to ‘what is the way forward. Are you going to use the data? Are you not going to use the data?’ I think that was really nice of this department.

A food scientist professional with his Ph.D., described several professionals, mentors, program supervisors and his current boss, as having a great influence on his career and education. He stated:

Probably my mentor now, who has been my mentor for five or six years now. I talk to him a lot. He ultimately made me love what I do. He painted the picture in agriculture because he was also a food science major and went into agriculture in the 1970’s or 80’s. So, I was put with him so basically, he showed me everything I know. The leaders here [Department of Agriculture], Rashida, she is constantly pushing and fighting for us. Always fighting for us. She handles the YPP program, so she always wants the best for us. Also, my boss now, he is very inspiring because he reads a lot of leadership books in his spare time. He is a father figure and he speaks his mind…. Those are the people that they give you support and give you that push.

Other students described interactions and the importance their professors played in their decisions to pursue a specific area of study in the agricultural sciences field. One student, Zack, who is currently studying oenology, named his professor, Paulina, as the person who has professionally influenced him the most. He described how talking with her helped him want to enter the wine industry. He stated:

In the oenology part, I saw this [oenology] course and I was talking to Paulina and I saw what they were doing is really nice and I want, I decided in myself I want to be a part of this. It’s a very big part of South African agriculture, and if I can be, just my name can be a part of it I will be very proud of it.

Another oenology student also mentioned Paulina, a professor and the program's head winemaker. Dona, who is the only woman studying oenology, spoke of the importance of seeing and working with powerful women in the wine industry. She explained:

In the wine industry at the moment, Paulina is a very influential person. Because I look up to her because I know how successful she is. So, I want to be as high up as she is. I want to sort of be like her and know people, she knows everyone. So, I want to be like that. . .there’s such few women in this industry, I want to prove that we are just as capable, and we can make even better wines. Because look at Paulina, she is so successful and she did it all by herself.
A 23-year-old Master’s plant pathology student, Trisha explained how she wanted to study at Stellenbosch specifically because of the faculty. She explained why she choose the university, “I decided to come to Stellenbosch, which was quite far from home, specifically because they had the best agricultural faculty, I believe, in all of South Africa.”

In addition to professors and mentors, several of the youth participants described how observing, interacting and working with professionals in various agricultural sciences fields helped influence them. They described how these interactions and relationships helped guide and influence their choices years later. One White male student, in conservation ecology and entomology describe how being exposed to forestry and interacting with forestry professionals helped him see value in rural livelihoods and a future for himself. He explained:

We actually, where we were living there were a couple of foresters who were forestry managers and such, who moved into the area and there was a new forestry business opening up with plants and seedlings and it was like a really wide scale thing. And I think they also influenced me in the whole to see you can find a job in a rural area, with these developments of some sort, and so I saw the possibility in that. They were also really, really interesting and genial people. And so, it was a good experience I saw from them. I think they also inspired me a bit.

Other students spoke of their experiences interacting and working with professionals. One female animal science student, who had previously wanted to become a veterinarian but didn’t get into vet school, spoke about her experience meeting and shadowing a vet. She talked about how he helped her realize the value in finding an alternative to veterinary science- studying animal science. He also gave her helpful advice and was able to articulate the benefits of working with healthy animals versus sick ones. She stated:

I spoke to the state vet of the Western Cape who works at Elsenburg, and he was very insightful into studying what I was going to study. So, he helped me because then I knew I wasn’t doing veterinary, I knew I was going to do this [Animal Science]. And he was like, ‘it’s the right thing.’ A lot of people said it was better in a way because, vets cure sick animals but animal scientists make sure they don’t get sick. So that’s another aspect to it. So that’s very nice. I’m trying to remember who said that the first time, it could’ve been that vet at Elsenburg.

Some youths described gaining advice and encouragement from professionals in their field of study. One student, a White male studying oenology, described the process he and his family went through to select the right school and program for him once he had decided to pursue wine making. After speaking with his parents and in particular his mother, they began conducting research and contacting professionals for
advice. Winemakers and farmers in the industry were able to help guide him in selecting the right program and school. He explained:

We tried to do research and we found this place Elsenberg, that had a very good agricultural history and that’s how I suddenly found a love for agriculture. I always had it a love for it from a young age from my uncles and whenever we went and visited. I always said I wanted to do that, but never the wine part. So, agriculture has always been a big part of my life. The wine making part not really…. I did research as well, and then my parents also. The part that we were struggling with is we didn’t really know where I could study winemaking or viticulture and stuff like that. So, we found out about Stellenbosch University and we knew that I could do it there so we sent in an application to Stellenbosch, then we found this place. We phoned lots of the farms actually, like the wine farms and we asked them, where would they recommend I go study this. And lots of the farms around here said Elsenburg. Probably 80-90 percent said Elsenburg is the best place to study wine and agriculture. So then, this was the first time we had heard of Elsenburg, we did research and we found the website and we did an application and then I came in here and it was strange and didn’t even worry about the Stellenbosch application anymore because I came in here and yeah it was the best decision ever.

Shane, a horticultural student, described how he took a gap year before college and worked on a farm. He explained he was promoted within several months and how his interactions and relationships with the farm managers and higher ups helped influenced his decision to study agricultural science. He stated:

After I graduated I decided to take a gap year, and I wanted to find out ‘where do I really fit?’ So, I decided, whatever comes my way. So, I started working where my father works. So, I was working there for 5 months. The first month I was working as a normal worker. In the second month, they gave me a higher position, which is more responsibility. And the, I think it was the 4th month where they made me more of a manager. That's when I decided agriculture is for me. Because when someone sees something in you, which is something good, you have to go for it. Because people see it in you…the farm owner assistant and the farm manager, whatever I want to do, and whenever I need something I can call them and tell them ‘I need this’ so the thing is, they see something good in me, in agriculture because it is on a farm. And that's when I decided ‘yes, agriculture is for me.’

Additionally, a couple of youth cited examples of how random interactions, romantic relationships, and friendships influenced their decision and exploration in studying an agricultural related field. Monica, a Black undergraduate student studying agribusiness, discussed her evolution into an agricultural field. She
explained how reading books and one interaction with a relative stranger during the beginning of her educational experience at Stellenbosch University, lead her to switch her major to agribusiness. Although she doesn’t remember the name of the male who helped influence her decision, she fondly remembers their interaction and conversation. After switching her major she struggled academically, but overall describes her current feelings of happiness and certainty about her decision. She explained:

When I got here I was going to go into the Bcomm stream and to get into the financial, the analyst background. But then I ended up in agriculture. Yeah, cause to me, with agriculture I originally thought, ‘Okay it’s just farming, getting your hands dirty’ and that’s how a lot of people felt about it. It wasn’t until I talked with people, I read books on it, and I read the university booklet that I was like ‘you know what, this is actually interesting and I would like to look into it.’ And then when I came during orientation week, that was when I actually decided, ‘No this is what I am interested in.’ ... We were getting our student cards, actually no, we were walking around campus doing different activities and then, I can’t remember this man's name or if he was a lecturer, I can’t even remember his face. But I definitely remember the conversation we had. And we were just talking about this thing where I was like ‘Nah, I really get bored easily, so I don’t want to be stuck in an office where I am calculating the same thing every time’ and then he spoke about agriscience and agribusiness and I was so interested in it. That was, that was the ‘aha moment’ basically and I signed up the same day. And then I was just like ‘Now I am in it’ until I actually got into classes and I was just like “ahhh, I am not sure what I am doing.” During the first year, a lot of things were so difficult to understand, the transition from science, physics into accounting, and business communication, which was hard, so it was quite shaky for a long time. But now, I am cool and sure. It just took time.

A couple of the youths named several other important people and relationships in their lives as having a major influence in their decision to study and continue studying an agricultural related science. One youth described how her boyfriend, who is also in an agricultural sciences field, has helped impacted her by helping her relate her studies to the outside world. She described:

It’s quite interesting, I met someone this year who is studying agri-science. But they are majoring in plant pathology, and that happens to be my boyfriend. So, he works for the university on the experimental farm and he applies everything he studies. And I never got to do that because it’s just like ‘Oh, let me study, I’ll see when I get there.’ But only now I am realizing, ‘Oh, this actually fits in there, oh this is actually where I fit in.’ And then the more he talks about his work, the more I am like, ‘Oh actually, this is actually what I am going to be doing, this is where I want to be.’ Application, he has influenced it so much this year.
Youths described how their friends and students in their cohort have supported and influenced their studies. One oenology student described how the other students in his cohort have supported and helped influence him, stating, “Support from my friends, like Brian or anyone in the cellar that is also awesome. And because they also love it, it just increases my passion for what I want to do.”

**Veterinary and animals: interests and passions.**

Another sub-theme was passion and interest surrounding animals and veterinary sciences. Many of the animal science students, both, who were master’s and undergraduates, spoke of a deep love and interest surrounding animals. They described how these passions and interests drove their decision to study an animal related agricultural science. One youth, when asked about her opinions of the agricultural field, explained that when she thinks of agriculture, she is reminded of her love for animals. She stated:

I think about a farm. I think about animals, I love animals, so much. That is one of my, I am really passionate about animals. It makes me think about freedom. There are no boundaries in agriculture. And it is constantly changing, it’s not the same every single day.

One Black undergraduate student explained how her love for animals influenced her decision to study an agricultural related science. When asked “what was one of the main influencing factors that led to her study agricultural sciences,” she stated:

I think obviously my love for animals. And I always say that I prefer being around animals more than humans. Because they are less judgmental [laugh] but my passion for animals definitely influenced me to decide animal production. Like I said, I love animals. I don’t know how many times I can say that. But veterinary science is something I want to do in the future.

Her answer also uncovers another phenomenon seen with youth who studies an animal related field. Many spoke about their past, previous and future desires to study veterinary sciences. Several students spoke about the process of applying to veterinary school in South Africa.

The veterinary sciences program and education system in South Africa is different compared to the United States. In the United States students first get their undergraduate degree, then go on to apply and attend vet school. The process is highly competitive since there are a limited amount of veterinary schools and slots available. In South Africa, most students apply out of high school and attend veterinarian school, however, there are exceptions. While the application process in South Africa varies, it is also extremely competitive. Several participants spoke about the South African process of applying to
veterinary sciences, and how the system also drove them towards the path of studying animal sciences. Tyler, a White male getting his Master’s in animal science explained:

Well if you didn’t get into vet school, well I studied at Pretoria at Tucks. So, if you don’t get into veterinary sciences then you carry on with animal sciences and each year you can reapply. So, the coursework is more or less the same for the first two or three years. So, you can just pick up where you left off at veterinary school. So, it was just the obvious choice to go the animal science route. And then I fell in-love with animal science, so when I had that mindset it didn’t matter anymore. I have a lot of friends who got in from second, third year. But yeah, I didn’t want to do it as much as before because I liked working with healthy animals.

Other participants spoke about their dreams and desires to become a veterinarian. She had a similar experience like Tyler where she applied to vet school but eventually went into animal science after several rejections. She stated:

I wanted to be a vet from when I was tiny all the way up until high school… there’s only one place to study veterinary health here [South Africa] so it’s very difficult to get in. They take only like around 100 students a year from the whole country, so it’s almost impossible to get in. I did try, I applied the first time, and I applied again. I applied twice to the university. But the reason I ended up doing what I’m doing is because obviously I had to look at second choices. And I came here to Stellenbosch university to, I did a sort of arborist and they, I think I enjoyed that more because they told me - they opened my eyes to what you could actually study here because I actually didn’t know what courses you could take. And they told me, oh, you must do something with, um, you should do something with animals or agriculture or whatever. And a lot of people who don’t get into veterinary do animal science. It’s kind of like, all the people who didn’t get in, like the vast majority of my class also wanted to be vets. So, they say, study animal science and keep applying to veterinary. They do take some students halfway through the year, people who drop out of Pretoria, so that’s what I did.

Many of the animal science students echoed similar sentiments regarding their early life decisions and desires to become a vet. Several expressed frustrations with their country’s system of applying and receiving admittance to veterinary school. One student stated:

I started off wanting to be a jockey and then a vet. So yeah, that stuck with me until I went to varsity [high school] and then to get in, it was such a hassle and our system works against us, the whole time. So, I just decided to give that up and to go into pure agriculture…well in South Africa if you are a white male you’re very low on the priority list. So, everyone above you gets picked to get in before you so that’s why I said this doesn’t work for me. So, because of that, I
still think I can make it as a vet, but just the system it doesn’t work at all actually. It’s just better for me to work with non-sick animals, healthy animals, then actually just the sick animals. So that’s how I try to motivate myself.

Lily, a master’s student, also studying animal science, described how she was turned off of veterinary sciences after she shadowed a local veterinarian. She told the story of working with a young girl and her pet mouse and how the interaction helped influence her decision to pursue another avenue in the agricultural sciences. She explained:

I looked into being a vet. In school, my marks were fine but I wasn’t at the top of the class, and I am White so I’m probably not going to get in and that was a bit disappointing and discouraging. But I went to job shadow a vet and stuff. And it was a vet that sees dogs, cats, pets and rats and hampers and stuff. And it’s the animals that you treat but as far as the appointment it’s with a person. The owner of the pet comes and cries. Like the thing that really put me off was it was a little white mouse and it kept sneezing and the girl owner was in tears. She was like having a fit because she read on the internet if a mouse sneezes it means they are really sick. And I was like, “what? That sounds stupid.” But the vet was like “really, it’s odd to see symptoms in a mouse but when it starts to sneeze that’s like a big thing” and I was like ‘oh ok, my bad.’ But now the little mouse needed to come in every day to get an injection. And it was for 2 weeks, every day the little mouse comes in to get an injection. And every time the little girl cries and is in a state. Because I am not very compassionate, and I know they can teach you that in vet school, but I was like ‘okay this is not, I don’t like this.’ I don’t like these types of interactions with people.

Another animal science student who didn’t initially get into vet school stated:

I always wanted to be a vet, so that's kind of the reason I went into agriculture. I applied to be a vet. Didn’t get in and then kind of saw, no but animal science is the way to go. Reapplied, didn’t get in and then I was kind of like “ahh” and I just had to decide what to do going forward. I am not planning on reapplying or going back.

When asked why she wanted to be a vet, she explained:

I don’t know I just loved animals. I don’t know, I always liked the idea of becoming a vet, working with the animals type thing. Even went to work with a vet for a week or two, and quite enjoyed it. So definitely animals was always a thing, but never considered agriculture. But now it’s kind of a more viable option for me.
A love for animals and desire to help animals that are sick and healthy was a common influencer for students studying animal sciences. Their passion and interests drove their decision to pursue these types of agricultural degrees.
Chapter 5: Discussion

Summary

Chapter five provides the following overviews: the statement of the problem, the purpose of the study, the research questions of the study, and a discussion of the conclusions based on both the research findings and research questions. Recommendations are also provided, which were formed and created from the conclusions. The chapter concludes with final thoughts of the study and researcher.

Statement of the Purpose

This research identified the body of knowledge of the influences, and in particular the family influences, that drive youth South African youth to pursue agricultural-related degrees and education, through examination of the lived experiences of participants. Further information on the complex interplay between youth and parental figures is provided, especially regarding career and higher education decisions. In order to meet the demand for skilled and educated agricultural workers, both domestically and internationally, youth must be encouraged and inspired to engage in agricultural-related sciences. The research findings can be used to make recommendations that place value and priority on family driven efforts that engage youths involved in agriculture, with the goal to create a positive view of agriculture as a valued livelihood.

Past research and studies extensively focused on the child’s or student’s perspective of multiple factors that influence their education and career decisions. Studies have shown that parental figures play a significant role in determining children’s career development and that without parental support and approval, children are less likely to explore diverse career possibilities, including agriculture (Shumba & Naong, 2012). Current research lacks a qualitative lens, especially related to career development associated with the agricultural sciences. Diving deeper, a further gap and disconnect in research looking directly at the agriculture sector is evident, and the influence that parental relationship figures have on children choosing this career path.

In recent decades, many researchers have explored the complex relationship between parental influence and children’s career and education decisions, producing a plethora of scholarly works. However, while there is a large breadth of study regarding factors that in general influence children’s career and higher education decisions, there is a lack of research conducted that uses a qualitative lens specifically to focus on agricultural sciences and the African continent (Whiston & Keller, 2004). As a result of these gaps, additional research is needed. Previous studies made recommendations that focused on parental involvement, programming, and marketing to both enhance student interest in the agricultural sciences and to increase student enrollment in agricultural colleges (Rayfield, Murphrey, Skaggs, & Shafer, 2013; Kyei, 2015).
This study addressed youth’s perceptions, values, opinions, beliefs, and influences associated with their agriculture-related degrees and careers pursuits. Qualitative research methods were used, including in-depth qualitative interviews. Participants gave a narrative and account of events and actions. The nature of the narrative study included phenomenological research, since all the participants described the meaning of their lived experience of a common phenomenon (Creswell, 2013).

The qualitative data were collected from semi-structured interviews conducted with a range of youth to obtain information related to perceptions, values, opinions, beliefs, and influences associated with their agriculture-related degrees and careers pursuits. Youths who were connected with local universities and the Western Cape Ministry of Agriculture Youth Programs were interviewed to obtain information related to their decisions, and the influential factors that resulted in their choice to study an agricultural related degree and career. Sets of data from each population helped depict a complete picture and narrative of the lived experience related to the concerns, of the obstacles as seen through the eyes of the youths, and how their experiences related to the larger breadth of research in this field.

**Research Questions**

1. How do youth who choose to engage in agriculture perceive external and internal support systems, and how do these levels of support impact their decisions to pursue agricultural related education and careers?
   a. How do youths describe, perceive, and value parental and other family influences, or lack thereof, in their lives and decisions to pursue an agricultural-related degree and career?
   b. What are the influences agriculturally engaged youth describe as impacting their decision to pursue an agricultural-related degree and career?

**Discussion of Significant Findings Related to The Research Question**

Research question 1 was as follows: How do youth who choose to engage in agriculture perceive external and internal support systems, and how do these levels of support impact their decisions to pursue agricultural related education and careers? This research question was further broken down to create two corresponding sub-questions, as many of the youth participants described high levels of support from their families and other figures in their lives. Family members such as parents, grandparents, uncles, aunts, and siblings supported youths in their decision to pursue an agricultural sciences track in a variety of ways. The youth spoke about not only conversations they had had with family members, but also the financial support, emotional support, and other additional actions that family members took that helped them along their path towards agriculture.

Support was discussed and reported on a variety of features. In addition to parental and family support, youth also described external support systems such as community members, professors and other
school faculty, teachers, mentors, industry professionals, friends, and other close relationships. The various external support systems for each student varied, depending on their interactions with their environment, background, society, and culture. For the participants of this study, who were admittedly already engaged and pursuing an agricultural related science, they described how these external support systems inspired and positively influenced their decisions to go into this field and industry.

Diving deeper into both research question and sub questions gave insights into the important role parents and families played in career and education decision making, specifically related to the agricultural sciences. Throughout the interviews, youth described how the parents and other family members greatly influenced their decisions to pursue an agricultural sciences related fields. Many of these statements supplied the subtheme “Family Support Level.” Some youth described how their parents and other family members supported them financially. For example, one youth stated, “They put me through University, I don’t have any loans or anything. I’ve got a car, they paid for my rent and everything. . .. So, they’ve supported me through everything.”

Another youth echoed a similar sentiment, explaining how both his parents and outside family members supported him financially, “Supportive, always. They, if I had money troubles, my mom and dad, or even my uncles, they would help me in a second. Just a phone call away. I always got support in any which way.”

Past research has found that family income and socioeconomic factors can play a role in education and occupation decisions of youth. Ngesi (2003) found that youth from poorer backgrounds and disadvantaged communities were more likely to avoid certain educational programs and careers paths, especially based on the length of the program. Ngesi’s research suggested that youth from low-income areas and lower socioeconomic backgrounds felt that they had less career and educational opportunities and independence. Students were less likely to pursue educational programs and careers that took longer periods to obtain, due to a of their lack of financial support (Ngesi, 2003).

In confirmation of these findings, the majority of the youth interviewed in our study spoke about the tremendous financial support their families have given them. Financial support was a positive contribution to ensuring youths’ education. Although several youths spoke about being from poorer socioeconomic communities and backgrounds, but they did not feel deterred from education and internships in the agricultural sciences. This subject will be explored further in the section.

In addition to financial support, family members, friends, and other individuals also gave emotional support to youth. One participant demonstrated how his mother provided emotional support and advice, stating:

My mother always supports me in everything I want to do. If I am unhappy I tell my mother ‘this makes me unhappy because of this,’ and then my mother tells me, ‘don’t let small things upset
you because it is not worth it.’ . . . My mother asks me if I did something bad, ‘why did you do this, because you know it is wrong,’ when with bad things my mother is supportive.

Along with financial and emotional support, youth spoke about the supportive actions and conversations they had with family members. Youth discussed and gave examples of how their parental figures instilled in them the importance of education and studying at a university. One participant’s statement echoed this shared sentiment, stating, “My parents are strong advocates for going on with your education, studying, doing something.”

Most of the youths interviewed experienced strong pressure from parents to attend university. Youth discussed how their parents and other family members spoke with them about career related topics. Youths who grew up near agriculture, such as on a farm or more rural community, discussed having conversations regarding agriculture with a parent or close relative. These encounters and conversations about education, careers, and agriculture swayed these participants towards the agricultural sciences. One male who grew up on a farm explained:

My dad told me like he called me and said, ‘We must buy more soil, more ground so we can expand, so that I can come to the farm.’ He never said to me, ‘you must farm.’ We talk a lot about it, and from a young age he made me part of the farming because I am the future.

While most youths spoke highly about the support they received from parents and other family members, there were some who spoke of varying levels of support. For several youths, their parents were initially hesitant of their decision to pursue an agricultural related science, but as time went on and the student continued studying, their parents initially hesitant waned and their opinions evolved. One student discussed how his mother’s support levels transformed, stating:

I think at first my mother was not happy at first, but with time, when I told her, ‘this is what we are doing now, this is what I am learning,’ Like if there isn't someone who lays the foundation for others in the family, it’s always difficult for the people around you to understand what you're doing. So, for me going into agriculture and understanding what agriculture was about, actually allowed my family to think, ‘Oh, there is a future in agriculture, he’s making the best out of it, so let’s try to understand what is going on and be supportive.’ Cause I know she just wanted me to do my honors degree and just get out of the system and get a job. But she was actually the one that said, ‘what about a master's degree?’ And I was like, ‘okay, if you are going to support me, why not?’

Few students discussed any outright unsupportive behavior from their parents, and when one youth did
speak about unsupportiveness, it was related to personal factors in the youth’s life, and wasn’t connected to his decision to study an agricultural sciences degree. One participant explained, “My father is unsupportive in different kind of things. . . . So, I think that is a barrier between me and my father, because he doesn’t accept me for what and who I am.”

Past research has examined the important role that indirect factors played on influencing youth’s career and educational development. Schultheiss, Kress, Mazi, and Glasscock (2001) found that mothers, fathers, and siblings played a significant role in youth’s career development through indirect means. These indirect means were described as being emotional, informational, and educational support. Many of the South African youths interviewed discussed their parent’s role in providing indirect emotional and financial support. Additionally, they spoke about the information their parents gave them through conversations about careers, education and agriculture. This study further enhances previous conclusions regarding indirect means, as almost all the youth spoke passionately about emotional, financial, and/or informational support received from their parents, other family members, and/or other individuals (Schultheiss, Kress, Mazi & Glasscock, 2001).

To further understand and uncover the influence that family members wield with respect to a youth's education and career decision, specifically in the agricultural sciences, our interview questions aimed to dig deeper into the phenomenon associated with family interactions, communications, and support. The family-focused research findings were broken down into seven subthemes: Defining Family; Family Interactions and Communication; Family Decision Making/Power Structures; Parental Opinions of Agriculture; Family Communication about Careers, Education and Agriculture; Family Support Levels; and Family Influence. A review of the literature and past studies that focused on family’s roles in career and education development, especially pertaining to the agricultural sciences, provided a clearer understanding of how this study fits within the larger field.

Understanding how parental figures and other family members interact with their children helps uncover how information, opinions, feelings, attitudes, and beliefs concerning agricultural can be transferred from adult to youth. Family systems theory suggests that families operate as a system or unit, where interactions either evolve or stay the same, and where each member affects and is affected by other members (Bowen, 1993). Family systems theory states that family relationships and interactions reinforce and develop certain behaviors and character traits (Johnson & Ray, 2016). Through a family systems theory lens, the family interactions described by the youth participants in the study might have an influence on the youth’s opinions, feelings, attitudes and beliefs concerning agricultural related sciences.

During the study, participants discussed who they considered family, and how their family members interacted and communicated with one another. Several youths in the study lived with large extended families, and this family structure was more common among Black and Coloured participants.
One youth stated, “I come from an extended family and we stayed at my grandmother's house. I have cousins, my own siblings, uncles, aunts; it's a really nice big family.”

Comparably, others had smaller, nuclear family units. One girl explained, “My parents and I’ve got one sister. I’d say, we’re not so close with most of my extended family, but, my grandmother - I only met my one grandmother.”

Additionally, several of the youth were raised in a single-headed household, commonly by their mothers. Commonly, these family structures were the result of divorce. One participant discussed, “I grew up with a single parent, so it was a bit hard growing up. I don’t have a father figure in my life.”

Defining family and family structures has been a topic in several career development studies. Studies have found that certain interactional experiences are important in a youth’s career and education development. Research has found that living situations can have an influence on career development of youth (Trice, McClellan & Hughes, 1992). In one study, researchers discovered that elementary children living in single-parent households, with extended family, or in foster care, were significantly more likely to express not having career aspirations than children living within two-parent households (Trice, McClellan & Hughes, 1992). Furthermore, Scott and Church (2001) found that family stability affected students’ career decisions and that students with divorced parents were more likely to exhibit career indecisiveness. Again, several youths- many Black and Coloured, discussed how they lived with extended family members like grandparents, aunts, uncles, and cousins. Literature suggests that extended family members can have an impact on youths’ career decisions. Schultheiss, Kress, Mazi, and Glasscock, (2001) found that in addition to mothers, fathers, and siblings, other family members such as grandparents, also play a significant role in career development. This study helps support previous work, such as Kotrlik and Harrison (1989), who found that grandparents, aunts, uncles, and other relatives all influence career decision. Grasping how the youth participants define family with regards to who they live with is important when considering previous “career development for youth” literature. These linkages may provide a deeper understanding of how the definition of family and home life further influence youth to enter an agricultural related science.

Participants described how decisions were made in their families based on power structures. The experiences recounted by the youth participants show a broad spectrum of power dynamics within families. Some families have more traditional, patriarchal forms, while others exhibited more democratic styles. Several youths described their fathers as being the head of household. One explained, “My father is like the main guy that makes the decisions and he’s the breadwinner.”

Other youths described how their mothers had more power when making household decisions. One youth detailed this, explaining, “My mom is often the one that makes most of the decisions in the house.”
In addition, youths also described more democratic and equal power structures. One youth expressed, “Nobody is superior actually. We are all given a platform where we can give our opinions.”

Each path is unique and diverse, and has helped shape thoughtful youth. Again, these family interactions, particularly related to power structures and decision making described by the participants, might influence the youth’s opinions, feelings, attitudes, and beliefs concerning agricultural-related sciences. Previous research found that young girls whose mothers had more household power were more likely to be open to gender-neutral careers and less likely to prefer feminine-stereotype careers (Lavine, 1982). Since agriculture is often considered more of a gender-neutral, or male-stereotype career, household power might help explain why women are interested in pursuing an agricultural sciences career.

Youth described the various conversations they had had with parents and other family members concerning education, careers, and agriculture. These open channels of communication between parents and adolescents seemed to provide encouragement, support, opportunity, and advice. One youth articulated this by stating:

My dad would always go the extra mile... just the little conversations we would have about agriculture. And he would notice, like the way I am around the animals. And he would see my love for animals and he would tell me, ‘agriculture is where you need to go.’ Yeah, he would always motivate me, and if I had ideas he would support them and not say like, ‘no that is a bad idea.’ He would say, ‘okay, maybe you can do this or that.’

Previous research suggests that a parents’ encouragement and availability were significant factors in maintaining open communication between parents and youth (Fisher & Padmawidjaja, 1999). The parents were also found to be guiding figures who gave beneficial feedback (Fisher & Padmawidjaja, 1999). One student quote illustrated these types of conversations and support when saying:

My mother always supports me in everything I want to do. If I am unhappy I tell my mother ‘this makes me unhappy because of this,’ and then my mother tells me, ‘don’t let small things upset you because it is not worth it.’... My mother asks me if I did something bad, ‘why did you do this, because you know it is wrong,’ when with bad things my mother is supportive.

Additionally, the majority of youth spoke about conversations they had had with their parents concerning education. Most parental figures stressed the importance of higher education and attending university. One male student explained:

The definite thing was I was going to go to university. I think it didn’t matter what I studied but it was very important. Like they always said, ‘you have to get a degree behind your name,’ that was
the big thing and I never thought of another option.

One South African study examining parental influence on tertiary institutes choice, found that their parents’ opinion influenced 51 percent of participants (Kyei, 2015). While most youth discussed the importance their parents placed on education, many said they were given the freedom to pick their area of study and university. One student cited, “They just always told me that I had to go study. Not studying wasn’t an option. It was always like, ‘we don’t care what you study, you have to go study.’”

While youth described freedom of choice, several did discuss how their parents helped them find programs and universities that offered certain subjects they wished to pursue. One participant described these sequence of events, stating:

One night my mom and I were lying on the bed and just chatting and chatting and whatever. And she asked me what I would like to study, they are very supportive. Whatever I said they would have supportive. And I said, ‘I want to go study winemaking’ and we didn’t even know, coming from the Freestate there’s no wine there, there’s no vineyards in the Freestate. . . and then we tried to do research and we found this place Elsenberg, that had a very good agricultural history. And that’s how I suddenly found a love for agriculture. I always had it a love for it from a young age from my uncles and whenever we went and visited. I always said I wanted to do that, but never the wine part. So, agriculture has always been a big part of my life. The wine making part not really. . . Yeah, I did research as well, and then my parents also. We never, the part that we were struggling with is we didn’t really know where I could study winemaking or viticulture and stuff like that. So, we found out about Stellenbosch and we knew that I could do it there so we sent in an application to Stellenbosch, then we found this place [Elsenburg].

Overall, parents seemed to be critical figures in creating a supportive environment that placed an emphasis on education. The majority of the youth were raised to value education. Parental and family conversations regarding education, careers, and education appears to have a positive influence and be an effective tool to increase youths’ desires to study an agricultural related science.

Part of the research question asks, “how do youths describe, perceive and value parental and other family influences?” Throughout the study, youth participants discussed how their parental figures were a main motivating and influential factor leading them into an agricultural field. Furthermore, when asked “Who is the most influential person or people in your life?”, the vast majority of youth cited a parent. One student explained how his mother was the most influential person in his life, stating, “I talk a lot with my mother so she really influences me. Many new ideas for new situations, we spend a long time talking in circles about it. So, she definitely influences me, number one.”
Another student expressed how her father was the most influential, saying, “I think my dad, a lot. . .I think mostly my dad. Definitely. My mom, yes, she would support me, but my dad would always, I want to say, go the extra mile.”

The majority of literature supports these findings. Parental figures have been found in numerous studied to be the most influential factors in guiding youths’ occupational decision making (Whiston & Keller, 2004). In a South African study, parents, particularly mothers, were found to have a significant influence on children’s career decisions (Shumba & Naong, 2012). For agricultural sciences careers and education choices, parents have also been found to be very influential and to play a significant role in youths’ decisions to pursue an agricultural sciences degree. Smith-Hollins, Elbert, Baggett, and Wallace (2015) found that family members involved in agriculture careers and lifestyles were most likely to influence students’ decisions to enroll in a college of agriculture. Herren, Catmell, and Robertson (2011) stated that parents and guardians were the most used and selected source of influence. Rayfield, Murphrey, Skaggs, and Shafter (2013) found that about 18 percent of participating college students stated that their parents were the most influential people regarding their decisions to enroll in an agricultural sciences major. This suggested the need to focus more on parental involvement and developing and including more agricultural-related recruitment materials, marketing, and programs targeting parents and families. The responses from the South African youth further supports these theories and phenomena of parental influence.

Several of the male youth cited their fathers as being the most influential person in their lives, specifically mentioning agriculture in their narratives. A few of the male participants grew up on farms and cited their fathers as being a major influencer. One participant who grew up on a farm reiterated this narrative, stating, “He’s [my father] got a big role in my life towards agriculture, towards everything. Yeah, because he’s very successful in what he’s doing and I like what he’s doing.”

Another male, studying forestry explained how his father helped influence his decision to get into that particular field. He explained:

My father because he always said and it’s a funny story, that he wanted to be in conservation or in forestry when he was in school...my dad never did what he wanted. But his influence was dire because I wanted to be like my dad one day. He was definitely the bigger influence in my life.

Previous research exploring the influencing factors that lead American students into agricultural sciences fields found that paternal employment was an influential factor (Jones & Larke, 2001). Research found that African American and Hispanic participants were more likely to pursue an agricultural career if their fathers’ occupations were agricultural-related (Jones & Larke, 2001). Our research findings help stress the importance that background, parental occupation, and parental role models have on a youth's careers and
education development, especially for agricultural sciences.

There is a plethora of influences that lead youth to pursue an agricultural related degrees and careers. The second subsection of the research question, “What are the major influences and reasons that agriculturally engaged youth describe as impacting their decision to pursue an agricultural related degree and career?” aims to further identity and uncover outside influences that youth express influencing their career and educational choices. Again, youth indicated their parental figures and other family members as being a major reason why they pursued an agricultural sciences education and career. In addition to the family, youth also discussed how their communities and other individuals supported and influenced their decision to pursue an agricultural related science. Many of the youth were from rural areas and grew up near agriculture, and spoke about how these societal, cultural, and community impacts helped lead them into an agricultural related field. Youth were able to witness and interact with agriculture first hand and engage with professionals in those fields. One student who now studies conservation ecology and entomology discussed how growing up in a rural area, and how seeing and knowing foresters had an impact on his decision. He stated:

Where we were living there were a couple of foresters who were forestry managers and such, who moved into the area and there was a new forestry business opening up with plants and seedlings and it was like a really wide scale thing. And I think they also influenced me in the whole to see you can find a job in a rural area, with these developments of some sort, and so I saw the possibility in that. They were also really, really interesting and genial people. And so it was a good experience I saw from them. I think they also inspired me a bit.

Other students explained how growing up on a farm influenced their decision to go into the agricultural industry. One student explained, “We are fifth generation and so you know farming has always been within us. . . . I don’t think, if I wasn’t born on a farm, I wouldn’t be a farmer. I wouldn’t have even wanted to go into agriculture.”

Past literature focusing on students’ decisions to pursue agricultural sciences, indicates that exposure to agriculture is a significant influence for students enrolled in an agricultural sciences major (Rayfield, Murphey, Skaggs & Shafer, 2013). Another study examining personal influences of students identified males were significantly more likely than females to choose a career related to agriculture based on personal experiences (Smith-Hollins, Elbert, Baggett & Wallace, 2015). The study also found that family members involved in agricultural careers and lifestyles are most likely to influence a student’s decision to enroll in a college of agricultural sciences (Smith-Hollins, Elbert, Baggett & Wallace, 2015). Background, proximity to agriculture, and parental occupation in agriculture all seemed to influence the youth participants decisions to pursue an agricultural sciences education and career.
Communities, as well as helping foster opportunities for engagement, supported individual youth in different ways. One youth discusses how his community helped pull together and finance his education. He explained:

Coming into Stellenbosch cost me close to 2,500 rands. That's just leaving home and coming this side. But growing in that, sort of disadvantaged family, that money is needed elsewhere. But during time for me to come back to school, everyone would put their heads together, even my mother's friends, teachers from school. Cause I regard those people as my family. Had it not been for those people, I would not be where I am. But, they really, really played a vital role in me making my decision to come and study, and making sure I was in school, when the vacation time was over. And making sure I had money to come home when it was vacation time, to just spend time with family. And I think that was really, really nice of them. I never thought of it in that extend. They are very, very nice...everyone is helping. Of course, someone is helping at a price. But everyone is helping. Someone to be able to lend my mother money for me to come to school, while my mother stays at home and sorts out how she is going to repay that. I think that, the willingness to help someone, is what, is very inspiring of the community I come from, or the people I regard as my community.

Another youth whose parents are Christian missionaries described how his family and others helped pay for his education and stated, “Monetary, they have been able to support me through other people’s generosity. I mean, we worked as, kind of on a charity basis.”

Previous research has indicated that family income and socioeconomic factors can play a role in education and occupation decisions of youth. Ngesi (2003) found that youth from poorer backgrounds and disadvantaged communities were more likely to avoid certain educational programs and careers paths, especially based on the length of the programs. Ngesi’s research suggested that youth from low-income areas and lower socioeconomic backgrounds have less career and educational opportunities and independence. Students were less likely to pursue educational programs and careers that took longer periods to obtain, as a result of their lack of financial support. The majority of the youth interviewed in this study discussed the financial support provided by their parents and other family members. Youth who described coming from poorer socioeconomic communities and backgrounds explained how their communities help fund their education. These acts of kindness and financial support from people in their communities helped the youth so that their previous economic status would not deter them from education and internships in the agricultural sciences. Financial support from both family and community appears to be a positive contribution to ensuring youths’ education.
Coupled with community involvement, youth described how mentors, professionals, professors, and others helped support and influence them. One youth described how his mentor and boss supported, pushed him and furthered his love for food science, when he stated:

Probably my mentor now, who has been my mentor for five or six years now. I talk to him a lot. He ultimately made me love what I do. He painted the picture in agriculture because he was also a food science major and went into agriculture in the 1970’s or 80’s. So, I was put with him so basically, he showed me everything I know...Also my boss now, he is very inspiring because he reads a lot of leadership books in his spare time. He is a father figure and he speaks his mind. . . Those are the people that they give you support and give you that push.

Another student depicted a similar sentiment with one of their professors, stating:

In the wine industry at the moment, Paulina is a very influential person. Because I look up to her because I know how successful she is. So, I want to be as high up as she is. I want to sort of be like her and know people, she knows everyone. So, I want to be like that. . . There are such few women in this industry, I want to prove that we are just as capable, and we can make even better wines. Because look at Paulina, she is so successful and she did it all by herself.

Literature has identified friends, teachers, counselors, and college recruiters as helping guide youth into the agricultural sciences (Jones & Larke, 2014; Smith-Hollins, Elbert, Baggett & Wallace, 2015; Rayfield, Murphrey, Skaggs & Shafer, 2013). These individuals helped increase exposure to the agricultural sciences through conversations and other indirect means. Youth discussed how these individuals help inspire and influence their decisions to go into the agricultural sciences, indicating how important these figures are in encouraging and supporting agriculturally inclined youth.

Lastly, youth expressed the influence of hobbies and other interests on their decisions. Rayfield, Murphrey, Skaggs, and Shafer (2013) found that students studying agricultural science were also influenced by factors such as interests, hobbies, and the internet. Many students currently studying animal sciences decided on this route because of their love for animals and their desire to attend veterinary school. Often the conversation revealed that although they were not admitted into vet school, they still wanted to work with animals. One participant expressed this point of view, stating, “I always wanted to be a vet, so that's kind of the reason I went into agriculture. I applied to be a vet. Didn’t get in and then kind of saw, no, but animal science is the way to go.”

Overall, the data collected from the youth in the Western Cape, South Africa helped further support literature concerning youths’ occupation and education decision making. Students were influenced, inspired, and encouraged by a plethora of individuals: family, mentors, friends, teachers,
professors, and industry professionals. The youth also spoke about varying levels of support from these individuals and community, in the forms of financial, emotional, and informational support. All of these components helped youth see the value in the agricultural sciences, and ultimately helped them decide to pursue it as an education and career choice.

Conclusions

This research study examined the links and support between family influences, other outside influences and youth’s interests and passion in the agricultural sciences. Conclusions and recommendations from this study are based on the perceptions, values and lived experiences revealed by participants during their interviews.

Conclusion 1: Parental Figures Influence Students’ Decision to Study an Agricultural-Related Science

The theme of parental influence was a major factor for the youth involved in the study. The majority of the youth shared their experiences of deep parental and family support and influence. The findings reveal that the bulk of participants felt that parental figures were an influence in their decision to study an agricultural-related science. Youths shared stories concerning parental lead conversations regarding education, careers, and agriculture; parental and family support; and positive parental and family attitudes towards agriculture, all of which fostered an attraction towards the field of agricultural sciences. The findings from this study indicate participants felt their parents influenced their decisions concerning education and career development, and many cited their parents as the main influencing person who led them to an agricultural field. Previous research indicates parents being very influential and playing a significant role in youths’ decision to pursue an agricultural sciences degree. Rayfield, Murphrey, Skaggs, and Shafter (2013) estimated about 18 percent of participating college student stated their parents as being the most influential person regarding their decisions to enroll in an agricultural sciences major. Smith-Hollins, Elbert, Baggett, and Wallace (2015) found that family members involved in agriculture careers and lifestyles were most likely to influence students’ decisions to enroll in a college of agriculture.

Many students from farming backgrounds shared how they wanted to be like their parents or other family members. One participant shared the following sentiment: “He’s [my father] got a big role in my life towards agriculture, towards everything. Yeah, because it’s very successful in what he’s doing and I like what he’s doing.”

One student who grew up going to his grandparent’s farms described how similar his path was to his grandfather’s, and how his grandfather and mother were major influences on his decision to study animal science. He stated:
Yeah, my mom and my grandfather he did, he does the exact same thing and I do now. Like he also studied animal science at Stellenbosch, and worked in Pretoria. So, I just did the reverse. I started in Pretoria and now I am in Stellenbosch. So yeah, he influenced me in a big way as well. And I can talk to him about anything because he understands everything that I talk about because he’s done it. So, it was my grandfather and my mom.

Other participants described how interactions and conversations they had with parents and other family members helped influence and inspire them to go into the agricultural sciences. Youth in this research study described how their parents actively engaged with them. Whiston and Keller’s (2014) review found that parents often have interactions with their children concerning career and work. One student explained:

My dad would always go the extra mile...just the little conversations we would have about agriculture. And he would notice, like the way I am around the animals. And he would see my love for animals and he would tell me, ‘agriculture is where you need to go.’ Yeah, he would always motivate me, and if I had ideas he would support them and not say like, ‘no that is a bad idea.’ He would say, ‘okay, maybe you can do this or that.’ He, yeah, he’s a great guy.

Additionally, most youths expressed how their parental figures and other close family members were the most influential persons in their lives. One participant stated, “I talk a lot with my mother, so she influences me. Many new ideas for new situations, we spend a long time talking in circles about it. So, she definitely influences me, number one.”

This conclusion is supported by Whiston and Keller (2004) who stated that parental figures have been found in numerous studies to be one of the most influential factors in guiding youths’ occupational decision making.

Conclusion 2: There is a Connection between Proximity and Exposure to Agriculture and Youths Involved in the Agricultural Sciences

The findings revealed that background and proximity to agriculture greatly influenced youth. Several of the youth participants grew up on farms, with close relatives who had farms, or in farming communities. As a result, many shared stories of growing up visiting a farm, being with animals, interacting with agricultural industry professionals and being outdoors. The theme proximity to agriculture, environment and geography further explore how experiences in farms, rural communities and the natural environment influenced and affected the youths’ decisions to study an agricultural related science, particularly focusing on the geographic interactions. Several participants described their experiences growing up on a farm, visiting local or family farms as children, and having experiences in
the natural environment that led them to an agricultural sciences degree. The youth who had these experiences discussed how these interactions, moments, and memories greatly influenced their later life decisions to go into the agricultural sciences field.

The youth felt that these experiences, memories, and stories helped catalyze their life involvement in the agricultural sciences. Of the youth who grew up on farms, they described how that background influenced them. One male youth explained, “We are fifth generation and so you know farming has always been within us. . .I don’t think, if I wasn’t born on a farm, I wouldn’t be a farmer. I wouldn’t have even wanted to go into agriculture.”

Another male student who also grew up on a fifth-generation farm described similar sentiments. He stated, “Because I was brought up on a farm, because my dad was a forester, it was a massive influence into my life and into my decision.”

Jones and Larke (2001) stated that participants were more likely to pursue an agricultural career if their father’s occupation was agricultural-related. Smith-Hollins, Elbert, Baggett, and Wallace (2015) found that males were significantly more likely than females to choose a career related to agriculture based on personal experience. Their study also found that family members involved in agriculture careers and lifestyles were most likely to influence student’s decision to enroll in a college of agriculture (Smith-Hollins, Elbert, Baggett & Wallace, 2015). The research found that African American and Hispanic participants were more likely to pursue an agricultural career if their father’s occupation was agricultural-related (Jones & Larke, 2001).

Other students studying more conservation-based fields described their love for nature as being an influence. One student described how growing up surrounded by nature influenced his decision to study an agricultural science. He explained how his family moved around a lot when he was little and lived in different regions and ecosystems. When he moved back to the city, he realized how much he missed the outdoors. He stated:

It was like the nature, it really inspired me. That’s literally where I made the choice to study what I am studying...but quickly once I moved to South Africa I was out of all the nature I’d seen before and suddenly I realized how much I enjoyed that and so with that I was like I want a job which I can get back into that.

These findings are supported by research which found that exposure to agriculture and hobbies also helped guide youth in their decisions to pursue certain educational and occupational fields (Rayfield, Murphrey, Skaggs & Shafer, 2003).

Youth also shared experiences from their parental figures backgrounds. Many youths shared how their parents, grandparents, or aunts and uncles had farming experiences or backgrounds. Youth discussed
how these experiences and family backgrounds might have helped foster parental figures positive attitudes towards agricultural sciences.

One participant, who grew up on a farm, shared the following sentiment related to his father’s opinion and experience with agriculture:

Well my dad is highly educated in the blueberry industry and he can tell you a lot. He went from being a producer to being ‘the Guy’ - he works for a company now that used to just take cuttings to multiply blueberry trees. So, the new thing is they do tissue culture. And there’s a big lab in Riversdale, which is a place close to us, and they mass produce like, millions and millions of little plants. And my dad works for a company that actually takes these plants from small sizes to bigger sizes so that you can sell them. My dad’s opinion on agriculture is the creation of stuff. I wouldn’t say my mom is the same, she just likes being in nature.

Another participant spoke of his parent’s varying experiences on a farm versus in the city:

My mom’s viewpoint is, well she comes from a farm so her viewpoint is the same as mine more or less. So, she understands. She helped pull calves when she was little and all those things, due to my grandfather. My dad is a pure city boy, born and raised. So, certain aspects he doesn’t understand. Then you just have to bring it down a bit, so just layman terms. Just so he can understand the basics, and then from the basics you can just add on.

Youth and their families’ proximity to and experiences with agricultural sciences often appeared to be positive influences in the choice of study. Youth with parents who had positive and high opinions of agricultural sciences, seemed to receive more support, encouragement and active engagement from their parents.

**Conclusion 3: Parental Figures Want to be Supportive of their Children's Education and Careers**

The theme of support was a major factor for youth. The majority of youth spoke about their feelings of how their parents supported their education and career choices. The youth felt and shared how many of their parents and family supported their education financially and emotionally. Overall, most students felt that their parents were very supportive and nurturing towards their decisions. Many youths interpreted the word support specifically as financial support, thus citing examples of how their parents paid for the education. One participant shared the following sentiment highlighting this:

“They put me through University, I don’t have any loans or anything. I’ve got a car, they paid for my rent and everything. I mean now that I’m in my masters do I pay my rent and everything. So, they’ve supported me through everything. It’s quite nice.
Several youths also discussed the emotional support they receive from their parents and other family members. Other youth shared how their parents support them emotionally through difficult times. One participant stated:

They have been very supportive. Like, I failed a few modules my first year, so that was a big problem. I was just expecting the worst. I was expecting them to be like, ‘you can’t be wasting money like this, you can’t be doing this and that.’ But actually, they call literally every day to ask how I am, and what is happening and I am able to say, ‘I wrote a bad test today.’ And they will understand where I am coming from. And I am able to still complain to them about certain things, like the tests, the workload. So, support is quite great. . .in terms of drowning, they're there. They’re there when I am drowning.

Youth discussed how their parents provided support through conversations and other actions. In-person conversations, technology-based conversations, and other engaging behaviors, helped the youth feel supported. One female student described how she could call her mother and her mother would help her during busy times of the school year by bringing her food. She explained:

Even when we are working through the night I can call my mom and tell her ‘I am so tired and I am so hungry’ and I live 40 minutes away from here and then my mom would drive through and bring me some food. Then she’ll be like ‘it’s fine’ and she goes again. My mom was very supportive of it, throughout everything. . .It's good if people support you and help you get through it.

Another student described how his conversations with his mother help provide him with advice and support. He said:

My mother always supports me in everything I want to do. If I am unhappy I tell my mother ‘this makes me unhappy because of this,’ and then my mother tells me, ‘don’t let small things upset you because it is not worth it.’

Schultheiss, Kress, Manzi, and Glasscock (2001) found that mothers, fathers, and siblings play a significant role in youth’s career development through indirect means. These indirect means were described as being emotional, informational and educational support. Many of the youth interviewed in our study discussed how their parents provided them with emotional and financial support, information and advice through conversations about careers, education, and agriculture. Fisher and Padmawidjaja (1999) found that parents were a guiding figure who gave beneficial feedback.
Conclusion 4: Parental Figures are Actively Engaged in Speaking with their Children about Education, Career and Agricultural Choices

The theme of family communication was an important interaction between youth, parents and other family members, which helped influence youths’ career and education decisions. Youth shared stories about conversations they have had with parental figures. The stories included education expectations and career advice and help, such as parental figures wanting children to continue onto higher education, and asking questions related to careers. Additionally, stories also included information concerning the formality and setting of these types of conversations.

The findings also showed that parental figures and other close family members take an active role in speaking to their children about education, career and agricultural choices for their futures. One participant shared the following information about conversations they had with their parents about careers:

Me and my mother talk a lot about what I want to do and sometimes it gets confusing cause I’m constantly changing my mind about what I want to be. But, she tells me to just do what I feel will make me happy. Cause everyone wants to do something that makes them happy.

The majority of students stated that many of their conversations with parental figures revolved around the topic of education. One student explained how her mother talked to her about the importance of education as a means of finding a good job. She explained:

My mother her whole thing was I should do well in school, I should go in university, I should get a good job, I should get money. She just wants me to do better than the previous generation, everyone wants us to improve.

Youth who had parents who were involved in agriculture or lived near agricultural settings, were more likely to have conversations with their parents about agricultural sciences topics. One participant described a conversation he had with his father about wanting to be a farmer:

I decided at the age of 13 that I was going to be a farmer. I was on a tractor in the middle of my farm and I was like, ‘this is the job for me. I love this too much, I can’t see myself behind a desk.’ And I was like, ‘Dad, I’m going to work on the farm.’ I was in matric and I was like ‘let’s go, let’s go farm.’ And he’s like ‘Larry, you can’t go do that, you have to go get a degree.’

Participants described these channels of communication and the important role they played in their lives. Previous research also stresses the important role conversations have on career and education.
development of youths. Fisher and Padmawidjaja (1999) state that a parents’ encouragement and availability were significant factors in maintaining open communication between parents and youth.

**Future Recommendations**

This qualitative study generated a plethora of data about the lived experiences of youth in the agricultural sciences in Western Cape, South Africa. Previous research and literature in the field have taken a more quantitative approach. Additionally, most research focused on influencing factors leading students to careers and education in the agricultural sciences has been conducted in the United States. For these reasons, additional research is needed in a multitude of other areas across the globe.

First, additional qualitative and mixed-method studies are needed to further expand upon the reasons youth go into the agricultural sciences fields. Understanding the life experiences of these individuals through a qualitative lens could provide further insight into quantitative work and modes for getting more youth involved in the agricultural sciences.

Second, coupling quantitative and qualitative methods to further understand why youth pursue agricultural sciences careers and education could yield more results, and generalizable results. Including a quantitative research component into future studies to create a more mixed methods study would be useful for further validity.

Third, the study could be expanded to other countries. The current literature shows many quantitative studies conducted in the United States, therefore a qualitative component could be added. The United States has many land-grant universities, using the youth and students who choose to attend those institutes to pursue an agricultural related science would be a great sample. Other international countries could also be studied to understand further how cultural differences influence youth career choices.

Fourth, further expanding on the third point, it would be helpful to extend the study to include a plethora of diverse youth. Youth who are not engaged in agricultural sciences and have no interest could be included to gain an understanding why they did not choose that career or education path. More interviews with minority groups, such as people of color, women, and gender-nonconforming individuals could indicate ways to further encourage and entice these groups to go into the agricultural sciences fields. Overall, more populations and participants are needed.

**Programming Recommendations and Education Reform**

The research findings and conclusions presented by this study can be used to help transcend family programming in both formal and non-formal educational settings. First, schools, government programs, extension, universities, and other institutions must help increase the spread of knowledge related to the agricultural sciences. As demonstrated in the results and conclusion portions of this thesis, knowledge and exposure to agriculture at both the youth, parental and family levels helped foster a supportive and influential building block that help drive youth into the agricultural-related sciences.
Educators and policymakers can use formal and non-formal settings to increase knowledge in both rural and urban populations.

At the school level, guidance counselors and other staff devoted to youth development help youth navigate life after high school or matric (grade 12 in South Africa). Increasing counselor, teacher and staff knowledge regarding the agricultural sciences, and the bounty of opportunities, majors, and careers available within this industry could help strengthen and grow the pipeline of youth involved the agricultural sciences. Counselors, staff and teachers can also be a tool in incorporating parental figures in these types of conversations and transferring knowledge concerning the agricultural sciences, and the opportunities present within these industries.

Many universities rely on various recruitment strategies to boost enrollment. Schools host annual special events, open houses, tours, and meetings for prospective and incoming students. Fliers, brochures, pamphlets, online material, and other recruitment materials also give youth a taste into a variety of majors and higher education programs. Online and in-person recruitment strategies for Colleges of Agricultural Sciences, Agricultural Training Institutes and other certificate and accredited programs across the globe must design materials and programs that are geared towards parental and family audiences.

Awareness and knowledge are key and a critical first steps in creating value in the agricultural sciences. Youth, parents and other family members need to become aware of the countless opportunities for prosperous livelihoods associated with the agricultural-related sciences.

**Final Thoughts**

The goal of this qualitative study was to identify a body of knowledge regarding family and other influences that drive youth to pursue agricultural related degrees and education, by hearing the lived experiences of participants. Through youth interviews, the researcher was able to provide further information on the complex interplay between youth and parental figures, especially regarding career and higher education decisions. The vast majority of youth involved in the study shared stories illustrated the tremendous support and positive experiences they had with their families. The researcher is confident that in order to meet the demand for skilled and educated agricultural workers, domestically and internationally, we must encourage and inspire youth to engage in agricultural-related sciences. Stakeholders need to place a value and priority on family driven efforts that engage youths involved in agriculture and to help create a positive view of agriculture as a valued livelihood.


Houser, B. B., & Garvey, C. (1983). The impact of family, peers, and educational personnel upon career


Implications for food security. Development Planning Division, Development Bank of Southern Africa.


APPENDIX A:
INFORMED CONSENT FORM FOR SOCIAL SCIENCE RESEARCH
The Pennsylvania State University

Title of Project: Parental Figures’ Influence and Opinions of Youth Pursuing Agriculture Related Degrees and Careers in South Africa

Principal Investigator: Merielle Stamm, Ferguson Building, Penn State University, University Park, PA 16802
Telephone: (781) 715-5069

1) Purpose of the Study: The purpose of this study will be to assess the attitudes, beliefs and values that influence parental figure’s perceptions in regards to youth obtaining agricultural education and related careers; and to identify influences that youth perceive to have impacted their decision to obtain agricultural education and related careers.

2) Procedures to be followed: You will be asked to answer a series of questions related to perception of career influence, identity development, family and community involvement, and experiences in agricultural related education and careers. You will be asked to answer the questions in relation to your opinions, attitudes, and experiences. You can choose to take part or decline participation in this study.

3) Discomforts and Risks: There are no risks in participating in this research. Some of the questions may appear personal but answers are held in strict confidentiality.

4) Benefits:
a) By participating in this study, you will be providing information that will help shape family and youth programs which will benefit them in better programming in the state and city to meet their needs as well as interests.

5) Duration: There will be one focus group and two interviews per participant. It will take about 60-90 minutes to complete the focus group. It will take about 60-90 minutes to complete each follow up interview.

6) Statement of Confidentiality: Only the person in charge (Merielle Stamm) will know your identity. You may be assured of complete confidentiality. Your name will never be associated with your answers, nor will any quotations of your statements be presented. If this research is published, no information that would identify you will be written. Your confidentiality will be kept to the degree permitted by the technology used. No guarantees can be made regarding the interception of data sent via the Internet by any third parties. The Pennsylvania State University’s Office for Research Protections and Institutional Review Board, and the Office for Human Research Protections in the Department of Health and Human Services may review records related to this project.

7) Security of Data: The project investigator (Merielle Stamm) will be the only person who will have access to the interview recording and fieldnotes. These materials will be secured in locked offices and computers, when not being analyzed. All materials will be destroyed upon completion of the project.

8) Right to Ask Questions: You can ask questions about the research. The person in charge will answer your questions. Please contact (Merielle Stamm) at (781) 715-5069 or via email at mcs45@psu.edu with questions, complaints or concerns about this research. If you have any questions, concerns, problems about your rights as a research participant or would like to offer input, please contact The Pennsylvania State University’s Office for Research Protections (ORP) at (814) 865-1775. The ORP cannot answer questions about research procedures. Questions about research procedures can be answered by the research team.

9) Voluntary Participation: You do not have to participate in this research. You can end your participation at any time by telling the person in charge. You do not have to answer any questions you do not want to answer. Refusing to participate or withdrawing early from the study will involve no penalty or loss of benefits you would be entitled to otherwise.
If you want to participate please check the box, sign below and return it to the Principal or Researcher.

APPENDIX B:
IRB Approval Letter

EXEMPTION DETERMINATION

Date: May 24, 2017
From: Julie James, IRB Analyst
To: Merielle Stamm

<table>
<thead>
<tr>
<th>Type of Submission:</th>
<th>Initial Study</th>
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<tr>
<td>Title of Study:</td>
<td>Parental Figures’ Influence and Opinions of Youth Pursuing Agriculture Related Degrees and Careers in South Africa</td>
</tr>
<tr>
<td>Principal Investigator:</td>
<td>Merielle Stamm</td>
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<td>Study ID:</td>
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<tr>
<td>Funding:</td>
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| Documents Approved: | • HRP-591- Protocol edits (5/24/17, version 3), Category: IRB Protocol  
• Interview Questions Parents (2), Category: Data Collection Instrument  
• Interview Questions Youth (2), Category: Data Collection Instrument  
• Observation Checklist (1), Category: Data Collection Instrument |

The Office for Research Protections determined that the proposed activity, as described in the above-referenced submission, does not require formal IRB review because the research met the criteria for exempt research according to the policies of this institution and the provisions of applicable federal regulations.

Continuing Progress Reports are not required for exempt research. Record of this research determined to be exempt will be maintained for five years from the date of this notification. If your research will continue beyond five years, please contact the Office for Research Protections closer to the determination end date.

Changes to exempt research only need to be submitted to the Office for Research Protections in limited circumstances described in the below-referenced Investigator Manual. If changes are being considered and there are questions about whether IRB review is needed, please contact the Office for Research Protections.

Penn State researchers are required to follow the requirements listed in the Investigator Manual (HRP-103), which can be found by navigating to the IRB Library within CATS IRB (http://irb.psu.edu).

This correspondence should be maintained with your records.
APPENDIX C:

Youth Interview Guide:

1.) Can you tell me about your childhood? Where you grew up?

2.) Can you tell me about your family? What your family is like? Who do you consider family?

3.) What are your family dynamics? How do members interact with each other? Who makes decisions?

4.) What do/did your parents do for a living? Have they always had that job?

5.) What did/do you want to be when you grew up?

6.) When I say agriculture, what do you think of?

7.) What is your opinion of agriculture?

8.) What are your parent’s opinions of agriculture?

9.) What is your occupation/field of study?

10.) What types of career and education conversations did you have with your parents? Can you give me an example?

11.) Do you talk about careers and education together as a family? How? In what ways and settings do you have these conversations?

12.) How did your parents react when you told them about your desire to study an agricultural related field? How did your siblings react? How did that conversation go?

13.) Can you tell me about your experiences with agriculture or farming?

14.) When did you decide you wanted to study an agriculture related field?

15.) What types of agricultural programs are you involved in?

16.) What influenced your decision to study and go into the agricultural field?

   (expand upon from focus group)

17.) Did anyone influence or help with your decision to study and go into the agricultural field?

18.) Who are the most influential people in your life?

19.) What types of career and education conversations did you have with your parents? Can you give me an example?

20.) Do you talk about careers and education together as a family? How? In what ways and settings do you have these conversations?
21.) How did your parents react when you told them about your desire to study an agricultural related field? How did your siblings react? How did that conversation go?

22.) What types of conversations did you have with your parents about agriculture? Can you tell me some examples of these conversations?

23.) How has your family supported your education and career choices? How have they been unsupportive?

24.) How has your agricultural education been thus far?

25.) How do your parents feel about your career/education right now? How have their opinions/feelings/support changed?

26.) What career aspirations do you have?

27.) What are your hopes for your future?

28.) If you had children one day, what type of careers would you want them to pursue?

Themes:
- Background (occupation/upbringing, etc.)
- Family structure
- Influential factors for education and career
- Current/past and present education and career
- Agriculture opinions, perceptions, etc.