

CULTIVATING PIXELS AND PLANTS: A LOOK INTO WHY FARMERS DO OR DO NOT
PLAY VIDEO GAMES AND THE LEISURE ACTIVITIES THEY PARTICIPATE IN

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ABSTRACT

Video gameplay has gained interest and popularity among rural area populations despite connectivity issues. The gaming habits of agriculturists are understudied, as well as the leisure activities of this population. To address this gap, this study explored the gaming habits and leisure activities of individuals associated with the agriculture industry. Through a mixed-methods approach, 76 individuals within the agriculture industry were surveyed and 5 participants were interviewed. This study found that farmers do play farming games for various reasons, along with other video games despite connectivity issues and time constraints of their everyday careers. This research aids in the identification of the various aspects and reasonings they have for either participation or restraint from play, of farming video games and the leisure activities these individuals participate in. The implications of this research add to the gaming studies and leisure studies literature, and aid in the marketing of video games to rural area populations.

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Chapter 1. Introduction

“Farmers don’t take weekends off during Spring and Fall” – Survey respondent

The United States (US) agriculture industry currently employs 2% of the US population, roughly two million farms, 98% which are family-owned (*Fast Facts About Agriculture & Food*, 2020). Individuals are generationally being separated from their family farms due to the pursuance of other careers outside of the agriculture industry, which can be seen by the percentage comparison of agriculture workers in the US from 1840 (70%) to 2000 (2%) (Klein & Locke, 2014). Many individuals may have little to no knowledge regarding the industry as it is a lifestyle that many are shying away from. However, there is still interest in farming by the general public by virtue of the popularity of farming simulation games.

Simulation video games have become a popular genre of games, and in 2019 was ranked #8 in overall genre by Invision Game Community among the other genre types (Jones, 2019). Simulation games have increased in number with many different industries and careers being represented such as flight simulators, truck driving simulators, farming simulators, and even personal computer (PC) building simulators (Avard & Cuenca, 2020). These simulation games allow individuals to virtually experience a field or career of interest, without physically changing their career or participating in the activity. Simulation games draw the attention of various audiences, including those who currently participate in such a career or hobby, and could be a stepping stone for the public to learn about the inner workings of an industry or activity in which they do not currently engage in.

Academics have researched why people play video games such as player motivations (Johnson et al., 2016; Klug & Schell, 2006; Ohler & Nieding, 2006; Uysal & Yildirim, 2016), the clusters of play that individuals participate in (Cowley et al., 2013; Tekinbaş & Zimmerman, 2003; Yee, 2006), as well as the different player types that emerge based on the gameplay that is engaged (Bateman & Boon, 2006; Tekinbaş & Zimmerman, 2003). Underexplored are questions surrounding whether or not people play video games that are similar to the current career that the individual has. In this thesis, I investigate whether farmers and others employed in the related agriculture industry, do or do not play farming video games. Surveys and interviews have been conducted and posted on video game and daily newspaper websites, regarding why the general population – farmers included – play farming video games; however, this topic is understudied

within the academic field. A more general topic area the proposed research fits into is the uses and gratifications from playing video games, specifically farming oriented games and the leisure activities of those within the agriculture industry.

This research study is relevant to today as it can aid in the marketing of video games to farmers or rural area populations by determining the various factors and aspects within farming games that deters or entices play. Having a better understanding of why individuals within a certain career field, may or may not engage in the play of video games or play games that are associated with a certain career, is another aspect of marketing that could help large gaming companies. The idea of farmers and their leisure time is also understudied academically and would add to the literature of leisure studies of a specific population. The specific scope of this paper is to further identify the various themes that arise and the reasons why farmers/agriculturists do or do not play farming video games, and also to look at what they do in their leisure time.

The research study uses the theoretical framework of uses and gratifications and currently identified play motivations to explain the media usage of individuals within the agriculture industry. Specifically, what video game aspects entice or deter play of video games broadly and also identify aspects specific to farming games. After gathering 76 surveys and five interview responses, the data aims to explain the various reasons of why: farmers who do play farming video games; farmers who do not play farming games but are drawn to other types of games; why some farmers do not play video games at all; and overall leisure activities of those in the agriculture industry.

1.1 Significance

The research conducted in this thesis found that farmers and those in the agriculture industry do not participate in the gameplay of farming games due to time constraints (long days—small amounts of leisure time available) or play other types of games not related to the agriculture industry due to the similarities of career/work-life. There has been little research done on the leisure time of farmers/agriculturists and more specifically, farmers/agriculturists playing games related to the agriculture industry are understudied academically.

I believe that it is important as a media scholar to understand what stories are being told and how certain lifestyles, careers, and hobbies are portrayed within popular media.

Understanding the attitudes and feelings of those individuals whose lifestyle, career, or hobby is

being portrayed can help with the creation of video games or media content that is realistic and accurately portrays that certain lifestyle, career, or hobby. Also with the introduction of technology, and the role it plays within the agriculture industry, this would be an interesting facet to explore.

1.2 Purpose

The purpose of this study is to research whether farmers and those within the agriculture industry do or do not play farming games. I wanted to find the aspects that deter and/or encourage the play of farming games from the perspective of a farmer/agriculturist consumer. I also ask: If these individuals do not engage in farming games but do participate in other video gameplay, what types of games are they interested in? Finally, if these individuals do not engage in any video gameplay, then the study seeks to identify other sorts of activities that fill their leisure time.

As the internet has become more accessible, more individuals are choosing to participate in online video gameplay. However, even with the increased availability of high-speed internet in rural areas, gamers are still having issues when downloading content or participating in online gameplay (Anderton, 2019; Riddile, 2019). This may be why rural gamer populations are understudied or the gamers themselves have not yet caught up to the newer versions of games in general.

My study adds to a larger idea of career-based video games and why people decide to engage with these games or are deterred from playing for various reasons.

1.3 Contributions to knowledge

Identifying the various aspects of games that either deter or entice farmers/agriculturists to play farming video games would add to the literature of gaming studies and motivations for play. The gap within the literature about career-based games, and individuals who participate in those types of games, is examining the rural area population and those associated with the agriculture industry. Another part of this research will add to the leisure studies literature. There is little literature that has been done regarding farmers and their leisure times, as such researchers know very little about the various activities that they do or do not engage in during said leisure time. This study adds to the literature by researching the various games that farmers/agriculturists participate in, and if they do not engage in gameplay, then asking and identifying the various leisure activities they do engage in.

1.4 Research Questions:

This research project seeks to answer the following research questions:

RQ1: Do farmers play video games related to agriculture? Why or why not?

RQ1a: What aspects of video games related to agriculture either draw in or deter agriculturists from playing such video games?

Understanding why farmers do or do not play video games that are related to the agriculture industry is a topic that has been understudied and lays the groundwork for future studies in this nascent area of investigation. Future studies could investigate other careers and video games related to those careers and whether individuals play games similar to the outline of this study. When discussing the various farming/agriculture video games, it would be interesting to see what themes arise for both why the play does and does not happen. When marketing video games to farmers/agriculturists in rural populations, this would be beneficial to understand what the consumer of the game does and does not like and how the game designers could improve the game to make it more marketable and interesting for rural populations.

Relatedly, this research also addresses the gap in the research whereby the leisure time of farmers remains underexplored. My second research question investigates the leisure activities of farmers who do and do not play games in their free time.

RQ2: If farmers do not play farming video games, then what sorts of video games do they play?

RQ2a: If not playing video games, what do farmers do in their leisure time?

When investigating the video games that farmers/agriculturists play, understanding the games they do participate in play with would help video game distributors in knowing the audience of their game and also how to market towards this specific population. Little research has been conducted when looking at farmers and video games in general; this study explores what video games, if not farming games, draw the attention of individuals within this industry. Repeatedly, if farmers do not engage in video gameplay, what do they do within their leisure time is beneficial to the study and field of leisure studies. Little research has been conducted concerning farmers and their leisure time, and the research done has created a term called “Agrileisure” which is interested in hobby farming as a leisure activity or participating in “Agro- or Agritourism”. These research questions would be interested in the specific aspects or

characteristics of the video games that draw the interest of farmers/agriculturists; while also looking at what farmers do within their leisure time.

Chapter 2. Literature Review

“I play them because I grew up around farming and always wanted to farm but wasn't born into a family with one already and with the price of land and equipment it wasn't an option for my family to become farmers. So without working for a farmer, farming simulator is my next best option.” – Survey respondent

To provide the necessary groundwork for my study, I begin with a review of the literature examining why people play games, the various types of players within the game, and what other researchers have found about farmers or others playing farming video games. Scholars have investigated why people play video games and the motivations behind playing and also identified the various player types within these games. Research has been conducted on why individuals, broadly, play farming games, however, these studies have been limited to web pages or blog posts with little academic literature to support this player folk knowledge.

2.1 Definition of Terms

Farming

Within this research project, farming will be used to describe a specific type of simulation games or video games. Farming is defined as, “to cultivate or produce a crop on”; with a further definition of agriculture as, “the science, art, and business of cultivating the soil, producing crops, and raising livestock” (*Webster’s II new college dictionary*, 1995). Farming video games will be those that are related to or are inspired by the agriculture industry.

It is worth noting that within the video game industry, there is a term called “gold farming” in which players define “grinding” or “farming” as the activity or act of doing simple tasks repeatedly to obtain different rewards (Uysal & Yildirim, 2016). The use of this definition is outside of the scope of this project.

Games

Games will be defined using the six criteria from Roger Caillois. These six criteria include, “1. Free from obligation 2. Separate from “real life” 3. Uncertain in outcome 4. Unproductive activity 5. Governed by rules 6. Make-believe” (“Cultivated Play,” 2010). Within this research study, the term “games” will include but are not limited to a console or PC game, mobile application games, and social games. Games that could be identified within this study include, but are not limited to *Farmville*, *Farming Simulator*, *HayDay*, and *Happy Farm*. I acknowledge that this definition by Caillois was created before the invention of video games;

however, this being a fundamental definition it will still be relevant to this study as some games individuals participate in are not video games but other types.

Agriculturists

Within this thesis, agriculturists and farmers will be terms that are used interchangeably with agriculturists including various occupations within the agriculture industry. According to Sikarwar's (2017) article in *The Economic Times*,

Agriculture itself was defined to include floriculture, horticulture, sericulture, the raising of crops, grass or garden produce and also grazing, and then expanded to include dairy farming, poultry farming, stock breeding, the mere cutting of wood or grass, gathering of fruit, raising of man-made forest or rearing of seedlings or plants. (para. 5)

When discussing why farmers do or do not play farming video games, 'farmers' will be a broad term used to include family farmers, ranchers, producers, and other careers within the agriculture industry.

2.2 First Literature Scan - Inconclusive

As discussed above in the *Definition of Terms* section, when first scanning the literature for video games and farming, many of the results were about "gold farming" in China and video games. Much of my first literature scan was trying to sift through the results for results about the agriculture industry and the occupation of farming. Other word combinations that were tested included the terms "farming", "video games", "agriculture", "social games", "games", "digital games", "SNS games", "Farmville", "HayDay", "Happy Farm", and "StarDew Valley".

Unfortunately, different combinations of these terms yielded little to no results.

When researching what types of activities farmers, or those in the agriculture industry, partake in during their free or leisure time, I discovered the term "agrileisure" had been coined to find a word to describe these activities. Agrileisure has been defined by Farmer (2012) as a theoretical framework used to describe,

the intersection of agriculture, recreation and leisure, and social change, binding both the supply and demand sides of farm-based recreation and tourism through processes of economic, diversification, community development and environmental and ecological sustainability (p. 492)

Agrileisure is the activity of hobby farming or u-pick orchards and farms (Farmer, 2012).

Agrileisure is an activity similar to that of agritourism where individuals tour farms or orchards to learn more about the agriculture industry and partake in activities that are usually done on

farms (Phillip et al., 2010). This type of activity in which farmers partake in as agrileisure is an interesting topic to consider; however, when discussing the activities of farmers in their leisure time, agrileisure is outside the scope of this present study.

While the research about farmers' gameplay habits (or lack thereof) is scant, there is a robust body of literature about gameplay preferences and motivations for play more broadly conceived. I turned to this literature to provide an appropriate groundwork upon which to build my study of farmers' play.

2.3 Why people play games

People engage and participate in games for a variety of reasons. Ohler and Nieding describe the motivations using an evolutionary approach, discussing the evolutionary psychology and biology reasons of gameplay (Ohler & Nieding, 2006). Klug and Schell build on this work, identifying reasons such as a way to control their environment, to experience something they know of but have only been an observer, play to live elsewhere and at a different time, play to compete or to explore fantasy relationships safely (Klug & Schell, 2006). Both of these explanations of why people decide to play video games will be discussed below.

Individuals participate in play because of evolutionary psychology and biology reasons. Ohler describes "play" as a, "feature [that] will manifest itself in the genetic pool of species, and all members of the population or isolated subpopulations will play" (Ohler & Nieding, 2006). This can be seen when describing the different gaming communities that arise based on either the game that is being played or the genre of games played by community members. People play games to socialize with those around them and to have a sense of belonging within a community.

When players play games to control their environment, they do so not to just escape the world around them but also become actively involved in the storylines in which the game designers create (Klug & Schell, 2006). People want the illusion that they are in control when they also seek a sense of randomness and excitement with what comes next within the gameplay (Klug & Schell, 2006). Those who play to have a sense of control, are also willing to make sacrifices, if needed, to stay in control (Klug & Schell, 2006). Overall, these players want to feel as though they are in control of another space, but also seek a sense of adventure when not knowing what is happening next; they want the gameplay to be controlled and predictable but to a certain extent. Players may also play to experience something in which they have only ever observed, they want to simulate the feeling of a past war or feeling of participating in a large

sports competition (Klug & Schell, 2006). Sports and war games attract these types of players, who have only heard the stories, and yet want to reenact the past events or simulate similar experiences. Another example that could fall under this category of why people play games to experience something they have not before, could include farming video games, as there is a small percentage of the population that is directly related to the agriculture industry.

Similar to those who play to either have control or experience something they have only observed, these players wish to be transported to another place and time where they are engulfed into another reality (Klug & Schell, 2006). Unlike those who want control of their environment, these players enjoy surprises and want the alternative world to be as “real” as possible (Klug & Schell, 2006). Overall, these players want to be immersed in the game and think about the gameplay reality, rather than think of the real-world reality. Players used to only compete against the computer, but now can compete against other users; they would compete to either let out pent-up anger or to express their combative and aggressive tendencies in a safe and socially acceptable manner (Klug & Schell, 2006). These players wish to combat others and compete to create a pecking order or to release anger or emotions that have built up.

The last way that people play games as discussed by Klug and Schell is to explore fantasy relationships safely, this is primarily seen in the Role-Playing Games (RPGs). Within RPGs, the story within the game is the most important factor as the players can play and indulge in the fantasies they have (Klug & Schell, 2006). These players engage in these types of games to also achieve something that they do not have in their everyday lives. Overall, these players wish to escape from the real world and indulge in a different fantasy to satisfy their needs.

Scholars have examined different reasons for play, Ohler describes a more evolutionary psychology and biology approach, while Klug describes a more tangible/environmental approach. Ohler’s description explains how people play to socialize with others and find a sense of community among others who share certain features. One feature described, “play”, is explained as a way for subcommunities to form based on a biological approach. Klug’s description of play is a more behavioral approach describing such behaviors or reality scenarios as, “a way to be transported away from reality” or “a way to control their environment”. Both approaches of play hold significance when describing the reasons that agriculturists may participate in gameplay; for either socialization from an evolutionary approach or behavioral approach when describing behaviors the individuals possess.

2.4 Motivations for play

Within this section, the various motivations that have been identified within academic literature by Uysal and Yildirim (2016) and Johnson (2016) will be discussed. There are various reasons as to why people are motivated to play video games. Individuals may be motivated by either rewards or other psychological factors. Awards are those such as badges, in-game currency, or other items that can be used or gained within the game. Some individuals only play video games because they wish to reap the rewards which are termed either “grinding” or “farming” (Uysal & Yildirim, 2016). Other individuals are motivated to gain various in-game awards or prestige that comes with playing the game (Uysal & Yildirim, 2016). The psychological motivations for play are studied further and few have been identified including curiosity, creativity, problem-solving, therapy, or to enjoy a different lifestyle (Johnson et al., 2016). However, even then some individuals who play because of the exploration or role-playing element of the game may not satisfy their needs or find the activity compelling (Johnson et al., 2016). Motivations for play may also vary depending on the individual who is participating in play and the game that is being played, as each game might have different motivators. Identifying the motivations that agriculturists have concerning video gameplay can help with the understanding of why this population decides to engage in video gameplay. More specifically, what motivations they have for participating in farming video games. Or if they do not play video games why they choose not to and choose to engage in other leisure activities.

2.5 Player characteristics

When evaluating players, various characteristics make up the profile of an individual who participates in the game. One must look at the types of players (player typology) and the clusters of play styles that individuals may engage in. Within this section, each of these will be discussed in greater detail.

Player typology.

When discussing player typology (the types of players) there have been various types discussed and identified by different authors. For example, when reading Zimmerman’s definition of the player types, they looked at the players from a game designer’s perspective. Each of the author’s typologies will be further discussed and defined, including the types created by Bateman.

Within Zimmerman's (2003) research, they concluded there to be five types of players including standard, dedicated, unsportsmanlike, cheat, and spoil-sport. The standard player is one who is honest with their gameplay, they follow the rules and they play the game as it was intended to be played and also respects the authority within the game (Tekinbaş & Zimmerman, 2003). The dedicated player is one who is similar to the standard player, who follows the rules, but they often try to figure out the system to perfect their play, and will usually tell others how to advance in the game as well (Tekinbaş & Zimmerman, 2003). While those two player types are those who follow the rules and play as intended for good purposes, the next three are those who play for different reasons. The unsportsmanlike player is one who does abide by the game rules, however, they do so in a way that violates the intended gameplay; the cheat is one who violates the game rules to win; the last player type is the spoil-sport who has no intention of following the rules or winning and does not acknowledge the rules of the game (Tekinbaş & Zimmerman, 2003). These identified player types were created by an individual who came to this as a video game designer and with the perspective as one.

Bateman took a more general look at the various game players but was also specific with a few types that could relate to the proposed research study. The more general types include the hardcore players – those who play lots of games, are very game literate, polarized to a degree, love to be challenged, and play games as a lifestyle preference – and casual players – those who play a few games, little knowledge about games, play for relaxation or boredom, and look to have fun while playing (Bateman & Boon, 2006). Within the reading, the authors list four game player types within the ihobo Audience Model including the hardcore gamer, testosterone gamer, lifestyle gamer, and family gamer. The hardcore gamer is one who likes challenge and difficulty; the testosterone gamer is the individual who has hardcore and casual gaming tendencies, primarily interested in guns and cars within the game, enjoy player vs player interactions, and who are usually male (Bateman & Boon, 2006). The lifestyle and family gamers are similar meaning they enjoy fun activities within the game, interested in the storylines that are created, relatively easy to control, and are socially acceptable to play; the difference being the lifestyle gamer is usually a parent, guardian, or close friend who buys the games for the kids (Bateman & Boon, 2006). Each of these types of players could be used to help identify and categorize the players within farming video games.

Despite the various player types that were identified by different authors, each individual who participates in gameplay will fall into different player types. These player types are not static for each individual as the typology could change based on the current time, the game currently being played, or even throughout the same game. Player types are hard to distinguish but could be used to help describe the individuals who participate in farming video games.

Cluster of playstyle.

Just as different authors have identified different player types, there are different playstyles that individuals engage in when playing games. These playstyles are different when identified by different authors such as Yee (2006), Cowley (2013), and Zimmerman (2003), all who take different looks at player types based on different approaches. For example, Yee's definition was created by a more psychological approach, whereas Zimmerman takes a more game designer's approach. Each of these clusters of play styles will be further elaborated on within this section.

Yee identified three components of player styles in multi-user dungeon (MUD) such as the achievement, social, and immersion. Within the achievement player style, these players are interested in the mechanics of the game, want to advance within the game, and may also play for competition (Yee, 2006). The second style, social component, are those players who want to play to create and build relationships, work on teamwork, or just to socialize with others through the game system (Yee, 2006). The last player style is the immersion component. Individuals within this player style are interested in role-playing, escape from the real-world, discovery of new parts of the game, and customization of characters, the playing field, or other aspects of the game (Yee, 2006). These three player styles help categorize how players engage with the game.

Richard Bartle was a scholar who identified four player types that emerged from individuals who played MUD games, including achievers, explorers, socializers, and killers. Zimmerman builds on these four player types and discusses the findings from Bartle. Achievers are those individuals who are interested in "leveling up" or gaining rewards, these players tend not to explore unless they have to complete a task, socialize only to learn more about how to go further in the game, and will only eliminate other players if necessary (Tekinbaş & Zimmerman, 2003). Explorers are those players who play to find the "out-of-the-way" places, find interesting features that might not be located by just following the storyline, and want to figure out how the game works; as well as only scoring points or killing if it allows for more or the next level of

exploration, and enjoys discovering the game map (Tekinbaş & Zimmerman, 2003). The players who are categorized as socializers, are interested in the other players and finding new information through conversation; the game is just a meeting spot, killing is rarely completed, and exploration and scoring points only done to see what the other players are talking about or to get into a higher level (Tekinbaş & Zimmerman, 2003). The last player style is the killer style, those individuals who fit this category enjoy imposing themselves on others, and causing chaos; these individuals will engage in the exploration and socialization to eliminate other players or learn new tactics for their enjoyment within the game (Tekinbaş & Zimmerman, 2003). Overall, achievers are interested in progress within the game, explorers enjoy discovering new aspects of the game, socializers like to engage in conversation with others through the game, and killers play to eliminate other players.

Cowley identified four different cluster plays within the demographic game design (DGD) including the conquerors, managers, wanderers, and participants. Within Cowley's description, the conquerors are competitive, goal-oriented, and will win at all costs (Cowley et al., 2013). The managers are logistical, they aim to gain mastery of the game and will play the game repeatedly to develop a deeper understanding of detail within the game (Cowley et al., 2013). The wanderer player looks for new and exciting experiences, just looking for new enjoyment within the game (Cowley et al., 2013). Finally, the participant is one who enjoys social play, or the involvement within an alternate world (Cowley et al., 2013). Overall, the player types within Cowley's descriptions are from a game design perspective as well.

The various play styles that have been discussed can be overlapped and many descriptions can be similar to that of others that have been defined. Despite a large number of play styles, these are different for each individual, each game the individual participates in, and even within the gameplay, the style could change. Playstyles are also fluid, just as player type is fluid and could change with time.

Summary of Player Characteristics.

Just as the motivation for play might vary by individual and game, so does player type and style as they are fluid and can change even within the same game at various points throughout. The four player styles have never been shown to be independent, and therefore can be interchangeable (Yee, 2006). The media, and researchers alike, have made generalizations of people who play certain video games, however, it is important to understand the importance of

players choosing to play games for different reasons, and each video game will have a different meaning to each player (Yee, 2006). Player types vary for each individual and further varies by the game for some individuals. Understanding the various player types and playstyles can help researchers identify why certain individuals play certain games, but it should be reiterated that player type varies for different reasons and should not be the sole identifier of a player overall, but perhaps for the game itself. Even then, player type and style could change within, so both of these may need to be evaluated over a certain time to see if changes arise and why.

Player characteristics are valuable assets when describing and analyzing the various player types and clusters of playstyles that individuals participate in when playing games. Because the leisure studies and gaming habits of agriculturists are understudied, identifying the various playstyles and player types that emerge from the data will help when describing the reasons for why farmers/agriculturists participate in farming video gameplay; if they do not, what types of player they become when playing other games; or if they do not participate in gameplay, how this could relate to their leisure activities when compared to video games.

So far, I have discussed the academic literature regarding motivations for play. This literature was reviewed as it provides a grounding for what games people play and why they may play them. Despite my extensive attempts to find appropriate literature, it appears that farmer's play habits or even leisure activities broadly conceived has yet to be explored by game studies or related fields. And yet, the play habits of farmers *has* been the subject of some player-led research that has been conducted by fans of particular games and shared via websites and blogs. I now turn my attention to this literature as while it may not be rigorous peer-reviewed literature, it still sheds some light on the play habits of farmers and other members of agricultural communities.

2.6 Folk Knowledge

Under this section, the findings from various webpages and blogs will be discussed as 'folk knowledge', as this information does not fall under academic literature. Here I turn my attention to non-academic investigations that have been published via Internet threads theorizing why individuals within the agriculture community play farming games and why people in general play farming video games. Many of the individuals who were sampled and surveyed played farming games such as *Farmville*, *Farming Simulator*, *HayDay*, and *Happy Farm*.

Farmers and Farming Games.

A frequent topic of discussion I have observed is how non-scholarly sites have looked at why farmers play farming games by conducting surveys of their players and interviewing for their thoughts on the game. One game in particular that has been regularly researched is the *Farming Simulator* game. The audience of *Farming Simulator* are individuals who are already within the agriculture industry and children, usually around the age of eight (Corriea, 2013; emilygera, 2014). The game is popular in Europe, with a core market in Germany, but has gained popularity within the US and other countries (Corriea, 2013). *Farming Simulator* is “very popular with people in the agriculture industry” and the investigators stated they are the “most vocal audience, as they are very active on the forums and they are the people who are farming” (Corriea, 2013). When another investigator researched why individuals play farming games, he found that within the sample around a quarter of the respondents were connected to farming in some way and roughly eight to ten percent were full-time, professional farmers (Lane, 2018). Farmers state when playing *Farming Simulator*, “it’s what farming will be like in heaven, no equipment breakdowns or worries about the weather” (*How a computer game is fostering new interest in farming*, 2018). At least within the *Farming Simulator* game, even though it is popular with children, many individuals within the agriculture industry still participate in this game.

Contrary to the earlier discussion of motivations of play, farmers state the opposite of why they are motivated to play games, specifically farming games. While the motivations for play that other people (who play farming games) might experience might be relevant and similar to that of farmers, specifically farmers say it is a way to relax or is a form of relaxation therapy (Heaven, n.d.; Lane, 2018). Other responses include: “reliving a childhood dream, driving vehicles with tonnes of cargo and not having the real-life obligation or responsibility, and a form of wish fulfillment” (Heaven, n.d.; Lane, 2018). *Farming Simulator* also acts as “a connection to a lifestyle that is dying out, specifically talking about family farms” and when discussing Zynga’s *Farmville*, respondents said the ability of growth and expansion of the virtual farm is appealing since they do not have a large operation in real life (Lane, 2018). Overall, the relationship between *Farming Simulator* and farmers is growing stronger, as some farming machinery manufacturers are trying to get their farm equipment within the game (as a form of advertisement for the product) (Lane, 2018). I will discuss the motivations for play of farming games by those outside the agriculture industry later in this section.

People playing farming games.

The farming games discussed in this section include *Farmville* and *Farming Simulator*, as these are two of the more popular games that individuals outside of the farming community play and have been researched. The audience between these two games are very different, however, the reasons for play are rather similar. Simulation games, such as these two mentioned, allow for participants to see the process unfold in front of them within a matter of hours or days to gain an idea of what the activity is like and also as a form of entertainment; these types of games have been on the top of the game list and are very popular (*Why Do People Like Playing Farm Games?*, n.d.). While the topic of people playing farming games has been understudied in academic literature, there have been surveys done on various web pages and gaming platforms to understand who and why they participate in the play of farming games.

Farmville is a farming simulation game from Zynga games, played via Facebook, so the audience for social games such as this are usually females, rather than males, and the average age is around forty-three (Hou, 2011). Social games have appealed to a vast audience including those who were formerly known as the “nongamer” audience who now plays for both the enjoyment of the game and social engagement (Hou, 2011). *Farmville* has become popular because other people are playing *Farmville*, meaning the game entangles users in a social web of obligations and the game also allows users to customize their farms with various fences, buildings, and yard ornaments and then compare their farms with others’ (“Cultivated Play,” 2010). *Farmville* is primarily a browser-based, social game that has gained popularity with female players who were traditionally deemed “non-gamers”.

Farming Simulator has increased in popularity within a vast audience including the young and old, the farmers and non-farmers, and gamers and non-gamers (emilygera, 2014; *For many of our fans, Farming Simulator is one of the very few games they actually play.*, n.d.). *Farming Simulator* has a variety of platforms in which it is played including gaming consoles (popular in America), PC gaming (popular in Germany and Europe), and mobile or handheld gaming systems (popular with kids) (emilygera, 2014; *How a computer game is fostering new interest in farming*, 2018). *Farming Simulator* is becoming popular within the farming community as well and maybe advertised more within a magazine such as *Farming Weekly*, as the gaming industry is attempting to reach an untapped audience, farmers (*For many of our fans, Farming Simulator is one of the very few games they actually play.*, n.d.). *Farming Simulator*

also allows for non-agriculture students to gain a grasp of farming; the growing of crops and understanding what various tools and machinery are used for (*How a computer game is fostering new interest in farming*, 2018). *Farming Simulator* is popular with a vast array of individuals who are both within and outside the agriculture community and vary in age as well.

The reasons for play are rather different between the two games. Specifically for *Farmville*, people tend to play the game due to social obligations because of the social web that entangles players, therefore people play because other people play the game (“Cultivated Play,” 2010). While *Farming Simulator* has been used for a variety of reasons which will be identified through the various surveys and interviews done by those who run the gaming platforms and investigated play. In one survey done, players were asked why they play *Farming Simulator* and Russell Peterson, who manages the *Farming Simulator* – United Kingdom website found responses such as “I’m too young to drive”, “I’m a student wanting more experience”, “I’m a farmer, but it’s fun to play with friends on my days off”, “I’m disabled and can’t farm”, “I’m retired but can’t stop farming!”, “I’m unemployed and missing driving tractors”, and “I’m not a farmer but it’s fun to pretend” (Lee, 2014). Other individuals responded by saying in their current job they don’t have much time to be on the farm even though they grew up farming; or some said due to health reasons it allows them to operate machinery and teaches them farming, almost as a way to escape the pain they are in (Lee, 2014). Some even say they play to relax or relive a childhood dream, as the game allows them to operate a vehicle with tonnes of cargo, without the obligation in real-life to be away for weeks or have the responsibility of that cargo (Heaven, n.d.). Each participant chooses to engage with the game for different reasons, some for entertainment, others for education; regardless, people are interacting with farming games and enjoy participating in them.

2.7 Summary of Literature Review

In summary, academics have researched the various motivations for play and the player types that arise within the gaming community, but the topic of people playing farming games, specifically those in the agriculture industry, is understudied to date. This folk knowledge information that has been posted on web pages, blog posts, and other SNS information threads relates to why the general public, farmers included, play farming games. The information posted on such sites was conducted via surveys and small sampled interviews. Most of the investigations that have been done look at popular simulator games such as *Farmville* and

Farming Simulator, each having different reasons as to why people interact with the game. Analyzing these reasons for play, motivations for play, player characteristics, and the folk knowledge revolving around farmers and video games will aid in the identification of why farmers do/do not participate in gameplay. Identifying why people play games, could also be related to the leisure activities that farmers participate in when they do not engage with video gameplay. This leisure activity literature is in regards to individuals playing for socialization or other behavioral reasons, as already discussed within this literature review.

Chapter 3. Theoretical Framework

“I enjoy all sorts of video games. It just depends on the mood I'm in for what type of game I will play. It's an escape from reality most of the time and allows me to get my mind off all the other things going on around me.” – Survey Respondent

The uses and gratifications framework is a theoretical paradigm that is interested in the needs of individuals, their expectations and media use, and the resulting gratifications that come from said media use; which is also helpful when studying the motives and usage patterns of computer game players (Hou, 2011; Sherry & Boyan, 2008). Specifically, uses and gratifications were used in this thesis research to explain why farmers do or do not engage in play with farming video games and what aspects of the games either encourage or deter players from engaging with the game. Players engage with games for a variety of reasons, and each individual has different reasons for play, meaning they also have different expectations and uses for each media (Hou, 2011). Sherry and Boyan (2008), have identified five assumptions for the relationship between media and people:

1. Media use is motivated, goal-directed, purposive behavior
2. Individual initiate media use in response to felt needs
3. Variety of individual differences and social factors guide and filter media use behavior
4. Media use is one of many alternatives people have, competes with other communication to best satisfy needs/motives
5. Assumes people are more powerful influence than media (pp.1-2)

People engage with media because they have certain needs and the media of choice they tend to engage with will aid in the satisfaction of the said need being met (Hou, 2011). These satisfactions could be within one of six categories of play motivation of video games, such as,

Competition (compete with others within the game), challenge (attempt to beat the game), social interaction (interact with friends through the game), diversion (pass time or stop boredom), fantasy (to do things that are impossible in real life), or arousal (play the game because it's exciting) (para. 25)

Using this as a guide to deductive coding for my study, these six play motivations can be further defined by different statements used within the survey by Hou (2011) and the reasonings as to how these codes were used within the study. When coding for 'competition', I defined this play motivation as one in which respondents discussed competition or skill within their response. The second motivation, 'challenge', is one in which I defined as respondents talked about improving levels (leveling up), mastering an aspect, or completing a level or game. The play motivation of 'social interaction' I defined as players discussing play for social interaction, playing with others,

or connecting with people. Respondents also relate to the play motivation of ‘diversion’ which I defined as playing to escape real-life, play to relieve stress, play when they want to avert from other activities. The play motivation of ‘fantasy’ was defined as playing to participate in things they cannot do in real life, pretending to be someone else, or participate in an activity they do not normally do in real life. The last play motivation was ‘arousal’ and defined as playing for emotions to be stimulated, the game was exciting, or playing for fun. Overall, the uses and gratifications framework is beneficial to explain why individuals choose to engage in play with video games and the specific outcomes they receive by participating in said gameplay.

Despite this framework being beneficial to explaining the various uses and gratifications each individual has when engaging in gameplay; several flaws should be noted within this framework discussed by Ruggiero (2000), including:

...the theory being too individualistic, published studies are compartmentalized with different typologies of motives, lack of clarity within the various concepts (needs, motives, behavior, and consequences), different meanings with terms (motives, uses, gratifications and alternatives), there is an active audience with self-reports (p. 12)

Overall, individuals who engage in media have different reasons as to why they chose to do so; therefore, the concepts and themes that arise within the use of media are too diverse to categorize.

Chapter 4. Methodology

“To me farming is relaxing so in my free time I am studying what can be done to make my farm better.” – Survey Respondent

The agriculture industry, farmers, and rural areas broadly conceived are an understudied population when it comes to looking at video game trends and those who play. As an exploratory study, qualitative surveys and interviews were used to answer the posed research questions. Through the use of a survey, I was able to identify the overall themes and attitudes from those within my sample of the farming community, and the interviews helped delve into the specifics of why or why not those in the agriculture industry participate in the gameplay of farming games.

4.1 Participant Recruitment

Farming is a family business and many kids start helping on the family farm at a young age. However, agricultural workers under the age of 18 were not invited to participate in this research project. All survey participants reported their age to be at 19, so no responses were removed from this dataset. Overall, to participate in the study I recruited individuals who were over the age of 18 and currently work in an occupation with the agriculture industry.

A list of organizations and groups to which the survey was distributed is provided in Appendix A. These specific organizations were chosen because they had ties to the agriculture industry personnel which was the target population for this study. Social networking sites, such as Facebook and Reddit, had threads or groups that were chosen for a variety of reasons. Some groups were chosen because they had members who are a part of the agriculture industry, whereas other groups were chosen because the focus was on a specific farming game. The groups/threads that have a primary focus on a specific game, were chosen because I hoped that there would be farmers within that group, who play that corresponding farming game and they would partake in my survey. I also posted the link in groups whose purpose was to connect those in the agriculture industry, because I hoped individuals who play video games would take part in my survey, or if they would be available to discuss the leisure activities they participate in. There was no particular video game, or location of participants, that was sought out as I hoped to have a large array of opinions regarding leisure activities and video games.

4.2 Confidentiality and Informed Consent

The information received through the survey was anonymous demographic, gaming habits/attitudes towards farming games, and leisure activity information that had no identifiable information tied to the answers. The only identifiable information that was collected was email addresses for those participants willing to participate in a follow-up interview after completing the survey, which was removed from their answers to keep the information anonymous during analysis. Participants were contacted through the email address provided to set up a meeting time for a follow-up interview if they were still willing and were purposefully chosen during the interview sampling. During the interview, if personal information was revealed, during the transcription of the audio files, that information was removed, along with other information that could have been identifiable as to keep the information de-identified and confidential. After the survey data was exported from Qualtrics, it is now kept as Microsoft Excel (.xml) files. The interview transcripts, after the audio recordings deleted, are kept as Microsoft Word (.doc) files. These file formats were chosen as they are the common formats used to store data and are accessible through Microsoft Office which is a common program used on most computers today. The primary researcher and chair are the individuals who have access to this information and will be kept on laptops that are secured and password protected. The information collected will be kept for a minimum of three years after completion and submission of the study to the University of Hawai‘i at Mānoa to fulfill requirements for a Master’s Degree in Communications.

Before the start of the survey, the first question asked was the informed procedures, the intent of the study, and potential risks information. Participants who answered “YES” were then able to access the rest of the survey. Prior to the interview, participants were given electronic copies of this information (informed procedures, the intent of the study, and potential risks) and must have signed the consent form for the interview to start. A copy of this informed consent document is included in Appendix B. Participants were informed before the start of both the survey and the interview that they were able to withdrawal at any time throughout the duration of either with no consequence, there was no penalty for withdrawal of the survey or interview, and their participation in the study was completely voluntary.

4.3 Survey

Data collection began via a pilot survey. The goal of this pilot survey was to collect overall themes and attitudes of whether farmers/agriculturists engage in the play of video games and the overall leisure activities they participate in. The survey acted as a resource to recruit participants for an in-depth follow-up interview to gain a deeper understanding of previously said themes and attitudes. Conducting the survey first allowed for generalizations to be created before the interviews took place because the topic of farmers and video games is understudied within the academic field. The survey was open for responses for a period of one month to allow for the proper time for follow-up interviews to be conducted and analyzed.

Sample

Convenience sampling was used as the survey was distributed to groups including individuals who either played farming-related video games – such as *Farming Simulator* and/or *Farmville* – or are related to the agriculture industry – “Uncensored Women in Ag” and “Southern Farming”. I also emailed the Department of Agriculture at Southeast Missouri State University, Edwards County Farm Bureau, and the College of Tropical Agriculture and Human Resources at the University of Hawai‘i at Mānoa with the recruitment text and survey link, which was then distributed to individuals within those organizations. Participants of the survey were individuals over the age of 18 (specific age range was not considered) and have an occupation within the agriculture industry. A total of 96 survey responses were collected but only 76 were viable for use within the analysis. Respondents who completed less than 24% of the survey were not included in this study.

Demographics of survey participants

The first section of the survey asked participants about their basic demographic information: age, current living location, what gender they identify with, highest educational level, current agricultural occupation, and questions regarding internet access. The purpose of these demographic questions is to understand who is taking part in the survey, the different occupations within the agriculture industry, and internet access within rural areas and their impact on video gameplay.

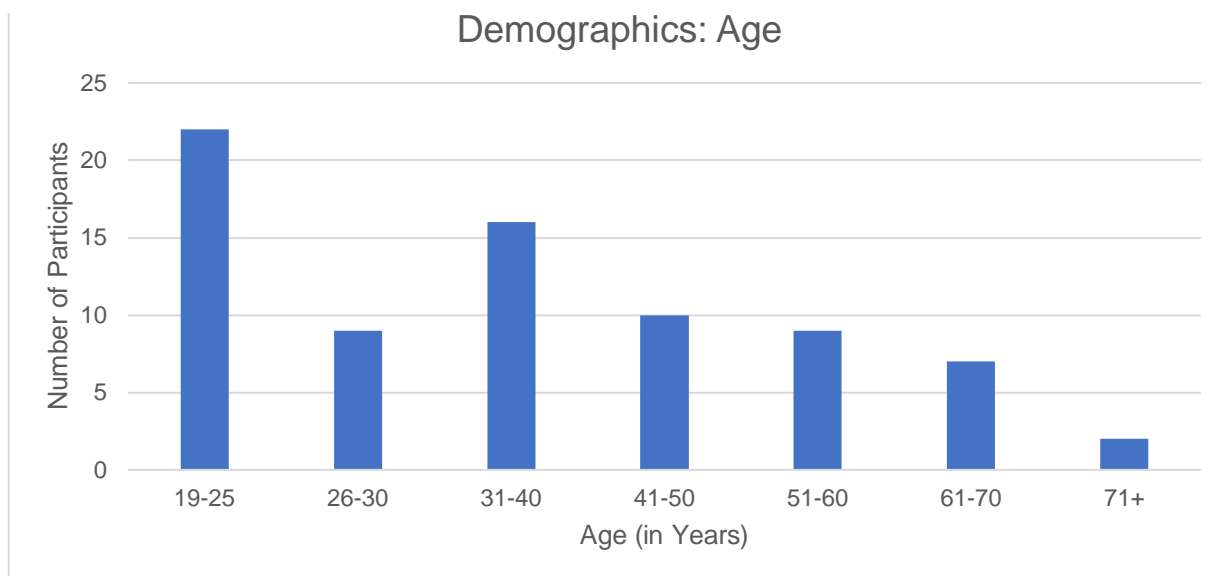


Figure 1 Demographics: Age

*n=75; This figure shows the age range of individuals who partook in the survey, with a large portion reporting their age to be in the 19-25 range (22 participants).

Figure 1 shows a breakdown of the reported ages of those individuals who participated in the study. 75 participants responded to the question, with all individuals reporting their age to be over the age of 18. As games are played among people of all ages, it was not surprising to gain responses from all age categories. What was unexpected was the number of respondents aged 19-25 (n=22), as the average age of the farmer in 2017 was 57.5 years on average but this can be explained as producers in Midwest tend to be younger than those in the southern states (*Farm Producers*, 2017).

When asked what gender the participants identified with, 76 responded to the question with 25 answered “Male” and 51 answered “Female”. The agriculture industry is primarily male-dominated, but the number of female farmers in the US increased 27% in 2017 as compared to prior agriculture censuses, so the number of females who participated in my study was higher than what I was anticipating (*Farm Producers*, 2017). Participants were asked to identify what country and state they currently reside in, and this question received 76 responses. 69 participants were from the United States of America with 26 of the 50 states being represented, five participants were from Canada with three provinces being represented, one participant from the United Kingdom, and one participant from Australia. A full list of states/provinces represented can be found in Appendix D – Location of Participants. As the agriculture field is a

global industry, and through the use of social networking sites, it was interesting to gain responses from other countries and even a large number of states within the US.

Figure 2 shows the different levels of education that participants have completed and 76 participants responded to this question. Most respondents hold a Bachelor’s Degree, and it was exciting to see respondents of all educational levels. This study examines the video gaming habits and leisure activities of farmers and those in the agriculture industry, therefore I wanted to see what kinds of occupations were held by participants of my study. 73 participants responded to the question, with 70 falling into one of five categories, with three individuals stating “Not Applicable”, “None”, or the question was left blank. The most common response was Farmer (n=34). The other responses, Animal Farmer (n=11), Crop Farmer (n=9), and Ag Business (n=10) were fairly equally distributed, and a further 6 individuals identified their occupation as an Educator. A full list of coding/categories can be found in Appendix F – Occupational Codebook.

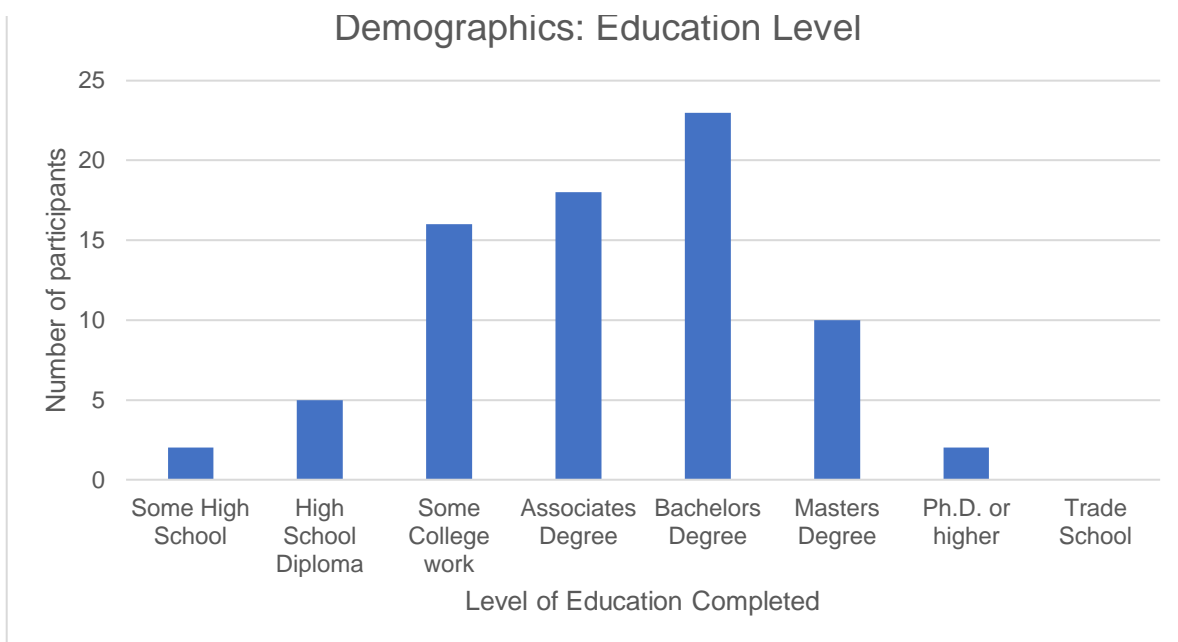


Figure 2 Demographics: Education Level

*n=76; This figure shows the highest level of education completed by participants of the study, with most participants reporting they have a Bachelor’s Degree (23 participants).

As the internet is becoming more accessible to the rural area populations, I was interested in how well of a connection participants currently have and how they connect to the internet. Participants were able to answer the question of how they access the internet by selecting as

many choices as were relevant to their experiences with internet access. Figure 3 shows the breakdown of where individuals access the internet including the following options: “Home”, “School”, “Café/Restaurant”, “Library”, “Mobile Phone”, and “Friends’/Family’s House”. Within the “Other” category include: “Work” and “Barn”, and overall most individuals of the survey access the internet, on average, from at least two locations. On the internet access of farmers, two other questions were asked regarding if their internet connection/access impacted video gameplay. The first question, if the internet impacts whether or not the participant plays video games, gained 28 total responses, with 18 answered “Yes” and 10 answered “No”. The second question, if the internet impacts the types of games played, gained 23 responses with 10 answered “Yes” and 13 answered “No”. Individuals were then asked “Why?” it does or does not impact video gameplay, and similar themes arose with both questions. For both questions, those who answered why expressed that video games “require” or “need” internet access, or “slow/poor connection” affects play, and overall feelings of “frustration” and “being annoyed” because of the internet connection. Those who answered “No” expressed that the games they play are “offline” games or they were not interested in games that require internet connection.

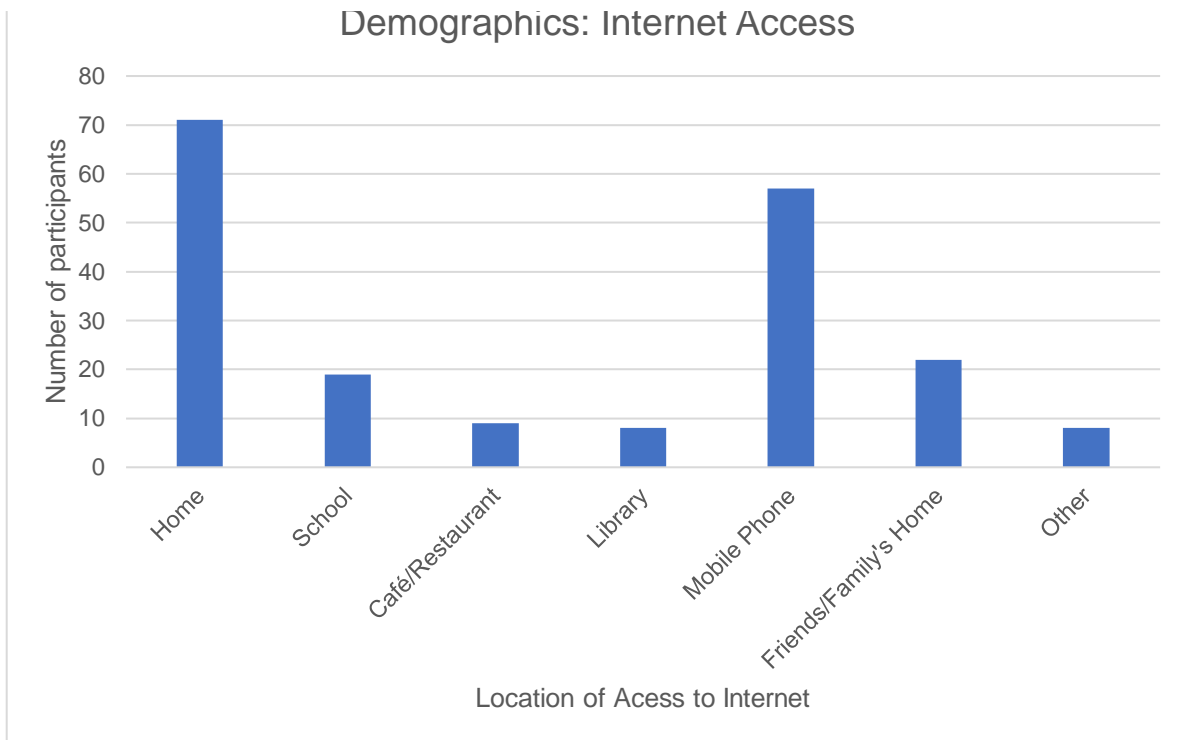


Figure 3 Demographics: Internet Access

*n=76; This figure shows the different locations in which survey participants access the internet, with most participants reporting they access the internet from their home (71 participants).

Design

The survey was conducted through the Qualtrics website and took participants on average about ten minutes to complete. The survey was designed with three tracks: those farmers/agriculturists who do play farming games, those farmers/agriculturists who do not play farming games but do play video games, and those farmers/agriculturists who do not play video games at all. After collecting generic demographic and leisure activity information, the last question of the leisure activity section determined which of the three tracks the survey participant answered.

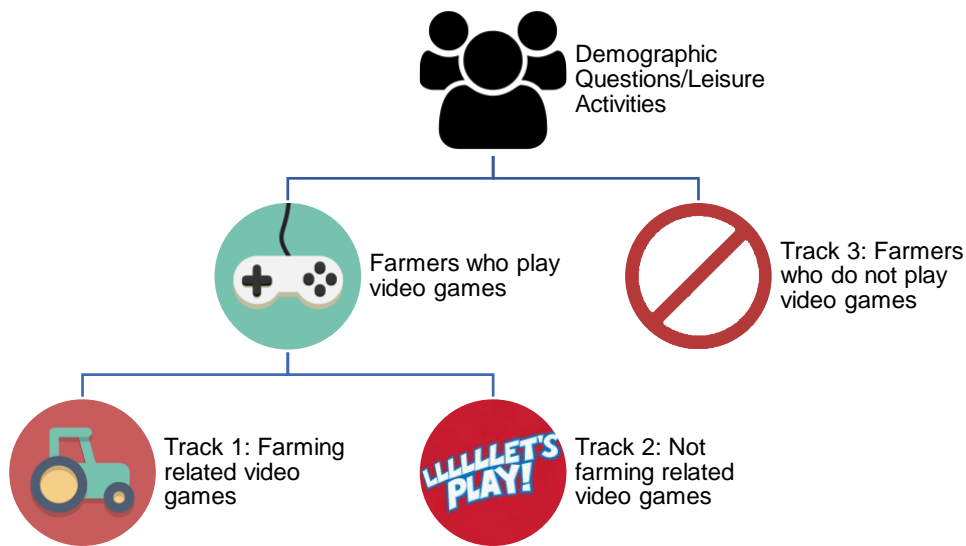


Figure 4 Survey Design

This table represents the flow of which the survey will be designed with three tracks (farmers who play farming video games; farmers who play video games NOT farming-related; and farmers who do not play video games).

Demographic information helps us understand who the individuals are within the agriculture community sample for my study, the next set of questions encountered pertained to leisure activities that the participants enjoy partaking in. A copy of the survey questions can be found in Appendix C.

Analysis

Analysis of the survey results from multiple-choice questions (e.g. demographics or information about leisure activities) was completed through Microsoft Excel, and the open-ended survey questions were thematically coded by hand. The final question asked if the survey

participant would be willing to participate in a follow-up interview in which, if willing, they provided an email address. The email address has been separated from the survey data and is not tied to the participant's answers in the survey. The thematically coded, open-ended survey questions were coded in two sequences, first deductively – by comparing motivations for play to uses and gratifications – and then inductively with general themes arising from within the data itself.

4.4 Interview

While survey responses were collected to get a broader sense of who does/does not participate in particular leisure activities, in-depth follow-up interviews were conducted to gain a deeper understanding of the overall themes within the survey responses. The use of in-depth interviews after the survey allowed participants to further explain their reasoning as to why they either do or do not play farming video games or video gameplay in general. Then further details were captured, when discussing the aspects of the games that deter or entice them to play, during the conversation.

Participants

Survey respondents who agreed to participate in follow-up interviews (n=21) were contacted via email and an interview date and time were agreed upon by both interviewer and interviewee. Interview participants were purposefully sampled and took part in a fifteen to thirty-minute, audio-recorded interview. The recordings were transcribed and then deleted, any identifying information was removed from the transcript. A total of five interviews were conducted. Of the five interviewees, two do not play video games at all and the other three participants do participate in video gameplay. Interviewee selection was similar to that of the survey, but was purposeful: must be over the age of eighteen (specific age range not being considered) and currently work or be associated with the agriculture industry.

Michelle is a woman in her mid-20s who lives in Indiana, USA. She grew up on a 20,000-acre cattle and grain farm in rural Illinois and she currently works as an extension agent for a university. During her college years, she was a competitive gamer and after meeting her fiancé they both paid their bills by playing video games competitively. She finished her doctoral degree roughly six months ago and will begin her next Master's program within the next few months. Having a competitive gaming background has allowed her PC set up to run about

\$12,000 and she enjoys the following PC games, specifically first action shooter games such as *Call of Duty*, *Resident Evil*, *World of Warcraft*, and the *Final Fantasy* series.

Jamie is a married woman in her thirties who currently lives in Wisconsin, USA where she currently works for the United States Department of Agriculture (USDA) as a scientist. She has her Ph.D. and when she is not working for the USDA she is helping on her small hobby farm. Her gaming preferences are for educational games and brain-stimulating or games that can be played relatively quickly. She enjoys games such as word finds, pattern finding games, and even sudoku.

Rachel is a married woman in her fifties living in Illinois, USA. She is an owner and operator of a 2,000-acre farm and in her leisure time, she enjoys riding motorcycles. Her gaming habits are small, as she used to play PC and PlayStation II games, but now she rarely engages with video games. One farming game she used to play was *John Deere American Farmer*. She sometimes plays *Solitaire* and crossword puzzles, but she prefers to be outside doing something other than video games.

Catrina is a married woman in her forties who currently resides in Illinois, USA. She runs her family farm with her husband and they use technology throughout their operation. She, herself, does not play video games – unless it is with her kids every now and then, but her children play video games quite often.

Lastly, Tammy is a married female in her thirties who is a grain, pulse, and oilseed producer on her family's farm in rural Saskatchewan, Canada where they farm roughly 7,000 acres of wheat, barley, durum, lentils, peas, and flax and canary seeds. Her gaming habits are playing via PC, Switch, PlayStation III, and other Nintendo systems. She prefers games that have a defined start to finish, with short match times such as 10-15 minutes max, with a preference for games that will end after five minutes like *Street Fighter*. She also gravitates towards games that can be picked up and played when she has free time such as *Street Fighter*, *Overwatch*, puzzles, and *World of Warcraft*.

Collection of Data

The interviews took roughly 30 minutes, were audio recorded on a password-protected phone and/or laptop, and conducted through a video-call application (Skype, FaceTime), audio phone call, or through a texting application (Discord). After the interviews had taken place, the audio files were transcribed by hand into Word Documents and then the audio files were deleted.

The transcribed Word Documents were used when conducting thematic coding. Interviews were conducted over a period of three weeks.

Thematic Coding Analysis

Since the topic is understudied academically, there is little research to compare these study results. To begin to provide a grounding for future studies, coding was approached in two different ways: deductively and inductively. Like my approach to survey coding, deductive coding of the interview transcripts was done by using motivations for play, with uses and gratifications framework, to see why individuals do or do not participate in the gameplay of farming games/video games in general. Inductive thematic coding was done by hand by the researcher with various run-throughs of the data completed until no further themes arose. Personal information, names, and numbers were removed within the transcript to make the files de-identifiable and the information confidential.

Chapter 5. Results

“We run incredibly complicated machinery, with GPS capability. We don't just grow things, but we also market them based on global demand. Book-keeping is a big part of operating a modern farm, and keeping track of inputs and other expenses is demanding. I'm not sure how often farm games take these elements into account, or if they are presenting a simplified version of farming which doesn't relate to modern farming in many ways.” – Tammy, Canada

In this chapter, I will provide summary statistics of leisure activity participation and video gaming habits of my respondents. This chapter also describes the various themes that came about through the coding processes when analyzing the attitudes and feelings towards farming games, including the aspects that encourage or deter the play of the games. The information about who completed the survey, the leisure activities, and their attitudes/feelings about farming and general video games provides a necessary grounding for my discussion of themes and analysis of this data, presented in the following chapter titled “Discussion”.

5.1 Leisure Activities

Participants of the survey were asked to identify all leisure activities they participate in; after choosing a category, a list of specific options relevant to the category was offered for selection. 75 participants answered these questions, with the ability to mark all that apply, so the total number may be different from the number of responses. Figure 5 offers an overview of how participants responded to the question of what leisure activities they participate in.

When discussing this section of leisure activities, the categories shown in Figure 5 are broader and the specific activities that participants could have chosen within each category can be found in the survey questions in Appendix C. Participants showed increased interest in outdoor leisure activities as compared to others, along with arts and crafts, community/entertainment events, and volunteer work. The respondents also had the option within each category to offer suggestions for activities that were not present in the survey, and this offered a better idea of how these individuals spend their free time. Other activities listed in each category by participants can be found in Table 1.

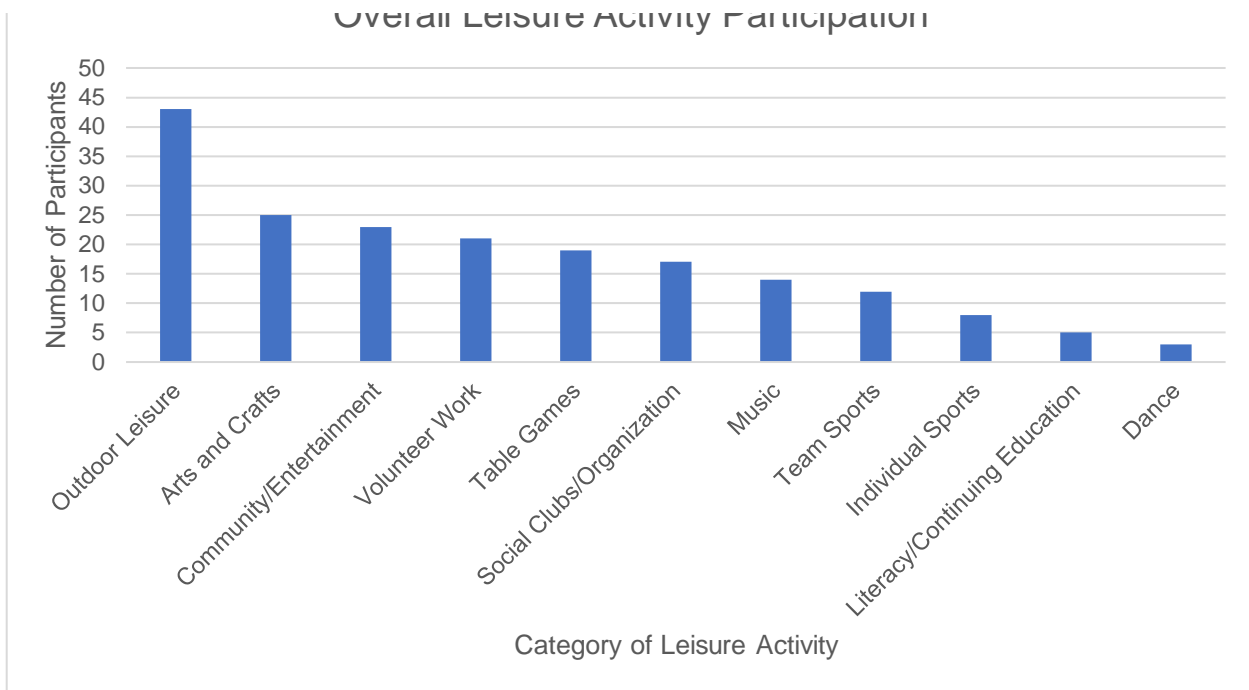


Figure 5 Overall Leisure Activity Participation

*n=75; This figure shows the larger categories to select when reporting their leisure activities, with most individuals participating in “Outdoor Leisure” activities (43 participants).

Leisure Activity Category	Other Activity
Outdoor Leisure	Yard games; Hunting; ATV; Horseback riding; Motorcycle riding; Children’s games.
Arts and Crafts	Vinyl crafts; Spinning; Trash to treasure.
Community/Entertainment	*
Volunteer Work	Funeral dinners; Fire department; Volunteer of newcomers to country; Improving English; Hospital foundation; 4H; Service dogs; Quilts; Grade school sporting events.
Table Games	Dungeons and Dragons.
Social Clubs/Organizations	Eastern Star; Horsemanship, Sports, Farm Bureau; 4H; FFA; Sorority; Church; Alumni organization; Lodge; Industry organization.
Music	*
Team Sports	Drill team; Rugby.
Individual Sports	Video games; Weightlifting.
Literacy/Continuing Education	*
Dance	*

Table 1 - Other Leisure Activities

This table shows the various “other” activities that respondents participate in during leisure time. These were taken from the short answer responses given in the survey. (“*” denotes no “Other” activities listed)

When coding how farmers spend their weekends and why they choose the leisure activities they did there were broad themes that arose. Farmers discussed spending their weekends working, with family, at church, or participating in hobby activities. Participants stated that they participate in the leisure activities for enjoyment, relaxation, they are calming and fun, or for community. At the end of this section, a question was asked whether or not participants take part in video gameplay; if answered “Yes”, individuals were routed to answer questions regarding their overall video gaming habits, if answered “No” individuals were taken to Track #3 of the survey to identify their feelings/attitudes regarding farming video games.

5.2 Video Gaming Habits of Participants

This section of questions asked respondents to answer questions regarding their overall video gaming habits. A total of 72 participants responded to the question asking if they play video games; 28 answered “Yes” while 44 answered “No”. The answers of the 28 participants who responded that yes, they do play video games will be discussed herein. As stated above, because all questions were voluntary to answer, not all questions will have the same number of answers.

Participants were asked to give an estimate of how many hours per day they spend playing video games, which received 28 responses. This was an open-ended question for participants and most participants (n=10) play approximately one hour per day. Other responses, all labeled per day, 0.5 hours (n=3), 2 hours (n=6), 4 hours (n=1), 5 hours (n=1), 1-2 hours (n=2), 2-3 hours (n=2), 4-8 hours (n=1), and 8-12 hours (n=2). Most participants fall in the 1-2 hours/day range, however, there are a couple of outliers who identified they participate in 8-12 hours/day of gameplay.

Figure 6 illustrates the distribution on which platforms participants (N=28) use to play video games. Participants were able to identify all platforms on which they game, with the average being at least one platform and the most popular platform being via a mobile device. Figure 7 shows the various types of games the participants (N=28) play. Another type of game that participants identified were "*Brain Stimulation*" games. Participants had the opportunity to identify all types they participate in, and they averaged over two different types of games they play, with the most popular type being simulation games.

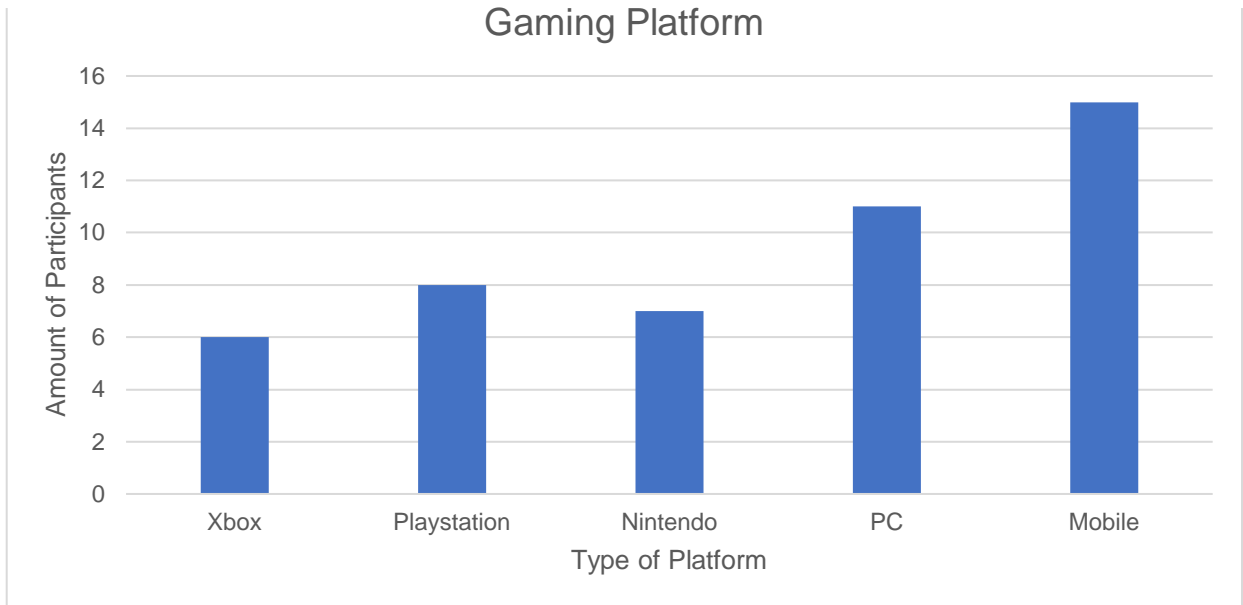


Figure 6 Gaming Platforms

*n=28; This figure shows the number of gaming platforms that participants choose to use when engaging in video gameplay. The most popular gaming platform is through the use of a mobile device (15 participants).

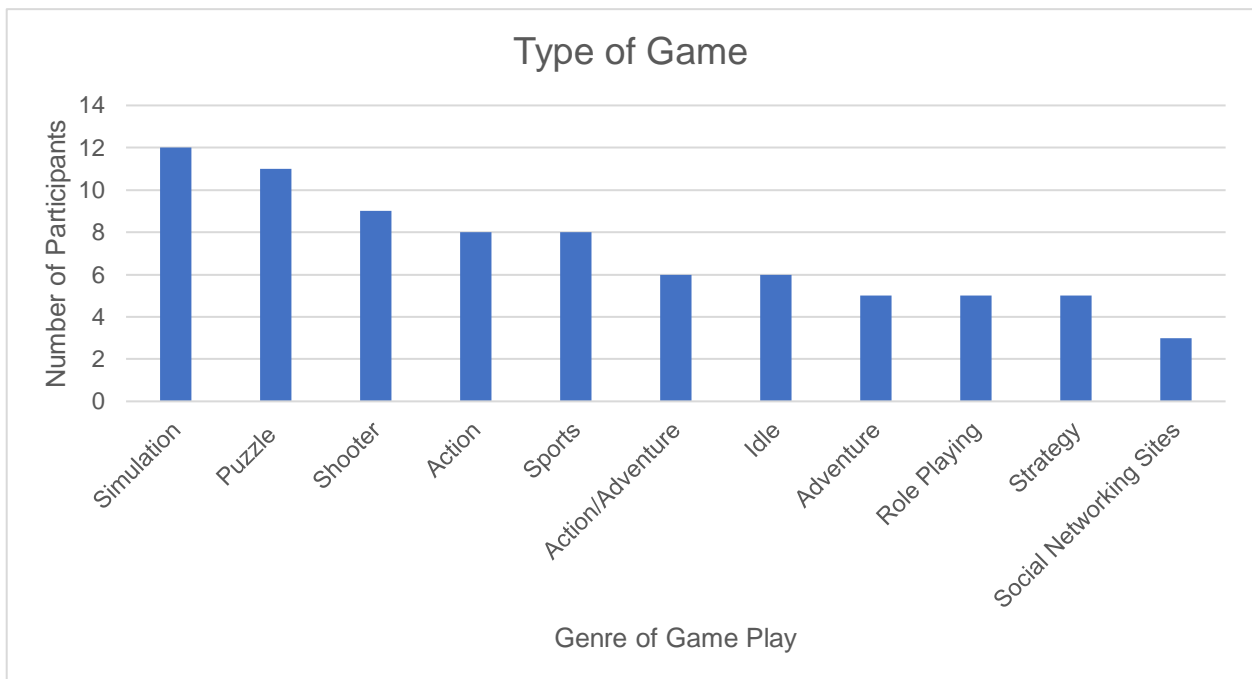


Figure 7 Video Game Types

*n=28; This figure shows the various genres of gameplay that those in the agriculture tend to partake in. The most popular type are simulation games (12 participants).

Participants were then asked why they play the games they chose in the prior question via an open-ended question, which encouraged participants to elaborate on why they play. When coding this question, both an inductive and deductive approach was taken, so that they may be compared and contrasted. The themes that arose when inductive coding occurred were, individuals, participate in gameplay for fun and enjoyment, to socialize, escape reality, to relax, or because they were farming games or relatable in sense. Deductive coding themes that were identified within the answers were gameplay that occurred for a challenge, social, arousal, diversion, and fantasy. The similar themes found between the two codings were: arousal and fun/enjoyment; social and socialize; and fantasy and escape reality. Different themes found within included that the games may have been relatable (farming), or playing to relax, while others identified they liked a challenge or played for diversion (pass time).

The last question asked within the section, which determined if participants were routed to Track #1 or Track #2 of the survey. When asked if they participated in the play of farming games (N=25), participants answered “Yes” (n=15) and “No” (n=10).

5.3 Track 1: Farmers Playing Farming Games

This section of the survey primarily looks at the gaming habits of farmers who play farming games, more specifically what games and why they play. The question before this section was in regards to if those who play farming video games in which fifteen participants identified they play farming games.

Participants (N=13) were asked what farming games they play, and this was the results: *Farming Simulator* (n=8), *Farm Town* (n=2), *Farmville* (n=4), *Happy Farm* (n=1), *StarDew Valley* (n=1), *John Deere American Farmer* (n=2), and *HayDay* (n=2). Other games that were identified as farming games were *Zoo Tycoon* (n=1) and *Big Farm: Mobile Harvest* (n=1). Another question asked to participants was if they preferred to play farming games or other types of games more, in which participants were split on their decision. Some respondents answered they enjoyed farming games more, while others said other types of games and a few participants said they were mixed on their opinion of which they enjoyed more.

When coding the question “Why do you play farming games?” both inductive and deductive coding techniques were used. Themes that were found within inductive coding included the games were relatable and interesting or enjoyable and fun. When using deductive coding the following themes were identified from within the responses: fantasy, diversion,

social, challenge, and arousal. The only themes that compare between the two were arousal and the games being interesting or enjoyable and fun. Different themes identified as to why individuals play farming games were: relatability, played for diversion, fantasy, challenge, and social interactions.

Participants (N=13) were also asked if they played other types of games, besides farming, with the following answers of “Yes” (n=10) and “No” (n=3). Other games that were played by participants were *NHL (National Hockey League)* (n=1), *Minecraft* (n=2), *Call of Duty* (n=2), and *Fortnite* (n=1).

5.4 Track 2: Farmers and Other Video Games

This section of questions asked about farmers who play video games, but those games that are not related to farming or agriculture. Questions within this section focus primarily on why they enjoy playing other genres of video games, and their overall feelings toward farming games or why they do not engage in play with farming games. A total of 10 responses, all marked “No”, were collected when participants were asked if they participate in the play of farming video games. Meaning these 10 individuals do not play farming games but prefer to play other genres of video games.

Survey participants were asked about how many games they play, and participants (N=10) responded they play: one game (n=1), two to five games (n=6), and more than 10 games (n=3). Respondents also answered if they have a favorite game to play, and what the game is called. Two individuals said they do not have a favorite game, while participants who answered said: *Skyrim* (n=2), *Mario Kart* (n=1), *Civilization* (n=1), *Overwatch* (n=1), *Ballz* (n=1), *McClure* (n=1), and *Assassin’s Creed* (n=1) as their favorite.

Another question asked within the survey was “What aspects of video games do you enjoy?” and this question received nine responses. This question was also coded twice, first using inductive coding and secondly via deductive coding so that the themes may be compared and contrasted. When inductive coding was completed the following themes were prevalent: socialization, competitive or challenging, story or fantasy, and relaxation or calming. When deductive coding was finished the following themes were found from within the responses: fantasy, social, challenge, competitive, and arousal. When comparing these two codings, similar themes arise from the data: socialization and social; story or fantasy and fantasy; and competitive

or challenging and competitive. The only differing themes found were relaxation or calming and arousal.

One of the final questions within this section asked participants their feelings or attitudes towards farming games and reasons for not engaging in the play of farming games, this question received ten responses. The overall themes that were found were that farmers had felt that the games were both fun and not fun, boring, and unrealistic. Individuals expressed that due to these negative feelings (not fun, boring, unrealistic) and the issue of the game(s) being time-consuming, that these were the reasons for not playing farming games.

5.5 Track 3: Farmers Not Playing Video Games

This section of the survey was created for those farmers who do not play video games at all, and primarily this is to identify reasons for why farmers do not play video games and looking at the relationship of how they spend their free time. Two questions were asked, “What are some reasons for not playing video games?” and “What are your attitudes towards farming games” a total of 37 responses were collected and both questions had similar responses. Many expressed that because the games were unrealistic they did not play video games or they found farming games to be unrealistic. However, some expressed feelings that farming games could be helpful and educational if used as a beginner step to learning about the agriculture industry.

5.6 Semi-Structured Follow-Up Interviews

A total of five semi-structured interviews were conducted via a video-chat application, texting application, or telephone call. All of the interviews were audio-recorded, then transcribed into text, and the audio files deleted. The interviews lasted on average about 20 minutes and a brief interview guide, similar to the survey questions was used as a prompt. A copy of the semi-structured interview guide can be found in Appendix D – Semi-Structured Interview Guide. The interviews allowed for a more in-depth conversation regarding video gaming habits and the attitudes or feelings towards farming games and video games in general. When conducting follow-up interviews, participants were chosen based on answers given within the survey, if they stated something interesting or had an intriguing viewpoint, they were asked to participate. No participants who were farmers and played farming video games responded to my email asking for participation in a follow-up interview, three interviewees play or played video games, and two interviewees do not play video games at all.

Farmers and Other Video Games

When interviewing farmers who play other types of video games, these questions tended to focus first on their overall gaming habits (what kinds of games they enjoy) but I also focused on their attitudes and feelings toward farming games, and why they do not play such games. Within the interviews of farmers who play other types of video games, most expressed feelings that they choose to engage with other types because those hold their interest or they prefer more competitive type games. They prefer to play games that are competitive or allow for socialization, where you feel like you have achieved a goal. For example, Michelle expressed that farming games are behind in terms of graphics and operating systems, if the games were more realistic and the issues mentioned prior were fixed, she might play farming games more. Michelle also noted that most set-ups to “*enjoy them in a way in which they should be*” cost close to six-figures and this may not be attainable for most new and young agriculture workers. Tammy expressed that farming games are just not interesting to her as she prefers games that you can play for a short time, are competitive and match based. Jamie was not fully aware that farming games existed, the only one being *Farmville*; she expressed that she just enjoys brain stimulation games to keep her engaged in different activities. Overall, the expressed feelings were if the games were more realistic or educational, less time consuming, or had a competitive element, they might play those games more often.

Farmers Not Playing Video Games

When conducting interviews with farmers who do not play video games, much of the conversation leaned toward questions regarding their feelings and attitudes towards video games in general. As well as their thoughts on farming video games and how someone outside of the agriculture field may view the industry based on a farming video game. When asked why farmers, or themselves specifically, do not engage with video gameplay, Catrina discussed their belief that “*I would think it would be a general consensus of farmers would be they like to be outside doing things.*” While Rachel elaborated on their gameplay of *John Deere American Farmer* where the game was tedious by making you do each activity, which is comparable to real-life:

It made you do every single little thing like you’re gonna plant? No, you have to work the ground first and you had to actually move the tractor, well first you had to hook up the tillage tool, and then actually move the tractor back and forth across the whole field.

However, she chose not to play farming games or video games because she was spending too much time engaging in the play of those where she could have been working on her real farm. Overall, they believed that since farmers work outside, they would prefer to engage in activities outside, and because farming games are tedious that is why farmers tend not to engage in the play of them.

Within this chapter, I discussed the various findings from both the 76 survey responses and five semi-structured interviews that were conducted. This information is vital to the understanding of what different attitudes individuals within the agriculture industry have towards video games and more specifically farming video games. I also aim to discuss the findings of the leisure activities of this population as well. The next chapter will discuss further the findings and how they currently relate to the literature regarding video gaming and leisure activities.

Chapter 6. Discussion

“If they are accurate and not what someone who has no idea about agriculture thinks about agriculture I see where they can be used in a good way. But often times I see the Developers only use what they see or believe to be true about agriculture and have no experience in actual Farm Life. My husband used to play a farming game and I never understood why you would play a game about farming when you spend all day farming” – Survey Respondent

The main purpose of this research was to identify the gaming habits and leisure activities of those within the agriculture industry. As a researcher, I was interested in exploring the idea of farmers playing farming games and also wanted to see what other sorts of activities those in the agriculture industry participate in during their leisure time. When coding short response data, from both surveys and interviews, regarding why farmers do or do not play video games and the aspects that either encourage or defer play of video games, the motivations of play laid out by Hou (2011) was used to explain the different reasons individuals engage in video gameplay, through the loose direction of the uses and gratifications theory. Within much of the literature regarding game studies, the larger metropolitan and urban areas are the focus of these studies, leaving the rural area populations to be understudied within game studies and leisure activities. By exploring the attitudes and feelings, gaming habits, and leisure activities of those in the agriculture industry, farming games may be further developed to include what farmers deem as important for the general public to understand the industry.

RQ1: Do farmers play video games related to agriculture? Why or why not?

Of the 76 survey responses collected, 15 individuals (approximately 20% of the participants) reported they play farming video games. While this is not a significant number, in terms of volume, it does tell us that there are farmers who do enjoy playing farming video games. Sections 5.2-5.6 of this thesis correspond with this particular research question. While little academic literature has been written regarding farming video games, it has been noted by those outside academia, that the audience of *Farming Simulator* is those who are already within the agriculture industry (Corriea, 2013; emilygera, 2014). The most popular farming game among this group of individuals was *Farming Simulator* – no specific version was identified – and other farming games that they enjoy are *StarDew Valley*, *John Deere American Farmer*, *HayDay*, *Happy Farm*, *Farm Town*, *Farmville*, *Zoo Tycoon*, and *Big Farm: Mobile Harvest*. The findings within this thesis support the folk knowledge in popular farming games having a large

audience already in the agriculture industry and that farmers do indeed participate in video gameplay.

When looking for reasons why farmers do and do not play farming games the following themes within the survey responses and interview transcripts were identified: arousal, interesting/enjoyable/fun, diversion, relatability, fantasy, challenge, and social interactions. Coding the data twice allowed for the various themes to arise inductively and categories to be created and then cross-referenced with the play motivations as explained in the academic literature. Many of these themes that were found via inductively and deductively support the academic literature regarding why people play video games (Klug & Schell, 2006; Ohler & Nieding, 2006) and the types of players within video games as described by Richard Bartle in the article by Tekinbas (2003). Participants of the survey expressed that farming games were relatable, and many made statements such as “*I want a virtual version of my farm*” or “*Make a version of my farm [within the video game]*”.

Another large theme that was present across multiple responses, supported by both the academic and folk literature reviewed earlier in this thesis, was the theme of fantasy, meaning these games were a way for players to experience something they know of but have only been an observer, or the ability of a virtual farm to expand and grow with was appealing due to not having that capability within their everyday life (Klug & Schell, 2006; Lane, 2018). Survey participants stated,

It’s like IRL (farming)...Can’t fall off a grain bin and die, can’t get wrapped in a corn header when I run and jump towards a moving machine pressing E over and over till I’m in the driver’s seat

or as another stated their reasoning:

I play them because I grew up around farming and always wanted to farm but wasn’t born into a family with one already and with the price of land and equipment it wasn’t an option for my family to become farmers. So without working for a farmer, *Farming Simulator* is my next best option.

The idea that farming is expensive and dangerous, allows participants in farming games to create their own farm or a virtual version of their current, and explore a career or lifestyle that may be unattainable to them.

Farming games are popular within the agriculture industry due to various factors, but the main being they allow individuals to create the “ideal” farm and explore a lifestyle that is outside

their current reach. Farmers do play farming games, although it is not as popular as one might think, there are still players.

RQ1a: What aspects of video games related to agriculture either draw in or deter agriculturists from playing such video games?

To answer this question, I look to the attitudes and feelings towards farming games as evidenced by survey and interview participants, looking at the perspectives from both players of farming games, and those who play other types of games. Sections 5.2-5.6 of this thesis correspond to this particular research question. It seemed as though individuals were split on their opinions regarding why they either do or do not play farming games. The overall themes that were identified included: arousal, boring, unrealistic, relatability, diversion, fantasy, challenge, and social interactions.

Those who are drawn to farming video games expressed themes of the games being relatable, interesting and enjoyable, played for diversion, fantasy, a challenge, and social interactions. Farmers expressed they liked playing these games because it was a way for them to have their virtual farm be in an “ideal” environment, where they could create a virtual version of their farm. Participants noted they sometimes played the game because they had time invested, or because they were just enjoyable. These types of players could be categorized as casual players who tend to play for boredom, relaxation, and are rarely competitive (Bateman & Boon, 2006). Farmers find these games to be relaxing and calming, which supports literature suggesting that farmers play farming games as a way to relax (Heaven, n.d.; Lane, 2018). These players enjoy the relaxation and idea of putting their farm in a virtual world, having a relation to their occupation has sparked an interest in playing these games.

Those individuals who do not participate in the gameplay of farming games expressed themes of the games are not fun, boring, and unrealistic, and due to those reasons and the issue of farming games being time-consuming they do not play them. One survey respondent stated, “*I find them a bit boring since I have my own farm and so the games don’t seem realistic or fun*”. A similar theme was relayed by Jamie when they explained, “*They do not portray [what] real farming is like and further uneducated the public on what it takes to feed the world*” and “*...boring was the first word that kind of comes to mind.*”

When discussing the games being “time-consuming,” Rachel stated,

And when I started realizing I was spending an hour every morning getting all the stuff on my Farmville farm caught up, probably I needed to quit because that was time I could have been spending on the real farm.

Farming games are deemed unrealistic by farmers because they do not accurately portray the industry as the games may be too simple, or not as competitive as other types. These players who tend to want a challenging game and play many games could be generalized as hardcore players who want a challenge, play games as a lifestyle, or labeled as game literate (Bateman & Boon, 2006). Overall, individuals have expressed that they do not engage in play because the games are boring, unrealistic, and not fun in their opinion.

RQ2: If farmers do not play farming video games, then what sorts of video games do they play?

Of the 76 survey responses, 25 (roughly 33% of survey participants) indicated they play video games (both farming and nonfarming games). Within this thesis, section 5.4 and 5.6 corresponds to this research question. Participants were asked in two sections regarding the types of games they play. Of the 13 responses within the farming games section, 10 participants answered “Yes” that they engage in other types of video gameplay. Other games that were identified included: *NHL*, *Minecraft*, *Call of Duty*, and *Fortnite*. Survey participants, within the section regarding farmers playing other types of video games, responded that their favorite video games included: *Skyrim*, *Mario Kart*, *Civilization*, *Overwatch*, *Ballz*, *McClure*, and *Assassin’s Creed*. A general video game question asked to participants were “What types of video games do you play?” which curated 28 responses, the most popular option being simulation type games. Michelle stated, “*We do have a couple of us who play video games, it’s just not very common anymore.*” Farmers do not limit their play to just farming games, as you can see there is a wide variety in the gameplay.

RQ2a: If not playing video games, what do farmers do in their leisure time?

Exploring farmers’ leisure time is another area of the literature that has been understudied thus far. Section 5.5-5.6 of this thesis corresponds to this research question. With this particular profession being more time consuming than others, understanding how farmers spend their leisure time was an interesting facet that I wanted to explore. If farmers do not play farming video games or other types of games in general, what do they do in their free time? “*Farmers*

don't take weekends off during spring and fall!" was a statement provided by a survey respondent and I believe to embody most of the agriculture industry, as a farmer's day could start before sunrise and end well beyond the sunset, while still having work to be done on the weekends during planting and harvesting seasons. Concerning video games, Michelle, who is a competitive gamer, voiced,

The younger you are, the harder it is to have a better setup that can handle these new games on the level on where it's enjoyable in my opinion.

Rachel stated, *"I was like, you know I probably would do something more constructive with my time if I never got it (PlayStation II) back out."* Beginning farmers who have just graduated from college and are getting ready to enter the workforce will have quite a debt when considering school and farm loans. Farming is not a cheap start-up business, one must buy land, equipment, seed, animals (depending on the specialization) which can get expensive quickly. Rachel discusses the time element that plays a large factor in her ability to play video games. She discussed how she was spending large amounts of time to get her *Farmville* farm ready every morning, but she was spending more time playing video games when she could have been doing something productive. Video games today are rather expensive and to some can be time-consuming, depending on which game(s) the individual participates in. This may be why 51 of the 76 (roughly 67%) of survey participants do not engage in video gameplay, with more emphasis being placed on time as a factor rather than the price.

When leisure activities were surveyed among participants, most (roughly 52% of participants) reported they participate in outdoor leisure activities. Catrina stated, *"I would think that would be a general consensus of farmers would be they like to be outside doing things."* This interview statement can be supported by analyzing the outdoor activities farmers participate in, compared to the other categories. All of the categories shown to the participants, for selection, had some engagement (some more than others). Farmers enjoy various team and individual sports, music and dance, arts and crafts, table games, outdoor activities, community and social events, participate in educational activities, and finally volunteer work. All of these leisure activities are important to those within the industry.

When survey participants were asked why they spend most of their time outdoors, one participant answered, *"To me farming is relaxing, so in my free time I am studying what can be done to make my farm better."* Even in their free time, farmers may still be thinking of ways to

improve their farms. One participant expressed they participate in the leisure activities they marked because, *“I love fiber arts. Being a shepherd, I think it is just natural.”* Some leisure activities that individuals participate in may still relate to their occupation, so these individuals tend to be immersed within their occupation almost every day. Having an occupation, whose work is outside, correlates to the leisure activities this group enjoys being outside as well.

Other contributing ideas

Over the course of conducting this research, other questions and findings that arose that while outside the original scope of this thesis, are worth commenting on briefly. The first looking at the impact of the internet on video gameplay of those in the agriculture industry who work or live in rural areas and technology used within the agriculture industry.

Impact of Internet on Gameplay

Survey participants who were asked about their video gaming habits were also asked about the impact of the internet on their gameplay, specifically, if the internet impacts whether or not they played video games and if the internet impacts what types of games they participate in. Some participants answered “No” that it did not affect their gameplay as the games they participate in tend to be offline and did not require a connection. Many participants voiced concerns that internet connection did affect both of these questions regarding their gameplay. One participant stated, *“Rural internet can be a little unpredictable and most of the games I play daily (mainly Overwatch) require a server connection”* and another survey response stated,

If I have poor internet, then I cannot be competitive and part of my income relies on me being good at games so having good internet is essential.

One survey participant went so far to explain how they plan to use their internet connection to continue playing video games, while having some leftover to use for their other enjoyment, explaining:

Can't download mods in cellular data. Well, not until the last day of the month and then I've got limited amount of kB [kilobyte], like maybe 350 kB and I'll turn on the hotspot and download a tractor and baler for FS 17 [*Farming Simulator 17*] and have 7 kB until it renews at midnight.

Participants were also asked if internet access impacts what types of games they played. Some responded “No” due to their preference of games being available online and not needing an internet connection.

Others responded that the internet access does impact the types they play, with one survey respondent stating,

It affects what I play because First Person Shooter games require extremely high frame rates to keep up with other players, whereas, games like *Farming Simulator*, frames don't matter.

Despite the advancement of the internet becoming more readily accessible to rural areas, farmers who play video games are still having issues when connecting or downloading content (Anderton, 2019; Riddile, 2019). Even more, with the popularity of *Farming Simulator* within the agriculture industry, as seen in this study as well, the gaming industry is attempting to reach an untapped audience(s) like farmers, by advertising within farming magazines (*For many of our fans, Farming Simulator is one of the very few games they actually play.*, n.d.). Within this study, it can be noted that internet access is an important element when deciding if and what types of video games to play. To ensure that farmers can connect with other individuals, not only with gameplay, internet access must be improved within the rural areas.

Technology use within the Agriculture Industry

Another interesting theme that was discussed by many individuals within the study was the idea of technology and farming and how farmers, and the profession, are becoming more technical. Since the time I have finished my data collection, this has become a major talking point in the industry via comments made by the billionaire former mayor of New York and ex-presidential candidate Mike Bloomberg. These comments, which recently resurfaced from his 2016 talk with students at the University of Oxford, imply that farmers as luddites, stating, "Anybody can be a farmer, it takes a lot more gray matter to work tech" (Hanson, 2020). Within the past few years, there have been major improvements within the agriculture industry that many individuals may not realize. This sentiment is not new. In 1956, during his address at Bradley University, Dwight D. Eisenhower was quoted saying, "Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the cornfield" (*Quotes*, 2019). There have been many advancements in technology with the agriculture industry as supported by this research as well. Participants were also asked their feelings towards farming games and one participant stated, "*They do not portray what real farming is like and further uneducated the public on what it takes to feed the world.*"

One survey respondent stated, “*Farming is becoming more technologically advanced and there may be a slight correlation to farm management in these games*”. Multiple interview participants made similar statements such as Tammy, “*I also think they [the general public] usually don’t think of technology, which is very much a part of modern farming.*” The technology side of the agriculture industry has continued to grow and is now being implemented within various facets of the industry. Catrina offered multiple scenarios of how technology is being used within her family farm, both for machinery and management of employees. She elaborated on how her husband had attended a meeting of a planter’s association and now, with the use of technology advancements, a farmer can take a mobile device up to their planter and the application will tell the farmer what is wrong with each row-unit. During the interview, she also mentioned how farming is going to a more electronic management system in the future, and that could be learned from managing employees on farming games.

You know my John Deere even has, in their app, where we can send tasks to our employees and tell them what to do, which fields to go to, whether their doing tillage or planting and all the prescriptions [for plants] are electronic.

Jamie also shared other technological advances in the agriculture industry within her field of research, she is a scientist for the USDA.

I share an office with two undergraduate students who are actually developing models through coding for farming, so this is somebody who wants to figure out how a specific quantity of nitrogen will act on a field. So they actually build a computer model to generate that information. And these kids know absolutely nothing about farming.

Despite the number of farmers dwindling, to less than 2% of the population within the US, the advancements made within the industry cannot be ignored and should be celebrated. The use of farming games may be a precursor to the technology used within the future and could help farmers bridge the gap between technology and the farm.

Limitations

Limitations of the study include the medium through which the surveys were distributed, as well as the ages, gender, and locations, of the participants. The surveys were distributed through social networking sites (SNS), Facebook, and through the use of Listserv. Participants who completed the survey were those individuals who either had access to the survey through either of these media and then limited the study to just those who were friends of the researcher, or also a participant of the same Facebook group, or students.

Facebook is a popular SNS, therefore many of the participants were recruited through this platform. The age difference was not entirely dominated by the younger generation of agriculturists when distributed and collected responses from those from college. The Facebook groups that the researcher shared the survey link to on SNS, are primarily groups of individuals who identify as female, so the number of responses that were collected included a high number of females. The last limitation to be discussed would be the location of the participants. SNS has made the ability to connect with individuals around the world easy, but with the distribution of surveys being within Hawai'i, Illinois, and Missouri, this is not a large representation of the agriculture industry. Although the study did have a very diverse respondent group. Some of the Facebook participants showed various locations of participants, but the interview participants showed some difficulty in representation.

Summary

This thesis research has found that farmers do engage with farming video games, and other types of games, for various reasons. Like many research topics, there are both positive and negative opinions given on a subject, and farmers and their video gaming habits are no exception. Farmers spoke of the educational benefits for the public and themselves (creating virtual versions of their farm), while others spoke of the unappealing qualities such as graphics, time consumption, and unrealistic characteristics of the games. During the leisure times of these farming individuals, many expressed the prefer to participate in activities that are outdoors or relate to their profession (a shepherd who enjoys fiber crafts). Other themes that became discussion points of interviews and survey responses were the impacts of the internet on gameplay and the use of technology within the agriculture industry. Understanding how this population responds to video games that represent their lifestyle is an important voice that should be heard during the creation of such games as to not misrepresent an industry that impacts all individuals. Another important facet of this research was the use of technology within the agriculture industry and how such farming games could be an educational tool for farmers as the technology evolves and changes in the future.

Chapter 7. Conclusion

“I definitely think it’s a precursor I think that there will be other applications to get people on board and you know up to date on how to actually do that. But I think if you’ve sat behind the computer and played Farming Simulator, its similar on a dumb down level.” – Catrina, Illinois

This thesis aimed to identify whether or not farmers played farming games, if they play other types of games, and what they do in their overall leisure time. The consensus that was found was farmers do play video games—while it may not be a large portion of the industry—farmers still play and are interested in video games, specifically games depicting their profession. Their motivations for engagement with farming and other types of video games is similar to that within the academic literature, but also that the games are relatable and that is why farmers engage with farming video games specifically. They also prefer to engage in leisure activities that are outdoors as much of their time is already spent there.

Exploring the video gaming habits and leisure activities of those in the agriculture industry allows for changes to be made to current video games to spur more engagement and higher play rates within farming games. Understanding the various feelings and attitudes towards these games as they are a representation of a specific lifestyle or career, is important as some individuals may base their entire perception of the industry based on one game. Video games are of interest only to metropolitan and urban populations, but also to rural populations too. With the advancements in technology and internet access to rural areas, farmers are using technology more within their profession. Through the use of farming games those in the agriculture industry may use these as a way to learn how the technology works (in regards to management) before implementing it within their business.

This research, through the use of qualitative surveys and interviews, found that individuals within the agriculture industry do engage with farming video games, but also enjoy other types of video games as well. Participants voiced they found farming games as a way to relax, the individuals wanted a virtual version of their farm, or they wanted a way to escape and explore a fantasy of “perfect farming conditions”. While there were positives, many also articulated the negatives such as the farming video games seeming “unrealistic” and “time-consuming”. These negatives were expressed by those who play other types of video games, and those who do not participate in video gameplay. Another facet of this research explored the leisure activities that farmers participate in, with the most popular category within this study

being outdoor leisure activities, which was an assumption made by both myself as a researcher and even by interview participant. Lastly, the other discussion points brought up within this research included the impact of the internet on video gameplay and the use of technology within the agriculture industry. As the internet and technology become more readily available to the rural area populations, the gaming habits and leisure activities of farmers may change or evolve through the years. Farmers will always tend to the soil, animals, and the world around them, regardless if it is the physical or the digital world.

Looking Forward

Moving forward with this research, conducting more interviews with this population would aid in the gathering of other perspectives. Additional interviews will allow for the further enhancement of the survey questions and interview guides, such as allowing for questions that should be asked to multiple tracks for consistency among the results. This study has served as a pilot upon which to build future research. Future studies could include looking at other factors that may either inhibit or encourage the play of video games, such as testing video gaming habits against demographic information such as age, gender, education, etc. Another interesting facet would be to replicate this pilot study, but with other types of careers or hobbies that have video games that are similar and see how other professions or hobbyists feel towards video games about that specific career or hobby.

Appendix

A. Distribution of Survey Link

- Reddit – farmingsimulator
- Reddit – farmers
- Facebook – Researcher’s personal page
- Facebook – Uncensored Women in Ag
- Facebook – DEBS FV GANG
- Facebook – Stardew Valley Community
- Facebook – TOP FARM GAME
- Facebook – Hobby Farms
- Facebook – The Secret Life of Ag Women
- Facebook – Southern Illinois Farm Talk
- Facebook – Southeast Missouri Farm and Garden
- Facebook – Illinois Farms and Farming
- Facebook – Big Farm: Mobile Harvest – Farmers Fan Page
- Facebook – Illinois Horse and Farm
- Facebook – farmers group
- Facebook – Farm Life
- Facebook – Hay Day Every Day
- Facebook – Farming Simulator Console Group
- Facebook – Farmville – The Official Group
- Facebook – Southern Farming
- Edwards County Farm Bureau – emailed to members, also shared on Facebook
- Southeast Missouri State University: Department of Agriculture – ListServ
- University of Hawai‘i at Mānoa: College of Tropical Agriculture and Human Resources Faculty – emailed link

B. Informed Consent Document

Aloha! My name is Shelbey Walker and you are invited to take part in a research study. I am a graduate student at the University of Hawai'i at Mānoa in the School of Communications. As part of the requirements for earning my graduate degree, I am doing a research project.

What am I being asked to do?

If you participate in this project, I will meet with you for an interview at a location and time convenient for you. Based on your location and when and how it is best for you to have the interview be conducted.

Taking part in this study is your choice.

Your participation in this project is completely voluntary. You may stop participating at any time. If you stop being in the study, there will be no penalty or loss to you.

Why is this study being done?

The purpose of my research is to explore whether farmers and those within the agriculture industry do or do not participate in gameplay of farming games and the leisure activities farmers participate in. I am seeking responses from individuals who are over the age of 18 and currently work in an occupation within the agriculture industry.

What will happen if I decide to take part in this study?

The interview will consist of 5-10 open ended questions. It should take no more than 30 minutes to complete. The interview questions will include questions like, "Why do you play farming games?" and "If you have been exposed to farming video games, what were your feelings/attitudes about them?"

Only you and I will be present during the interview. With your permission, I will audio-record the interview so that I can later transcribe the interview and analyze the responses. You will be one of about 20 people I will interview for this study.

What are the risks and benefits of taking part in this study?

I believe there is little risk to you for participating in this research project. You may become stressed or uncomfortable answering any of the survey questions. If you do become stressed or uncomfortable, you can skip the question or take a break. You can also stop taking the survey or you can withdraw from the project altogether.

There will be no direct benefit to you for participating in this survey. However, there is little research on why those in the agriculture do or do not play farming video games and the different leisure activities they participate in.

Privacy and Confidentiality:

I will keep all study data secure on a password protected computer. Only my University of Hawai'i advisor and I will have access to the information. Other agencies that have legal permission have the right to review research records. The University of Hawai'i Human Studies Program has the right to review research records for this study.

After I write a copy of the interviews, I will erase the audio-recordings. When I report the results of my research project, I will not use your name. I will not use any other personal identifying information that can identify you. I will use pseudonyms (fake names) and report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

Compensation:

You will not be compensated for participation in this research study.

Future Research Studies:

Identifiers will be removed from your identifiable private information and after removal of identifiers, the data may be used for future research studies or distributed to another investigator for future research studies and we will not seek further approval from you for these future studies.

Questions:

If you have any questions about this study, please call or email me at 808.956.8881 & walkersk@hawaii.edu. You may also contact my faculty advisor, Dr. Kelly Bergstrom, at 808.956.3781 & kelly.bergstrom@hawaii.edu. You may contact the UH Human Studies Program at 808.956.5007 or uhirb@hawaii.edu to discuss problems, concerns and questions, obtain information, or offer input with an informed individual who is unaffiliated with the specific research protocol. Please visit <http://go.hawaii.edu/jRd> for more information on your rights as a research participant.

If you agree to participate in this project, please sign and date this signature page and return it to me at the time and date of your interview.

Keep a copy of the informed consent for your records and reference.

Signature(s) for Consent:

I give permission to join the research project entitled, "*Cultivating Pixels and Plants: A look into the gaming habits and leisure activities of farmers.*"

Please initial next to either "Yes" or "No" to the following:

Yes No I consent to be audio-recorded for the interview portion of this research.

Yes No I consent for my anonymized data to be used for future studies.

Name of Participant (Print): _____

Participant's Signature: _____

Signature of the Person Obtaining Consent: _____

Date: _____

Mahalo!

C. Survey Questions

Demographic

1. What is your age?
 - a. 15-18
 - b. 19-25
 - c. 26-30
 - d. 31-40
 - e. 41-50
 - f. 51-60
 - g. 61-70
 - h. 71+
 - i. Prefer not to say
2. Where do you currently reside?
 - a. Country:
 - b. State/Province:
3. What gender do you identify as?
 - a. Male
 - b. Female
 - c. Prefer not to say
 - d. Other – enter box
4. What is your current employment status?
 - a. Employed Full-time
 - b. Employed Part-time
 - c. Self-employed
 - d. Retired
 - e. Student
 - f. Prefer not to say
 - g. Other – enter box
5. What is your current agricultural occupation?
 - a. Open Ended Question
6. What is your current relationship status?
 - a. Single
 - b. Married
 - c. Divorced
 - d. Separated
 - e. Widowed
 - f. Prefer not to say
7. How many children do you have?
 - a. None
 - b. 1
 - c. 2-4
 - d. More than 4
 - e. Prefer not to say
8. What is the highest degree or level of education you have completed?
 - a. Some high school
 - b. High School diploma

- c. Some college course work
 - d. Associate's Degree
 - e. Bachelor's Degree
 - f. Master's Degree
 - g. Ph.D. or higher
 - h. Trade School
 - i. Prefer not to say
9. Where do you access the internet? (Select all that apply)
- a. Home
 - b. School
 - c. Café/Restaurant
 - d. Library
 - e. Mobile Phone
 - f. Friend's/Family's house
 - g. Other – text box

Leisure Activities

1. How do you spend most weekends?
 - a. Open Ended Question
2. Would you say you spend more of your free time:
 - a. Indoors – show question 3
 - b. Outdoors – show question 4
 - c. Mixture of both
3. Why do you spend most of your free time indoors?
 - a. Open ended question
4. Why do you spend most of your free time outdoors?
 - a. Open ended question
5. Who do you usually spend your free time with?
 - a. Family
 - b. Friends
 - c. Housemates
 - d. Colleagues/Co-workers
 - e. Alone
 - f. Partner
 - g. Prefer not to say
 - h. Other – text box
6. Of these leisure activities, which do you participate in? (Select all that apply)
 - a. Team Sports
 1. Which of these team sports do you participate in? (Show if “Team Sports is selected)
 - i. Basketball
 - ii. Softball/Baseball
 - iii. Soccer
 - iv. Football
 - v. Hockey
 - vi. Bowling
 - vii. Volleyball

- viii. Other:
- b. Individual Sports
 - 1. Which of these individual sports do you participate in? (Show if “Individual Sports” is selected)
 - A. Jogging/Running
 - B. Swimming
 - C. Bike Riding
 - D. Walking
 - E. Tennis/Ping Pong
 - F. Darts
 - G. Golf
 - H. Badminton
 - I. Croquet
 - J. Bocce
 - K. Horseback Riding
 - L. Fishing
 - M. Gymnastics
 - N. Other:
- c. Music
 - 1. Which of these music activities do you participate in? (Show if “Music” is selected)
 - a. Singing
 - b. Playing an Instrument
 - c. Attending Concerts
 - d. Listening to Radio/Stereo
 - e. Other:
- d. Dance
 - 1. Which of these dance activities do you participate in? (Show if “Dance” is selected)
 - a. Country
 - b. Folk
 - c. Square
 - d. Aerobic
 - e. Yoga
 - f. Tap/Ballet/Jazz
 - g. Rock n’ Roll
 - h. Line Dancing
 - i. Other:
- e. Arts & Crafts
 - 1. Which of these arts and crafts activities do you participate in? (Show if “Arts & Crafts is selected)
 - a. Painting/Drawing
 - b. Knitting
 - c. Sewing
 - d. Crocheting
 - e. Latch Hook

- f. Embroidery
 - g. Weaving
 - h. Ceramics/Pottery
 - i. Woodworking
 - j. Jewelry Making
 - k. Baking/Cooking
 - l. Photography
 - m. Other:
- f. Table Games
1. Which of these table games do you participate in? (Show if “Table Games” is selected)
 - i. Cards
 - ii. Checkers
 - iii. Chess
 - iv. Dominoes
 - v. Scrabble
 - vi. Puzzle
 - vii. Billiards
 - viii. Bingo
 - ix. Board Game
 - x. Other:
- g. Outdoor Leisure/Social
1. Which of these outdoor leisure/social activities do you participate in? (Show if “Outdoor Leisure/Social” is selected)
 - a. Hiking/Climbing
 - b. Walking
 - c. Gardening
 - d. Camping
 - e. Barbecues/Picnics
 - f. Skiing/Sledding
 - g. Canoeing
 - h. Fishing
 - i. Roller Skating/Roller Blading
 - j. Ice Skating
 - k. Bicycling
 - l. Swimming
 - m. Boating
 - n. Lawn Games
 - o. Beach
 - p. Nature Study
 - q. Weather Observation
 - r. Bird Watching
 - s. Amusement Parks/Fairs
 - t. Other:
- h. Community Activities/Entertainment

1. Which of these community activities/entertainment activities do you participate in? (Show if “Community Activities/Entertainment” is selected)
 - a. Historical
 - b. Sporting Events
 - c. Shopping
 - d. Dining Out
 - e. Library
 - f. Aquarium
 - g. Museums
 - h. Concerts
 - i. Hometown Events
 - j. Recreation/Community Center
 - k. Flea Markets
 - l. Sightseeing
 - m. Parades
 - n. Video Games
 - o. Collecting (stamps, rocks, etc.)
 - p. Religious Services
 - q. Auto Racing
 - r. Boxing/Wrestling
 - s. Spectator Sports:
 - t. Movies
 - u. Television
 - v. Visit/Entertain Friends/Family
 - w. Other:
- i. Social Clubs/Organizations
 1. Which of these social clubs/organizations activities do you participate in? (Show if “Social Clubs/Organizations” is selected)
 - a. Cultural Ethnic
 - b. Cooking
 - c. Card Playing
 - d. Senior Citizens
 - e. Religious
 - f. Other:
- j. Literacy/Continuing Education
 1. Which of these literacy/continuing education activities do you participate in? (Show if “Literacy/Continuing Education” is selected)
 - a. Reading (books, magazines, etc.)
 - b. Computers
 - c. Letter Writing
 - d. Adult Education Classes
 - e. Computer Education
 - f. Other:
- k. Volunteer Work
 1. Which of these volunteer work activities do you participate in? (Show if “Volunteer Work” is selected)

- a. Political Campaign
 - b. Homeless Shelter
 - c. Food Co-Op/Food Bank/SHARE
 - d. Special Olympics
 - e. Nursing Homes
 - f. Recycling
 - g. Other:
7. Why do you participate in the leisure activities you marked above?
 - a. Open Ended Question
 8. Do you play video games?
 - a. Yes – show “Video Games” questions
 - b. No – show Track 3

Video Games

1. On a typical day, how much time do you spend playing computer games or video games? (in hours)
 - a. Text box
2. How old were you when you first played computer/videogames? (in years)
 - a. Text box
3. Which platform do you play on? (Select all that apply)
 - a. Xbox system
 - b. PlayStation system
 - c. Nintendo system
 - d. PC (Desktop or Laptop)
 - e. Mobile (Phone or Tablet)
 - f. Other – enter box
4. What is types of games do you play? (Select all that apply)
 - a. Action Games(Ex. Donkey Kong, Super Mario Bros, etc.)
 - b. Shooter (Ex. Call of Duty, Halo, Fortnite, Space Invader, etc.)
 - c. Action Adventure (Ex. Legend of Zelda, Resident Evil, etc.)
 - d. Adventure
 - e. Role-Playing (Ex. Dungeon & Dragons, Final Fantasy, etc.)
 - f. Simulation (Ex. The Sims, Nintendogs, Farming Simulator, Flight Simulator, etc.)
 - g. Social Networking Site Games (Ex. Farmville, Farm Town, Restaurant City, etc.)
 - h. Strategy (Ex. The Age of Empires, Command and Conquer, Tower Defense, etc.)
 - i. Sports (Ex. Racing, FIFA, NBA, MLB, NFL, Overwatch, etc.)
 - j. Puzzle (Ex. Tetris, Trivia, etc.)
 - k. Idle (Ex. Mario Party, Pokemon Card Game, Chess, Checkers, Minecraft, etc.)
 - l. Other: _____
5. Why do you play the game(s) you checked above?
 - a. Open Ended
6. Does your internet connection impact whether or not you play video games?
 - a. Yes
 1. Why?: Enter box (Show if “Yes” is selected)
 - b. No
 1. Why?: Enter box (Show if “No” is selected)
7. Does your internet connection impact what types of video games you play?

- a. Yes
 - 1. Why?: Enter box (Show if “Yes” is selected)
 - b. No
 - 1. Why?: Enter box (Show if “No” is selected)
8. Farming video games are those computer or video games that simulate actions within the agriculture industry or farming life. Examples of common farming games include: Farmville, HayDay, Farming Simulator, StarDew Valley, etc. Do you play farming video games?
- a. Yes – Show Track 1
 - b. No – Show Track 2

Track 1 – Farmers playing Farming Games

1. How many farming games do you play?
 - a. 1 game
 - b. 2-5 games
 - c. 6-10 games
 - d. More than 10
2. When did you begin playing farming games?
 - a. Open Ended
3. Why do you play farming games?
 - a. Open Ended
4. What agriculture-themed online games have you played? (Select all that apply.)
 - a. Farm Mania
 - b. Farm Simulator
 - c. Farm Town
 - d. FarmVille
 - e. HayDay
 - f. Happy Farm
 - g. StarDew Valley
 - h. John Deere American Farmer
 - i. None
 - j. Other (please list): text box
5. What is your favorite game?
 - a. I don’t have one
 - b. Please add your favorite game – enter box
6. Do you play any other video games besides ones related to farming?
 - a. No
 - b. Yes: please specify – text box
7. Do you enjoy farming or other types of video games more? Why?
 - a. Open Ended Question
8. How does your online game play compare to your real-life experience?
 - a. Open-ended question
9. Is there anything else you would like to share in regards to farming video games, video games in general, or leisure activities?
 - a. Open-ended question
10. Would you be willing to participate in a follow-up interview? If yes, please include your email below?

- a. Enter box

Track 2 – Farmers and other video games

1. How many games do you own for your own play?
 - a. 1 game
 - b. 2-5 games
 - c. 6-10 games
 - d. More than 10
2. What is your favorite game?
 - a. I don't have one
 - b. Please add your favorite game – enter box
3. What aspects of video games do you enjoy the most?
 - a. Open Ended Question
4. Have you been exposed to farming video games?
 - a. Yes
 - b. No
5. If you have been exposed to farming video games, what were your feelings/attitudes about them?
 - a. Open Ended Question
6. What are some reasons for not playing farming video games?
 - a. Open Ended Question
7. What do you consider when you choose to play certain video games?
 - a. Open Ended Question
8. Is there anything else you would like to share in regards to farming video games, video games in general, or leisure activities?
 - a. Open-ended question
9. Would you be willing to participate in a follow-up interview? If yes, please include your email below?
 - a. Enter box

Track 3 – Farmers not playing video games

1. In your opinion, how are the leisure activities you participate in different from playing video games?
 - a. Open Ended Question
2. Have you ever participated in video game play?
 - a. Open Ended Question
3. What are some reasons for not playing video games?
 - a. Open Ended Question
4. What are your attitudes towards video games about farming?
 - a. Open Ended Question
5. Is there anything else you would like to share in regards to farming video games, video games in general, or leisure activities?
 - a. Open Ended Question
6. Would you be willing to participate in a follow-up interview? If yes, please include your email below?
 - a. Enter box

D. Interview Questions

Track 1: Farmers who do play farming video games

1. What aspects of farming games do you like?
2. Why do you play farming games?
3. Do you play any other video games besides ones related to farming?
4. Do you enjoy farming or other types of video games more? Why?
5. How does your online game play compare to your real-life experience?

Track 2: Farmers do not play farming video games, but play other video games

1. Why do you choose to play other types of games over farming games?
2. Have you ever tried playing farming games?
3. Why do you play the games you checked above (VG: 4)?
4. What aspects of video games do you enjoy the most?
5. Have you been exposed to farming video games?
6. If you have been exposed to farming video games, what were your feelings/attitudes about them?
7. What are some reasons for not playing farming video games?
 - a. What are some factors that have influenced your decision to not play farming video games?

Track 3: Farmers who do not play video games

1. What are some reasons for not playing farming video games?
2. What are some factors that have influenced your decision to not play video games?
3. Do you want to play video games?
4. What kinds of games do you think you would be interested in playing?
5. What kind of activities do you participate in during your leisure time?
6. Why do you participate in the leisure activities you marked above?
7. Have you ever participated in video game play?
8. What are some reasons for not playing video games?
 - a. What are some factors that have influenced your decision to not play video games?
9. What are your attitudes towards video games about farming?
10. In your opinion, how are the leisure activities you participate in different from playing video games?

General Questions:

1. Is there anything else you would like to share in regards to farming video games, video games in general, or leisure activities?

E. Location of Participants

United States of America (69 participants) [26/50 states represented]

- Alabama(1)
- Arkansas (1)
- Colorado (1)
- Florida (1)
- Idaho (1)
- Illinois (29)
- Indiana (1)
- Iowa (1)
- Kentucky (1)
- Louisiana (1)
- Michigan (1)
- Minnesota (1)
- Missouri (8)
- Nebraska (1)
- New Mexico (1)
- North Carolina (3)
- North Dakota (1)
- Ohio (2)
- Oklahoma(1)
- Pennsylvania (1)
- South Carolina (1)
- South Dakota (1)
- Tennessee (2)
- Texas (4)
- Washington (1)
- Wisconsin (2)

Canada (5 participants) [3/10 provinces represented]

- Alberta (1)
- British Columbia (1)
- Saskatchewan (3)

United Kingdom (1 participant) [1/4 countries represented]

- England (1)

Australia (1 participant) [1/6 states represented]

- Queensland (1)

F. Occupational Codebook

Group	Keywords
Farmer	<p>“farmer”, “farming”, “owner”, “operator”, “hired hand”, “farm hand”, “farmwife”, “producer”, “technician”, “grain & dairy farmer”, “scrub tech”, “self-employed”, or combination of two occupations.</p> <p>This category is more of a coverall for jobs if the occupation does not fit in another.</p>
Animal Farmer	<p>“shepherd”, “cattle producer”, “train horses”, “rancher”, “dairy manager”, “equine barn manager”, “livestock operation”, “pre-vet”, “pigs”, “cow/calf”.</p> <p>This category is for jobs pertaining to livestock or animals in some fashion.</p>
Crop Farmer	<p>“grain”, “crop farmer”, “grain elevator”, “sugar cane”, “agronomist”, “gardening”.</p> <p>This category is for jobs pertaining to the cultivation of crops – vegetable, fruit, seed, grain, oilseed, etc.</p>
Educator	<p>“Ag teacher”, “4H”, “student”, “Ag education”, “extension agent”, “youth program”.</p> <p>This category is for jobs that’s primarily goal is to educate either the younger generations, new populations, or overall general public about the agriculture industry.</p>
Ag Business	<p>“Agribusiness”, “Farm Bureau Manager”, “ag services”, “chemical applicator”, “parts specialist”, “Vice president”, “CSA owner”, “analyst”, “scientist”.</p> <p>This category is for jobs pertaining somehow to business, primarily these individuals work for a business, rather than on the family farm.</p>

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