

ABSTRACT

Whorley, Gabrielle LeeAnn. Career Decision Making among Community College Transfer Students in the North Carolina State University College of Agriculture and Life Sciences: A Qualitative Research Study. (Under the direction of Dr. Donaldson, Dr. Lambert, and Dr. Warner)

This basic qualitative study examined students' perceptions of their career decision-making. All of the participants were community college students who have transferred to the North Carolina State University's College of Agriculture and Life Sciences. This study examined the various influences that affect a student's career choice and aspirations, including the student's perception of their abilities, preferences, and pursuing what they feel is a match between these and potential job requirements; background; parental influence; and curricular and co-curricular experiences.

Research participants were interviewed once during week 4 and 8 of the Fall 2022 semester, and then again during weeks 15 and 16 of the Fall 2022 semester. The Fall 2022 semester was 16 weeks long. These sessions were both audio and video recorded via Zoom.

Key findings included participant's perception of their abilities, preferences, and pursuing of what they feel is a match between these and potential jobs; background; parental influence; and curricular and co-curricular experiences all play an essential role in choosing a career and major in agriculture. Participants explained their experiences at the community college have made the transition to a four-year university much easier compared to their peers who came in straight from high school. The participants all feel confident in their career choices and their abilities. Their personal interests, such as interests in plants, animals, and teaching helped to propel them into pursuing agriculture as a career. Lastly, curricular, and co-curricular activities seem to play the largest role in the career choice of agriculture based on the many

stories received about how organizations such as FFA, 4-H, or the Animal Science Club or internships and jobs allowed the participants to get real-world/hands-on experience that made them that much more confident in their career choices.

Major recommendations included the need to create a program that is tailored to the needs of community college transfer students for the benefit of both the students and the university. Community colleges should be explaining to students in 4-H and FFA the benefits of going to community college and helping the students take the correct classes that are transferable. Internships and work experience should be strongly encouraged to students in colleges of agriculture to help curb career indecision. This study indicates that experiences, mentors, and personal interests play a much larger role than other influences contrary to the influences all holding equal importance in Social Cognitive Career Theory.

© Copyright 2023 by Gabrielle Whorley

All Rights Reserved

Career Decision Making among Community College Transfer Students in the North Carolina
College of Agriculture and Life Sciences: A Qualitative Research Study

by
Gabrielle LeeAnn Whorley

A thesis proposal submitted to the Graduate Faculty of
North Carolina State University
in partial fulfillment of the
requirements for the degree of
Master of Science

Agriculture and Extension Education

Raleigh, North Carolina
2023

APPROVED BY:

Dr. Joseph L. Donaldson
Committee Co-Chair

Dr. Misty D. Lambert
Committee Co-Chair

Dr. Wendy Warner

BIOGRAPHY

Gabrielle “Gabby” Whorley is a first-generation college student who grew up in the foothills of Appalachia in Lenoir, North Carolina. She attended North Carolina State University in Raleigh, North Carolina where she received her bachelor’s degree in animal science with minors in Extension Education and Leadership in Agriculture and Life Sciences. She was heavily involved in the Animal Science Club, where she enjoyed showing livestock. She also spent a lot of her time volunteering at her church, Providence. During her summers of undergrad, she was able to intern with Extension in both Burke and Caldwell counties where she fell in love with teaching others about agriculture. After graduating with her bachelor’s Gabby returned to NC State to pursue her master’s degree in agriculture and Extension Education. She plans on graduating and working as a county extension agent or as a community college agriculture teacher.

ACKNOWLEDGMENTS

I am incredibly blessed to have such a wonderful support system that has cared for me during my graduate school journey. I am so grateful for each and every one of them and hope they know how much their encouragement and support have meant to me.

First and foremost, I would like to thank my family. Without my Mom and Kelly, I would not be here today. They have always pushed me to be my best and to go out of my comfort zone. Thank you, especially to my mom for listening to me always, even if you have no clue what I am talking about. Both of your love and support mean the world to me, and I cannot thank you each enough. To the rest of my family, thank you for all of your encouragement and support as well.

I would also like to thank my church family. My life group has prayed for me and supported me throughout this entire journey. It is so special to have a community, where you are loved and cared for. To my girls, I have had the privilege of being your leader since you were in 6th grade, I love you all so much and want you all to know that you definitely made my week better. I have enjoyed watching you each grow spiritually into beautiful and courageous young women. Thank you for letting me be a part of your lives and know that you definitely had a huge impact on mine!

I also have to thank one of my biggest supporters through it all, my wonderful dog Raleigh. I got her at the beginning of my grad school journey, and she has made the experience 100% better. She is the best girl who always can make me laugh or give the best cuddles at the end of a rough day.

Dr. Donaldson, thank you for taking an interest in me during undergrad, I would not be where I am today without all of your encouragement and help. Thank you for pushing me to be my best and for all of your patience with my many questions during this journey.

Dr. Lambert, thank you for all your help. You have taught me so much about the agriculture education side of things. I could not have gotten through grad school or this thesis without all of your help.

To all of you who are not named, if you are reading this know that you have had a major impact on my life, and I am thankful for you from the bottom of my heart.

TABLE OF CONTENTS

LIST OF TABLES	vii
LIST OF FIGURES	viii
CHAPTER 1	1
Introduction	1
NC Community Colleges	2
NC State College of Agriculture and Life Sciences	2
Statement of the Problem	3
Purpose	4
Significance and Stakeholders.....	5
Limitations and Assumptions	6
Operational Definitions	7
CHAPTER 2	8
Literature Review	8
Theoretical Framework Undergirding the Study.....	10
Importance of Agriculture in Higher Education.....	11
Community College Transfer Students	13
Self-Efficacy of Community College Transfer Students.....	15
Career Choice	16
Background and Parental Influences	16
Choosing to Pursue Agriculture in College.....	18
Career Choice in Agriculture.....	22
Outcome Expectations in Agriculture Careers	23
Literature Review Summary.....	24
CHAPTER 3	27
Methods	27
Reflexivity Statement	28
Population.....	28
Recruitment	29
Procedures	30
Response Rate	33
Data Analysis.....	33
Trustworthiness	34

Credibility	34
Transferability	35
Dependability	35
Ethics	35
CHAPTER 4	37
Findings	37
Participants	38
Theme 1. The Community College Transfer Students’ Interests and Experiences Influence Career Decision-Making in Agriculture Compared to the Limited Influence of a Family Background in Farming and Parental Guidance.....	40
4-H and FFA.....	40
Internships and Work Experiences Pre-NC State.....	41
Personal Interests.....	42
Parental and Family Farming Background Influence.....	43
Theme 2. Community College is an Enabling Experience but Contributes Little to Agricultural Career Choice.	44
Theme 3. Mentors Influence Career and Major Choices in a Number of Ways.	45
Theme 4. Self-Efficacy and Confidence are Multi-Faceted in Community College Transfer Student Career Choice in CALS.....	47
Theme 5: CALS experiences in courses and clubs influence career decisions. The academic advisor has a limited influence.	48
CHAPTER 5	50
Conclusions and Recommendations.....	50
Conclusions	50
Recommendations	52
REFERENCES	56
APPENDICES	67
Appendix A: Interview Protocol	69
Appendix B: Email sent for Recruitment	72
Appendix C: Recruitment Flyer	73
Appendix D: Informed Consent Form.....	74
Appendix E: IRB Approval Letter	78
Appendix F: Member Checking Email.....	79

LIST OF TABLES

Table 1	9
Literature Search Strategy	9
Table 2	31
Interview Questions and Connections to SCCT Career Decision Factors	31
Table 3	39
Participants	39
Table 4	46
Participants' Majors, Intended Careers, and Mentors	46

LIST OF FIGURES

Figure 1 3
Graph of Percentages of Types of Transfer Students in CALS (N=200) 3
Figure 2 10
Model of Social Cognitive Career Theory..... 10

CHAPTER 1

Introduction

Transfer students to the NC State University (NC State) College of Agriculture and Life Sciences (CALs) are (a) students who transfer from community colleges, and (b) students who transfer from 4-year institutions. This study is specifically looking at community college transfer students. Community college students are important because they are a diverse group. In fact, community colleges serve a large number of students who are underserved in higher education. According to the College Board, 51% of community college students as of 2016 identify as a race other than white (Ma & Baum, 2016). Additionally, 42% of community college students are first-generation college students, 13% are single parents, 12% have a disability, 6% are non-US Citizens, and 3% are veterans (Clay, 2012). The diverse array of students who make up the community college demographic may be an essential resource for the 60,000 highly technical agriculture job opportunities yearly in the United States (USDA, 2020).

Approximately four in ten community college students pursuing an associate of arts or science degrees plan to transfer to a baccalaureate institution (Ellis, 2013). Colleges of agriculture have worked to engage community college students through a number of initiatives such as career mentoring programs (Whorley et al., 2023).

This qualitative study investigates community college students who have transferred to the NC State CALs. The study examined the role of mentoring and other factors (such as family background) related to the student's future career aspirations. We understand that students typically make career decisions based on their perceptions of their abilities, their personal interests, and pursuing what they feel is a match between these and potential job requirements;

background; parental influence; and curricular and co-curricular experiences. This research is needed for NC State CALS because it allows for the recruitment of community college students into their agriculture program and will contribute to the advancement of North Carolina agriculture.

NC Community Colleges

In North Carolina there are 58 community colleges that serve the 100 counties throughout the state. There is not a community college in each individual county, but several of the community colleges serve at least two counties.

The mission of the North Carolina Community College System is to open the door to high-quality, accessible educational opportunities that minimize barriers to post-secondary education, maximize student success, develop a globally and multi-culturally competent workforce, and improve the lives and well-being of individuals (NC Community College System, 2022).

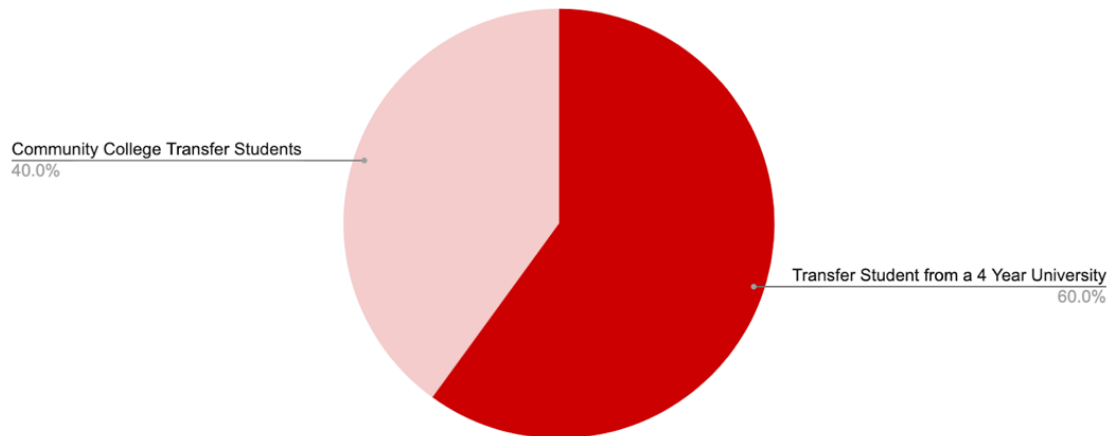
NC State College of Agriculture and Life Sciences

NC State CALS enrollment makes up 10.35% of the university as a whole with 3,887 students (NCSU Institutional Strategy and Analysis, 2022). NC State CALS has 15 departments, 22 majors, 20 minors, and 15 certificate programs. NC State CALS welcomes around 200 transfer students every year, which accounts for around 5% of students in the College. Additionally of that 5% of students that are transfer students, around 40% of those students are community college transfer students, which can be seen illustrated below in Figure 1.

Figure 1

Graph of Percentages of Types of Transfer Students in CALS (N=200)

Transfer Students into CALS at NCSU



Statement of the Problem

As farming and agriculture become more advanced, talented farmers and agriculturalists are needed to continue feeding our ever-growing world. Additionally, by 2050 the world population is expected to reach 9.1 billion people (Syngenta, 2017). This means we will need to increase food production by around 70 percent (Syngenta, 2017). Therefore, we need to increase the number of college students entering the agricultural workforce. This research is important because community college transfer students may present a notable audience for increasing enrollment in colleges of agriculture and increasing qualified professionals for food and agricultural careers. Community college students represent a diverse group of people. Community colleges are more racially, economically, and age diverse compared to a traditional 4-year university (Clay, 2012). By understanding the transfer students' career decision-making experiences, academic recruitment, and retention of these students in colleges of agriculture can be improved.

Purpose

The purpose of the study is to understand how transfer students in a college of agriculture come to their decision to pursue an agricultural career. This understanding may contribute to engaging highly qualified students who are aware of their career aspirations and who are prepared to enter the highly technological agriculture workforce. Students should have a basic understanding of their own career aspirations and goals, as well as how they were obtained so that they can understand and be confident in their career choice. As stated earlier there is a large need for college graduates to fill the many vacant agriculture jobs that require degrees (USDA, 2020). Community college transfer students are an important potential audience to fulfill the need for more professionals for the food and agricultural sciences.

Community college students are a group of interest to colleges and universities. There are already several initiatives being set forth to gain the interest of community college students. An example of this at NC State is the Community College Collaborative or C3program. This program is a transfer pathway that partners with community colleges in North Carolina and engages students in academic advising, online planning tools, networking opportunities, and programs and activities tailored to the needs of its members (NCSU C3, 2023). Several programs exist like this throughout the country and even in our own university, but no programs exist that cater specifically to the NC State CALS community college transfer students.

Not only is this study important for our society as a whole, but it is also important for community college students as well. Community college students may benefit from this study as well because findings may contribute to NC State orientation, academic advising, and programs serving community college students. The major question addressed by this study is: “How do

community college students who transfer into a four-year university choose to pursue agriculture as a career choice?”

Significance and Stakeholders

This study was needed to assess how transfer students at four-year universities can contribute to the ever-growing and changing agricultural workforce. This research was important for colleges of agriculture academic advisors because it contributes to more robust academic advising and career development. It is also useful for colleges of agriculture for recruitment purposes. This study is useful to transfer students as well because it may improve programs that serve transfer students. Community colleges can also use this research for recruitment of students who are interested in going to community college for two years and then transferring to a university. Additionally, this study demonstrated how major choice translates into the participant’s future career field. Limited evidence is available to address the question, “What makes a community college transfer student choose to pursue an agricultural career?” which underscored the need for this study.

This study is needed to assess how transfer students at four-year universities can contribute to the ever-growing and changing agricultural workforce. This research is important for colleges of agriculture academic advisors because it may contribute to more robust academic advising and career development. It is also useful for colleges of agriculture for recruitment purposes. This study is useful to transfer students as well because it may improve programs that serve transfer students. Community colleges can also use this research for recruitment of students who are interested in going to community college for two years and then transferring to a university. Additionally, this study can be used to show how major choice translates into the

participant's future career field. Limited evidence is available to address the question, "What makes a community college transfer student choose to pursue an agricultural career?"

Limitations and Assumptions

The results of the study were subject to the following limitations:

1. This study was limited to community college transfer students at NC State's College of Agriculture and Life Sciences in fall 2022.
2. The students who volunteered for this study already made a decision in their career choice. These students also may feel socially obligated to represent their community college and may skew answers to interview questions into a more positive light.
3. This study was limited to the students who volunteer for the study and sign the consent form. Despite efforts to recruit a diverse, cross-section of community college transfer students, the participants predominantly represent women and animal science academic majors. Due to the higher percentage of women enrolled in the college, 9 out of 10 participants identified as female, while only one identified as male. Additionally, due to the Animal Science Major making up the majority of the NC State CALS enrollment, the majority of participants were Animal Science Majors.
4. This study did not ask students about barriers they faced. This could have contributed to our understanding of why the students chose to attend community college and transfer to a four-year institution.

5. Selection bias occurred because the majority of students were recruited through clubs which may exclude populations such as those taking evening classes, those online, and/or those working in the evenings.
6. Interview questions were not pilot tested due to time constraints.

The following assumptions were made in conducting this study:

1. It was assumed that participants would respond truthfully.
2. It was assumed that the researcher would maintain a lack of bias in the study as a student of NC State CALS. The researcher is a graduate student in the college and was not a transfer student.

Operational Definitions

1. Community College Student: a student who has completed at least one semester of community college where they were enrolled full time.
2. Career Decision Factors: students' perceptions of their abilities, preferences, and pursuing what they feel is a match between these and potential job requirements; background; parental influence; and curricular and co-curricular experiences (Lent et al., 1994).
3. Self-efficacy: A student's belief in their own abilities to reach a goal or complete a task (Margolis & McCabe, 2006).

CHAPTER 2

Literature Review

In this section, a review of the literature concerning community college transfer students as well as transfer students into four-year institutions will be presented and how it relates to agriculture major choice, then career choice, and how it relates to agriculture major choice, both connected back to community college transfer students.

This literature review was conducted using the databases of the NC State Libraries which include many scholarly journals and articles all pertaining to agriculture career choice, career choice and major choice, career preferences, career influences, and career outcome expectations. The literature search strategy employed is shown in Table 1 below.

Table 1*Literature Search Strategy*

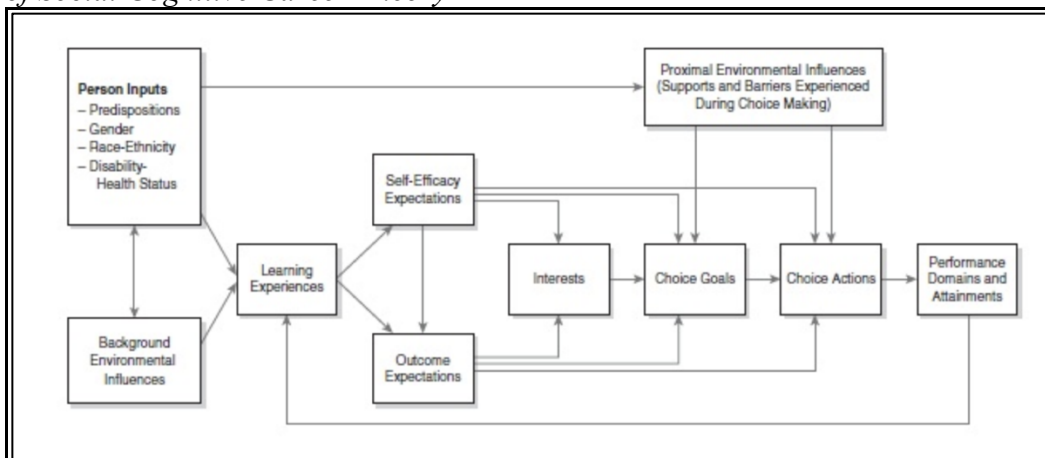
Literature Review Domain	Search Terms to be Used
Importance of Agriculture in Higher Ed	("Agriculture in Higher Education*" OR "Agriculture Literacy*" OR "Agriculture Education in Universities*" OR "Agriculture Knowledge*")
Community College Transfer Students	("Community College Transfer Students*" OR "Transferring to a 4-year university*" OR "Transfer Students Success*" OR "Community College Students Agriculture*")
Influences in Career Choice	("Influences in Career Choice*" OR "Career Choice Influence in Students*" OR "Community College Student Career Influence*" OR "Student Organizations Influence on Career Choice*" OR "Parent Career Influence"* OR "Youth Organization Career Influence"* OR "Mentoring influence on Career Choice"*)
Pursuing Agriculture in College	("Pursuing Agriculture in College*" OR "Choosing Agriculture in College*" OR "Agriculture Major Choice*" OR "Choosing to Major in Agriculture*" OR "Major in Agriculture*" OR "Why Major in Agriculture*" OR "Agriculture in College*" OR "College Agriculture Students*")
Career Choice in Agriculture	("Career Choice in Agriculture*" OR "Choosing Careers in Agriculture*" OR "Pursuing Agriculture as a Career*" OR "Choosing to Pursue Agriculture as a Career*" OR "Why a Career in Agriculture*" OR "Career Decision Making*")
Self-Efficacy in Career Choice	("Self-Efficacy in Community College Students*" OR "Self-Efficacy in Agriculture Careers*" OR "Self-Efficacy in Careers*" OR "Self-Efficacy in College Students*" OR "Role of Career Advising in Career Self-Efficacy*" OR "Mentoring and Self-Efficacy in Careers"*)

Theoretical Framework Undergirding the Study

This study used Social Cognitive Career Theory (Lent et al., 1994) as a theoretical framework to inquire about how and why careers are chosen. This theory “...emphasizes the means by which individuals exercise personal agency in the career development process. In particular, we focus on self-efficacy, expected outcome, and goal mechanisms and how they may interrelate with other people, contextual, and experiential/learning factors” (Lent et al., 1994, p. 79). This can be seen in figure 2 below.

Figure 2

Model of Social Cognitive Career Theory



Note: Lent, Brown, & Hackett, 1994, *Journal of Vocational Behavior*, 45, p.93. Copyright 1993 by R.W. Lent, S.D. Brown, & G. Hackett.

Social Cognitive Career Theory or SCCT consists of five models. The models are aimed at understanding what determines educational and career interest, career choice and performance, satisfaction in the career and academic setting, and how people manage challenges throughout their careers (Lent & Brown, 2013).

Much research has been conducted using the SCCT theory, much related to teachers and career counseling. A great example of this can be found in a study that examined student employability and how their teachers can help them be prepared for careers using SCCT (Liu et al., 2020). This study found that teachers play a huge role in career choice and student employability through their teaching methods, for example teaching students to problem solve, etc. (Liu et al., 2020). This study as well as several others showed the importance of SCCT and the many factors that influence career choice.

Additionally, more recent research has been done that includes how gender plays a role in SCCT. In the early days of the theory, the role of gender results in women being more confident in feminine careers and men being more comfortable in masculine careers. It is proposed that women are more inclined to typical feminine careers because of social experiences starting at a young age (Hackett & Betz, 1981). In relation to this study, agriculture was deemed a masculine field. Therefore, to get women more interested in agriculture as a career choice, according to SCCT, they must be introduced to agriculture career experiences at a young age (Tokar et al., 2007). Therefore, the theory and research discussed allows one to understand the importance of career education and experiences that happen before coming to college or university.

Importance of Agriculture in Higher Education

As farming and agriculture adopts advanced technologies, we will need talented farmers and agriculturists to continue feeding our world. Today's farmers are getting older and closer to retirement age. In fact, according to the 2017 Agricultural Census, 65.6 percent of North Carolina farmers are over the age of 55 (USDA, 2017). By 2050 the world population is expected to reach 9.1 billion people. This means we will need to increase food production by around 70 percent (US Census, 2019).

The literature points to the significance of students to understand the importance of agriculture for our economy, our ecosystem, and our food systems so that they can understand how essential agriculture is as a career.

In both developed and developing countries, if young people are not agriculturally literate upon leaving formal education, then their capabilities for knowing and addressing global food supply chain insecurities now and in the future will be impaired. Additionally, by addressing this issue, the next generation will be encouraged to aspire to a career in agriculture which is vital to attracting and retaining the future workforce (Cosby et al., 2022, p.2).

In the 1990s agricultural literacy was seen as a necessary need for every K - 12 student (Leising et al., 2000). Now almost 30 years later this has still not become a reality. As people continue to move to urban areas and grow deeper into an online presence, they are moving farther away from their agriculture and rural roots (Cosby et al., 2022).

Not only students are lacking in agriculture literacy, but so are adults. In the past several years, agriculture has been a very controversial topic. From animal rights, genetically modified crops (GMOs), and food safety issues, the American public has very little knowledge about issues facing agriculture and the different policies affecting them as well (Kovar & Ball, 2013). Kovar and Ball (2013) postulated: “A society with an understanding of agriculture and current economic, social, and environmental impacts could lessen current challenges facing agriculture through good decision making along with providing the necessary support” (p. 168).

Additionally, agriculture is ever-changing with new technologies being constantly introduced. That means if someone had a basic understanding of agriculture in the 1980s then they will be

very behind today. The major conclusion from the research is that there is a large need for agriculturists with four-year degrees that are highly skilled in these new technologies and even new areas of agriculture.

Community college students are important because they are a diverse group. According to the College Board, 51% of community college students as of 2016 identify as a race other than white (Ma & Baum, 2016). Additionally, 42% of community college students are first generation college students, 13% are single parents, 12% have a disability, 6% are non-US Citizens, and 3% are veterans (Clay, 2012). With 60,000 highly technical agriculture job opportunities yearly in the United States, the students who make up the community college demographic may be an important resource (USDA, 2020).

The literature regarding agriculture in higher education points to the necessity of creating high-skilled agriculturists that will be able to feed our ever-growing world. Additionally, many new technologies are emerging every day within agriculture, as well as the new technologies that needed to be developed. Consequently, more students need to pursue agriculture in college to satisfy demand for highly skilled agricultural professionals. Therefore, we can have agriculturists who know how to use cutting-edge technology as well as the ones who are inventing it, another reason that shows the importance of agriculture at the university level.

Community College Transfer Students

The research on community college students who transfer to colleges of agriculture spans 50 years. Strait (1973) found that community college transfer students who transfer into colleges of agriculture have an 83% chance of earning their bachelor's degree in two years. Strait's study illuminated the different challenges that these transfer students face such as

“educational shock” (Strait, 1973, p.73). Transfer students come from different backgrounds with varied educational opportunities, yet after the transition period, students are successful in colleges of agriculture (Strait, 1973).

Around 40% of community college students who are enrolled in associate of arts or science degrees have plans to directly transfer to a four-year institution. Despite knowing that these students are planning to transfer and having a proportion of incoming students who are community college transfer students, these community college transfer students are met with numerous challenges. Successful transfer students described how the transfer process is hard both educationally and socially and that programs at the community college level, as well as the university level, could be very helpful in making sure the transition is successful. They also felt that advisors encouraging them to participate in career development programs would have helped them make more precise career decisions. Transfer students overall are highly motivated to be successful, but programs could help make their new education career more seamless (Ellis, 2013).

Transferring from a small community college to a large research institution is difficult and transfer students have indicated that assistance in familiarizing them with the new universities would make it much easier (Townsend & Wilson, 2006). Most institutions invest considerable effort to orientate first-year students through resources such as first-year seminars, residential living communities, or related courses (Townsend & Wilson, 2006). Making some of these more tailored to transfer students would make the transition for students much easier as well as set them up to be more successful with career choices (Townsend & Wilson, 2006).

In a 2007 study of Tennessee Technological University undergraduates in introductory agricultural classes, transfer students were much more likely to receive an A than traditional

students with higher ACT scores. This can be attributed to the transfer students that went to community colleges already having practice and experience in taking classes at a college level compared to the traditional students that are coming in from high school (Branson & Green, 2007).

Additionally, students who begin their journey at a community college are more likely to come from lower-income families, be first-generation college students, or come from rural or underserved communities (Glenn, 2019). Targeting this demographic of students allows universities to meet the needs of students who in other circumstances would not come to a four-year institution. Again, these students will need programs tailored to their needs to help them with the transition, but these students coming from various backgrounds with different life experiences will help make colleges of agriculture even richer in their academic prowess (Ellis, 2013).

Self-Efficacy of Community College Transfer Students

Self-efficacy can be defined for this study as a student's belief in their own abilities to reach a goal or complete a task. An example of this in the academic setting would be a student's belief in their ability to successfully complete a test. Low self-efficacy is an issue in students because it is believed that the lower the self-efficacy of the student, the lower the amount of effort they will put into their academics (Margolis & McCabe, 2006).

In college students, self-efficacy becomes more important as students take on more independent learning. Community college students have a greater opportunity to create relationships with their professors due to class size being much smaller than at typical universities. Studies have shown that these relationships between students and teachers result in the students having more self-efficacy. This results in students who transfer from community

college being more confident in their own abilities including connecting with professors (Lancaster & Lundberg, 2019). In contrast, community college transfer students can also come into a four-year university feeling inferior compared to their traditional entry peers. The community college transfer students feel that their grade point average correlates to their self-efficacy to do well at university (Buenaflor, 2023).

The transfer process and experience are complicated and different for every student. Yet, it is important to try and meet each of these students where they are and provide them with the necessary resources. Providing them with what they need to be successful and giving them encouragement will result in higher self-efficacy, which correlates to greater success in their college program (Buenaflor, 2023). Major conclusions from the literature above show that community college students are confident in their abilities to succeed, yet they can sometimes feel inferior compared to their traditional entry peers.

Career Choice

Background and Parental Influences

To understand why students choose different careers it is important to understand what influences career choice. Career choice is influenced by many different factors including the students' understanding of their own abilities, and preferences, and pursuing what they feel is a match between these and potential job requirements (Kniveton, 2004). In addition, parents, work-integrated learning, and experiential learning all influence career decisions.

Children often share similar values and beliefs with their parents which leads to them looking up to their parents for career choice advice (Otto, 2000). Children learn from their parents and yearn for their approval, but they also want to talk about their career plans with

people from outside their household such as school counselors (Otto, 2000). Counseling and guidance services are proven to help students with career choices, but the majority of students will choose their careers by themselves (Mghweno et al., 2014). Research concludes that parents play somewhat of an important role in career choice, but most children will make that decision based on other experiences and factors.

Career choice is also influenced by experiences had by the students. Work-integrated learning influences students in their career choices (Jackson, 2015). An example of work-integrated learning is internships. Internships allow students to gain personal insight into what the day-to-day of their desired career is like. They also allow students to learn career self-management practices so that students have better self-awareness of what it will take to meet their career goals (Jackson, 2015).

Experiential learning plays a major role in influencing career choice. Experiential learning is defined as using experiences to transform activities into knowledge (Kolb, 1984). “Advocates of experiential learning argue that individuals can learn better by doing” (Sherman et al., 2008, p. 31). Students can learn what type of careers they are interested in by doing related hands-on activities. This can also be seen in older students who participate in internships or job shadowing. Students become much more confident in their career decision when they participate in career exploration activities such as job shadowing or internships (Lent et al., 2002). The literature regarding experiential learning shows how influential it is in students’ career choices.

Youth programs related to agriculture also play a large part in influencing a student’s career choice. Future Farmers of America (FFA) and 4-H are the two main youth organizations that positively influence how students feel about agriculture (Jeong et al., 2021). These youth

organizations can create a positive stigma around agriculture by allowing youth to be involved in several activities including camps, service opportunities, and several hands-on activities all with an underlying theme of the importance of agriculture (Marx et al., 2014). These students involved in these organizations are also being mentored by an advisor or extension agent that are heavily involved in the agriculture community. These mentors are pouring into these students the importance of agriculture, allowing these students to understand why a job in agriculture is not only important but can also be a very successful career. Additionally, the students who participate in these programs are more likely to stay enrolled in a college of agriculture and earn their degrees (Dyer et al., 2002). The research above shows that programs such as 4-H and FFA allow youth to have mentors that have strong ties to agriculture which allows the youth to see its true importance. Major conclusions from the literature show the importance of experiential learning and background involvement in 4-H and/or FFA in influencing a student's career choice.

Choosing to Pursue Agriculture in College

In the 1990s, enrollment in colleges of agriculture declined across the United States (Torres & Wildman, 2002). This low enrollment was attributed to the farm crisis in the United States of the late 1970s and early 1980s (Shrestha et al., 2011). More recently students explain that they are not choosing agricultural careers because of the low prestige of agriculture and perceived lower salaries as compared to all other, non-agriculture careers (Zulaikha et al., 2021). Consequently, it is important to look at the factors that influence students to study agriculture at colleges and universities. Students look for places that they feel comfortable in and are heavily influenced by the overall atmosphere of the departments that they are looking into, the ability to get hands-on experience, and the ability to work outdoors (Torres & Wildman, 2002). Students

also look at agriculture as a career possibility based on the mentor they have had during their lives. Students are more likely to choose agriculture if it is something they have been exposed to as well as if they know a professional in that field (Torres & Wildman, 2002).

It is important that colleges of agriculture are reaching students in ways that the students prefer. A 2013 study shows that students were more likely to pursue agriculture in college if they are shown key career messages about job availability and stability and positive contextual messages, through high-touch channels and online channels (Baker et al., 2013). The students felt more positive about pursuing agriculture as a major in college when the positive outlooks of job availability and hearing from current agriculture professionals about how much they enjoy their jobs. Additionally, students preferred to be contacted through high-touch channels which are messages received through personal contact. “Some of the channels mentioned consistently were advisors’ offices, seminar classes, career fairs, and preview or orientation programs” (Baker et al., 2013, p. 58). The students are influenced to pursue agriculture when they are able to get face-to-face interactions with industry professionals. Additionally, the students mentioned that they thought it would be beneficial to send out online messages or advertisements targeting potential agriculture students (Baker et al., 2013).

A study by Herren et al. (2011) looked at what had the greatest influence on students at Oklahoma State University to pursue agriculture as a college major. Researchers found that students were highly influenced by “academic reputation, quality of facilities, campus environment, and scholarships awarded” (Herren et al., 2011, p. 57). Additionally, students were highly influenced by parents or guardians as well as being shown career opportunities that are available with their major (Herren et al., 2011). Students being able to see alumni in careers is very important as it provides reassurance that the students will have a successful agricultural

career. Students want to see that the agricultural job they are interested in will produce a successful career. “In regard to job considerations, students considered the job market, potential income after graduating, and working with people as the most critical factors to their choice of major” (Stair et al., 2016, p. 22).

Looking at the factors that influence students to choose agriculture as a college major can help us fill the several agricultural jobs that require a college education (Blackburn et al., 2016). Along with the atmosphere, students are also more likely to choose a college of agriculture major if they are given adequate information and future job opportunities (Blackburn et al., 2016). To increase the number of students who enroll in college agricultural majors, it is also important to start exposure at the high school level as well as to seek out underserved student populations (Blackburn et al., 2016). Younger exposure through youth agriculture groups such as 4-H and FFA can support enrollment. In fact, a student is more likely to pursue agriculture in college if they were able to spend one-on-one time with a 4-H or FFA leader (Duncan et al., 2015). These interpersonal relationships can create a huge impact on a young person’s life regarding career choices. Additionally, students who completed agriculture courses in high school or participated in 4-H are more likely to see the importance of an agriculture degree and complete their degree compared to their peers also enrolled in a college of agriculture with no previous agriculture experience (Dyer et al., 2002).

The literature on the value of 4-H and FFA for exposing students to agriculture and its many career opportunities aligns with the literature on the value of experiential learning for career decision-making (Kolb, 1984; Lent et al., 2002; Sherman, et al 2008). As 4-H and FFA are dedicated to experiential learning, these organizations play an important role in influencing students to enroll in a college of agriculture.

It is also essential to look at populations of students who are underserved by colleges of agriculture and have not pursued agricultural majors – namely students from urban areas, students who represent racial and/or ethnic minority groups, and students who perceive agriculture as harmful to the environment. Urban students identified family and friends as being the largest influence on their major choice (Bowen & Esters, 2005). This also related to career choice and optimism as students who had the most job opportunities, internships, and hands-on education experiences were the students who majored and then chose to pursue a career in agriculture (Bowen & Esters, 2005). The literature demonstrates that students who represent racial and/or ethnic minority groups tend to perceive jobs in the agricultural sector as less than or lacking prominence in society because of the negative connotations that their people groups have associated with farm or agricultural labor (Chavez et al., 2008). Several students, including the minority students, think that pursuing agriculture in college will result in an inadequate salary in their future career (Chavez et al., 2008). A subset of students (not necessarily minority students) see agriculture as harmful to the environment. While these students are difficult to recruit to colleges of agriculture because of their beliefs, they are educated on conservation and the many ways that researchers are making agriculture more environmentally friendly. Therefore, they may be more interested in studying agriculture so that they can help solve their perceived problems with it (Chavez et al., 2008).

Research suggests that students of underserved communities should be recruited to colleges of agriculture to help fill the need for agricultural professionals. Additionally, it would be beneficial for alumni in the agriculture field to connect with students who are interested in the same career as them.

Career Choice in Agriculture

Knowing the reasoning behind why one chooses a major in agriculture also helps one to understand students' career decisions. Students enrolled in colleges of agriculture have varying degrees of career choice indecision (Esters, 2007). Freshmen have much more career indecision compared to seniors, yet seniors are also experiencing career indecision, just at lower levels (Esters, 2007) pointing to the need for students to participate in career exploration and career counseling. Additionally, the research on career choice in agriculture conveys the influence of varied factors including mentoring from academic advisors, personal interests, and internships and other career experiences.

Advisors play a huge part in helping agricultural students be successful. Subsequently, advising is very important in colleges of agriculture as it can help students be successful as well as help them with job choices. Faculty should be highly involved in advising students as career mentors. Faculty feel competent in helping students with class scheduling but feel they need more training to be successful in helping with career choice (Horstmeier, 2006).

Students also have personal interests that lead them to pursue agriculture as a college major and as a future career. Some of the preferences could be working outside or a love of animals etc. These are known as work values. Work values are defined as "values that individuals believe should be satisfied as a result of their participation in the work role" (Brown, 2002, p. 470). People who seek careers in agriculture enjoy the idea of work not being the same every day and being able to get outside, or not being confined to a cubicle (Stair et al., 2016). A conclusion from the literature above conveys that students' personal interests play a large role in influencing a student's major and career choice.

Career experience through internships or work experiences in the agriculture field leads to career ready graduates with increased odds of landing a job (Feldpausch et al., 2019). Additionally, internships allow a great pathway for students to gain employment full time. These experiences are a great influence in what agriculture major and career a student will pursue, and they also help to solidify their career choices. “Relevant work experience was perceived by students as highly beneficial for future career success” (Feldpausch et al., 2019, p. 255). Research shows that work experience and internships not only look good for potential future employers but also allows students to get insight into what could be their future career.

Outcome Expectations in Agriculture Careers

Outcome expectations in agriculture tend to shape the agricultural profession as agriculture is often viewed as having fewer opportunities, lower income, and less prestige than non-agriculture careers (Farooq & Ullah, 2021). This is an issue internationally, as agriculture tends to be seen as a lowly job that is at best a last resort option for many students. In other countries especially, it is seen as a career sector for the uneducated and a hard manual labor job that beats down the body (Tadele & Gella, 2012). The best way to curb these low expectations is to inform students about the several job opportunities as well as the importance of agriculture. Students can access this information through career counseling and career resources.

Not only do many students think of it as a less prestigious career, but they also see it as an unimportant job. Youth, as well as adults, need to be taught about the importance of agriculture. Both rural and urban adults know very little about agriculture and where their food comes from (Frick et al., 1995). A large number people take agriculture for granted and only think about food and clothing coming from the store rather than the farm. Education about

agriculture and how important it is will allow students to see it as a career that is important and fulfilling.

Career counseling is essential for students to break down their underlying perceptions and understand their career outcome expectations (Najam & Ghazal, 2022). As career and major counseling becomes more specific and student diversity is increased, advising is essential to help students get to the place of understanding the importance of agriculture and how it will always be a profitable career field. This is due to the increased number of students with no agriculture background pursuing agriculture as a major and career (Feldpausch et al., 2019). Research discussed above concludes that students need help in understanding these perceptions so that they can feel more confident in their career choices within agriculture and their expected career outcomes.

Literature Review Summary

Agriculture is essential in higher education as our world population continues to grow. Currently, in North Carolina, around 65% of all farmers are over the age of 55 (USDA, 2017). With the population growing and the agriculturist population aging it is essential to have career-ready graduates in agriculture. These career-ready graduates will be able to create and use the new technology that will be essential in avoiding a food crisis.

Research shows that students have several influences that impact their career choice in agriculture including parents, experiences, personal interests, and mentors. The main findings and conclusion of the literature are as follows. Children look up to their parents as role models which usually leads to them going to their parents for career advice as well (Otto, 2000). Children will naturally look for their parent's approval, but children also tend to get advice from

people outside of their household (Otto, 2000). Students are also influenced by the many different experiences they have, whether it be with job shadowing or an activity they enjoyed in school. Students are much more confident in their career choices when they have had a previous experience with them (Lent et al., 2002). Additionally, students all have personal interests that lead them in a direction of a certain career. Some students will report that they want to work outside or that they have a strong love of animals. They are also very interested in career outcomes and salaries (Lent et al., 2002). Lastly, mentors also play a large role in influencing a student's career choice. Interpersonal relationships with leaders in the agriculture sector such as 4-H agents or FFA advisors leave a lasting impact on students. Students exposed to agriculture through 4-H or FFA have a higher chance of pursuing a career in agriculture compared to students who were not exposed to agriculture (Duncan et al., 2015). Many different influences impact a student's career choice which can be seen in Figure 2 on page 9, and it is important to understand the influences for recruiting purposes for colleges of agriculture.

Community college transfer students are needed to fill agricultural careers. These students come from a varying array of backgrounds, and it is noted that not all educational backgrounds of the students are equal, yet they continue to be successful (Strait, 1973). Additionally, transfer students from community colleges into colleges of agriculture will need special programs that will help them have a successful transition into a four-year university. Community college transfer students are highly motivated to succeed but additional help is much needed (Ellis, 2013). Community college transfer students can help fill the abundant openings in the agricultural sector.

Career indecision in students pursuing agriculture is high which leads to a need for career advising and counseling. Self-efficacy in community college transfer students is higher than that

of their traditional entry peers, but career advising is still a need (Lancaster & Lundberg, 2019). Even though community college transfer students are highly self-motivated, they tend to feel inferior to their peers (Lancaster & Lundberg, 2019).

Community college students are a great fit to fill a need of career-ready agriculture graduates due to their persistence and self-motivation when it comes to their education. We know in general what influences traditional college students to choose to major in agriculture, the gap persists in our understanding of community college students who pursue agricultural careers.

CHAPTER 3

Methods

In this chapter, the methodology is presented. This chapter includes: the method used to select the population of interest, the research design, the recruitment of participants, data collection, measures, and the trustworthiness of the study are discussed.

Quantitative research in the field of agriculture usually consists of surveys, yet surveys are limited to the types of questions and the depth of responses that you will get from participants (Prokopy, 2011). This is why the method used for this basic qualitative research is two separate interviews, one at the beginning and one at the end of the Fall 2022 semester.

Qualitative research is not looking for principles that are true all the time and in all conditions, like laws of physics; rather, the goal is understanding specific circumstances, how and why things actually happen in a complex world (Rubin & Rubin, 1995, p. 38-39).

This is a basic qualitative study drawing upon phenomenological research methods as well as appreciative inquiry. Phenomenological research seeks to understand the participants' lived experiences, and while this study does touch upon this method, it is not seeking a full-on phenomenon. The lived experiences of the participants are very important to this study as it helps one to understand the many different influences that have attributed to them pursuing agriculture. The lived experiences of the participants can be understood from the participants interview question responses. Appreciative inquiry is a method that seeks to understand the best in people and organizations. "Appreciative Inquiry is a process that inquires into, identifies, and further

develops the best of what is in organizations in order to create a better future” (Coghlan et al., 2003, p. 5). This research draws upon appreciative inquiry because the questions that are asked have a positive tone directed toward career decision making.

Reflexivity Statement

As a first-generation college student who did not attend a community college, I cannot understand the experiences that were had by the participants in this study. I attended NC State for my undergraduate degree in Animal Science, where I was active in the Animal Science Club, and participated in summer internships with NC Cooperative Extension. Growing up I did not have a local 4-H agent or any FFA programs. Additionally, I am currently on a graduate teaching and research assistantship with the Department of Agricultural and Human Sciences that is funded by the e North Carolina Agricultural Foundation Inc., and the primary purpose of this assistantship is to promote an NC State education and agricultural career pathways among community college students. The program is known as Career Pathways in Agriculture for Community College Students (Career PACCS). None of the study participants have been Career PACCS participants. I have an interest in understanding the major factors that influence the community college transfer student to pursue a major and career in agriculture.

Population

The participants of this study (N =10) were community college transfer students who have transferred into NC State’s CALS and are pursuing a career in agricultural and food sciences. To be considered a community college student for this study, the participants had all completed at least one semester of community college.

Recruitment

The students were recruited through the Career PACCS program, the C3 program, the AEE 103 and ALS 303 classes, and all clubs in CALS, all at NC State. An email with an attached flyer that was sent out to all potential participants can be found in Appendix C. Career PACCS is a new program at NC State to help potential community college transfer students explore different career options in food and agriculture sciences. C3 is a program that partners with North Carolina community colleges to provide pathways for community college transfer students to earn a bachelor's degree at NC State. AEE 103 or *Fundamentals of Agriculture and Extension Education* introduces all new students in the Department of Agricultural and Human Sciences to NC State where they explore the resources of the college and the department; academic policies of NC State; the agriculture industry; career opportunities; and trends and issues in agriculture. ALS 303 or *Transfer Transitions and Diversity in Agriculture and Life Sciences* allows transfer students to learn about academic policies and resources at NC State while also looking at tips for academic success and career opportunities in agriculture and life sciences. The NC State CALS clubs include the Agriculture and Extension Education Club, the Agricultural Business Management Club, the Agronomy Club, the Animal Science Club, the Biochemistry Club, the Botany Club, the Companion Animal Club, the Dairy Science Club, the Horticulture Club, the Poultry Science Club, and the Beekeepers Club.

Students in these classes, programs, and clubs were asked to participate based on meeting the qualifications of transferring to NC State from a community college and pursuing a degree in food and agricultural sciences. Participants must have completed at least one semester of the community college where they were enrolled full-time. A flyer found in Appendix C was distributed to explain the basics of the study as well as an incentive for participants, a twenty-

dollar gift card for completing each interview. Students reached out to me through email if they were interested and to make sure they met the requirements. If they met the requirements, they were sent the consent forms, and once those were returned then a link to a Google calendar was sent where they could schedule an interview time.

Procedures

Interviews were used to conduct research. Two individual interviews were conducted: One at the beginning of the fall 2022 semester, and one at the end of the fall 2022 semester. The first set of interviews occurred between September 12th and October 5th, 2022. The second set of interviews happened between November 28th through December 7th. Students were asked to participate in both interviews. The average interview was around 20 minutes long. Interviews ranged in length from 15 minutes to 45 minutes. The purpose of having two interviews allowed the participants who had just transferred to NC State to settle in. It also allowed for the research to look at the transition over a semester at a four-year university and to observe if anything had contributed to career decision-making in that time. Students were asked questions to improve their understanding of why they chose to pursue food and agricultural sciences at NC State as well as what experiences have affected their career and academic major choice. An example of one of these questions was “To what extent, if at all do you think that your family has had an impact on your choice to pursue agriculture as your career?” The interview protocol (showing all questions) is in Appendix A. The questions are all connected to SCCT. A table showing each question and how it connects to SCCT can be seen below.

Table 2***Interview Questions and Connections to SCCT Career Decision Factors***

Interview Questions	Connection to SCCT Factors
What are you majoring in and what is your intended career, why did you choose this major and career?	Background/Environmental Influences
How confident are you in your decision to pursue agriculture as a career, what has made you feel that way?	Self-Efficacy Expectations
Before coming to NC State, what college or university did you attend, and did you obtain a degree? Did you live at home or move away to attend?	Background/Environmental Influences
In what ways, if any, did your previous college experience influence you in pursuing an agricultural career?	Learning Experiences, Background/Environmental Influences
Have you had any experiences in your time before college that you feel impacted you and your choice to pursue agriculture, and can you tell me about it?	Background/Environmental Influences
Do you have any personal goals that have made you want to pursue agriculture as a career? Can you tell me about them and how they affected you in your career choice?	Background/Environmental Influences/ Learning Experiences
To what extent, if at all do you think that your family has had an impact on your choice to pursue agriculture as your career?	Background/Environmental Influences
Tell me about any mentors that have inspired you to pursue agriculture?	Background/Environmental Influences
Who do you consider your mentor as you make career decisions?	Background/Environmental Influences
Tell me about any clubs you participated in in middle and high school and how you feel they influenced your career choice, if at all?	Background/Environmental Influences, Learning Experiences
Did you participate in 4-H or FFA? If so, how do you feel they had an impact on your future career choice in agriculture?	Background/Environmental Influences, Learning Experiences
What job are you hoping to pursue in the agriculture career field and why do you want that to be your career?	Choice Goals, Background/Environmental Influences, Learning Experiences
Do you have anything else you would like to tell me about what has influenced you to choose agriculture as a college major and pursuing agriculture as a career?	Choice Goals, Background/ Environmental Influences, Learning Experiences, and Self-Efficacy
How has the transition to your first semester at a 4-year university in an agriculture degree program been for you? Has it been harder or easier than expected? What has helped you most?	Learning Experiences
Do you feel that your community college experience helped you be more prepared for your courses versus students who did not attend community college?	Learning Experiences, Background/Environmental Influences
Who do you consider your mentor as you make career decisions?	Background/ Environmental Influences, Learning Experiences

Table 2 Continued

How has having a mentor in your intended career field helped you in career choice and exploration?	Learning Experiences
Looking back on the semester, how do you feel that your time and experiences at community college prepared you for your academic major of agriculture?	Background/ Environmental Influences, Learning Experiences
Are you still interested in pursuing the same career that you were at the beginning of the semester? If yes, why? If not, why?	Learning Experiences, Self-Efficacy Expectations
What experiences have you had this semester that have helped either solidify or change your future career choice in agriculture?	Learning Experiences
How confident are you in your decision to pursue agriculture as a career, what has made you feel that way?	Self-Efficacy Expectations
Have you been involved in any agriculture-related clubs or activities? If so, how do you feel it has impacted your future career decisions? (i.e., Does it make you feel more comfortable in your choice to pursue age?)	Learning Experiences
What in your time here so far has influenced you the most in your career choice in agriculture? Can you tell me more about the experience and how it impacted you?	Learning Experiences
Do you have anything else you would like to tell me about what has influenced you to choose agriculture as a college major and pursuing agriculture as a career?	Choice Goals, Background/ Environmental Influences, Learning Experiences, and Self-Efficacy

Using SCCT as a theoretical framework supported specific questions for understanding multiple influences that impact a student's career choice. All interviews were both audio and video recorded via Zoom. Additionally, some probing questions were asked of students to get better descriptions. For example, one participant stated that they liked plants in response to the question, “Why did you choose this major and career?” To obtain in-depth knowledge from the participant, I then asked them why they liked plants. I was also able to keep personal bias out of the interviews by staying as close to the interview protocol as possible, other than appropriate probing questions. Since, I did not attend a community college, I had no personal experiences to input into the interviews.

Response Rate

There was a 100% response rate for both interviews. Each of the ten students participated in the interviews at the beginning of the fall 2022 semester as well as at the end of the fall 2022 semester. The first round of individual zoom interviews occurred on 9/12/22, 9/13/22, 9/19/22, 9/20/22, 9/22/22, 9/27/22, 9/29/22, 9/30/22 and 10/5/22. There were two interviews on 9/13/22. The second round of individual zoom interviews occurred on 11/28/22, 11/29/22, 11/30/22, 12/5/22. Three interviews per day occurred on 11/28/22, 11/29/22, and 11/30/22.

Data Analysis

The collected data from the interviews was organized through coding. "Coding is the process of analyzing qualitative text data by taking them apart to see what they yield before putting the data back together in a meaningful way" (Creswell, 2015, p. 156). For this study, data were coded using deductive thematic analysis coding. "Thematic Analysis is a type of qualitative analysis. It is used to analyze classifications and present themes (patterns) that relate to the data" (Alhojailan, 2012, p. 40). Deductive coding is a top-down approach, where I pre-determined the themes that I would be looking for from the literature before collecting data, and then looked in the data for the specific themes. The themes represented from the literature were students' perceptions of their abilities, preferences, background, parental influence, and curricular and co-curricular experiences, as these themes were large topics that came up in all of the literature and then came up in all of the interviews. Each participant was assigned a color and participant number, and I used this color and number for the applicable transcript and notes. The SCCT model, which can be seen in Figure 2, was also color coded. Each block, which correlates with the five major themes, was given a different color. The transcripts were read and re-read to ensure that the themes were consistent with the data.

Data was collected through audio and video recording via Zoom. Zoom was used as a platform for the interviews due to the ongoing challenges presented by the COVID-19 pandemic. It was also convenient for the participants and made scheduling easier. Zoom also was convenient for the researcher as it made an efficient recording tool. The first round of interviews happened at the beginning of the fall semester of 2022 and the second round of interviews happened at the end of the fall 2022 semester. Each interview was hand transcribed by looking at the captions that were recorded through Zoom. Additionally, I took notes during each interview, summarizing participants' responses to each question. These transcripts and field notes were then used for the thematic analysis coding (Creswell, 2015).

Trustworthiness

Qualitative research may be seen as less trustworthy than quantitative research because of small sample sizes and data not being numerical. To ensure the trustworthiness of this study, the transcripts and notes were read numerous times to ensure understanding. Additionally, triangulation was used. “Triangulation has been viewed as a qualitative research strategy to test validity through the convergence of information from different sources” (Carter et al., 2014, p. 545). Triangulation occurred through the use of interview data, SCCT, and coding. For qualitative research it is important for the researcher to additionally address the credibility, transferability, and dependability of their study.

Credibility

Stahl and King (2020) stated that “Credibility asks the ‘How congruent are the findings with reality?’”(p. 26). Member checking was used to create credibility of this study. Member checking is when informants check the researchers writing after the fact, to verify the interpretations of the researcher (Stahl & King, 2020). An email was sent out to participants with

the five major themes of the study, to see if they agreed or disagreed with the findings. This email can be found in Appendix E. None of the participants disagreed with or had any questions about the findings. Additionally, this study committee members, who are all experts in the field, reviewed and checked the transcripts, coding, findings, and conclusions. They provided feedback and approval of themes and findings as they emerged.

Transferability

Transferability in qualitative research is established by providing the readers of your study with enough data and evidence to be able to relate it in other contexts (Lincoln & Guba, 1985). This is done in this study by allowing great detail or thick description of the data collected (Creswell, 1998). The thick description comes from the data collected from the interviews, where readers can learn from the participants firsthand descriptions, which then allows readers to transfer the information to another setting.

Dependability

Nowel et al. (2017) states “To achieve dependability, researchers can ensure the research process is logical, traceable, and clearly documented” (p. 3). For this study, the researcher kept various notes on when and how research was occurring. Additionally, a spreadsheet was kept with all the participants' information, including when they turned in their IRB approved consent papers, when they scheduled their interview, and when the actual interviews occurred. This spreadsheet allowed for dependability of the study as it was updated after every step in the study.

Ethics

Permission to conduct this study was obtained from the Institutional Review Board at NC State. The IRB protocol number is 25135. A letter of approval from IRB can be found in

Appendix E. All rules and standards set forth by the Institutional Review Board were strictly followed. Students received a document with the purpose of the study and another document acknowledging that they can withdraw from the study at any time. These documents can be found in Appendix D.

CHAPTER 4

Findings

This chapter begins with contextual information about the participants (N=10) including their academic majors and intended careers. The findings of this study are presented through five overarching themes that emerged as follows:

1. The community college transfer students' interests and experiences influence career decision-making in agriculture compared to the limited influence of a family background in farming and parental guidance.
2. Community college is an enabling experience but contributes little to agriculture career choice.
3. Mentors influence career and major choices in numerous ways.
4. Self-efficacy and confidence are multi-faceted in community college transfer students' career choice.
5. CALS experiences in courses and clubs influence career decisions. The academic advisor has a limited influence.

In this chapter, a number of direct quotations from participants are brought forth, and participants are identified by the participant number that was randomly assigned to them. The chapter ends with a summary of the findings.

Participants

There were ten participants in this study. The contextual information about the participants can be found in Table 3 which summarizes gender, major, in-state, or out-of-state community college location, FFA and 4-H participation, and family farming background for each participant.

Table 3
Participants

Participant	Gender	Major	NC Community College	Rural Community College	FFA or 4-H	Family Farming Background	Intended Career
1	Female	Animal Science; Pre-Vet Concentration	Yes	Yes	No	Yes	Veterinarian
2	Female	Animal Science; Pre-Vet Concentration	Yes	No	FFA	No	Veterinarian
3	Female	Animal Science; Pre-Vet Concentration	Yes	Yes	No	No	Veterinarian
4	Female	Agricultural Education	Yes	Yes	FFA	Yes	Agriculture Teacher
5	Female	Animal Science; Pre-Vet Concentration	Yes	Yes	4-H and FFA	No	Veterinarian
6	Male	Crop and Soil Science	Yes	No	No	No	Plant Geneticist
7	Female	Animal Science; Pre-Vet Concentration	Yes	No	No	No	Veterinarian
8	Female	Animal Science and Agricultural Business Management	Yes	Yes	FFA	No	Agriculture Business or Industry
9	Female	Agricultural Business Management and Economics	Out of State	Yes	4-H and FFA	Yes	Agriculture Law & Policy Maker
10	Female	Agricultural Education, Animal Science Concentration	Yes	Yes	FFA	No	Agriculture Teacher

All participants are currently enrolled at NC State CALS. All of the participants came from different community colleges except two, nine from community colleges in North Carolina and one from a community college out of state. Additionally, six of the ten participants were members of either 4-H or FFA (Future Farmers of America), or both. Three participants come from a background of family farming and seven participants attended rural community college.

Theme 1. The Community College Transfer Students' Interests and Experiences Influence Career Decision-Making in Agriculture Compared to the Limited Influence of a Family Background in Farming and Parental Guidance.

Regarding career decision-making, participants pointed to experiences in 4-H and/or FFA, internships or work experience, as well as personal interests as having influence on their career choice. In contrast, parents did not play a significant role in affecting career choice. Additionally, only three participants grew up on a family farm, and despite pursuing a career in agriculture, they are not pursuing a career in farming.

4-H and FFA

As mentioned earlier, six of the ten participants were involved in either 4-H, FFA, or both. Each of these students discussed the large influence that these organizations had in their pursuit of agriculture. Participants felt that these organizations gave them an early look into the many different career options within agriculture and allowed them to explore the parts of agriculture they were most passionate about. One participant explained how her experience with 4-H and her local extension office played a large role in her career decisions.

Just doing local volunteering with the Ag Extension offices and 4-H or just anything related to agriculture within my community has really just shown me all the routes that are possible through agriculture like there's not just one thing (Participant 5).

Out of the four students who did not participate in 4-H or FFA, three stated that they wished they would have because since attending NC State University, they realize how much experience these organizations gave their peers. This appeared to be an issue of the participants' lack of access rather than an issue of their lack of interest as indicated by this representative comment: “I wish we had like a 4-H club or FFA. But we did not have FFA or anything like that” (Participant one).

Internships and Work Experiences Pre-NC State

Several participants cited their jobs and internships (before coming to NC State) as a substantial influence on their career and major choice. Three of the students explained that being able to go to community college allowed them to work in jobs that were related to agriculture, which is something they feel they would not have been able to do if they came straight into a four-year university. All of the animal science students who are planning on vet school have either had or currently have experience working at a veterinarian's office. They all expressed that working at a veterinarian's office really helped them to solidify their career choice as they are getting real career experience. Participant 7 said “Working in the veterinary profession while going to school is probably a good thing. I get to see every day what I am working towards and get to observe all sorts of really interesting things.” Participant 9 is interested in pursuing a career in agriculture law. In addition, they explained that their passion for agriculture and career

choice was linked to growing up on a dairy farm and having an internship in Washington, D.C. with policymakers. Growing up on a dairy farm has really given them a unique perspective, a perspective that makes them want to fight for farmers. Additionally, the internship confirmed the career choice for Participant 9.

I grew up on a small farm in [location] which is adjacent to [urban location]. So, I'm in a community where I live in a small rural pocket. But in general, the county and the surrounding area is not very rural, there is not a whole lot of agricultural knowledge even though we have farms. But there's a big disconnect between farmers and the rest of the community, the consumers. So, I think, because of that, I really emphasize the important importance of education, and I knew that I wasn't necessarily interested in becoming a teacher myself. But it was something that I really wanted to advocate, for I wanted to advocate for farmers and for consumer education about agriculture, and I found that where my interests were in economics and long policy that was probably a way, I could best serve the community (Participant 9).

Personal Interests

Participants were also asked about their career and academic interests. All of the participants who are majoring in animal science all had very similar answers. They all stated that they have a love of animals, some of the students preferred small animals while others were more interested in livestock and horses. Participant 1 stated that "I really do enjoy working with animals. So, no matter what career I ended up with, it would be with animals". Other students are

pursuing agriculture education because of the experiences they had with FFA advisors and their love of teaching and agriculture. Participant 4 stated that

I'm majoring in agriculture education, and I chose this career mainly because well, I was in the FFA all through high school. I loved my Ag teacher, and he had a really big impact on me. So, from that, I guess it kind of inspired me. I always knew I wanted to be a teacher. I never knew what subject until I started Ag, and it kind of sold it for me
(Participant 4)

Lastly, another participant is interested in working with plant genetics and greenhouses because of his love of plants and being outside. Participant 6 said, "I developed an interest for different varieties of plants through gardening at home, and then that led me to learn more about different varieties and how they are made".

Parental and Family Farming Background Influence

Parental influences did not play a significant role in influencing career choice. This lack of parental influence was true for those with and those without a family farming background. Participants reported that their parents played an important role in encouraging their individual interests, but not in deciding on careers. An example of this would be one participant whose father is a doctor. This participant knew that they were very interested in medicine but not exactly in human medicine. The father knew that she had a strong interest in livestock, so he helped her start a small hobby farm. He was a great encouragement to her when she chose veterinary medicine as a potential career. In fact, of the 10 participants, six reported that their parents encouraged them to make their own career choice and they felt supported by their parents, but their parents did not specifically promote agricultural careers. In contrast, participant

3 shared how their parents, especially their mom, were always a huge encouragement to them in pursuing agriculture as a career. Participants were not specifically asked about their parents' occupation, but six participants mentioned this information during the interviews. Of the 10 participants, two (who mentioned their parents' occupation) intended to be teachers themselves, and both of these participants had a parent who was a teacher. Among those participants who wanted to be veterinarians, three reported a parent who was a farmer, doctor, and elected official. The additional participant mentioned one parent who was a farmer.

Theme 2. Community College is an Enabling Experience but Contributes Little to Agricultural Career Choice.

The participants were asked about their community college experience and how they felt if it at all impacted how they are doing at NC State University CALS currently. All of the participants explained in their own way how their community college experience helped them feel more prepared for the classes and experiences they are having now at NC State University. They each explained how taking classes at the community college level allowed them to understand what it is like to juggle classes, homework, and social life which made them feel a step above their peers that went straight into a four-year institution. One participant pointed out that she was much more comfortable reaching out to her professors compared to her classmates that did not go to a community college because she had more experience doing so. Participant 5 stated that "I think it's helped me better than nothing at all, having that little bit of aid to help me, like with communicating with professors, or just knowing how Moodle worked." The participants explained the classes were not as rigorous as they are at NC State, but they felt it was a much easier transition rather than just coming straight from high school. A representative

comment shared by Participant 9 was “community college academically was not too difficult but helped train me for the classes I am in now, in ways of studying and being used to lecture style teaching”. Additionally, none of the students took any agriculture classes at their community colleges due to those classes not being transferable to their NC State CALS baccalaureate degree program.

Community college allowed these participants to be more confident in their own abilities at the university level but had little to no impact on their choice to pursue agriculture as a major and future career. All of the participants attend community college with plans of transferring into a four-year university, meaning that they only took core classes such as English and Math that would transfer. All of the participants knew that they wanted to major in agriculture before they attended both community college and NC State.

Theme 3. Mentors Influence Career and Major Choices in a Number of Ways.

The participants all shared how a certain mentor or mentors in their life had really pushed them and encouraged them to pursue their current major and hopefully future careers. One common mentor among the participants was either an Extension 4-H Agent or an FFA Advisor. Each one of these participants expressed gratitude to these mentors and how they were able to get exposure to the various career possibilities in agriculture. Participant 4 stated, “you know I don't think I ever thought I would go into like agriculture until I was in FFA, and like saw that side of it and how like my FFA teacher impacted me”.

Additionally, some of the animal science students had mentors in their intended career field. Of the five participants planning on becoming a veterinarian, two of them had a

veterinarian that they worked with or who treated their pets as a mentor, and another had a older pre-vet student as their mentor. Participant 3 said,

After I chose what I wanted to do, my dog's veterinarian ... was really influential [to me]; I actually have his personal phone number. He would call me like late at night, we would have conversations about what to do about my dog, and he was like, really supportive and anything, and he would teach me how to help him and everything like that. So, I would say he's been a really big mentor for me.

A table with each participant's major, intended career, and their mentors can be seen below in Table 4. Of the 10 participants, nine identified a mentor in a career that matched their intentions. Of these nine, all identified one mentor except for Participant 1 who identified multiple large animal veterinarians.

Table 4
Participants' Majors, Intended Careers, and Mentors

Participant Number	Major	Intended Career	Mentor(s)
1	Animal Science; Pre-Vet Concentration	Veterinarian	Large Animal Veterinarians that they work for
2	Animal Science; Pre-Vet Concentration	Veterinarian	Older Pre-Vet Student
3	Animal Science; Pre-Vet Concentration	Veterinarian	Veterinarian
4	Agriculture Education	Agriculture Teacher	FFA Advisor
5	Animal Science; Pre-Vet Concentration	Veterinarian	FFA Advisor

Table 4 Continued

6	Crop and Soil Science	Plant Geneticist	Plant genetics professor
7	Animal Science; Pre-Vet Concentration	Veterinarian	Not Identified
8	Animal Science and Agricultural Business Management	Agriculture Business or Industry with Hogs or Poultry	Agriculture Professional
9	Agricultural Business Management and Economics	Agriculture Law & Policy Maker	An Ag Law & Policy Maker in D.C.
10	Agriculture Education, Animal Science Concentration	Agriculture Teacher	FFA Advisor

Theme 4. Self-Efficacy and Confidence are Multi-Faceted in Community College Transfer Student Career Choice in CALS.

The participants discussed their confidence in their career choice. For example, one question that was asked to students was “ How confident are you in your decision to pursue agriculture as a career, what has made you feel that way?”

All of the participants majoring in Animal Science stated that they were “pretty confident” in their career decisions. The Animal Science students had slightly lower confidence compared to the other participants in CALS. Participant 1 stated they were “Pretty confident. I actually just applied to the vet school. I know that I just love working with animals like no matter what job I do, it would always include animals”. They were all confident in terms of pursuing a career they were passionate about but were not as confident in their abilities in attending veterinary medicine school. Participant 5 explained she has full confidence she wants to be a veterinarian but is not fully confident in her ability to get into veterinary school. She stated, “I’m not overly confident, some days are harder than others, but I am not, not confident”.

In other majors in CALS, participants were much more confident in their career choice. Participant 6, who is a Crop and Soil Science Major stated that “I'm very confident, it's just something I'm passionate about. I've really enjoyed learning more about it, and all the opportunities that are available with it, and it's an emerging field.” The data shows that self-efficacy and confidence are multi-faceted in community college transfer student career choice in CALS and the major the participant is pursuing plays a large role in how confident they are in their career choices.

Theme 5: CALS experiences in courses and clubs influence career decisions. The academic advisor has a limited influence.

Participants all pointed to very positive experiences with clubs and classes in NC State CALS. Participants all feel that these classes and organizations have made them feel more confident in their career decisions. When asking participant 1 if they had any experiences that helped solidify their career choice this semester they stated, “The animal science classes for sure, it is really interesting to learn about the anatomy in the physiology of all these different species and seeing how much I enjoy it”. Participant 5 stated

I feel being involved with the Animal Science Club and hearing a lot of different stories from agriculture professionals, and then also being out on the beef education unit a lot and those interactions and experiences have helped me like kind of implant in my mind in future careers.

Additionally, when asking participants about their academic advisors within CALS, they all stated they were helpful with scheduling classes, but because of all the participants choosing a career and major before coming to college they had little to no impact on their career choices.

CHAPTER 5

Conclusions and Recommendations

The purpose of this basic qualitative research that draws upon the phenomenological tradition as well as the appreciative inquiry was to discover the various influences that affect a community college student's career choice and aspirations, including the student's perception of their abilities, preferences, and pursuing what they feel is a match between these and potential job requirements; background; parental influence; and curricular and co-curricular experiences. This study explored the career decision-making influences these students had, inclusive of community college experiences; life experiences that led them to NC State University's CALS, and experiences since being enrolled at NC State University. The scope of this study is limited to the participants and their individual experiences. This chapter presents the conclusions, implications, and recommendations.

Conclusions

Of the various SCCT factors, two of these - interests, and experiences - are applicable to understanding the career decision-making of the community college transfer students in NC State University CALS who participated in this study. Participants pointed to their 4-H and/or FFA experiences and their part-time, temporary work, and internship experiences as influencing them to decide on agriculture as a career. Likewise, a study from 2011 found that FFA membership, 4-H membership, and agriculture related experiences have the largest influence on a student's choice to pursue agriculture related careers (Lawver & Torres, 2011).

In contrast to SCCT, neither parental influence nor family farming background were perceived by participants in this study as significant factors in career choice. The research shows the participants did appreciate the encouragement they received from their parents in their career

choice, but they would not put their parents' opinions over their own personal interests, experiences, and mentors' opinions. In contrast, Rayfield et al. (2013) found freshman in the College of Agriculture and Life Sciences at Texas A&M placed their parents as their largest influence on them pursuing agriculture as a career.

Community college allowed these participants to be more confident in their own abilities at the university level but had little to no impact on their choice to pursue agriculture as an academic major and future career. Additionally, the research shows community colleges positively impacted students' self-efficacy and prepared them for four-year universities. This can be attributed to the experiences they had at the community college level which allowed them to get practice and experience in taking classes at a college level as well as communicating with professors (Branson & Green, 2007). Notably all of the participants decided on a career before attending community college and none have changed their career pathway.

NC State CALS agricultural classes and student organizations are consequential for increasing confidence in career choice and providing more information and experiences towards agricultural careers. None of the participants in this study took any agriculture classes at their community colleges because of the classes not meeting baccalaureate degree requirements. Participants described NC State CALS courses, clubs, and educational units "give you opportunities and widen your view of what the field encompasses" (Participant 1).

Mentors are highly influential in career choice; specifically, the participants identified mentors in the same career pathway as they intended. Eight out of ten participants were able to identify a mentor in their intended career field, one participant identified a mentor in agriculture, but not in their specific discipline. This is aligned with Dyer et al. (2002) who

explained that students with a mentor in agriculture are more likely than their peers to complete and agriculture degree and start a career in agriculture.

Personal interests such as plants, animals, teaching, youth, and being outside, are impactful on a student's career choice. Every participant individually mentioned at least one of these five interests. This is a positive as students who are interested in what they are studying are proven to do better in their courses and more likely to pursue their interest(s) as a career (Ikuemonisan et al., 2022).

Recommendations

1. This research shows that youth organizations that are rooted in agriculture (4-H & FFA) are a major factor in a student's career choice in agriculture. Community colleges should explore engaging with high school students in 4-H and FFA and explain benefits of going to community college as well as explaining transfer pathways to four-year universities. Colleges of agriculture should be recruiting community college students that participated in 4-H or FFA.
2. CALS academic advisors should strongly encourage students in colleges of agriculture to pursue internships and work experiences to help curb career indecision, improve their confidence in agriculture career choice, and connect them with agricultural professionals that can be important mentors. In addition, CALS clubs and classes should be highly encouraged to all CALS students to ensure they get hands-on experiences in their future career fields.

3. Academic advisors could help align students with mentors in their future career fields to increase students' career confidence and self-efficacy by providing a list of agricultural professionals in their intended career field.
4. Students should be encouraged by academic advisors at the high school, community college, and university level to pursue careers that meet their specific interests, not the interests of their parents. In this study, all of the students were not influenced by their parents when it came to choosing a career, but all appreciated their parents' encouragement. The research also shows that students are much more confident in their career choices when they are pursuing a job that aligns with their interests.
5. Advisors can also strongly encourage diverse experiences within agriculture to their students. Students are looking for career opportunities such as internships and work experiences from faculty and this is a great way for students to explore the many opportunities in agriculture.

Further Research Suggestions

1. This research was limited to the community college transfer students in the NC State CALS; therefore, further research is recommended at multiple colleges of agriculture.
2. Additionally, this study had nine female participants and one male participant. It would be beneficial for a large study to be done that includes more gender diversity.
3. A study on the influence of youth organizations such as 4-H and FFA on community college transfer students would be beneficial to understand how the many students who grew up in those organizations are choosing to go to a community college.

4. Further research is recommended that follows up with participants' mentors. Such research would contribute to understanding how mentors view their role in mentees' career choice.
5. A longitudinal research study that follows the participants through graduation and into their careers is recommended to further contribute to our understanding of career decision-making.
6. This research was also limited by time and resources. A longer research period that looks at students during their time at the community college, the transfer transition period, senior year, and going into the workforce would create a broader understanding of their career and major choices.

Suggestions for Practice

1. The students in this study had already made up their mind that they were majoring in agriculture and attending NC State. For other students not identified in this study, a pathway or connection to North Carolina Community Colleges with NC State CALS needs to be maintained and strengthened for community college students who take agriculture classes while in community college. This would also be beneficial for NC State CALS because they would gain more community college transfer students. It is important to promote programs such as C3 and Career PACCS as these initiatives may be beneficial to community college students' career decision-making.
2. In Social Cognitive Career Theory, Lent et al. (1994) places all the career decision-making influences in the same size boxes, signifying that all the different influences play an equal role. This study, although limited to the experiences of a small group, shows that

experiences, mentors, and personal interests play a much larger role than other influences such as parents. Internships and job experiences should be highly encouraged by academic advisors. The career experience gained through internships and job experiences not only reduce career indecision but also increase the likelihood of securing a job after graduation (Feldpausch et al., 2019).

REFERENCES

- Alhojailan, M. I. (2012). Thematic analysis: A critical review of its process and evaluation. *West End Journal of Social Sciences*, 1(1), 39–47. <https://westeastinstitute.com/>
- Baker, L. M., Settle, Q., Chiarelli, C., & Irani, T. (2013). Recruiting strategically: Increasing enrollment in academic programs of agriculture. *Journal of Agricultural Education*, 54(3), 54–66. <https://doi: 10.5032/jae.2013.03054>
- Basili, G., & Glynn, J. (2019). Persistence: The success of students who transfer from community colleges to selective four-year institutions. *Jack Kent Cooke Foundation*.
- Blackburn, J. J., & Bunch, J., Danjean, S., & Stair, K. (2016). A major decision: Identifying factors that influence agriculture students' choice of academic major. *Journal of Human Sciences and Extension*, 4(2).<https://www.jhseonline.com/article/view/701>
- Bowen, E. B., & Esters, T. L., (2005). Factors influencing career choice of urban agricultural students, *Journal of Agricultural Education*, 46(2). <https://doi.org/10.1.1.569.6330>
- Branson, J., & Green, B. (2007). Academic performance of transfer and non-transfer students in introductory agriculture courses. *North American Colleges and Teachers of Agriculture (NACTA)*, 51(2), 5–10. <https://doi.org/https://www.jstor.org/stable/43766143>
- Brown, D. (Ed.). (2002). *Career choice and development* (4th ed.). CA: JosseyBass.

- Buenaflor, S. H. (2023). Transfer student self-efficacy: A success-oriented narrative of the transfer student experience. *Community College Journal of Research and Practice*, 47(2), 123–138. <https://doi.org/10.1080/10668926.2021.1967226>
- Carter, N., Byant-Lukosius, D., DiCenso, A., Blyther, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum*, 41(5), 545–547. <https://doi.org/10.1188/14>
- Clay, R. A. (2012). Diversity at community colleges: How psychology professors and schools can help immigrants, single parents, veterans and other nontraditional students. *American Psychological Association*, 43(8), 38. <https://www.apa.org/monitor/2012/09/diversity>
- Coghlan, A. T., Preskill, H., & Tzavaras Catsambas, T. (2003). An overview of appreciative inquiry in evaluation. *New Directions for Evaluation*, 100, 5–22. <https://doi.org/10.1002/ev.96>
- Duncan, D. W., Carter, E., Fuhrman, N., & Rucker, K. J. (2015). How does 4-H and FFA involvement impact freshmen enrollment in a college of agriculture? *North American Colleges and Teachers of Agriculture (NACTA)*, 59(4), 326–330. <https://www.jstor.org/stable/nactajournal.59.4.326>

Dyer, J. E., Breja, L. M., & Wittler, P. S. H. (2002). Predictors of student retention in Colleges of Agriculture. <https://eric.ed.gov/?id=ED462290>

Ellis, M. M., (2013) Successful community college transfer students speak out. *Community College Journal of Research and Practice*, 37(2) 73-85,<https://doi.org/10.1080/10668920903304914>

Esters, L. T. (2007). Career indecision levels of students enrolled in a College of Agriculture and Life Sciences. *Journal of Agricultural Education*, 48(4). 130–141.
<https://10.5032/jae.2007.04130>

Farooq, N., & Ullah, A. (2021). Outcome expectations and youth's attitude towards agricultural occupations. *Global Sociological Review*, 6(2), 39-51.
[https://doi.org/10.31703/gsr.2021\(VI-II\).06](https://doi.org/10.31703/gsr.2021(VI-II).06)

Fast Facts. (2022). NCSU Institutional Strategy and Analysis. <https://isa.ncsu.edu/facts-comparisons/fast-facts/>

Feldpausch, J. A., Bir, C. L., Olynk Widmar, N. J., Zuelly, S. M., & Richert, B. T. (2019). Agricultural student perceptions of career success factors: Ranking attributes of collegiate experiences. *Journal of Agricultural Education*, 60(1), 234–267.
<https://doi.org/10.5032/jae.2019.01234>

- Frick, M. J., Birkenholz, R. J., & Machtmes, K. (1995). Rural and urban adult knowledge and perceptions of agriculture. *Journal of Agricultural Education*, 36(2), 44-53. <https://doi.org/10.5032/jae.1995.02044>
- Hackett, G., & Betz, N. E. (1981). A self-efficacy approach to the career development of women. *Journal of Vocational Behavior*, 18, 323–339. [https://doi.org/10.1016/0001-8791\(81\)90019-1](https://doi.org/10.1016/0001-8791(81)90019-1)
- Herren, C. D., Cartmell, D. D., II, & Robertson, J. T. (2011). Perceptions of influence on college choice by students enrolled in a college of agricultural sciences and natural resources. *NACTA Journal*, 55(3), 54 – 60. https://www.nactateachers.org/attachments/article/1259/Article9_Nacta_Sept2011.pdf
- Horstmeier, R. P. (2006). Mentoring in a college of agriculture: Faculty perspectives of student advisement. *North American Colleges and Teachers of Agriculture*, 10, 47–53. https://doi.org/https://www.nactateachers.org/attachments/article/282/Horstmeier_Dember_2006_NACTA_Journal-10.pdf
- Ikuemonisan , E. S., Abass, A. B., Feleke, S., & Ajibefun, I. (2022). Influence of agricultural degree program environment on career in agribusiness among college students in Nigeria. *Journal of Agriculture and Food Research*, 7, 1–12. biblio.iita.org

- Jackson, D. (2015). Career choice status among undergraduates and the influence of work integrated learning. *Australian Journal of Career Development, 24*(1), 3–14.
<https://doi.org/10.1177/1038416215570043>
- Jeong, J., Hong, S., & Choi, H. (2021). Moderated mediating effects of 4-H experience on adolescents' agricultural career variables. *The Journal of Agricultural Education and Extension, 27*(2), 193–210. <https://doi.org/10.1080/1389224X.2020.1844770>
- Kniveton, B. H. (2004). The influences and motivations on which students base their choice of career. *Research in Education, 72*(1), 47–59. <https://doi.org/10.7227/RIE.72.4>
- Kolb, D. A. (1984). *Experiential learning: Experience as the source of learning and development. Prentice-Hall.*
- Kovar, K. A., & Ball, A. L. (2013). Two decades of agricultural literacy research: A synthesis of the literature. *Journal of Agricultural Education, 54*(1), 167–178.
<https://doi.org/10.5032/jae.2013.01167>
- Lancaster, J. R., & Lundberg, C. A. (2019). The influence of classroom engagement on community college student learning: A quantitative analysis of effective faculty practices. *Community College Review, 47*(2), 136–158. <https://doi.org/10.1177/009155211983592>

Lawver, R. G., & Torres, R. M. (2011). Determinants of pre-service students' choice to teach secondary agricultural education. *Journal of Agricultural Education*, 52(1), 61–71.

<https://doi.org/10.5032/jae.2011.01061>

Leising, J.G. Pense, S.L., & Igo, C. (2000) An assessment of student agricultural literacy knowledge based on the food and fiber systems literacy framework. *In Proceedings of the Annual Publication of the Southern Agricultural Education Research Conference, Lexington, KY, USA, 31 p. 146 - 151.*

Lent, R. W., Brown, S. D., & Hackett, G. (1994). Toward a unifying social cognitive theory of career and academic interest, choice, and performance. *Journal of Vocational Behavior*, 45(1), 79–122. <https://doi.org/10.1006/jvbe.1994.1027>

Lent, R. W., Brown, S. D., Talleyrand, R., McPartland, E. B., Davis, T., Batra Chopna, S., Alexander, M. S., Suthakaram, V., & Chai, C.M. (2002). Career choice barriers, supports, and coping strategies: College students' experiences, *Journal of Vocational Behavior*, 60(1), 61–72. <https://doi.org/10.1006/jvbe.2001.1814>.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic Inquiry*. Sage Publications

Ma, J., & Baum, S. (2016). Trends in Community Colleges: Enrollment, Prices, Student Debt, and Completion. *College Board Research*, 1–23. <https://research.collegeboard.org>

Margolis, H., & McCabe, P. P. (2006). Improving self-efficacy and motivation: What to do, what to say. *Intervention in School and Clinic, 41*(4).

<https://doi.org/10.1177/10534512060410040401>

Mghweno, P. E., Mghweno, L. R., & Baguma, P. (2014). Access to guidance and counseling services and its influence on students' school life and career choice. *African Journal of Guidance and Counseling, 1*(1), 7–15. <https://doi.org/10.1.1.674.1625>

Najam, B., & Ghazal, S. (2022). A qualitative exploration of the outcome expectations in determining career choices of college students. *Pakistan Journal of Humanities and Social Sciences, 10*(1), 162–171. <https://doi.org/10.52131/pjhss.2022.1001.0183>

Nowell, L. S., Norris, J. M., White, D. E., & Moules, N. J. (2017). Thematic analysis: Striving to meet the trustworthiness criteria. *International Journal of Qualitative Methods, 16*, 1–13.

<https://doi.org/10.1177/16094069177338>

Otto, L. B. (200 C.E.). Youth perspectives on parental career influence. *Journal of Career Development, 27*(2), 111–118. <https://doi.org/10.1177/089484530002700205>

Prokopy, L. S. (2011). Agricultural human dimensions research: The role of qualitative research methods. *Journal of Soil and Water Conservation, 66*(1), 9A – 12A.

<https://doi.org/0.2489/jswc.66.1.9A>

Rayfield, J., Murphey, T. P., Skaggs, C., & Shafer, J. (2013). Factors that influence student decisions to enroll in a college of agriculture and life sciences. *North American Colleges and Teachers of Agriculture (NACTA)*, 57(1), 88–93.

<https://www.jstor.org/stable/10.2307/nactajournal.57.1.88>

Sadeghieh, T., & Adeli, K. (2014). Peer review in scientific publications: Benefits, critiques, & a survival guide. *The Journal of the International Federation of Clinical Chemistry and Laboratory Medicine*, 25(3), 227–243.

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4975196/>

Schaub, M. (2004). Social cognitive career theory: Examining the mediating role of sociocognitive variables in the relation of personality to vocational interests. *Dissertation Abstracts International Section A: Humanities and Social Sciences*, 64(7-A),

<https://psycnet.apa.org/record/2004-99001-033> <https://psycnet.apa.org/record/2004-99001-033>

Sedmark, T. (2020, October 5). Fall 2020 Undergraduate Enrollment Down 4% Compared to Same Time Last Year. *National Student Clearinghouse*.

<https://www.studentclearinghouse.org/blog/fall-2020-undergraduate-enrollment-down-4-compared-to-same-time-last-year/>

- Sherman, P. S., Sebora, T., & Digman, L. A. (2008). Experiential entrepreneurship in the classroom: Effects of teaching methods on entrepreneurial career choice intentions. *Journal of Entrepreneurship Education, 11*, 29.
<https://proxying.lib.ncsu.edu/index.php/login?url=https://www.proquest.com/scholarlyjournals/experiential-entrepreneurship-classroom-effects/docview/235775783/se-2>
- Shrestha, K. M., Suvedi, M., & Foster, E. F. (2011). Who enrolls in agriculture and natural resources majors: A case from Michigan State University. *NACTA Journal, 55*(3), 33–43.
<http://www.jstor.org/stable/nactajournal.55.3.33>
- Stahl, N. A., & King, J. R. (2020). Expanding approaches for research: Understanding and using trustworthiness in qualitative research. *Journal of Developmental Education, 44*(1), 26–28. <https://www.jstor.org/stable/45381095>
- Stair, K., Danjean, S., Blackburn, J. J., & Bunch, J. C. (2016). A major decision: Identifying factors that influence agriculture students' choice of academic major. *Journal of Human Sciences and Extension, 4*(2), 8. <https://doi.org/10.54718/NMRW9896>
- Strait, L. C. (1973). Do community college transfer students succeed in colleges of Agriculture? *North American Colleges and Teachers of Agriculture, 17*(4), 77–79.
<https://www.jstor.org/stable/43762761>

- Syngenta. (2017). "Trending 2050: The Future of Farming." Trending 2050: The Future of Farming Syngenta Thrive. <https://www.syngenta-us.com/thrive/research/future-of-farming.html>.
- Tadele, G., & Gella, A. A. (2012). A last resort and often not an option at all: farming and young people in Ethiopia. *IDS Bulletin*, 43(2), 33–43. <https://doi.org/10.1111/j.1759-5436.2012.00377.x>
- Tokar, D. M., Thompson, M. N., Plaufcan, M. R., & Williams, C. M. (2007). Precursors of learning experiences in Social Cognitive Career Theory. *Journal of Vocational Behavior*, 71(3), 319–339. <https://doi.org/10.1016/j.jvb.2007.08.002>
- Torres, R. M., & Wildman, M. L. (2002). Factors influencing choice of major in agriculture. *NACTA Journal*, 46(3), 4–9. <http://www.jstor.org/stable/43766830>
- Townsend, B. K. & Wilson, K. (2006). "A hand hold for A little bit": Factors facilitating the success of community college transfer students to a large research university. *Journal of College Student Development*, 47(4), 439-456. doi:10.1353/csd.2006.0052.
- USDA. (2020). Employment opportunities for college graduates in food, agriculture, renewable natural resources and the environment. <https://www.purdue.edu/usda/employment/>

Whorley G., Donaldson, J. L., & Lambert M. D. (2023, Feb. 15-17). A career pathways web portal for student success. [Poster presentation]. American Association for Agricultural Education Southern Region Conference, Oklahoma City, OK, United States.

Zulaikha, Y., Martono, E., & Himam, F. (2021). Perceptions of students of the faculty of agriculture on the social status and career prospects in the agricultural sector.

Agrisocionomics: Journal Social Ekonomi Pertanian, 5(1), 11-18.

<https://doi.org/10.14710/agrisocionomics.v5i1.6043>

APPENDICES

APPENDICES

Appendix A: Interview Protocol	62
Appendix B: Email Sent for Recruitment.....	65
Appendix C: Recruitment Flyer	66
Appendix D: Informed Consent Form	67
Appendix E: IRB Approval Letter.....	71
Appendix F: Member Checking Email	72

Appendix A: Interview Protocol

- First will ask name and for contact information (i.e., school email and phone number)

First Interview Session Questions

1. What are you majoring in and what is your intended career, why did you choose this major and career?
2. How confident are you in your decision to pursue agriculture as a career, what has made you feel that way?
3. Before coming to NC State, what college or university did you attend, and did you obtain a degree? Did you live at home or move away to attend?
4. In what ways, if any, did your previous college experience influence you in pursuing an agricultural career?
5. Have you had any experiences in your time before college that you feel impacted you and your choice to pursue agriculture, and can you tell me about it?
6. Do you have any personal goals that have made you want to pursue agriculture as a career? Can you tell me about them and how they affected you in your career choice?
7. To what extent, if at all do you think that your family has had an impact on your choice to pursue agriculture as your career?
8. Tell me about any mentors that have inspired you to pursue agriculture?
9. Who do you consider your mentor as you make career decisions?
10. Tell me about any clubs you participated in in middle and high school and how you feel they influenced your career choice, if at all?

11. Did you participate in 4-H or FFA? If so, how do you feel they had an impact on your future career choice in agriculture?
12. What job are you hoping to pursue in the agriculture career field and why do you want that to be your career?
13. Do you have anything else you would like to tell me about what has influenced you to choose agriculture as a college major and pursuing agriculture as a career?
 - As part of this study, I will be conducting another interview with you. Let's schedule the interview now. [Schedule interview.] Also, how would you prefer I contact you to remind you of the date, place, and time for this interview? [Obtain contact information.]

Second Interview Session Questions

1. How has the transition to your first semester at a 4-year university in an agriculture degree program been for you? Has it been harder or easier than expected? What has helped you most?
2. Do you feel that your community college experience helped you be more prepared for your courses versus students who did not attend community college?
3. Who do you consider your mentor as you make career decisions?
4. How has having a mentor in your intended career field helped you in career choice and exploration?
5. Looking back on the semester, how do you feel that your time and experiences at community college prepared you for your academic major of agriculture?
6. Are you still interested in pursuing the same career that you were at the beginning of the semester? If yes, why? If not, why?

7. What experiences have you had this semester that have helped either solidify or change your future career choice in agriculture?
8. How confident are you in your decision to pursue agriculture as a career, what has made you feel that way?
9. Have you been involved in any agriculture-related clubs or activities? If so, how do you feel it has impacted your future career decisions? (i.e., Does it make you feel more comfortable in your choice to pursue ag?)
10. What in your time here so far has influenced you the most in your career choice in agriculture? Can you tell me more about the experience and how it impacted you?
11. Do you have anything else you would like to tell me about what has influenced you to choose agriculture as a college major and pursuing agriculture as a career?

Appendix B: Email sent for Recruitment

Hello all,

My name is Gabby Whorley and for my thesis, I am researching community college transfer students in the College of Agriculture and Life Sciences at NC State. Below is a flyer with more details. Please contact me if you have any questions or are interested!

Thanks,

Gabby Whorley

--

Gabrielle L. Whorley

NC State B.S. Animal Science 2021

NC State M.S. Agriculture and Extension Education 2023

Appendix C: Recruitment Flyer

NC STATE UNIVERSITY

**VOLUNTEERS NEEDED FOR
RESEARCH STUDY ON
COMMUNITY COLLEGE TRANSFER
STUDENTS IN NCSU'S COLLEGE OF
AGRICULTURE AND LIFE
SCIENCES**

WHAT IT CONSISTS OF?

TWO INTERVIEWS VIA ZOOM DURING THE FALL 2022 SEMESTER WHERE YOU WILL BE ASKED QUESTIONS REGARDING YOUR CAREER AND MAJOR CHOICE AND YOUR COMMUNITY COLLEGE EXPERIENCE .

GIFT CARD

EARN A \$20 GIFT CARD FOR PARTICIPATING IN EACH INTERVIEW.



Contact Gabby Whorley for more information:

 glwhorle@ncsu.edu



NC STATE UNIVERSITY
CALS

Appendix D: Informed Consent Form

Title of Study: Career Decision Making among Transfer Students in the North Carolina State University College of Agriculture and Life Sciences: A Qualitative Research Study
(eIRB # 25135)

Principal Investigator(s): Gabrielle Whorley, glwhorle@ncsu.edu

Funding Source: Career PACCS/ NC Ag Foundation

NC State Faculty Point of Contact: Dr. Joseph L. Donaldson, joseph_donaldson@ncsu.edu, 919-515-1758 AND Dr. Misty D. Lambert, mdlamber@ncsu.edu, 919-515-2707.

What are some general things you should know about research studies?

You are invited to take part in a research study. Your participation in this study is voluntary. You have the right to be a part of this study, to choose not to participate, and to stop participating at any time without penalty. The purpose of this research study is to gain a better understanding of how transfer students in NC State's College of Agriculture and Life Sciences make career decisions. We will do this through two sets of interviews via zoom, one in the beginning of the fall semester and one at the end of the fall semester.

You are not guaranteed any personal benefits from being in this study. Research studies also may pose risks to those who participate. You may want to participate in this research because it could help you reflect on your academic and career experiences. You may not want to participate in this research because it will require some time to complete the interviews.

Specific details about the research in which you are invited to participate are contained below. If you do not understand something in this form, please ask the researcher for clarification or more information. A copy of this consent form will be provided to you. If, at any time, you have questions about your participation in this research, do not hesitate to contact the researcher(s) named above or the NC State IRB office. The IRB office's contact information is listed in the *What if you have questions about your rights as a research participant?* section of this form.

What is the purpose of this study?

The purpose of the study is to understand career aspirations and career decision-making among students who transfer into the NC State College of Agriculture and Life Sciences. Transfer students may come from 4-year institutions, community colleges, and/or other institutions. Understanding transfer students' perceptions is important for improving academic and career advising.

How many people will be in the study?

There will be approximately 8 to 12 participants in this study.

Am I eligible to be a participant in this study?

In order to be a participant in this study, you must agree to be in the study, be at least 18 years of age, and have been a transfer student to North Carolina State University's College of Agriculture and Life Sciences. To be considered a transfer student for this study, you must have completed at least one semester at another institution other than North Carolina State University.

You cannot participate in this study if you do not meet the inclusion criteria.

What will happen if you take part in the study?

If you agree to participate in this study, you will be asked to do all of the following:

1. Participate in two interviews, one in the beginning of the fall semester, and one at the end of the fall semester. You will be asked questions to improve our understanding of why you chose to pursue agriculture and food sciences at NC State as well as what experiences have affected their career and academic major choice.

The total amount of time that you will be participating in this study is **approximately two hours**.

Recording and images

If you want to participate in this research, you must agree to be screen recorded, audio recorded, and video recorded. If you do not agree to be screen recorded, audio recorded, and video recorded, you cannot participate in this research.

Risks and benefits

There are minimal risks associated with participation in this research. The only risk or discomfort is a loss of confidentiality. Most research involves some risk to confidentiality, and it is possible that someone could find out you were in this study or see your study information, but the investigators believe this risk is unlikely because of the procedures we will use to protect your information.

There are no direct benefits to your participation in the research. There is no monetary compensation for participating in this research study. The indirect benefits are the results of this study could benefit other transfer students by improving academic and career advising.

Right to withdraw your participation

You can stop participating in this study at any time for any reason. To do so, just stop any research activity that you are doing or contact the student researcher, Gabrielle Whorley, at glwhorle@ncsu.edu and (828)292-0969. You can also contact the faculty advisors for this research, Dr. Joseph Donaldson and Dr. Misty Lambert, at joseph_donaldson@ncsu.edu, (919) 515-1758 and mdlamber@ncsu.edu, (919) 515-2707. If you choose to withdraw your consent and to stop participating in this research, you can expect that the researcher(s) will redact your data from their data set, securely destroy your data, and prevent future uses of your data for research purposes wherever possible. This is possible in some, but not all, cases.

Confidentiality, personal privacy, and data management

Trust is the foundation of the participant/researcher relationship. Much of that principle of trust is tied to keeping your information private and in the manner that I have described to you in this form. The information that you share with me will be held in confidence to the fullest extent allowed by law.

Protecting your privacy as related to this research is of utmost importance to me. How I manage, protect, and share your data are the principal ways that I protect your personal privacy. Data that will be shared with others about you will be de-identified .

De-identified. De-identified data is information that at one time can directly identify you, but I will record this data so that your identity will be separated from the data. I will have a master list with your code and real name that: I can use to link to your data. When the research concludes, there will be no way your real identity will be linked to the data I publish.

Compensation

For your participation in this study, you will receive a \$20 gift card for each completed interview or extra credit. If you withdraw from the study prior to its completion, you will not be eligible to receive compensation.

What if you are a student?

Your participation in this study is not a course requirement and your participation, or lack thereof, will not affect your class standing or grades.

Sponsorship and funding

This research is funded by NC Ag Foundation Inc. This means that the sponsor is paying the research team for completing the research. The researchers do not, however, have a direct financial interest with the sponsor or in the results of the study. If you would like more information, please ask the researcher(s) listed at the top of this form about the funding and sponsorship.

What if you have questions about this study?

If you have questions at any time about the study itself or the procedures implemented in this study, you may contact the student researcher, Gabrielle Whorley, at glwhorle@ncsu.edu and (8282)292-0969. You can also contact the faculty advisor for this research, Dr. Joseph L. Donaldson, joseph_donaldson@ncsu.edu, 919-515-1758, AND Dr. Misty D. Lambert, mdlamber@ncsu.edu, 919-515-2707.

What if you have questions about your rights as a research participant?

If you feel you have not been treated according to the descriptions in this form, or your rights as a participant in research have been violated during the course of this project, you may contact the NC State IRB (Institutional Review Board) office. An IRB office helps participants if they have any issues regarding research activities. You can contact the NC State University IRB office at IRB-Director@ncsu.edu, 919-515-8754, or fill out a confidential form online at <https://research.ncsu.edu/administration/participant-concern-and-complaint-form/>

Consent to participate.

By signing this consent form, I am affirming that I have read and understand the above information. All of the questions that I had about this research have been answered. I have chosen to participate in this study with the understanding that I may stop participating at any time without penalty or loss of benefits to which I am otherwise entitled. I am aware that I may revoke my consent at any time



Yes, I want to be in this research study.

No, I do not want to be in this research study

Name

Email

Phone Number

Today's Date

No, I do not want to be in this research study.

Appendix E: IRB Approval Letter



Sponsored Programs and Regulatory Compliance
Institutional Review Board (IRB)
Jennie Ofstein, Director
IRB-Director@ncsu.edu

Campus Box 7514
2701 Sullivan Drive
Raleigh, NC 27695
P: 919.515.8754

From: Jennifer Ofstein, IRB Director
North Carolina State University
Institutional Review Board

Date: February 15, 2023
Title: Career Decision Making among Transfer Students in the North Carolina State University
College of Agriculture and Life Sciences: A Qualitative Research Study
IRB#: 25135

Dear Dr. Donaldson,

The research proposal named above has received administrative review and has been approved on 6/22/2022 as exempt from the policy as outlined in the Code of Federal Regulations (d.2). Provided that the only participation of the subjects is as described in the proposal narrative, this project is exempt from further review. This approval does not expire, but any changes must be approved by the IRB prior to implementation.

NOTE:

1. This committee complies with requirements found in Title 45 part 46 of The Code of Federal Regulations. For NC State University projects, the Assurance Number is: FWA00003429.
2. Any changes to the research must be submitted and approved by the IRB prior to implementation.
3. If any unanticipated problems occur, they must be reported to the IRB office within 5 business days.

Please forward a copy of this letter to your faculty sponsor, if applicable.

Thank you.

Sincerely,

A handwritten signature in black ink that reads "Jennie Ofstein".

Jennie Ofstein, Ph.D, IRB Director
North Carolina State University
Institutional Review Board (IRB)
irb-director@ncsu.edu
919.515.8754

Appendix F: Member Checking Email

Research Member Checking >



Gabby Whorley <glwhorle@ncsu.edu>

Hello all,

I am in the process of finishing up my thesis and would like to send you the five major themes that came from the research that you participated in. Also, none of you are identifiable in the study. Please let me know if you disagree, or have any questions or comments!

1. The community college transfer students' interests and experiences substantially influenced career decision-making in agriculture in contrast to a family background in farming and parental guidance which provided limited influence.
2. Community college is an enabling experience but contributes little to agriculture career choice.
3. Mentors influence career and major choices in numerous ways.
4. Self-efficacy and confidence are multi-faceted in community college transfer students' career choices.
5. CALS experiences in courses and clubs influence career decisions. The academic advisor has a limited influence.

Thanks again for participating,

Gabby Whorley.

--

Gabrielle L. Whorley

NC State B.S. Animal Science 2021

NC State M.S. Agriculture and Extension Education 2023