

What is the role of occupational therapy in Ohio's AgrAbility Program in helping farmers continue to farm?

Britanny Cowgill

Follow this and additional works at: <http://utdr.utoledo.edu/graduate-projects>

This Scholarly Project is brought to you for free and open access by The University of Toledo Digital Repository. It has been accepted for inclusion in Master's and Doctoral Projects by an authorized administrator of The University of Toledo Digital Repository. For more information, please see the repository's [About page](#).

What is the Role of Occupational Therapy in Ohio's AgrAbility Program
in Helping Farmers Continue to Farm?

Brittany L. Cowgill

Research Advisor: Barbara Kopp Miller, Ph.D

Occupational Therapy Doctoral Program

Department of Rehabilitation Sciences

The University of Toledo

May 2014

Note: This scholarly project reflects individualized, original research conducted in partial fulfillment of the requirements for the Occupational Therapy Doctoral Program, The University of Toledo.

Abstract

The purpose of this study was to; 1) identify the issues faced by AgrAbility clients who have a disabling condition or who have experienced an injury, and 2) determine the potential role that occupational therapy can have in the Ohio AgrAbility program in supporting these farmers as they transition back to and/or continue to farm. Individual interviews and property tours were conducted with each participant (n=15). Methods of data collection included completion of a participant questionnaire, individual interviews and a property tour. Interviews were audio recorded, transcribed, and analyzed by three researchers. Photographs of each participant's property were also collected at the time of the interview session. Three researchers analyzed the data both independently and collectively to establish thematic similarities with further independent study being conducted by the student researcher. Based on the experiences shared with the researcher during this study, twenty common themes were identified as those best suited to describe the experience of farming with a disability as depicted by study participants. These themes included: tradition; meaning/purpose; independence; assistance needed; role change; home grown modifications; finances; different outlook; frustrations; coping; mental health; family/community support; guilt; attitude towards health; disconnect; occupational therapy recommendations; concurrent health problems; assistive devices; AgrAbility services, and consult services. The results of this study found a need for occupational therapy services within the Ohio AgrAbility program. Additionally, it was found that these services would be most beneficial to clients if they were individualized specific to the needs of each client as well as based on and rooted in the ideals of farm culture. The current study aimed to identify the need for occupational therapy services within the Ohio AgrAbility program and to provide input into how therapy services can be effectively integrated into the program. Providing farmers with

individualized occupational therapy services may be key in helping them to continue to farm and to be active participants in a lifestyle that holds deep meaning and purpose to them.

What is the Role of Occupational Therapy in Ohio's AgrAbility Program in Helping Farmers
Continue to Farm?

The purpose of this study was to determine the role of occupational therapy within the Ohio AgrAbility program. Occupational therapists play a pivotal role in helping their clients return to the occupations they find meaningful and purposeful after sustaining an injury that results in a limitation. Providing farmers with individualized occupational therapy services may be key in helping them to successfully return to farming. Before describing the current study, relevant information is provided describing the incidence of disability among farmers, features of the AgrAbility program, and how occupational therapists have been involved in helping farmers thus far. The current study will then be introduced.

Prevalence of Disabled Farmers

Thirteen million rural Americans are affected by chronic or temporary disabilities (Willkomm, 2004). Specifically, it is estimated that between 1.04 million to 2.23 million rural agricultural workers in the U.S. have a disability that impacts their ability to successfully perform their daily occupations (Deboy, Jones, Field, Metcalf, & Tormoehlen, 2008). The high incidence of injury among agricultural workers comes as no surprise as The National Safety Council lists agriculture as one of the three most hazardous professions (Field & Jones, 2006). The National Institute for Occupational Safety and Health estimates that injury to agricultural workers is at a rate of 500 per day with 5% of such injuries resulting in a permanent disability (Field & Jones, 2006).

Employing 1 in 6 workers in Ohio, agriculture is the states' largest industry (AgrAbility, 2010). With 77,000 farms, of which 91% are family-owned and operated, Ohio is a national leader in the production of corn, soybeans, hogs, chickens, eggs, and pumpkins (AgrAbility,

2010). With so many farms, the number of farmers affected by disability within the state is high as 1 out of every 14 Ohio families experience an injury related to farming each year (McGuire, 2011). Of these injuries, it is estimated that 69% are farming operations related (McGuire, 2011). With such high rates of injury, the United States Department of Agriculture (USDA) recognized the need for a program aimed at helping prevent farm-related injuries and assisting those farmers who had already sustained an injury; thus, the AgrAbility program was created in 1990.

History of AgrAbility

AgrAbility was created as a component of the 1990 Farm Bill as a means of providing much needed assistance to agricultural workers who were disabled and their families (Willkomm, 2004). The National AgrAbility Project currently operates in 22 states as a partnership between the United States Department of Agriculture (USDA) Cooperative Extension System and privately funded nonprofit service organizations (Willkomm, 2004). According to Willkomm (2004) AgrAbility has provided services to more than 11,000 farmers nationally since its creation. Services provided by AgrAbility include farm-site assessments, home modifications, secondary injury prevention, education, peer support groups, and training for rural professionals. The populations served vary widely from those with orthopedic related disabilities to those with neuromuscular disorders such as cerebral palsy and muscular dystrophy.

In 2009, Ohio was awarded its second four-year grant to assist farmers throughout the state with special interests in peer support and universal design (AgrAbility, 2010). The Ohio AgrAbility program exists as a partnership between The Ohio State University Extension and the Easter Seals organization. The clients AgrAbility serve in Ohio are diverse with the majority of family farms being multigenerational and multicultural with large communities of Amish and migrant workers (McGuire, 2011). With the average Ohio farmer being 57 years old, most

farmers within the state face the challenges of being an aging farmer as he or she experiences a decrease in reaction time, decreased balance, hearing impairment, and vision deficits (McGuire, 2011). The farming environment in Ohio is also unique as ownership of acreage is large, workdays are long, and the weather is a constant concern (McGuire, 2011).

Similarly to the national project, the Ohio program serves clients with a wide range of disabilities from amputation to respiratory impairment (McGuire, 2011). No cost services provided by the Ohio AgrAbility program include on-site assessments and technical assistance, peer-to-peer support, referral information, training, and public awareness. Ohio AgrAbility's knowledge of the unique challenges faced by disabled farmers within the state and their ability to provide a wide variety of assistance make the program a lifeline for farmers who are facing a disability and want to continue their agricultural lifestyle.

AgrAbility Services

Meyer and Fetsch (2006) researched the impacts of the National AgrAbility Project by surveying farmers and ranchers across eight states that were actively enrolled in the program. Recruitment of participants was conducted through local state AgrAbility projects. The survey instrument included 30 questions aimed at assessing each respondent's role on the farm, the ability to work, the impact of disability on the farm's productivity, the perceived future of the farm and basic demographic information. Survey participants were instructed to return their surveys to the National AgrAbility Project directly. Of the 955 surveys mailed, 561 completed surveys were returned for a 59% response rate. The demographics of respondents resembled the general client base served with 85% being male and an average age of 53 years old. The highest reported type of disability among respondents was a chronic health-related condition such as arthritis, spinal cord injury, amputation, and back injury. In assessing daily occupations on the

farm, participants were asked to identify their primary role on the farm with 65% of respondents listing themselves as owner/operators. Of those who were owner/operators, 88% continued to farm despite having a disability. Owner/operators were also asked what services they received from AgrAbility. Equipment modification was the most common service category. Overall, the majority of respondents (42%) listed the assistance they received from the program as referral to vocational rehabilitation and technical assistance with modifications (41%). Three-fourths of respondents reported that their disability had a negative impact on their farm's productivity and financial return. Despite this, most respondents replied that the assistance they had received from AgrAbility had a positive impact on their farm's productivity. In assessing client's future outlook, 33% of owner/operators perceived their future as better than average with 38% listing just average and 21% listing worse than average. The results of this study provide a generalized picture of who the farmer with a disability is in the U.S. and how AgrAbility can assist such farmers in continuing to farm despite their limitations. By identifying the populations in need and the challenges faced by farmers with disabilities, occupational therapists can better assess if and how they can help farmers successfully transition back to the farm after an injury.

Schweitzer, Deboy, Jones, and Field (2011) explored the current mental/behavioral health initiatives employed by AgrAbility networks. Historically, state or regional AgrAbility projects (SRAP's) have focused on addressing their client's disability from a physical, social, and economic perspective leaving the mental and behavioral aspects of disability unaccounted for in their clientele. It is not surprising that mental health services are only minimally offered among SRAP's, as rural mental health advocates have identified that farmers and ranchers comprise a population that has been underserved within the mental health community for a long time. The inconsistency of services offered from state to state, leaves AgrAbility clients who need the

mental/behavioral aspects of their disability assessed and treated unaccounted for within the program. More consistency between the mental/behavioral services offered by SRAP's might help bridge the gap in services and provide the assistance that AgrAbility clients need no matter what state they reside in.

To identify the services currently offered by SRAP's, the National AgrAbility Project issued a survey to 21 SRAP's asking them to identify how they address mental/behavioral health issues with their clients (Schweitzer et al., 2011). All 21 SRAP's responded to the survey by acknowledging which resources they used (Schweitzer et al., 2011). The Ohio AgrAbility project was not one of the participating projects within this study. Results indicated that the responding SRAP's offered a mean of 4.4 mental/behavioral health services. The most common resources provided as cited by almost two thirds of projects included speakers at workshops, brochures, and papers/articles on mental health issues. Only 12 projects reported having personnel with behavioral/mental health experience of which 3 reported offering direct counseling services. More than half of the surveyed projects reported making referrals to mental health agencies. Additional services offered within each SRAP varied widely from suicide prevention workshops to depression support groups.

Conclusions from this study point to a large amount of variability among the mental/behavioral health services offered from state to state, with some states offering numerous services and others offering few to none. SRAP's that offer more resources to their clients have the opportunity to increase awareness of local mental/behavioral health concerns and facilitate the development of programs that address these concerns. The perceptions of mental illness are not as acceptable as physical illness and thus often come with feelings of stigma and shame.

These feelings are even more predominant in rural farming communities, making it even more challenging for both clients and SRAP personnel to discuss mental/behavioral health needs.

Suggestions made by the authors of this study for how to increase availability and access to mental/behavioral health services and resources include actively evaluating the apparent and hidden mental health needs of clients using questionnaires and referrals when needed and by considering hiring staff members with mental/behavioral health expertise (Schweitzer et al., 2011). Such mental health experts could include psychologists, social workers, and occupational therapists.

Occupational Therapists Working with Farmers

Occupational therapists help clients with mental and physical disabilities engage in occupations of daily living that are meaningful and purposeful to them. The diversity of populations served and the unique therapeutic interventions used makes occupational therapy services applicable to almost any group of individuals. This includes farmers returning to the farm after an injury and those with a chronic health condition that impacts their ability to successfully complete their desired occupations. Occupational and physical therapists as well as other health care professionals play a pivotal role in helping farmers and ranchers return to work (AgrAbility in Georgia, 2009). Farm work puts farmers at risk for numerous injuries, occupational diseases, and restricting health conditions that can lead to a decreased quality of life (Karttunen & Rautiainen, 2011). Occupational therapists collaborating with farmers who have a disability can help in preventing secondary injuries as well as working to maintain a high quality of life.

The National AgrAbility Project has recognized the expertise that occupational therapists have in analyzing and addressing areas of occupational dysfunction that interfere with

agricultural workers ability to carry out their desired occupations as they have positions for occupational therapists on their board. Currently, there are two occupational therapists that serve on the AgrAbility Advisory Team whose job it is to provide input and evaluation of the resources offered, as well as provide feedback on goals and progress (AgrAbility, 2011). Involvement of occupational therapists within SRAP's is variable. Some states such as Oregon, Oklahoma, Colorado, Maine, and Tennessee all have occupational therapists as part of their staff whereas other states have no involvement from therapists. Of the AgrAbility projects that do offer occupational therapy services, many have made it a point to partner with occupational therapy students from local universities to develop programming and intervention strategies for AgrAbility clients within their state. For example, the Oregon AgrAbility project in partnership with occupational therapy students from Pacific University worked to develop a program aimed at conducting worksite assessments, developing a national AgrAbility workshop, and creating marketing tools and networking strategies.

Currently, there are no occupational therapists on staff with the Ohio AgrAbility program. Without occupational therapists on staff, the services provided to Ohio clients such as on-site assessments and the selection and use of assistive technologies is solely up to the program's rural rehabilitation coordinator to facilitate. The educational components of the Ohio program targeting prevention and identification of resources are then the responsibility of the program's education program coordinator. Occupational therapists employed with other SRAP's are involved in both of these services leaving Ohio AgrAbility staff members without the expertise of occupational therapists when planning and implementing such resources. Lack of involvement from therapists in the services they provide then places Ohio AgrAbility clients at a

disadvantage compared to their counterparts enrolled in other AgrAbility programs who do employ occupational therapists.

Services provided by occupational therapists that help farmers include on-site farm assessments, assistive technology training, caregiver education, work modification and energy conservation techniques, application of universal design principles, and launching advocacy initiatives among the population (McGuire, 2011). Occupational therapists can further provide individualized services to subpopulations of farmers based on their condition or on the nature of their work. Agricultural researchers have identified such subpopulations and provide medical professionals, including rehabilitation professionals, with indications of how they can help such specialized populations. For example, Karttunen and Rautiainen (2011) researched the risk factors and incidence of declined work ability among dairy farmers. Lack of free time, little engagement in leisure occupations, as well as lack of sleep were all identified as risk factors for decreased work ability. The results of this study indicated that there is an urgent need for interventions, especially for elderly dairy farmers and farmers with disabilities, in order for work ability to remain high. Such research is valuable to occupational therapists working with dairy farmers as it identifies the need for further research aimed at exploring strategies of therapeutic intervention that could be used in treatment with farmers who experience such a limitation.

Currently little research is available outlining the practices of occupational therapists specific to farmers with disabilities and to the AgrAbility program. Freisen, Krassikouva, Ringaert, and Isfeld (2010) further identified the need for intervention research aimed at pinpointing strategies that can help farmers with disabilities remain productive on their farms. A meta-analysis exploring six databases for articles published between 1992 and 2009 produced minimal results. Of the identified articles, most focused on the incidence and prevalence of

disability as well as general areas of concern for farmers such as physical, familial, and emotional impacts. Strategies for intervention that the authors identified included vocational rehabilitation, informal networks, and injury prevention. Although this literature is important in identifying general characteristics, the results indicate a void in the information available concerning the specific physical, social, and emotional impacts on farmers with disabilities. Access to such information is valuable to therapists as it holds implications for practice that could enhance the therapeutic relationship between the therapist and farmer as more detailed strategies of intervention are identified.

The Current Study

Farmers with disabilities face numerous challenges as the majority of them continue to farm despite being disabled. The national and state AgrAbility programs have worked to be a strong resource for farmers and assist them in the unique challenges they face. The Ohio AgrAbility program has successfully provided a wide range of services to numerous farmers since its creation. The current study aims to identify what the role of occupational therapy is within the Ohio AgrAbility program and how occupational therapy interventions can assist farmers as they transition back to the farm after an injury or disabling condition and/or who wish to continue farming despite their limitations. Little is known about the role of occupational therapy within the Ohio AgrAbility program as currently there is no information available on the specific role of occupational therapy within the Ohio program. To determine the need for occupational therapy services, it will be important to review the current services offered, identify areas where gaps may exist, and finally, assess how occupational therapists working with Ohio AgrAbility can help fill these gaps.

Due to the originality of the current study within the Ohio AgrAbility program, a qualitative approach to inquiry will allow the researcher to gain insight into a currently unexplored role of occupational therapy within the agricultural community. Qualitative methods of inquiry facilitate the discovery of basic, yet, significant things to measure in circumstances where there is inadequate prior work (Luborsky & Lysack, 2006). Interviews are an important method of qualitative research as they generate first-hand statements from study participants about their experiences, feelings, opinions, and knowledge (Patton, 2002). Interviews are also beneficial as they provide the opportunity for researchers to build rapport with participants and establish the foundations of a trusting relationship, which is necessary when questioning participants about sensitive areas (Rosenthal & Rosnow, 1991). Conducting interviews in naturalistic settings, like client's homes and farms, is essential to discovering the factors which underlie the interaction between the participant and his or her environment (Gitlin, Luborsky, & Schemm, 1998; Luborsky, 1997).

The purpose of the study was to: 1) identify the issues faced by AgrAbility clients when they return to their farms after an injury or disabling condition and/or as they continue farming day to day, and 2) to determine the potential role that occupational therapists can have in the Ohio AgrAbility program in assisting these farmers. The lack of research currently available on how occupational therapists have assisted farmers in returning to their lives of meaning and purpose makes this research study a novel one. Due to the lack of research, participant responses within this study are crucial to finding out what challenges farmers face following an injury and how occupational therapy intervention can make these challenges more manageable. Conducting this study within the Ohio AgrAbility program gave the researcher access to more potential participants and also gave participants the chance to reflect on services they have received in the

past as part of this program. Their past experiences are vital in determining any gaps that may exist and in identifying how occupational therapists can help to fill these gaps.

Method

Participants

The target population for this study included farmers who were currently enrolled in the Ohio AgrAbility program and who were 18 years of age or older. To be eligible for enrollment in the program, individuals must have been Ohio residents who were involved in agriculture, must have had experienced a disabling condition, and must have had a desire to continue farming despite their disability (AgrAbility, 2010). Their disability could have been the result of an accident, a birth deficit, illness, or an age-related condition (AgrAbility, 2010). Additional inclusion criteria for this study required participants to be able to describe how their disability had impacted their life with emphasis placed on how it had impacted their ability to complete farming occupations. Participants must also have been able to convey their level of participation in the Ohio AgrAbility program, as well as be able to make an evaluation of the services they had received. Additionally, participants had to be willing to engage with the researcher about personal issues related to their injury and/or disabling condition.

Potential participants were identified by the Ohio AgrAbility program director who had contact information on all currently enrolled clients throughout the state. Informational flyers (see Appendix A) along with an introductory letter (see Appendix B) were mailed to all AgrAbility clients in the state. Clients who expressed an interest in participating in the study were then free to contact by e-mail or telephone the primary researcher, the student researcher, or the Ohio AgrAbility program director. Once potential participants were identified they were asked to complete an informed consent form prior to participation. Upon completion of the

informed consent form, participants received an extra copy of the form for their records. At this time, the student researcher made sure to convey to each participant that she did not have access to any of the information that already may be on-file with Ohio AgrAbility program.

Individual interviews and property tours were then conducted with each participant (n=15) by the student researcher. The recruitment period spanned from January to April 2013. Individual interviews and farm tours were conducted from February to May 2013. Participants did not receive any compensation for their participation in the current study.

A total of 15 Ohio AgrAbility clients participated in this study. Demographic information was collected from all 15 participants through the use of a participant questionnaire (see Appendix C) with one participant choosing not to disclose their age and another participant choosing not to disclose their race. The participants ranged in age from 32 to 74 years old ($M = 57$, $SD = 10.5$). Thirteen participants were male and two were female. Of the fourteen participants that chose to disclose their race, all were Caucasian. Five participants held a high school diploma, six had a trade school certification, four had a bachelor's degree and one had a master's degree. When asked their primary occupation, four identified themselves as part-time farmers and eleven classified themselves as full-time farmers. When asked how many years they had been farming, participant responses ranged from 3 to 61 years ($M = 42$, $SD = 19$). When asked how many years they had been involved with AgrAbility, responses ranged from 1 to 17 years ($M = 4$, $SD = 4.2$). The types of commodities that participants identified they were involved in producing included grains, hay, hogs, dairy cows, chickens, horses, beef cattle, and sheep. When participants were asked what their primary diagnosis or diagnoses were, they identified the following: spinal cord injury, amputation, congestive heart failure, stroke, arthritis, multiple sclerosis, degenerative disc disease, multiple chemical sensitivity, Morton's foot

syndrome, and hearing loss with most participants identifying more than one condition. For a detailed spreadsheet of participant's demographic information see Table 1.

Measures/Instruments

Participant Questionnaire. The questionnaire used for this study (see Appendix C) included information on the client's demographics, type of disability, and history of AgrAbility services used. This measure was developed by the student researcher in conjunction with input from the primary investigator and the Ohio AgrAbility program director.

Interview Guide. An interview guide (see Appendix D) was developed in order to maximize the amount of data collected during each interview. The use of an interview guide within this study served only as an outline and was not met to restrict informal conversation between the researcher and participants. By combining interviewing techniques, the student researcher hoped to collect relevant and focused data in a relaxed and comfortable environment for participants. This measure was developed by the student researcher in conjunction with input from the primary investigator and Ohio AgrAbility program director.

Guided Tour Field Notes. A structured field note guide (see Appendix E) was developed to aid the student researcher in note taking during the guided farm tour portion of each interview. Use of this measure encouraged the student researcher to remain focused during each tour by pinpointing environmental aspects of the farm that may present occupational challenges/hazards to each participant. Use of this measure also allowed for improved consistency from tour to tour. This measure was based off of the on-site assessment tool currently used by the Ohio AgrAbility rural rehabilitation coordinator in conjunction with input from the Ohio AgrAbility program director. Additionally, participants were asked if photographs could be taken of their property, which included photos of their machinery, livestock, crops, etc.

Materials needed for this study included an audiotape recorder, a camera, paper and a pencil, the printed questionnaires and the guided tour field note log. Each interview was recorded independently.

Procedure. The student author served as the interviewer and collected all data for this study. Guidance was sought from advisors with prior experience in interviewing and qualitative data collection. Individual interviews were conducted on-site at each participant's homestead/farm. After the student researcher obtained informed consent from each participant, participants were all asked to complete the participant questionnaire, participate in the interview, and provide a tour of their farmland and homestead (if applicable).

Participants who consented to participate in the study were given the participant questionnaire to complete at the start of the interview session. The questionnaire took approximately ten minutes for each participant to complete. Upon completion, the participant questionnaires and the guided tour field note logs were collected, coded, and placed in coded envelopes. The questionnaires and field note logs were accounted for at the time of collection but not reviewed until a later date. All interview data was stored in a locked filing cabinet between the times of collection and analysis. The coded envelopes were then matched with a corresponding audiotape from the interview so that information gathered from the participant questionnaire and the guided tour field note log could later be matched with the data collected in the interview. Photographs taken during each interview were stored together on a jump drive and placed in a locked filing cabinet until the photographs were needed as an educational resource for the dissemination of this project. Additional informal notes that were taken down by the student researcher during each interview and property tour were also collected, coded, and placed within each coded envelope at the conclusion of each session.

Participants were debriefed regarding the purpose of the study and informed of the researcher's interest in identifying the need for occupational therapy services within the Ohio AgrAbility program. Each interview and property tour varied in time from approximately 1 to 4 hours. As previously stated, the researcher utilized an interview guide as well as informal yet structured conversation to guide the interview. Each interview was audiotaped with consent of the participant and then later transcribed and analyzed for identification of themes across participant results.

Results

Data was obtained through use of the participant questionnaire and during the formal interview and property tour. All interviews were recorded by means of a digital recorder. The student researcher conducting the interviews also took down written notes during the interview and tour. Notes of the session were taken down with certain quotes highlighted. After each interview, the student researcher checked to make sure the data was recorded correctly and recorded any initial impressions or themes the student researcher felt were important to the study. All study materials including the digital recorder and any notes were then collected and stored.

Data for this study was analyzed following a series of stages that focused on analyzing and interpreting the information obtained from study participants. In an effort to establish reliability and validity of the results, three researchers all independently reviewed the data collected and then collaborated based on their exploration of the collected information as suggested by Enser (2006) and Boyzatis (1998). Further independent study was then conducted by the student researcher. By having each researcher review the data independently and

collaboratively, all researchers were afforded the opportunity to develop coding schemes and apply them to the collected data.

The following were the stages employed by the research team.

1. Interview transcripts were read independently by each researcher. After the researcher became familiar with data generated from the interviews, he or she explored the major themes and concerns discussed in each interview. Following exploration and identification of themes, each researcher was then required to formulate his or her own thoughts on the prominent themes and patterns that emerged during analysis.
2. Researchers then collaborated to discuss the themes and patterns they believed to be the most predominant. Once these themes had been successfully identified, a coding scheme was developed for each.
3. Based on the initial coding system, all researchers met again to review and compare the themes and categories identified. Data that did not fit into the identified themes was placed in a miscellaneous category and then later assigned to a sub-theme group or excluded.
4. A final coding system was then developed and reviewed collaboratively with all three researchers.
5. The student researcher then independently reviewed the results for each category, returning to collaborate with the other researchers for advice, suggestions, and feedback, as the research manuscript was prepared.

Themes

The analysis of the individual interviews identified the following twenty major themes relating to the experience of farming with a disability: tradition; meaning/purpose; independence;

assistance needed; role change; home grown modifications; finances; different outlook; frustrations; coping; mental health; family/community support; guilt; attitude towards health; disconnect; occupational therapy recommendations; concurrent health problems; assistive devices; AgrAbility services, and consult services. For the purposes of this study, two themes (concurrent health problems; assistive devices) have been described in paragraph as well as table format given the direct nature of these themes. The following quotes have been identified as those most consistent with the major themes of this study. Among each quote, information within square brackets [text] has been added for further explanation, and ellipses (...) indicate where unnecessary words or passages have been removed from the original quotation. Text written in *italics*, signifies dialogue offered by the student researcher and has been included as a context tool for certain quotes. All of the quotations included were taken from the audio recordings of each interview. Themes are presented in an arrangement most conducive to the reader understanding the varied background, experiences, and competences of each participant.

Tradition. When asked why they chose farming as a profession, several participants denoted how their families had influenced their decision to farm. One participant said:

“I grew up with it, I grew up on a family farm and it is just runs in my blood so I enjoy it and we have had property in our family for over 100 years, we are a century old farm, so it is just, I like to do it.”

Another participant mentioned the responsibility he felt to maintain his family’s farm as well as the disappointment he felt that he did not have any other family members who wanted to continue farming his land:

“I don’t know, I think a lot of farmers you know I am a third generation, it is like a tradition. I took this on and I know it is my responsibility to maintain and I know I am at the end of the line since my grandson ain’t interested in it and my boy ain’t interested.”

Another participant stated how he had grown up watching his dad and granddad farm as he stated:

“Well, I grew up with it, I was always with my dad and grandfather and um both of them farmed and my great granddad farmed, it is just something I have always loved to do and I have always been pretty good at it too.”

Additionally another participant added:

“As a kid, I think you get dirt in your blood and the rewards and the enjoyment, you just I don’t know how to say it any different, it is just hard to get away from.”

Meaning/Purpose. When participants were asked what motivated them to keep farming everyday, the meaning that farming gave each participant was unique to the person yet all the participants’ responses depicted how farming was more than just a job or a means of income to them. As one participant simply stated:

“Farming is my work and my play, I don’t have any outside hobbies.”

Another participant stated:

“Because it keeps me alive. Lets put it this way if I didn’t have the farming and cattle out there, I would go absolutely bonkers. It gives me something to do, like all the ordering and buying the seed and making the calls for fuel and all.”

One participant connected his identify to farming as he remarked:

“The enjoyment of it. It is part of me, I enjoy it and I like sitting back and seeing what I have accomplished.”

Although farming is hard work, one participant explained how much enjoyment and solitude he found working with animals stating:

“ It has been our livelihood and I have always liked being around animals. It is a lot of work at times but it is peaceful.”

Another participant remarked how he took pride in feeding the world as he said:

“...Love of the land and watching things grow. Um the feeling that we feed the world and the um the inherent desirable lifestyle and the many pleasures and satisfaction that comes with it I guess.”

Independence. One theme that emerged early on within this study was that of independence. Numerous participants remarked how they appreciated the sense of freedom that farming gave them and how they liked being their own boss. When asked why they continued to farm one participant simply put it:

“The independence, getting out on the tractor and just living life, it is good therapy.”

Another participant described the character traits of farmers and how their stubbornness lent to their independence as he stated:

“Well, I think the big thing when someone gets hurt is some people just give up and don't want to try and some people are like me and are too stubborn not too quit. Most farmers are pretty stubborn.”

Similarly, another participant remarked how farmers' attitudes contributed to their desire to be independent as he said:

“All the farmers that I know that are disabled or injured want to get back to farming and want back on that tractor as soon as possible, they don't want to lie around and feel sorry for themselves. I don't think I missed 3 or 4 days in 30 years of working, you know not

every day you feel 100% but you go do it. It is the independence factor that farming gives you.”

Concurrent health problems. After analyzing participant’s demographic information and hearing their responses when they were asked about their level of independence, a theme of concurrent or continuing health concerns emerged. Although participants within the study were asked to identify their primary diagnosis, they all identified other health conditions that impacted their functioning on a daily basis as well. See Table 2 for an outline of the types of conditions that participants cited. The complexity that multiple conditions have on an individual’s functioning can be seen within the other themes explored within this study.

Assistance needed. Given the variety of participant diagnoses and wide range of participant factors, when asked about the amount and types of assistance they needed to participate in their daily occupations, participant responses varied widely. Several participants mentioned the assistance they needed with their self-care occupations as one stated:

“I need help in the morning to get dressed and to get out of bed. I need help in the evening to get in the bed and to get undressed and right now that is all the help I need.”

Additionally, another participant remarked how he needed assistance to safely transfer from the tub to his wheelchair and for other self-care occupations given the limited use he had of his hand.

He stated:

“I can get dressed and take care of my hygiene but she [my wife] has to help me get in and out of the tub and once I get in she has to help me get the leg off and then get it back on again when I need to get back out. She puts my deodorant on because my hand don’t work very well to hold something like that. I can not tie my own shoes so I got to wear Velcro ones.”

Other participants mentioned the assistance they needed specifically related to farming. One farmer mentioned how his ability to complete farm chores was impacted, as he relied on his neighbor for assistance stating:

“But I couldn’t even farm by myself anymore I mean a feed bag weighs 50 lbs., so I couldn’t even lift that you know and my neighbor helps me out and I mean I couldn’t do it without the help.”

Another participant who had more severe limitations from their disability mentioned how he was unable to complete any of his daily occupations independently as he stated:

“Everything. I am totally disabled in the last maybe 10 months, I have been able to with you know adaptive equipment, I have been able to feed myself. I am starting to be able to push my arm through when I put a shirt on. Umm, now with adaptive stuff I can answer the phone or turn the TV but that is as far as I have gotten with any type of recovery... I can run the computer like hitting the buttons.”

This participant also added how he was not able to complete any of his previous farming occupations from transferring to his equipment to doing daily chores as he shared:

“Access to my equipment for farming. I am able to get some adaptive stuff here for me to like workout and feed myself but not to like be able to do the daily stuff I need to do. I am not able to do any of the chores, none of it, except give the orders.”

Role change. Related to the amount of assistance that participants stated they needed to participate in their daily occupations, numerous participants stated that their inability to complete occupations independently had altered their daily roles and routines. A number of participants mentioned how they had been forced to take on more of a management role within their

operation as they were limited in what they could contribute through physical labor as one participant said:

“My routine has changed tremendously and my roles have gone to more managing and less physical labor.”

Another participant mentioned how his primary role within the farm post injury was to give the orders and how it took several people to replace what he was able to do independently before as he remarked:

“Now, I just tell everyone else what to do. It took four people to replace what I was doing myself before.”

In their discussions of role change, a couple of participants mentioned how their role as a farmer and as a spouse had changed as they specifically talked about the interactions they had with their spouses. One participant mentioned how he was only able to help with minor tasks on the farm, which gave him a sense of worthlessness whereas his spouse viewed his participation in these tasks as helpful. He shared:

“I can help with the watering like turning on and off the faucet but that don’t seem like much help to me even though she says it is. I just feel worthless as hell ... What am I needed for? I do some stuff on the computer just barely like I can look up stuff and between her and I we can usually figure it out.”

Additionally, another participant mentioned how his role had shifted more toward managing and how he wasn’t able to participate with his wife in occupations that were meaningful to them. He shared:

“ I used to cook a lot for my wife in the winter time and help her out and help with the yard work and stuff like that and now all I am is a spectator. With the farming I am still

involved but more, how do I say in a business way or logistics, finding parts, acquiring seed and fertilizer and chemicals and keeping up with my chemical license.”

Given the limitations of his condition, one participant shared how his role as a hog farmer had changed and how his whole operation had to be changed, as he was unable to care for his animals after his injury. He stated:

“Yes, I stopped working with the pigs after my injury, I couldn’t take care of them. I had to have someone help me.”

Assistive devices. In order to gauge the types of equipment that participants used for mobility and for greater independence in their daily occupations, participants were specifically asked to share any assistive device that they had available to them. Almost all of the participants cited having several different devices they used on a regular basis, whereas a few others reported having devices but not using them often. See Table 3 for an outline of those devices utilized by participants.

Homegrown modifications. A common theme during the interview and farm tour portions of this study was how many participants took a proactive approach to adapt the way they did things in order to accomplish their goals. For several participants this met modifying equipment, whereas to others it met inventing and creating their own devices. One participant described how he used his forklift as a means to transfer from his wheelchair to his tractor as he shared:

“Like when I got in the tractor the first time we had to figure out a way to do it. So, I got the forklift out of the barn and got a pallet on it and the first time I set my wheelchair on it and they raised me up. Then put a plank on the tractor seat to the thing and I scooted

across it and then... the next time I just set on the pallet and they raised me up and they scooted me across the board.”

Another participant talked about how he made a modification as simple as using a string to help with hitching and unhitching implements but how it saved him a lot of time and energy. He explained:

“I use string to hitch and unhitch implements, I just put a string on the pin and as long as you get the tension right I can hook and unhook the pin without having to get out of the tractor and all and I mean that is a simple thing but it saves time.”

One participant shared how he used ropes as a means of being able to transfer from his wheelchair to a tractor and how he had previously used them to go between floors in his house independently. He stated:

“Well, I use hand controls for automobiles and then I along time ago starting using ropes to climb, both when we lived in well two different homes where I used ropes to go from one floor to the other. The last house had a second floor, so I just used the rope to go to sleep upstairs and then we had a basement too, so I did the same and I use ropes to get on tractors and the dozer and so on.”

A participant with spinal cord injury took pride in sharing a unique invention he had made by using wood from his apple trees. He created a device that assisted him in being able to dial a phone number independently. He said:

“Yes. I always use these too, I turn the pages with this and it fits in my mouth. I just call it a big page-turner, it is pretty ingenious. Then I have this thumb protector. Then we came up with this phone holder and the phone sticks and these are all carved out of my

apple trees, they are out of apple wood. I just take it out put it in my mouth and dial the numbers.”

Beyond modifying equipment or creating assistive devices, one participant shared how he had modified his prosthesis for comfort since the prosthetic company was unable to do so. This participant stated:

“Oh yeah um certain modifications like trimming down on top of the socket because they said they wasn’t allowed to and they said it would jeopardize the integrity of the device but that is what I had to do for comfort so.”

Generally, when participants were asked why they chose to modify or build devices themselves instead of having a professional install them they cited how it was cheaper to build themselves, how the devices available did not suit their individual needs, and how they didn’t know where to go to find out what resources or devices were out there. Several participants also mentioned how they felt their expertise with machinery and fixing farm equipment gave them the know how to build their own devices or make their own modifications. None of the participants mentioned how making their own modifications might put them at an increased safety risk.

Finances. When discussing the hardships of their disability, numerous participants mentioned how their injury or disabling condition had impacted them financially. Several participants mentioned the cost of equipment, whereas others cited how their inability to work had impacted their families income immensely. About their inability to work, one participant said:

“... And I would like to add I think one of the big strains with any health issue or disability is financial and if you can’t work like you should, then the income isn’t what it used to be.”

Similarly another participant shared how he wished he was able contribute something to his family financially since he was so restricted in what he could do physically as he said:

“I just wish I could contribute something monetarily since I ain’t doing as much physically anymore to help my wife out.”

The expense of having to pay others to help with farm chores was cited by a participant as an additional expense as he said:

“The financial equation has changed drastically. You got to have everything paid to be done now instead of me just doing it.”

The cost of buying equipment was another source of financial burden for participants and their families as one participant put it:

“Because there isn’t always money to buy all this stuff you know, we ain’t rich by any means.”

Different outlook. Numerous participants discussed how their injury or disabling condition had changed their perspective on life and how they approached life in a different way since becoming an individual with a disability. One participant shared how he had a deeper appreciation for the little things in life and how he wanted to pass on his knowledge to the kids in the community that helped him:

“Yea, you are thankful for the little things and I am thankful it has brought so many young people out here that I can work with and hopefully help them... I do try to push education to them and in the right direction.”

Accepting their limitations and finding ways to adapt assisted one farmer as she mentioned how she chose not to be bitter anymore by stating:

“Yes and by adapting and doing creative problem solving and not being bitter. Like I have pretty well accepted that in this life anyway I am not going to get new feet, so grumbling about it won’t do any good so it is about what I can do not what I can’t do.”

A contributing factor to several of the participants changed viewpoints related to being around other people who had more of a disabling condition than them. One farmer who was also a veteran spoke of the opportunities he had to be around other veterans at the V.A. hospital and how that had impacted the way he lived his life:

“It was awesome, it felt good to just be out there with the guys and then it was eye-opening to see these people who are more disabled than you so it was humbling. So all these experiences I have had and meeting different people have all contributed to how I live my life now and my attitude toward life.”

Another participant echoed how once he saw others who he viewed as worse off than him, he had a differing perspective on his own disability. As this participant shared:

“Like, I never used to like to call myself disabled before but I technically am and you need to come to the realization that it is ok to ask for the help that you need but don’t be lazy and don’t complain because there are people worse off.”

Frustrations. When participants were asked about their level of independence, their daily life, and their future plans, a general theme of discontentment and frustration over their situation emerged among nearly all of the participants. Several participants specifically mentioned how seeing others complete tasks that they had previously completed was bothersome to them. One participant shared his frustrations about the level of assistance he needed saying:

“Just mainly all the stuff I can’t do for myself. It bugs me when I have to have someone help me with everything you know.”

Echoing these same sentiments two additional participants remarked:

“I am just one of those people I go nuts just setting around especially when I gotta watch someone else do something I had done all my life and now I can’t. I get frustrated.”

“Now it perturbs the crap out of me when we get a nice day and I can’t get out there and do it and I got to wait for my son to get home. It is frustrating.”

Particular to where they saw their life going in the coming years, participants stated how restricted they were in what they envisioned for their future. As one participant stated:

“Yea, I mean what future have I got other than getting worse.”

Several participants specifically mentioned how they were discouraged by the lack of social opportunities that they were able to pursue. One participant gave a detailed example as he shared:

“Yea, I saw myself and my wife being able to enjoy life more and be able to just go and do whatever and not be so concerned whereas now it is a hassle to go anywhere. Like now I have a friend who is celebrating his 50th anniversary and I called yesterday and figured out I couldn’t even get into where they are having it. *So you feel you have decreased social opportunities?* Yep, it has changed a lot. *Do you feel that it is overwhelming at times to have to make plans and adjust where you want to go based on if you can access it?* Yes, it is, it just makes you not even want to go. I would be at the auction today with my son if it wasn’t for this.”

Additionally, another participant stated how the reactions he receives when he goes out in public limited his desire to engage in social opportunities with others.

“*So, you would say your social opportunities have been limited then to get out and see people?* Yes. I still play cards sometimes but not very much. I do have a cardholder I use.

I just don't like to get out in the public that much if you know what I mean. *Do you prefer to stay home then or do you feel it is just too much of a hassle to go out?* It is a hassle; it is just easier to stay home and I get tired of explaining to everyone what happened to me if you know what I mean."

The frustrations cited by participants ranged widely from large scale limitations such as changed future plans to smaller scale frustrations such as those related to their limited independence with self-care occupations. One participant stated the following about his inability to choose what type of clothes he wore:

"Things are hard enough around here as it is, it is like with dressing I only wear pullovers or sweatshirts because I can't wear button down shirts, they are too hard to get on and off."

Coping. A lot of variability existed between the ways participants reported that they coped with their disability. Some participants remarked how getting back to doing what they had done before their injury helped them cope as one participant shared:

"Yea you know just driving. I was able to do the stuff I did before again, it helps a lot."

A few other participants cited how their faith had helped them cope as one participant put it:

"I have a firm faith in God and things happen for a reason and we don't always know why now but they just happen for a reason."

Conversely, another participant reported how initially he used drugs and alcohol to cope but how eventually he used farming to cope and how the flexibility of farming fits his needs well as this farmer shared:

“Yea, alcohol and drugs. Now, I would say farming has helped me cope. I think the schedule has really helped me, I can take off when I want to and I know I have to put the time back in but that has helped so much.”

Additionally, one participant reported how being involved in the community and specifically being able to share her experiences as an individual with a disability helped her cope:

“Well, the biggest too is I was asked by the State of Ohio to serve on a Governor’s Council for people with disabilities and now I am on the statewide independent living council, so those kind of things have helped me cope too and through those that lead to AgrAbility and others. Also, my service dog has lead to other opportunities which leads to contact with countless people and plus I am more than happy to share my thoughts and comments about being disabled and that helps too and leads to the more organized talks and things.”

Mental health. A large component of any physical disability is the mental health aspect. Participants within this study were very open about how they were impacted emotionally by their disability. Common experiences reported among farmers related to feelings of depression and stress. Those that cited feeling depressed reported how they felt their lack of independence contributed to these feelings. One participant remarked:

“Well, I think my big problem was the depression too. I mean I try to do what I can but there is so much I can’t do if you know what I mean.”

Another participant responded similarly stated:

“I suppose the main thing is not only not being able to do things but the feeling of being worthless. Losing my independence is hard [participant crying].”

One participant spoke about the severity of his depression and how he had sought out help due to the impact that it had on his daily life:

“I mean I admit it, I talked with my family doctor about being depressed quite often and I go through depression and sometimes I think there is something wrong with me I get that depressed.”

A few participants spoke about what they had done to manage their depression as one participant shared her reluctance to continue taking medication to control her symptoms:

“Well I tend to get depressed easy, so I guess right now for the past year I have been back on an antidepressant and that has been very helpful but I guess I worry about having to take that the rest of my life... I try not to worry about that but I know the thing that has kept me from really sinking is by being really physically active and so this has the compounding effect. So, I have to find other ways to be aerobic.”

One participant shared his initial feelings of depression and despair as he stated:

“But like I said the first few years was tough with the depression and the drinking because it was such a life changing experience and a what do I do from here and my life is ruined that kind of thing.”

Even without the hardships of having a disability, farming can be a very stressful career in and of itself which one farmer alluded to when he said:

“Farming can be very stressful and especially livestock farmers they got such a huge investment in it, it makes it hard not to worry.”

Family/community support. A contributing factor to why so many of the participants were able to continue farming post-injury was due to the increased support they received from their families and communities. Types of support ranged from adult children returning to help on

the farm to neighbors sharing their equipment. One participant summarized the help he received from his family by stating:

“My daughter helps once in a great while and my eldest son works away and the other works away and helps here in the evenings five or six nights a week and he does all the farm work now, he is basically running it with a little guidance from me.”

Another participant similarly stated how his whole family including his extended family had taken a role in helping with the physical labor involved in his operation:

“Right now, my nephews and my kids and everyone is pretty involved right now. I am just the supervisor now. I always was but.”

Some participants reported both needing family and community support to keep their operation running as one farmer said:

“Actually a fair amount because there have been times I have had to have neighbors help me out and a lot of times it is the kids. I mean the kids have stepped up.”

Two participants specifically mentioned the community support from neighbors and friends as they said:

“Like at lambing time, I got to have help or I couldn’t do it but I am blessed with all the kids that want to help and they keep coming out so I guess I am treating them ok.”

“Well haven’t lost any friends, I have probably gained some. The community has supported us a lot.”

Guilt. Along with participants reporting an increased need for assistance and a decreased sense of independence came feelings of guilt and self-blame about the how their disability had impacted those around them. Seeing someone else take responsibility for their work was particularly bothersome to one participant as he stated:

“I always feel guilty then when someone else is out there doing my work.”

Other participants looked at the long-term effects that their disability would have on their family members and how they felt they were a negative impact on their family members freedom and livelihood:

“My main concern is my wife having to do everything. And if this is long term and I can't help him [my son] either I will have to and he has a family too and you can't rely on someone forever.”

Parallel to those comments another participant shared:

“For my wife to even get me there with the ramp, and getting the chair out and back in and all. Like I said she has two herniated discs and there are times when I hate to see her go through pain just because she is trying so hard to help me.”

Attitude towards health. When participants were asked about their health habits and how they dealt with the physical symptoms of their conditions, a theme emerged around how participants ignored or chose to work through their symptoms instead of altering the way they completed tasks or just stopping the task all together. When asked about his level of pain one participant reported:

“Now, I just learn to shake it off and ignore it that don't mean that don't stop hurting, you just learn to ignore it and ignore the pain.”

When one participant was asked about his symptoms related to arthritis, he talked about how he wasn't concerned with his condition unless he had a serious accident:

“*Do you have any problems with sensation then?* Yea, I had that a long time, my fingers go numb and again that is one of those things you learn to ignore and just go on with. Of

course, these blood liners they got me on you gotta be extra careful. I still tend to ignore it but. Haha... If I ain't bleeding out, I ain't worried about it."

Another participant shared how she wanted more information about health services but how she would be reluctant to accept help from others given her personality and attitude:

"Well, I always want more information to start with and then perhaps services that address the individual however services are hard for anyone to accept and particularly farmers because it is a different breed of person. Umm, for example when something is wrong with their body or on the farm they will just figure out how to do it themselves rather than access services. So, or else the people in service industry don't have an answer so you figure it out or you don't use it or you just work around it."

Another participant similarly mentioned how his "farmer's attitude" shaped his reaction to health advice he received. This participant shared:

"You know I have also thought when people told me I can't do something, I say yes I can. I think that is a farmer's attitude. Don't tell me I can't do something."

Disconnect. Several participants reflected on their previous experiences working with professionals and how those experiences had shaped their viewpoints. One participant shared his thoughts on how he thought farmers were viewed by medical professionals stating:

"I don't want to be crude but I basically think they look down on farmers. Like you know you are just a farmer it really doesn't matter. They just don't understand what it takes and they don't realize what there are eating comes from one of these farms and it is not just doctors you know it is professional people period. They don't understand the hard work it takes."

Similarly another participant remarked:

“I don’t think medical professionals either have any clue what a farmer does. I think if they followed one around for a week they would see. Some days you are pulling calves, some days vaccinating calves and the next you are planting corn or fixing a tractor, fixing fence...”

Looking back on the medical advice he had received yet another participant shared the lack of understanding and knowledge that he felt doctors had about his daily occupations as a farmer as he expressed:

“I think if the doctor better understood what I did that would have helped too. The problem is when you talk to doctors about tractors from the city I mean they think a lawnmower so.”

Not unlike the experiences that participants had with their doctors, one participant specifically reflected on his rehabilitation experience and how he felt his therapists did not have a good understanding of his abilities either:

“Well, I think I told you there up front that most therapists there don’t understand farmers and farming. Some farms are going to be as weak as city people but they need to make a good assessment on what they been doing, how they been doing it, and for how long and a little bit more assessment of their physical makeup at the time they come in for rehab. And of course their mental outlook on what they been doing because I know all therapy requires a review of the person’s mental outlook.”

AgrAbility services. Participants were asked to share their experiences as a client of the Ohio AgrAbility program. When asked about the types of services that study participants reported receiving as part of their enrollment in the program, nine participants cited equipment modifications, eight participants cited education/counseling, two cited training on software

systems, and one mentioned peer-to-peer support. Several participants reflected on the services they had received and the impact that AgrAbility had on helping them continue to farm despite their disability. One participant stated:

“Probably if it wasn’t for AgrAbility I wouldn’t be farming today. Not probably, defiantly I wouldn’t be farming if it weren’t for what they had done but I do think they need to hit more into the therapy.”

Another stated:

“I have been very pleased with AgrAbility, I mean it has given me a brighter outlook on the future because of the knowledge about assistive devices and interacting with others. So it has been a wonderful thing or opportunity but I mean like with anything, improvements can always be made so.”

Numerous participants offered suggestions on additional services they would like to see be offered as part of the AgrAbility program, some of who specifically mentioned the need for therapy services:

“Probably if they could work more with the therapists in the areas too you know because I am firm believer in the therapy but it is just making the connection. So those services would be helpful.”

Additionally another participant said:

“Yes, intensive therapy. A therapy program would be wonderful to have I think that would help me get back to farming. *Do you think both occupational and physical therapy would be beneficial to you?* Oh yes.”

One participant suggested the need for more networking and peer support opportunities citing:

“I would like to have more meetings like we had in Columbus to find out what is out there. More meetings would be nice. *Did you like the opportunities that gave you to meet other farmers?* Yes, the networking with AgrAbility, with others with problems, networking with you [referring to student researcher] to see what is available. Because a lot of times I will overlook stuff.”

Consult services. Given the relationship that AgrAbility has with the Bureau of Vocational Rehabilitation (BVR), a number of participants also commented on the services they had received as part of their involvement with the BVR as well. When participants were asked about the types of services they received from BVR, six participants listed funding for equipment modifications, three participants listed job training, and one participant listed the primary service they had received as referrals to other community resources such as AgrAbility. Participants shared mixed responses when evaluating BVR services. One participant did not endorse the services as beneficial as he stated:

“And no they were not helpful at all. It’s just like if I could do what I did before, I would still be doing it. Then they wanted me to do more like an office job but that is not me. I have never had the desire to do that.”

Whereas another participant remarked on how BVR gave him the funding he needed to make modifications to his van for improved mobility:

“Oh yea they are the ones that funded the stuff. Yea they funded all the modifications on the van. BVR still helps me if I need a lot of things.”

Occupational therapy recommendations. Given this study’s interest in exploring the role that occupational therapy could play in assisting Ohio AgrAbility clients engage more independently in lives filled with meaning and purpose. Several participants specifically

mentioned how they thought therapy services would be beneficial to them if they were offered through AgrAbility. One participant stated his interest by remarking:

“Well, just the therapy I am interested in to get my body moving. I noticed when my wife was down on her back for 6 weeks, she had to learn how to walk again and all that stuff. So, it is amazing how quick you can lose all your skills.”

Other participants highlighted how they thought therapy services specific to the needs of farmers would be most valuable to them. As one participant said:

“You know I do think like the therapy services would be helpful as long as the person was well versed in what my needs really are. Sometimes therapists though, like the physical therapist although he is good, he is not trained in the wheelchairs and the seating and all that and so he doesn’t know and partly being in a rural community, you are more removed from some of the services or they are too far away. I think they need to be willing to change their outlook or their methods sometimes.”

Another farmer similarly stated:

“I think the therapy would be helpful, as long as it was specific to farming and not focused on what it is when you are in the hospital so.”

Several other participants gave suggestions for therapists when working with farmers and how they could best use their skills when working with this population. One farmer mentioned the importance of being able to walk in a client’s shoes as he said:

“I guess just the hands-on stuff helps and being with the person to experience you know with disabled people what their wants and needs are. You need to be with them and experience it, that is a big thing.”

Another participant felt that the lack of guidance he was given on how to find resources available to him was a void that occupational therapists could fill as he shared:

“So, I mean just being out there helps because a lot of people with disabilities don’t know where to start and you as an OT, getting you knowledgeable so you can tell me what is available so it all plays together.”

Another participant mentioned how he wished he could have had additional support from a home therapist when he was discharged from the hospital and talked about how he wished him and his family had someone to go to for advice about home modifications:

“I think if I had like a home therapist come I would do more of the exercises and what they told me and I don’t even know if I was doing the exercises right. I thought I was doing well and then I got home and realized there were things they didn’t cover. Like no one gave us any advice on like the bathtub or bathing or anything you know most of this stuff has been just our own ideas.”

Several other participants mentioned the desire they had for support, education, and interventions in areas that are within an occupational therapists’ scope of practice. One participant mentioned the need for caregiver support stating he hadn’t been given any resources to help him and his wife find a support group:

“Oh no, hell they didn’t tell my wife anything. She wanted to find me a stroke support group and they didn’t know nothing. My wife wanted a support group for like spouses too because you know she has been dealing with a lot helping me but nope they didn’t know anywhere we could go so we didn’t.”

Another participant cited a need for a drivers rehabilitation program focusing on farm machinery and driving manuals:

“How do we even know what is available, if no one tells us. The only thing I guess is just like with the driving, all farmers drive manuals like those who have semis, if there was a drivers rehab for that and driving the tractor after it was modified that would be helpful but just to drive manuals again. ...I guess just training and to get specialized equipment if you need it and like how to get grants for some of the stuff too would be helpful.”

Additionally, two other participants mentioned how they would like to access services related to mental and behavioral health as they said:

“I would say group interactions or gatherings. *Like a support group?* Yea, that would be nifty, I am not sure how many farmers would go but I would, I love support groups they are really helpful. And I think things related more to behavioral health like how to stay positive and not get a bad attitude just like you can do it. *Any services like educational workshops?* Yes, that would be amazing.”

“I think the mental and behavioral health services would be important especially initially after an accident because you are going through so many changes. I mean my first couple years were very tough with depression and getting off meds. so yea I would defiantly recommend that. I don't know, you gotta love yourself before you can love anyone else and I had a tough time doing that. You got to get over that.”

One participant mentioned specifically how he thought therapy could help him with selecting the adaptive equipment most suitable to his needs and how as other participants had mentioned, that therapy within his own environment and suited to his specific needs would assist him in regaining his independence:

“The adaptive equipment and I certainly think there is a need for therapy to be offered. I mean most people get PT and OT offered from their insurance but after you get home, it

stops and that is when you need it most and where you need it most. And you know I really think the therapy would be helpful if it was aimed toward us as farmers.”

Discussion

The following is a discussion of the major findings of the current study in addition to implications for occupational therapy, limitations of the current study and areas for future research.

The fifteen participants of this study varied in gender, age, education, years farming, type of commodities grown and diagnosis. Their life experiences as farmers as well as individuals with disabilities also remained unique to each participant. Despite each participant's distinctive qualities and experiences, several commonalities have emerged amongst the participants of this study.

Farming is not simply a job but a culture; it has meaning of time and place, a certain tempo throughout the seasons, and is an occupation that endures over time and is passed down through generations. It is a way of life (Hissong & Wilhite, 2008). Numerous participants within this study were third or fourth generation farmers and shared the deep tradition that farming had in their family along with the responsibility they felt to keep the tradition alive. The idea of farming as a way of life can also be seen in the deep meaning and purpose that participants expressed when describing why they chose to farm. For some, this sense of meaning and purpose came from being able to work side by side with family members whereas to others it was the satisfaction they felt in providing food to the world. Regardless of their reasoning, participants made it evident that their identity as a person was inseparable from that of being a farmer; a farmer is a farmer.

The opportunity that farming inherently gives to be ones own boss provides a sense of freedom and independence that participants in this study valued. Those participants that shared their perception of being independent both before and after their injury or disabling condition denoted an even greater need for independence than what they had prior. This increased need for independence post injury was a need that continuing to farm helped fulfill. The attitudes expressed related to how being stubborn lent to a greater desire for independence was also shared by numerous participants. The connotation of being stubborn was described as a positive character trait and one participants coupled with being a hard worker. Having such a strong work ethic was also mentioned as contributing to the sense of independence that nearly all study participants continued to seek on their farms and in their daily lives.

It is important to remember that the occupation of farming doesn't stop because of an injury to a farm family member. The animals still have to be fed, and the crops planted and harvested, and income is a direct factor of human labor and performance 365 days of the year (Hissong & Wilhite, 2008). Thus, when an injury or disabling condition occurs, roles change and responsibilities must be redistributed. Based on the variety of participants' diagnoses, the structure of the farming operations, and the availability of family and community support, the amount of role change and redistribution varied immensely from participant to participant. Those participants that experienced more severe conditions consistently reported needing help almost universally, as they cited needing help with their basic activities of daily living as well as in nearly all of their farming occupations. Those participants with less severe impairments, more consistently reported that they needed the most help with tasks that were labor intensive such as taking care of machinery and handling livestock. As participants were less involved in the physical labor or the farm, they reported that their role had changed from manager and farm hand

to strictly that of a manager or overseer. This new or enhanced role of being exclusively involved in the management of the farm was something nearly all participants expressed disappointment about. Although these participants were happy to still be involved in some aspect of their operation, they still had a strong desire to return to their previous roles and routines.

The financial burden of living with a disability is great for anyone but this burden is often intensified for farmers as making their operation accessible to their needs includes modifying or purchasing new equipment, changing the set-up of barns, and hiring help to complete farm chores. To those farmers who were uninsured, this burden was magnified even further. Several of the participants within this study spoke to the financial challenges of their disability and how these challenges had impacted their operation as well as their family as a whole. The lack of funding available for modifications on the farm was a major factor in why so many participants cited that they had made their own lifts for tractors or created their own assistive devices without the advice or help from a professional. These participants were aware of the safety issues inherent in developing their own devices and equipment but many felt they had no other option, as they couldn't afford the cost of having a professional make a device for them. A few other participants cited that they chose to make their own devices and modifications because they couldn't find any that were specific to their needs. In addition, others remarked that they had relevant training in machinery and related fields and thought it was foolish to pay someone to make something for them when they had the skills to do the work themselves.

A change in lifestyle and outlook was commonly reported post injury or disabling condition. Nearly all participants reported an increased appreciation for the little things in life and demonstrated a sense of urgency to live each day to the fullest. Numerous other participants also cited how they could always find someone who was "more disabled" than them and how

their emerging relationships with other individuals with disabilities made them thankful for what skills and abilities they did have. This change in ideals was described as a shift from focusing on what they couldn't do, to what they could do. The positive shift in attitude that participants experienced is not to say that there still were not numerous frustrations and drawbacks that participants experienced as a result of their disability. Relating back to the theme of independence, many participants alluded to being upset that other family members were completing the jobs they had done for many years. The lack of ownership and choice they now had was deeply bothersome to them. As Hisson and Wilhite (2008) explain, the inability of a farmer to participate in farming occupations comprises his or her personhood and affects how he or she interact with the environment and also how he or she participate in his or her daily occupations. Participants were also aggravated at how they felt others negatively perceived them in the community, which for several farmers limited their opportunities for social engagement. Living in a rural community limits the opportunities there are for socialization to begin with but coupled with being a farmer and working long hours, the chances for socialization may even further be limited. Adding the hardships of a disability can make it even more difficult to meet others out in the community due to issues of accessibility. Another frustration commonly expressed among participants was that of a lack of hope about their future. Many of the participants within this study experienced degenerative conditions and spoke to how upsetting it was for them as they looked to what the coming years might bring. Unfortunately, many of them reported a sense of unfulfillment as they knew previous plans they had made for travel or to participate in family events would likely not be possible due to the nature of their condition.

The ways in which individuals cope after experiencing a disability are as unique as each person is and the participants in this study were no different. Participants expressed a variety of

ways they chose to cope, which included an increased faith in God, a desire to be involved and give back to the community, and a reliance on drugs and alcohol. A majority of participants specifically said farming helped them cope. These farmers found a lot of benefit to returning to what they had done before their injury and appreciated the sense of peace and normalcy getting back to their daily routine afforded them. Ways that participants chose to cope was also impacted by their overall mental health post injury. Impacts to mental health was a predominant area reported by participants as feelings of depression and stress were hard to combat for participants. When questioned further about the source of their depression, many participants again related their depression back to the lack of independence they had since their injury. Although feelings of depression were most commonly reported among participants, several participants also shared how much stress they felt related to farming and to their disability. The sources of stress ranged from concerns about the future of their operation to finances to concerns about the weather and the productivity of their crops.

In order to keep their operations running after their injury or condition, nearly all of the participants in this study shared how much of a reliance they had on others to pick up the slack. Most participants reported that immediate family followed by extended family had given them the help they needed to keep their operations productive. The help farmers reported receiving, however, extended beyond just the farm operation as many cited emotional support and homemaking support from their families. Most commonly reported was help with farm related labor. A few participants reported increased community support from neighbors and friends whereas a couple reported having to hire help due to the lack of support they had from others. The individual most cited as taking on more responsibility was the farm spouse. The farm spouse may be involved in more on-farm labor in addition to employment in an off-farm job as

well (Hissong & Wilhite, 2008). The role of a farm spouse has been described as having three shifts and may include tasks such as off-farm employment, on-farm chores, household responsibilities, farm bookkeeping, and caregiving for the spouse with a disability (Reed & Claunch, 2002). The idea of the farm spouse having three shifts was definitely seen within this study. Overburdened spouses lead to participants experiencing a sense of guilt. Participants saw themselves as having a negative effect on those who were supporting them the most including their spouses, their children, and their extended families. The negative impacts that participants cited ranged from concerns for their families health and wellness to concerns about the financial burden that they were placing on their family because of their condition. A lot of the guilt experienced by participants was thought of in more of a long-term context, which may relate to the feelings participants expressed about their hopelessness when considering the future.

The value that farmers place on hard work and independence extended into their attitudes towards health and wellness among participants in this study. The themes of ignoring signs and symptoms of a condition and wanting to avoid seeking medical treatment if at all possible were expressed consistently by participants. A few participants did report wanting access to more health services but admittedly also said that it was hard for them to accept help given their desire for independence and self-sufficiency. Consistent with their attitudes towards health, numerous participants expressed feelings of being misunderstood by doctors and other medical professionals, which they shared was a contributing factor as to why they didn't always seek out medical treatment even if they needed it.

The AgrAbility services most utilized by participants within this study were largely those related to obtaining new equipment or modifying old equipment. Participants' reflections on the services received were overwhelmingly positive as many reported that without the AgrAbility

services they had received, they wouldn't have been able to continue farming. Although satisfied with AgrAbility, several participants did offer suggestions for expanding the current services offered to clients. Of those who provided suggestions, many did cite the inclusion of occupational therapy services as a new service they would like to see be offered. Given the connection between AgrAbility and BVR, a few participants remarked on their experiences working with BVR, as most reported that the service that they received from BVR was mainly funding. Participants' perception of BVR services had mixed reviews, as some participants found that working with this agency was helpful whereas others did not report finding it beneficial.

Implications for Occupational Therapy

Currently there is very little research available regarding the role of occupational therapy in assisting farmers as they continue to farm post-injury or following a disabling condition. The lack of research currently available contributes to the wide scope of practice areas where occupational therapists could be successful in working with this population. Given the limited involvement of occupational therapists within the Ohio AgrAbility program, the authors predicted that there would be several areas where occupational therapists could assist clients within the program. This prediction rang true given the numerous areas of functioning that clients mentioned they would benefit from assistance in which included a variety of practice areas from training on the use of assistive devices to the facilitation of peer support groups. Occupational therapists are ideal to provide such assistance to this population given the professions' commitment to assisting clients as they work toward regaining their independence and livelihood across all areas of functioning. Occupational therapists are well positioned to improve farmers' sense of self- efficacy and their ability to return to agricultural living (Hissong & Wilhite, 2008). Farming as reported by participants within the study is more than just a career

or a job, it is ones identity and purpose for living. The depth of a farmers identity coupled with their desire to be independent makes this population a good fit for occupational therapists whose focus it is to provide holistic services concentrating on fully participating in a life of meaning and purpose.

The views held by participants about medical professionals as well as their attitudes toward health could make this population more reluctant to work with occupational therapists. As some participants reflected on the negative experiences that they encountered when working with medical professionals, many reported that they felt misunderstood and looked down upon. Occupational therapists working with this population would need to be sensitive to participants past experiences while offering services that catered to the unique needs of farmers.

Based on the information shared by participants throughout the interview portions of this study and observations made during the farm tours, several areas were identified as potential practice areas for occupational therapists working with this population:

Concurrent health problems. The majority of participants within this study reported they experienced health concerns beyond those associated with their primary diagnosis, placing them at an increased risk for further injury. Making secondary injury prevention efforts as well as offering general health and wellness interventions relating to nutrition and exercise, may be key in combating further disability and disease processes.

Education. Participants in this study consistently wanted more information on a variety of topics. They wanted more access to diagnosis specific information, to available resources within their communities, to information about farm safety, and to information that could help their caregivers. Providing such resources along with relevant training and education was an enormous need expressed by this population.

Interventions. Farmers always like to be doing something and have a great appreciation for hands-on training. They not only want you to teach them how to do something but they want you to show them. This emphasis on activity makes this population particularly open to hands-on interventions. Given the data collected by this study, there are numerous avenues with which interventions could be offered from transfer training to self-care occupations to the use of compensatory strategies and assistive technology.

Home modifications. Numerous participants in this study talked about the modifications they had made to their farms which including modifying livestock pens, rearranging barns, and buying new equipment but not as many had made modifications to improve the accessibility of their homes. Offering services to improve home accessibility could create opportunities for greater independence and contribute to improved safety awareness, and a greater sense of self-efficacy.

Social support opportunities. Farmers want to talk and want their opinions to be heard. Their desire to share their experiences with other farmers, with other individuals with disabilities, and with medical and social service professionals makes them an ideal group for conducting peer to peer groups, support groups, and involving them in sharing their wisdom to the community.

Caregiver/family support. Participants within this study overwhelmingly wanted resources not just for themselves but also for their loved ones and caregivers who worked so hard to provide for them. Offering this type of support could include educational materials, referrals to other sources or social opportunities.

Mental health. Experiencing a disability has impacts on both physical and emotional health. The emotional impacts of a disability need to be treated just as much as the physical

complications in keeping with a holistic view of the person. Participants in this study expressed a strong need for services targeting depression, stress, and anxiety.

Drivers rehabilitation. Participants in this study expressed a desire to learn to drive and operate their on and off farm vehicles again but wanted training and advice on vehicle modifications before they pursued driving again. Many expressed a lack of services available for learning how to transfer to various types of machinery and in learning how to operate manual transmissions and other farm machinery requiring specialized skills. Offering a drivers rehabilitation program specific to these needs could help fill this gap.

Assistive technology. Participants in this study heavily relied on the use of assistive technology to complete their daily occupations but many thought that the devices they were using were not best suited to their needs or that they were unaware of how best to use the devices they had. Offering such education and training would help improve client safety and efficiency of the technology used.

Role transition. Participants in this study experienced a lot of change in their daily routines and roles and expressed a need for services that could help them and their families cope with a new farm and family dynamic. These services could be targeted toward planning, in case of a need for role change or toward adapting to new roles as a farm hand or caregiver. The implications of offering transition planning could have far reaching benefits to all involved both from a farm and a family perspective.

Limitations of the current study. The current study was successful in providing an avenue for study participants to share their life experiences as they live with a disability, continue to farm, and seek services as an Ohio AgrAbility client. The information participants provided allowed the researchers to gain valuable insight into the experiences of farming with a

disability as well as the potential role that occupational therapy can play in assisting AgrAbility clients as they continue to farm. Despite the invaluable data provided by participants, there are several limitations present within this research study.

The relatively small sample size present within this study should caution against generalizing participant responses to all farmers with disabilities or to all Ohio AgrAbility clients. As the majority of participants were male, participant responses may reflect the attitudes and beliefs of male farmers more so than females. In addition, the mean age of participants was fifty-seven years old, which means that the responses may also not accurately reflect the experiences of younger farmers. In addition, the student researcher had previously met one research participant prior to their involvement in this study, which may have impacted the responses given during his interview portion of the study. Also, some participants had family members present with them during their interview whereas other participants did not, which could have influenced the types of responses they shared.

Future research. Future research with additional recruitment efforts may yield a greater number of participants. Increasing the inclusion criteria to any Ohio farmer with a disability may also yield different results as farmers who sought out participation in the AgrAbility program may have a fundamentally different experience than farmers who are not enrolled. Conducting further investigation into the specific experiences of female AgrAbility clients may also yield different results. Conducting an exploration of the experiences of the families and caregivers of AgrAbility clients would also be worthwhile given the depth and complexity of these relationships that were described by participants in the study. Lastly, examining the attitudes and experiences of rehabilitation professionals who serve rural clients including farmers might provide valuable insight into how this population can best be served.

Conclusion

Farming by its very nature can be a very challenging and demanding way of life. Farming with a disability can make these challenges even greater. Although these challenges may be intensified after an injury or disabling condition, the inherent meaning and purpose in being a farmer is something that outweighs the hardships encountered. Participants within this study made it apparent that farming is more than just a job, it is a way of life deeply rooted in pride and tradition and something that can't be given up even when it is made harder because of a disability. The intrinsic value that farming had to participants and the wide variety of occupations that participants need to be able to complete to be active within their operations, provides occupational therapists working with this population a wide variety of avenues to offer interventions in. Based on the comments provided by participants and the major themes that emerged, it can be concluded that occupational therapy does have a role within the Ohio AgrAbility program in assisting farmers as they continue to farm. The emphasis that occupational therapy places on returning clients to their lives of meaning and purpose in a client-centered and holistic way fits well with the ideals held by farmers and compliments the values of the Ohio AgrAbility program. By focusing on the individual experience and beliefs held by each client, the right intervention approach and methods can be made to effectively support AgrAbility clients as they continue their way of life as farmers.

References

- AgrAbility in Georgia. (2009). *Rehabilitating Farmers & Ranchers with Disabilities for Occupational and Physical Therapists*. Retrieved from <http://www.farmagain.com/rehab.html>
- AgrAbility welcomes back ohio and texas. (2010, Winter/Spring). *AgrAbility Harvest*. Retrieved from <http://txagrability.tamu.edu/newsletter/AgrAbility-Harvest-1-1.pdf>
- Boyzatis, R.E. (1994). *Transforming qualitative information: Thematic analysis and code development*. Thousand Oaks, CA: Sage.
- Deboy, G.R., Jones, P.J., Field, W.E., Metcalf, J.M., & Tormoehlen, R.L. (2008). Estimating the prevalence of disability within the u.s. farm and ranch population. *Journal of Agromedicine*, 13(3), 175-190. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/19064422>
- Enser, A. (2006). Grief process in widows. Unpublished scholarly project, Medical College of Ohio, Toledo.
- Field, W.E., & Jones, P. (2006). Disability in agriculture. In J. Lessenger (Ed.) *Agricultural Medicine* (pp.70-80). New York, NY: Springer Science and Business Media, Inc.
- Friesen, M., Krassikouva-Enns, O., Ringaert, L., & Isfeld, H. (2010). Farming with a disability: literature from a canadian perspective. *Journal of Agromedicine*, 15, 47-53. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/20390731>
- Gitlin, L.N., Luborsky, M.R., & Schemm, R.L. (1998). Emerging concerns of older stroke patients about assistive device use. *The Gerontologist*, 38(2), 169-180.
- Hissong, A.N., & Wilhite, C. (2008). Occupational therapy's role with farmers with disabilities or disease. *OT Practice*, 13(13), CE1-7.

- Karttunen, J.P., & Rautianen, R.H. (2011). Risk factors and prevalence of declined work ability among dairy famers. *Journal of Agricultural Safety and Health*, 17(3), 243-257.
Retrieved from <http://illiadv00.utad.utoledo.edu/illiad/TOL/illiad.dll?SessionID=W091643756I&Action=10&Form=75&Value=81340>
- Luborsky, M.R. (1997). Attuning assessment to the client: Recent advances in theory and methodology. *Generations*, 21, 10-15.
- Luborsky, M. R., & Lysack, C. (2006). Overview of qualitative research. In G. Kielhofner (Ed.), *Research in occupational therapy: Methods of inquiry for enhancing practice* (pp.326-340).Philadelphia: F.A. Davis Company.
- McGuire, K. (2011, October). *Ohio AgrAbility: Working with Agricultural Workers after a Disabling Condition*. Presentation presented at the Ohio Occupational Therapy Association Conference, Cuyahoga Falls, OH.
- Meyer, R.H., & Fetsch, R.J. (2006). National agrability project impact on farmers and ranchers with disabilities. *Journal of Agricultural Safety and Health*, 12(4), 275-291. Retrieved from <http://illiadv00.utad.utoledo.edu/illiad/TOL/illiad.dll?SessionID=V084547893G&Action=10&Form=75&Value=78079>
- Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage Publications.
- AgrAbility partner updates. (2011, Spring). AgrAbility Harvest. Retrieved from http://www.agrability.org/Documents/AgrAbilityHarvest_2_1.pdf
- Reed, D.B., & Claunch, D.T. (2002). Behind the scenes: Spousal coping following permanent disabling injury of farmers. *Issues in Mental Health Nursing*, 23, 231-248.
- Rosenthal, R., & Rosnow, R. L. (1991). *Essentials of behavioral research: methods and data*

analysis (2nd ed.). New York, New York: McGraw Hill Inc.

Schweitzer, R.A., Deboy, G.R., Jones, P.J., & Field, W.E. (2011). AgrAbility mental/behavioral

health for farm/ranch families with disabilities. *Journal of Agromedicine*, 16, 87-98.

Willkomm, T. (2004). Farming and ranching with a disability. National Ag Safety Database.

Retrieved from http://nasdonline.org/static_content/documents/1832/d001767.pdf

Appendix A

Participant Flyer



RESEARCH OPPORTUNITY FOR OHIO AGRABILITY CLIENTS

Your willingness to participate would be greatly appreciated.

Interested participants should contact:

Brittany Cowgill, OT Student

Brittany.cowgill@rockets.utoledo.edu

(614) 746-1283

OR

Dr. Dee Jepsen, Ohio AgrAbility Director

jepsen.4@osu.edu

(614) 292-6008

This study aims at determining the role of occupational therapy services within the Ohio AgrAbility program. The research session will include a short questionnaire followed by an interview and a request for a tour of your homestead/farming operation.

If you decide to participate you will:

Attend a one-hour interview on your property.

Be asked to allow the researcher a tour.

Reflect on your experiences as a farmer and as an AgrAbility client.

Explore areas where occupational therapy services may have been or would currently be useful to you.

This research project is being conducted as part of the Occupational Therapy Doctorate Program at The University of Toledo.

Principal Investigator: Barbara Kopp Miller, PhD Student Investigator: Brittany Cowgill, OTD Student

Appendix B

Introductory Letter

Dear Potential Participant:

This letter is an invitation to consider participating in a study I am conducting as part of my doctoral degree in the occupational therapy program at the University of Toledo, with support from the Ohio AgrAbility program. I would like to provide you with more information about this project and what your involvement would entail if you decide to take part.

The purpose of this study will be to identify the issues faced by AgrAbility clients and to determine the potential role that occupational therapy can have in the Ohio AgrAbility program in supporting farmers as they continue to farm. Therefore, I would like to include you, a current AgrAbility client, as a participant to be involved in my study. I believe that because you are actively involved in the AgrAbility program you are best suited to speak to the various aspects of the program as well as on your own personal experiences as a farmer.

Participation in this study is voluntary. It will involve completion of a brief questionnaire, an interview, and a property tour of approximately 1 to 2 hours in length to take place on your farm property. You may decline to take part in any aspect of this study if you feel uncomfortable. Further, you may decide to withdraw from this study at any time without any negative consequences by alerting the researcher. With your permission, the interview will be audio recorded to facilitate collection of information, and later transcribed for analysis. Field notes will also be taken throughout the interview and during the property tour. With your permission, photographs will also be taken of your property and equipment. All information you provide is considered completely confidential. Your name will not appear in any report resulting from this study; however, with your permission anonymous quotations may be used. Data collected during this study will be retained for 3 years in a locked filing cabinet in the principal investigator's office. Only researchers associated with this project will have access. There are minimal risks to you as a participant in this study.

If you have any questions regarding this study, or would like additional information to assist you in reaching a decision about participation, please see the attached flyer or feel free to contact me at 614-746-1283 or by email at Brittany.cowgill@rockets.utoledo.edu. You can also contact the principal investigator, Dr. Barbara Kopp Miller at 419-530-5308 or email Barbara.KoppMiller@utoledo.edu. Additionally, you may contact the Ohio AgrAbility program director, Dr. Dee Jepsen at 614-292-6008 or by email at jepsen.4@osu.edu.

Sincerely,

Brittany Cowgill
Student Investigator

Dr. Barbara Kopp Miller
Principal Investigator

Dr. Dee Jepsen
Ohio AgrAbility Program Director

Appendix C

Interview Demographics Questionnaire

Please answer the following questions:

1. What is your gender? _____ Female _____ Male

2. What is your age? _____ years

3. What is your race?

_____ Hispanic _____Caucasian _____ African American

_____ Asian American _____ American Indian _____ Other (specify)

4. What is the highest level of education you have completed?

_____ Below 12th grade _____ High School Diploma/GED

_____ Associate’s Degree _____ Trade School

_____ Bachelor’s Degree _____ Master’s or Post-Doctoral Degree

5. What is your primary occupation?

_____ Full-time farmer

_____ Part-time farmer with primary income from farm

_____ Part-time farmer with primary income from off-farm

_____ Farm employee

_____ Migrant/Seasonal worker

_____ Agricultural business (specify type): _____

_____ Other (specify): _____

6. How long have you been farming? _____

7. How long have you been associated with the Ohio AgrAbility Program? _____

Appendix D

Interview Guide

1. Thank you for your participation in this research study:

- Interested in learning about your experiences farming with a disability and the services you received from AgrAbility.

Occupational Therapy

1. Explanation of occupational therapy and the services offered.

Background

1. Can you tell me a little bit about yourself and your farming operation?

- How long have you been farming?
- Why did you choosing farming as a profession?
- What specific commodities do you grow or have you grown? (Dairy, beef, hogs, sheep, poultry, grains, forages, specialty crops, agri-business, etc.)
- What is the most rewarding part or your favorite thing about farming?
- What are your leisure occupations or hobbies?

2. Can you tell me a little bit about your family?

- Are you in a relationship?
- Do you have any children?
- Other family members that live close-by?
- How involved are your family members in your farming operation?

3. Can you briefly describe your injury and/or disabling condition?

- How and when did the injury/ disabling condition occur?
- What are your primary impairments that resulted from this injury?

- Do you have other medical conditions that occurred either prior to, concurrent with or after this event?

4. Have you ever received rehabilitation services (including occupational therapy, speech therapy, or physical therapy) related to your impairments?

- If yes, what specific services were received, in what setting (e.g. inpatient, outpatient, home-health, etc.) and for how long?
- Did any of these services specifically address the skills you need to be successful in working on your farm? If so, how?
- How well prepared did you feel in returning to or continuing to farm after receiving therapy services? (e.g., did you feel you needed more or less time in rehab?)
- Were you friends/family integrated into your rehabilitation process? Was family/caregiver education provided?

5. What were/are some of the biggest challenges you faced/face related to farming and/or the ability to live independently?

- Accessibility to equipment, completion of chores, operation of equipment, lack of social support, etc.
- How much help did you require from others?
- Which area of your operation was most heavily impacted by your injury? (e.g., productivity, financial return, etc.)
- Have you had to change or alter the number of acres/head or livestock or the types of commodities grown?
- How was your personal/family life impacted? (e.g., support from family/friends, how did you cope?, occupations you did before that you couldn't anymore?)

- How have your daily occupations been impacted? (e.g., routines, roles, responsibilities, your future plans, work/career, parenting/caregiving)

6. What were/are some of the tasks that are easier for you to complete independently? Or you feel like you have been able to master?

- Do you feel there are any positives that have resulted from your injury and/or disabling condition?

7. Can you describe what your typical farm day is like?

- Types of tasks you complete each day?
- How much help you have from others?
- How long are your days? (e.g. winter vs. summer/fall)
- How does weather play a factor in your day-to-day operation?

Assistive Devices

1. Do you currently use any assistive devices or have you used any in the past?

- Were these devices prescribed to you as part of your rehabilitation process?
- Was education provided to and your family/caregiver(s) you on the use of these devices?
- Are there other devices that you wish you had or you think would be helpful for you to have?
- Have you made any assistive devices or modifications to your equipment yourself?

2. Has AgrAbility been involved in helping you receive these devices or helped you in training/education on the operation of these devices?

Services Received

1. What AgrAbility services do you currently receive or have you received in the past?

- What challenges did these services specifically address? Anything not addressed?

- Are there services that you would like to see be offered by AgrAbility that you think might be beneficial to you or other AgrAbility clients? (e.g. mental/behavioral health services, educational workshops, energy conservation, etc.)
- How much have you fallen through on the recommendations you received from AgrAbility?
 - If you have not followed through, why not?

2. Have you worked with any Bureau of Vocational Rehabilitation programs either before, after or simultaneously to the Ohio AgrAbility programs you have taken part in?

- If so, what services have you received? Were they helpful?

Conclusion

1. Anything you wish others knew that might be helpful as they return to their farm after an injury or anything you feel other AgrAbility clients should know?

2. Anything you think that rehabilitation professionals should know or be mindful of when working with farmers with disabilities?

- Do you have any specific recommendations for these professionals on how they can be a resource for farmers with disabilities?

3. Are there any services or information that you would like to receive more information on or training in?

- Assistive devices, support groups, training and education, etc.

4. Farming can be a very mentally and physically demanding profession. What motivates you or keeps you farming every day?

Closing

1. Thank you for participation and time.

Appendix E

Guided Tour Field Notes

1. Type/Size of operation

Number of acreages: _____

Livestock (type(s) and # of head): _____

Grains/Forages/Specialty Crops (type(s) and # of acres): _____

Agribusiness: _____

Other: _____

2. Accessibility of Home/Barn/Shop

Description of terrain: _____

Barriers to enter/exit (i.e. steps/locks/handles/slippery surfaces/long distances): _____

Any mobility related problems accessing these buildings: _____

3. Machinery/Equipment Use

Types of machinery used (i.e. hand tools/power tools/self-propelled): _____

Equipment modifications: _____

Accessing/maintaining/transferring to/use of equipment: _____

4. Livestock Operations

Livestock facilities used: _____

Accessibility of livestock (i.e. corrals/pens): _____

Handling livestock and other related tasks (i.e. transporting/loading/feeding/medical treatment/clean-up): _____

5. Crop Operations

Type of facilities used: _____

Accessibility of facilities: _____

Handling/storing/processing procedures including chemical application: _____

6. Farm Management

Accessibility of office/workstation: _____

Tasks related to farm management responsibilities: _____

6. Safety

Any noted safety concerns by participant: _____

Any noted safety concerns by researcher: _____

Table 1
Demographics Table

Participant	Gender	Age	Race	Education	Occupation	Yrs. Farming	Yrs. with AgrAbility	Commodities Grown	Diagnosis
1	M	44	Caucasian	-	Full-time farmer	39	17	Grains	SCI
2	M	65	Caucasian	HS	Full-time farmer	48	6	Hogs/Grains	Bilateral LE amputation
3	M	61	Caucasian	Trade School	Full-time farmer	61	3	Beef/Grains/Hay	CHF/Stroke
4	M	60	Caucasian	Trade School	Full-time farmer	43	4	Sheep/Grains	Degenerative Disc Disease/Stroke
5	M	60	Caucasian	Bachelor	Part-time farmer	60	3	Grains	MS
6	M	70	Caucasian	Trade School	Full-time farmer	52	1 to 2	Grains/Beef/Dairy	LE amputation/Stroke
7	M	74	Caucasian	HS	Full-time farmer	74	2	Dairy/Grains/Hay	LE amputation/Stroke
8	M	47	Caucasian	Trade School	Full-time farmer	22	2	Hay/Straw	SCI
9	M	57	Caucasian	Trade School	Full-time farmer	38	1	Chickens/Hay/Beef/Hogs	LE amputation
10	M	51	Caucasian	HS	Full-time farmer	51	1	Dairy/Grains	Multi-chemical sensitivity
11	F	54	-	Bachelor	Part-time farmer	17	1	Horses/Chickens/Hogs/Vegetables	Morton's foot syndrome
12	M	32	Caucasian	Bachelor	Full-time farmer	3	3	Grains/Hay	LE amputation
13	F	59	Caucasian	Master	Part-time farmer	26	10	Grains	MS
14	M	60	Caucasian	Bachelor	Part-time farmer	60	3.5	Grains	SCI
15	M	63	Caucasian	Trade School	Full-time farmer	40	2	Beef/Grains/Hay	SCI

Table 2

Table of Concurrent Health Problems

Health Concern	# of participants citing
Musculoskeletal Disorders	7
Pain	6
Gait Disturbances	5
Sensation/Circulation Concerns	5
Respiratory Impairments	4
Cognitive Impairments	4
Fatigue	4
Heart Conditions	4
Skin Problems	4
Vision Problems	3
Arthritis	3
Mental Health	3
Diabetes	3
Vascular Diseases	2
Seizures/Migraines/Headaches	2
Bone Disorders	2
Hearing Loss	2
Autoimmune Disorders	1
Sleep Disturbances	1

Table 3

Table of Assistive Devices Utilized

Assistive Device	# of participants citing
Manual chair	7
Power chair	5
Long-handled reacher	4
Walker	2
Cane	2
Slide board	1
Sock-Aid	1
Eating utensils	1
Orthotics	1
Crutches	1
Standing Wheelchair	1
Splints	1