

THESIS

MISBEHAVIOR IN VIRTUAL WORLDS:
BREAKING THE RULES FOR SOCIAL BENEFIT

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ABSTRACT

MISBEHAVIOR IN VIRTUAL WORLDS: BREAKING THE RULES FOR SOCIAL BENEFIT

This thesis uses Giddens's (1984) Structuration Theory as a guiding framework for examining the causes and consequences of misbehavior in virtual worlds. Misbehavior is clearly delineated from more commonly studied cheating behaviors to examine the possibility that certain unintended behaviors (those that break coded rules, semiotic rules, and emerging social norms) may be productive and even beneficial behaviors for social groups in online spaces. Data was gathered at a private island within *Second Life* as part of the larger SCRIBE project. Therefore, this thesis conducted a secondary analysis of qualitative data and found that participants were primarily able to misbehave by transgressing boundaries created by structures of domination, legitimation, and signification if the group identity of detective trainees was salient over the individual identities of present participants. Such findings are consistent with the social identity model of deindividuation effects (Lea & Spears, 1991). Further findings are discussed in detail using supporting literature and theory.

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CHAPTER 1. INTRODUCTION

The gaming industry has grown exponentially in the past decade. Recent market predictions expect the global industry's revenue to reach \$180.1 billion by 2021 (Takahashi, 2018), up from \$41.9 billion as recently as 2007 (Caron, 2008). In 2018, more than 150 million Americans played video games (Entertainment Software Association, 2018). Of those, "56% of the most frequent gamers play multiplayer games...spending 7 hours playing with others online and 6 hours playing with other in person" each week (Entertainment Software Association, 2018). As such, games and gamers have become serious objects of study for researchers in a variety of fields.

Specifically, why and how people cheat games and each other is a growing topic of inquiry. Many scholars have stated a specific need for studying deviance and misbehavior in online environments (Sternberg 2000; Denning & Lin 1994; Dutton 1996; Kollock & Smith 1996). In a succinct articulation, Denegre-Knott and Taylor (2005) assert that simply documenting and defining deviance online (though itself a difficult task) is less important than understanding "how norms and antinormative communication develop in online environments, regardless of the offline norms and labels at stake" (p. 104). Furthermore, Sternberg (2000) concludes her review of deviance studies with the proposal that studying deviance in online environments can lead us to a greater understanding of the "symbolic and physical environments" we inhabit (p. 57).

Of course, there are different ways people can misbehave in video games and virtual worlds. Preeminent among them are *cheating* and *griefing*, both of which carry specific meanings in games research. Cheating is commonly defined as actions that grant a player an

“unfair advantage” over other players or the game environment (Consalvo, 2007). This type of behavior includes technical hacks that rearrange game code, exploiting bugs or loopholes in the underlying logic of the game’s structure, and using mods or bots that improve a player’s skills and abilities (Consalvo,2007; Yan & Randell, 2005). The practice of griefing is slightly different: it entails “playing to disrupt or distress other players’ gaming experiences” (Lin & Sun, 2005, p. 1). Behaviors like *ganking* (when powerful, high-level characters repeatedly kill low level, weak characters) and scams that con players out of in game gold or items are types of griefing. Cheating and griefing alike can impinge upon the gaming experience of others, making games less enjoyable or even unplayable.

Consalvo (2007) asserts that highly specialized groups of gamers often create their own standards of play and behavior within a game’s stated rules and structures. She argues specifically that gamers can make antinormative behaviors like cheating, griefing, or flaming into normative parts of the gaming experience. That is, gamers may sometimes make the objective of their play to intentionally oppose the expected and intended uses of the game space. This idea opens the field of game studies to the possibility that cheating is not always an unwanted, negative behavior. Indeed, other research suggests that people can create meaning and norms beyond what the game code and rules allow (Aarseth, 1997), and that people often intentionally play games incorrectly to discover what their underlying values and intents are (Barr, Noble, & Biddle, 2006). In some instances, this type of misbehavior may actually be a productive and beneficial part of virtual behavior more generally. Correspondingly, this thesis explores how this may happen. Broadly speaking, the current research seeks to answer the questions: Can players misbehave in order to benefit their social group? If so, how?

The following chapter first explains what life inside the virtual world *Second Life* looks like, offering descriptions of its basic tools and premises before concluding with a discussion of what kind of space this virtual world is. Then it describes the specific location, setting, and structure of a multiplayer game built by a research team along with the author in the virtual world *Second Life*. The data used by this project has already been collected, and thus this thesis is a secondary data analysis of extensive datasets developed by the SCRIBE research team during 2010. The initial goals of the SCRIBE team were to examine behavior and communication in a game in a virtual world. As such, it is ideal for examining not only patterns in behavior overall, but also the current project's focus on misbehavior in that setting. Importantly, the author participated in the design, testing, implementation, and analysis of the data collected in the SCRIBE project. Moreover, the author served as participant observer for many of the sessions. As such, analyses and observations draw on ethnographic techniques of examining phenomena "from the inside" (Malinowski, 1922), and can offer insight into misbehavior contextualized by the experiences of the game itself.

After a description of the SCRIBE project and of *Second Life* more generally, chapter three draws on Giddens' structuration theory to examine contextualized social interaction in virtual spaces and how and why players misbehave in group settings online. Resulting research questions deal with Giddens' processes of domination, signification, and legitimation. Chapter four is a review of the literature on misbehavior and social interaction in online spaces and games. Based on this theoretical framework and prior research, a method of analysis was developed that uses qualitative techniques to examine participant observer field notes, observations and videos of game play, and research session chat logs, described in chapter five. Chapter six describes how the data was analyzed using thematic analysis. Chapter seven outlines

the results of the analysis and discusses examples of misbehavior within the theoretical framework provided by Structuration Theory and other supporting theories. Finally Chapter eight summarizes my conclusions and identifies limitations of this thesis and suggests areas for future research.

CHAPTER 2. *SECOND LIFE* AND THE MOONSTONE QUEST

In order to better understand the context of the research undertaken here, this chapter first describes the virtual world *Second Life* and its structure. The second section of this chapter explains the setting, plot, and purpose of the quest created for data collection and observation of game play for the SCRIBE project. Then, it describes my role in the development of the SCRIBE project, the creation of the quest, and my role as participant observer during data collection. My interest in studying misbehavior is a result of these experiences.

2.1. The Virtual World *Second Life*

Second Life is a richly detailed and imaginative virtual world created by Linden Labs in 2003. Its main feature and claim to fame is that it allows users supreme—almost total—creative control over the environment. That is, the world itself can be changed, shaped, built and created by users. Unlike most typical computer and video games, *Second Life* has no built-in plot or goal to guide the actions or objectives of users. However, games and gaming remain an important part of *Second Life*'s culture, as many residents build and play their own games there.

In *Second Life*, users can literally build the world around them. They use a system provided by Linden Labs that includes sets of object editing tools, a scripting language to create interactivity, a few basic world parameters, and certain default land, object, and avatar appearances. Thus, *Second Life* users, or *residents* as they're called, can build elaborate mansions, the world's greatest roller coaster, wild clothing, or floating cities of ornate zeppelins. Residents can use nuanced avatar customization tools to create their avatars to take the form of a Transformer, Godzilla, a tiny butterfly, or a complicated robot. *Second Life* is free to join and

requires only a simple program to be downloaded called a *viewer* through which the virtual world is accessed.

Philip Rosedale, Linden Lab's founder, is largely responsible for the creation of *Second Life*. Rosedale describes *Second Life* as:

...a place where you can turn the pictures in your head into a kind of pixilated reality. It's a venue for self-expression that's among the richest and most satisfying out there. In *Second Life*, if you see something you want to build or change, the ability to do so is at your fingertips. The world is a place you experience, but more importantly, it's a place you create (Rymaszewski, et. al., 2007, p. iv).

In similar fashion, Boon and Sinclair (2009) have described the virtual world as a seductive place where real world experiences are removed of their "risk and consequence" (p. 21). In this virtual space, people are free to explore the world and themselves with less constraint and inhibition than they are normally afforded. Residents can create profiles and back stories for their avatars as well as create profiles for their offline selves. By creating an avatar that looks however they wish, residents can switch genders, races, and even species, such as creating an avatar that looks like a dragon or a cat.

Initially, computer technology and internet connectivity were not advanced enough to support such a vastly customizable virtual world. However, after major developments in graphics software in 1999, Rosedale decided that the time was right to create a virtual world where people could be who and what they wanted to be. As Mitch Kapor, founder of the PC software company Lotus recalls, "Philip had the idea that *Second Life* should be like reality, but kinder and gentler" (Maney, 2007, n.p.).

2.1.1. How it Works—The Basics

In order to take advantage of the vast creative opportunities *Second Life* offers, residents need to understand a few basic concepts. A brief outline of these concepts follows.

2.1.1.1. *The Avatar and Identity*

The *Second Life* avatar is the first option users select when they create an account. It is the vehicle through which the virtual world is experienced. As such, users can choose among 10 basic options of humans with a few pre-loaded outfits. Along with gender and race, height, weight, hair color and length, facial hair, shoulder breadth, and waist size are all customizable through SL's avatar customization interface. However, many residents buy 'shapes' or 'skins' crafted by other residents to give their avatars more sophisticated dimensions or forms. 'Shapes' set the physical form of the avatar, and 'skins' set the skin and images, such as eye make-up or tattoos. For instance, body builder skins are available for purchase for both male and female avatars. So too are fairy, dragon, ghost, and animal shapes and skins. If the desired look is not available, residents can simply create one. Using SL's object building tools and appearance editors, users can change from human to nearly any shape they can imagine, by, for example, creating boxes that are worn over a human shape to look like a robot. Residents may also give their avatars a profile similar to those found on social networking sites such as *Facebook*. They can upload pictures and create elaborate back stories that are often used in role playing sims, or areas within *Second Life* where residents act out a certain role, position, or character. As a result, residents craft their online persona to fit into a range of narratives, styles, or uses.

2.1.1.2. *Land*

Second Life is made up of one large mainland run by Linden Labs and many private estates or islands developed and designed by residents. Both the mainland and the islands have

customizable topography, allowing land owners to transform their default parcel into a mountain range or a beach. Rivers and lakes can also easily be added as can trees and other vegetation. Private estates are often sold as islands. Once purchased, the estate owner can choose to change nearly anything about their land and use it in any way they see fit—so long as such use does not violate *Second Life*'s Terms of Service agreement. As of the start of 2010, *Second Life* reported about 18 million unique accounts and over 1.85 billion square miles of user-developed land, such as the steampunk city of Caledon, OCEA's simulation of a coastal village that experiences tsunamis, or NASA's reproduction of their Space-Flight Museum. Several large corporations and many universities maintain a presence within the virtual world, using their island to train new employees, conduct virtual meetings, or hold classes. Many islands can be visited by any resident, and many develop their islands to showcase projects, art, or adventures.

2.1.1.3. Creating Objects

As previously mentioned, *Second Life* residents can create almost any object they can imagine. This is accomplished by calling up a robust editing menu that allows residents to create simple, geometric shapes that can be grouped together, stretched, hollowed out, and turned into more intricate shapes. By adding images such as a brick pattern on top of these shapes, users can adjust the look and style of the object to create anything from paths, walls, and plants to furniture and lighting, or from dragons and kittens to computers and magic wands. Creating detailed objects is time-consuming and difficult, and few residents develop the expertise to do so.

2.1.1.4. Economy

Second Life has its own economy. Residents who develop the skills to create sophisticated items such as a detailed reproduction of a statue or table lamp can sell copies of those objects to other residents. They can sell these in the SL Marketplace or in shops set up on

islands to display their work. In doing so, they have created a bustling virtual marketplace that has become a full fledged virtual economy. To participate in the monetized activities in *Second Life*, residents must exchange real currency, U.S. dollars or otherwise, for *Second Life*'s own currency called the Linden dollar. This can be accomplished through the LindenX Exchange Market. Residents can log in to the market to find current exchange rates and trade their cash for Linden dollars. In August of 2011, the exchange rate was \$248 Lindens per \$1.00 USD. Once residents have Linden dollars, they use them to purchase items from other residents as well as to purchase some services from Linden Labs, such as renting out private island space or uploading custom images and sound to build their own items and homes. This marketplace, like any other, is governed by the interests of both item producers and consumers, and when certain items or styles become popular, the market sees an increase of activity among buyers and sellers. Linden Labs (2011) reports that 1.1 billion Linden dollars were exchanged in the first quarter of 2011 for items such as skins, houses, furniture and clothing.

2.1.2. Residents in *Second Life*

Linden Labs claims that *Second Life* users have spent more than one billion hours in world, that people average 100 minutes in-world per log in, and that over 1 billion USD have been spent on virtual goods created in *Second Life* (Linden Labs, 2009). In fact, *Second Life* even boasts its own self-made millionaires who have designed and sold virtual goods for real profit, generating the equivalent of \$1 million US. So, with all the fantastic, alluring possibilities this world offers, what, exactly is it? A game? A business tool? Or something else entirely?

2.1.2.1. Social Games and Activities in *Second Life*

Predominantly, *Second Life* is a vibrant social space. Aside from creating objects and customizing avatars, residents congregate with friends to build their own worlds and societies

known as *sims*. These areas have their own rules, often exhibit a strong aesthetic theme, and encourage residents to immerse themselves in the local island culture. A sim can be a user-created game or a full-fledged digital society that sponsors balls, parties, events, and contests for its residents. For instance, a busy sim in *Second Life* is a region known as *New Babbage*. This area features a strong steampunk aesthetic. Steampunk is a sub-genre of science fiction that reimagines the world as though the industrial revolution never happened, making steam the dominant mode of power. As such, the genre features elaborate, Victorian-era clothing and architecture decorated with intricate brass and steel steam-powered devices. In *New Babbage*, steampunk clothing and elaborate mechanical accessories can be found in large shops, zeppelin races and steamship exhibitions are scheduled at the docks, and other community events are held throughout the region. Those who regularly visit sims like this one usually role-play, or adopt the language, speech, and customs of a certain thematically appropriate steampunk character, be it a billionaire Baroness, a member of the bureaucracy, or a worker in the steam-powered factory. Residents socialize with others in the sim, join mailing lists, and stay in touch with the regions goings-on. The roles they assume and the time they invest help sustain the sim.

Discrete games are often played in specific sims in *Second Life*. These games usually take place in a designated region, with specific rules, stories, customs, and objectives. Some games are very advanced and require users to wear special displays called heads up displays (HUDs) that add game-specific functions like health meters and combat controls to the user interface. For instance, a HUD in an aviation game might place the user inside the cockpit of an airplane by showing the cockpit from the pilot's perspective. Altimeters, crosshairs, and perhaps even the joystick would become visible as soon as the HUD is equipped.

Games in *Second Life* are as popular as they are varied. Among the most popular game types in *Second Life* are digital versions of Live Action Role Playing games (LARPs) that require players to assemble at certain times and to assume the role of particular characters. *Bloodlines* is a popular game of this variety. In it, players start out as human but must fend off attacks from vampires and werewolves. Ultimately, they choose a side to join and embrace the objectives of their chosen clan. They chat with other players to contribute to the emerging story and achieve their objectives.

Ultimately, sims like New Babbage and games such as *Bloodlines* display two things: *Second Life*'s creative power and the opportunity it presents for elaborate, complex, and meaningful social interaction. These spaces and others like them allow residents to escape into new worlds, explore new identities, and become members of new communities. Though this kind of social activity is very popular amongst *Second Life* residents, it is by no means all people do in this space.

2.1.3. So, What is *Second Life*, Really?

Second Life is many things to many people. Residents can create profiles for their avatars, complete with rich back-stories and personal histories. Residents can also experiment with their identity by customizing the appearance of their avatar and by acting out crafted personas through role play. Residents can create sims and functioning societies based on shared interests and they gather in these spaces to meet new people, socialize with friends and further develop online and offline relationships. Residents also come to learn, to work, and shop for goods and services. Some use the space as a gaming environment by building their own games within the virtual world. Though *Second Life* itself can hardly be called a game because of its lack of plot and built-in objectives, some of the most popular areas within that virtual world are indeed gaming

spaces. Ultimately, *Second Life* most closely resembles a digitally embodied variant of a town. It is a 3D world that can be used for many and varied activities. However, each use shares a profoundly social element—the desire to interact with other people and the ability to do so in many ways is, perhaps, *Second Life*'s greatest attribute.

2.2. Research Setting and Quest Story: Adamourne on Wells

As has been described above, *Second Life* presents residents, research institutions, and corporations with the opportunity to create their own sim within the virtual world. In order to examine the relationship among behaviors in a virtual world and players' offline characteristics such as gender, age, leadership, education, and others, the SCRIBE team developed a two-hour game on a private island in *Second Life*. The game was a point-and-click mystery quest game with a “steampunk” setting that drew on fantastical versions of Victorian England in the tradition of Mary Shelley, Jules Verne, and contemporary steampunk genres such as the film *League of Extraordinary Gentlemen*. The island created for the game, Adamourne on Wells, was populated with Victorian-era buildings and décor, along with typical steampunk elements such as rusty “automatons,” or robots, mechanical monsters, and flying zeppelins. All of these buildings, gardens, and landscapes were either built by SCRIBE researchers or bought pre-made from the SL resident marketplace in exchange for Linden dollars, SL's currency. In order to bring the quest setting to life, NPCs were programmed by the SCRIBE team with sound clips that delivered pre-recorded voice acting, allowing them to ‘speak’ to participants in polished, British dialogs. Intricate, metal, steam-powered devices populated the landscape and adorned the sides of buildings. The island was set to private within *Second Life*, restricting access to participants and researchers only in order to ensure non-participants would not affect the data collection process.

The island was divided into five areas for the game, each corresponding to different stages of the mystery quest participants attempted to solve (see Figure 1). Each area was locked until the necessary clues and objects had been collected in each area. This way, participants moved through the different areas of the island according to a linear progression, ensuring that the challenges and characters they confronted were consistent across groups, even though individual groups interacted and responded to those challenges in different ways. .



Figure 1. **Quest zones (upper left to right): Start Area, Manor, Jeter Factory, Town, Morlock's Apartments**

The *Moonstone Quest* was based on what many literary circles regard as the very first mystery novel, *The Moonstone* by Wilkie Collins (1928). The novel tells the story of a valuable diamond stolen during a young woman's birthday party, and traces the mystery through a myriad of strange figures from the diamond's sordid, hidden past. The quest used to collect data for the SCRIBE project built on this basic plot and added steampunk elements such as automatons and

steam-powered vehicles. The story of the missing Moonstone diamond and the “madness machine” that harmed characters – and ultimately, the players – unfolded as players moved through the different areas and challenges in the game.

In a typical session, players first arrive in the Start Area where they are greeted by researchers, given the background story materials and items they needed, and learn about the mystery they are going to solve. Participants spend about 20 minutes getting to know each other and meeting the participant observer researcher who accompanied them on their quest, Unit Nyn. Players learn that they are “Detective Trainees” who will follow in the footsteps of Adamourne Police Department’s star detective, Sergeant Claire Cuff. After clicking on non-player characters (NPCs) Cuff and police chief Miranda Billingsly, players hear voices and read text that directs them to the scene of the crime, the Blayfield Manor, to search for clues.

The Manor quest area is large, formal Victorian home surrounded by manicured gardens and peopled with several NPCs include Lord and Lady Blayfield, their staff, their friend Colonel Hernecastle, and a giant, talking idol that once held the Moonstone jewel in its forehead. At the manor, players click objects such as a broken necklace and a forgotten hat to learn that a guest, Godfrey Abelwhite as well as Hernecastle are both suspects in the theft. After solving a puzzle – how do you soothe the angry idol? – they receive advice: go to town to track down the thief.

In the next quest zone, the Town, players explore foggy cobblestone streets and enter a clockmaker’s shop. There they discover that their chief suspect, Godfrey Abelwhite, has been killed by the mad clockmaker’s apprentice. Picking up a document from the floor helps them figure out they must use that “repair receipt” to enter the bank and learn more. An enigmatic medium, Madame Drusilla, advises them that they are seeking “the wrong man, and the wrong thing,” and whispering rabbits warn them that “the machine is almost complete” and that “he

seeks to control you all.” Although a mechanical automaton gives them access to the bank, they must solve a word puzzle to open Ablewhite’s safety deposit box. Once they do so, they find evidence of a new suspect: the factory worker Bruce Morlock.

Participants move onto the Jeter Factory in search of Morlock, but find their way barred by a large brass robot. An odd metallic kitten helps them in exchange for tiny diamonds he uses “as a power source” – opening the factory front doors and providing a clue as to why someone might seek a diamond for reasons other than profit. Smoky machines, dangerous vats of molten metal, and locked doors await them inside the factory. Players must click crates and boilers to learn how to unlock the door to the factory office. Once inside, they see Hernecastle and the factory owner in an argument: apparently the owner hired Hernecastle to steal the diamond to run his factory power. Instead, the disgruntled Morlock stole the diamond for his own use. At last players learn the location of the missing diamond: in Morlock’s apartments.

Players now are able to put the pieces together and realize that Morlock was trying to build a terrible machine to control the minds of the factory owner and the town. Distraught from the accidental death of his wife that he blamed on the factory owner, Morlock had created a Madness Machine to exact his revenge. Players go to Morlock’s apartments to confront him, only to find he has been destroyed by the very madness he attempted to wreak upon others. Afterwards, players return to the Start Area to report their findings and finish the session.

2.3. Quest Plot and Game Play

Throughout Adamourne, non-player characters (NPCs) and inanimate objects provide clues and plot information to the participants. Clues are relayed through the SL local chat as lines of dialogue as well as audio coded into the objects of the world. Other clues are collected by clicking on objects in the environment to display floating text, such as a pile of broken glass

inside the Blayfield Manor that “indicates there had been a struggle here.” Still other objects deliver note cards to participants’ inventories which need to be opened and read. These note cards can be found in a variety of places and hold a variety of information. For instance, clicking on one of several books in the starting area will deliver a long chapter from the clicked book about the lore and history of Adamourne, its technology and weaponry, or its flora and fauna, depending on which book is clicked.



Figure 2. **Ghosts obscure a clue in the Factory yard**

During the design phases of the SCRIBE project, researchers wanted to ensure that their participants would talk to each other and interact with their group and the environment. Therefore, the quest was designed to challenge participants in a variety of ways. Specifically, the team created puzzles and challenges that inspired teamwork and interaction with the virtual world. The basic components of these challenges were collecting items (clicking on them to pick them up), "rezzing" items (dragging collected items from participants’ inventories and placing

them on the ground), dispelling (or shooting) ghosts with appropriate weaponry, word puzzles, and timed interaction with objects in the environment. All of these challenges scored the group points upon completion, and if players touched the ghosts with their avatar, they lost points. Overall, each type of challenge was built to invoke a different kind and level of interaction which could be observed, documented, and later analyzed.

2.4. My Roles: Quest Designer and Participant Observer

I participated in this project in several ways. First, I was involved in developing and writing the quest story and working out the details of the plot. I suggested basing the quest on Collins' *The Moonstone* and worked with the SCRIBE team to transform the story into a steampunk mystery quest. To do so, we designed challenges that prompted participants to talk and interact with one another and the environment. During game testing, the team realized that players could workaroud and cheat on some of the challenges, and I became interested in how this behavior affected the group, game play, and enjoyment. Though cheating did not fall under the purview of the original SCRIBE study, subsequent versions of the quest blocked some cheating opportunities and left others open so that we could study this phenomenon. Questions were added to the post-session surveys (see Chapter 5 for details), and we conducted interviews to talk to players about their perceptions of cheating during the game. The SCRIBE team also incorporated cheating into their filed notes, describing how, where, and under what circumstances it happened. They also added questions about cheating to the post session interview protocol. As part of the game design and plot development process, the team and I discussed notions about cheating and misbehaving as we adjusted the setting, including identifying which areas would be closed off and which would be open, as well as the plot and clues, such as including instructions from NPCs to avoid accessible, but "forbidden," areas.

I also played the part of the participant observer for approximately two-thirds of the pilot sessions and of the formal research sessions. For the latter, I used an androgynous android avatar named Unit Nyn. As Nyn, I served as a guide through the Adamourne environment, answering questions and helping solve technical problems while trying to remain as much a part of the background as possible. That is, I did not intervene in the group's activities unless the participants were confused or stuck. Thus, frequent improvisation and occasional intervention, referred to as a choreographed dance between participant and observer by Janesick (1999), became necessary. Adler and Adler (1998) call this an active membership role wherein a researcher "become[s] more involved in the setting's central activities, assuming responsibilities that advance the group" (p. 85) without committing to complete group membership. As Nyn, I always followed, never lead; spoke only in statements of fact, rarely joking with participants or relaying any emotion but impartiality; and only spoke unless spoken to. Most important to this thesis was Unit Nyn's role in identifying and punishing (removing points) when participants cheated, such as by climbing through open windows instead solving a puzzle to open the door. Mostly, players ignored me altogether until a technical glitch needed to be resolved, a confusing clue needed to be clarified, or, most importantly, cheating behavior resulted in my announcement that points were being removed from the team.

By serving as participant observer, I had a distinct perspective on participant activities. I was familiar with the intent of the Adamourne setting and with the research and logic that went into designing its challenges and features. With this information, I was a data collection instrument, strategically placed within each quest group to gather firsthand information about each session. I observed participants' movements and listened to conversations as they unfolded in local chat. Keeping close allowed me to see avatar's gestures and the detail in their

appearances. I noticed when players began to wander, and I could watch for clues as to whether such wandering was out of confusion or curiosity or something else. In short, my role as a participant observer present in each quest group alerted me to the nuances of each group's style of interaction, the identities these groups developed, and the normative structures that emerged.

CHAPTER 3. THEORIES OF INTERACTION AND MISBEHAVIOR

Broadly speaking, behavior online can be said to be influenced by processes of meaning making (Meyers 1991), digital code (Desanctis & Poole, 1994), social context (Stromer-Galley & Martey, 2009), and local norms (Postmes & Spears, 1998). Therefore, a study of misbehavior must carefully consider how the rules are made in each of these areas before it can examine how they are broken. Central to this task is a clear and nuance definition of misbehavior. However, first it is necessary to identify its opposite; that is, what are the structures of intended or proper behavior, and how are they established? This chapter draws on Giddens' structuration theory to create a foundation of behavioral expectations that can be used to understand how players engage with the *Moonstone Quest* and their experiences there. The following chapter, Chapter 4, then discusses notions of cheating and misbehavior to provide a clear definition used to guide the present research.

Many theories of social interaction provide a framework for examining how people make decisions about their behavior. Giddens' (1984) Structuration Theory in particular provides a detailed set of dimensions, or structures, within which social interaction occurs. It argues that social interaction, and the various structural systems that guide it, are products of a constant interplay between knowledgeable, reflexive, thinking human beings and the rules that create and define the context of their behavior. Its approach is recursive, meaning that these processes are both the outcome of social interaction and the influence that shapes social interaction.

Essentially, structuration theory emphasizes the complicated nature of social behavior and takes the position that the social is constituted through the creation and recreation of various activities. Specifically, structuration theory asserts that there are three structural dimensions of

social life that help order interaction. These are: 1) signification, or processes of meaning making and language use, 2) domination, systems of power, rules, and resources, and 3) legitimation, or processes of local norm creation and their role in everyday encounters. Thus, structuration theory seems well suited to the study of virtual worlds, their rich environments, and their strongly defined, coded boundaries. The main tenants of the theory are discussed below. Then, each of the three structural dimensions listed above is discussed in more detail.

3.1. Structure, Society, and Play—How the Rules are made

Giddens' (1984) structuration theory asserts that "properties" of patterned or repeated behavior are forms of structure that "make it possible for discernibly similar social practices to exist across varying spans of time and space" (p. 17). It was originally formulated as an attempt to reconcile competing schools of thought within the social sciences. Structuration theory blends the once-polarized positions of hermeneutics and structuralism/formalism by asserting that the subjective, interpretive experience of the individual and the objective influences of the material world (or everything external to the individual) provide the context and rationale for all human conduct. Structuration theory assumes that knowledgeable human actors have and exert agency within larger systems of social influence. Humans' reflexive and interpretative abilities allow them to make decisions about actions based on recognizable patterns in other social situations. Here, action is to be understood as an accumulation of knowledge rather than a knee-jerk reaction to circumstance. The subjective and objective are recursively created and, over time, come to constitute structures. Processes of signification, domination, and legitimation are the brick and mortar with which these larger structures are created. For instance, processes of each of these dimensions are all necessary to create structural systems of law. Law, in turn, reshapes

each of the dimensions that created it. This is what Giddens calls “the duality of structure” (1984, p. 25).

The duality of structure is central to the theory of structuration and is the name given to the constant interplay between modes of producing society (or the activities of day-to-day life) and the way those activities institutionalize (or guide) future behavior. This notion emphasizes that neither human agency nor structure can exist without the other—that the experience of the individual cannot be separated from the cause and effect of the material world around it. It also suggests that each informs the other in a way that makes them both product and producer of social interaction. In Giddens’ own words, structures and the actions they proscribe, “are not brought into being by social actors but [are] continually recreated by them via the very means whereby they express themselves as actors” (1984, p. 2). Simply put, the duality of structure refers to the idea that behavior and structure have a recursive influence on one another.

As much as recursivity is key to the theory of structuration, it is also problematic. The structural dimensions of signification, domination, and legitimation are always intertwined with one another, making it difficult to tell where one begins and another ends. The subsections that follow discuss each of these structural dimensions and ways in which they form part of the context within which players behave. Even at the micro level, crafting an understanding of misbehavior benefits from using the larger structuration framework Giddens developed. That is, even in small groups, misbehavior certainly involves the tacit or explicit grasp of rule based systems, interpretive schemes, and the emergent, evolving social practices that continually work at redefining context and appropriate action. In virtual worlds specifically, these structures may help researchers understand the implications of game design, game rules, and emergent social

norms on player behavior. Each structural perspective is first grounded by general research in virtual spaces before moving to more tailored discussions of misbehavior in such environments.

3.1.1. Domination: Rule Types and Their Roles

Giddens (1984) asserts that there are two rule types at work in social settings. The most observable rules in social interaction are those that are explicit, or those that have been canonized into codes of law and instruction. These, he argues, are not rules necessarily, but certain interpretations of rules that have been given strict meaning in specific social settings. These interpretations often directly and immediately impact behavior in such settings. Giddens uses the example of checkmate in chess to show how an explicit rule defines an action: checkmate defeats an opponent by capturing their most important piece, thus defining the point of the game and justifying all possible strategies of play. Concerning virtual spaces, these rules often establish physical boundaries, player abilities, and indicate how the space is to be used.

However, underlying these explicit rules are other tacitly grasped, informally sanctioned rules. These rules are implicit rules and are applicable to a broad range of social settings. Rules of this type provide actors with the information necessary to proceed through a variety of tasks. For example, shaking an opponent's hand after competition is common practice across many contexts, not just after a chess match. As such, these rules may be *discovered* as part of the explanation for misbehavior, for these tacitly grasped concepts certainly help determine appropriate action in the face of explicit rules. But, their vague and un-contextualized nature makes them ill suited to guiding the study of misbehavior.

It should be noted here that there is considerable overlap between rules of domination and norms of legitimation. The overlap occurs in the way social actors grasp some rules as tacit but intense guides to behavior. As Giddens puts it, such rules provide informal sanctions that tell

people how to “go on” (1984, p. 22-23) or proceed through a “variety of mundane, daily practices” (1984, p. 24), such as the use of standard greetings. Though these rules may be tacit, their influence on social interaction is just as significant as those that are explicitly stated.

Rules of either explicit and codified or implicit and tacit nature cannot be separated from the resources they control. *Allocative* resources are material goods, processes, and environmental objects. *Authoritative* resources are people, their organization, and their action (Giddens, 1984). Individuals in social settings can produce power and agency for themselves by controlling these resources. Thus, any examination of rules in virtual worlds will necessitate a consideration of the resources they are meant to control, such as players’ time, objects used in the game, player capabilities such as strength, and above all, game mechanisms such as using specific items to perform specific actions. In the quest developed for the SCRIBE project, such mechanisms include requiring players to work together, blocking players’ ability to fly and triggering game events by putting (or “rezzing”) objects on the ground.

Salen and Zimmerman (2004) describe game rules using similar terminology. The three types they identify are operational rules, or the “written out” rules of game play; constitutive rules, or the underlying logical, often mathematical structures; and implicit rules, or the “unwritten rules of the game” (p. 130). There is symmetry between Salen and Zimmerman’s final two rule types and the two identified by Giddens. Salen and Zimmerman separate operational or written rules from underlying codes and law, although both are codified rules, or those committed to language and distilled into a specific form. According to Giddens (1984), the only meaningful distinction between rule types is between the explicit and implicit: social behavior is influenced by categories of each rule *type* in nearly uniform fashion. The *Moonstone*

Quest employs both coded (programmed into the environment) rules and written ones communicated to players in documents and via researcher instructions.

3.1.1.1. Explicit Rules in Virtual Worlds

A useful metaphor for thinking about how explicit rules matter in virtual spaces comes from Lawrence Lessig (2006), who takes the position that “code is law” in cyberspace (p. 5). He notes that the governing codes of cyberspace are always built by people and hence, are subject to their wills, desires, intents, and errors. In other words, those who control the architecture of virtual spaces will also control the conduct that occurs in them

Similarly, Adaptive Structuration Theory (AST) places great importance on the influence of code, law, and designer intent within advanced information technologies. AST is typically used to study groups of people using group decision support systems (GDSS), or people using technology that helps them collaborate, share ideas, and communicate over distances of time and space in the work place, but its main postulates translate well to other digitally bound spaces. For instance, AST asserts that technology itself, not GDSS alone, constitutes a fourth dimension of social structure. Desanctis and Poole (1994), the developers of AST, argue that when people use technology to interact with one another, several aspects of that technology play a role in establishing and guiding that interaction. In other words, it “provides a model that describes the interplay between advanced information technologies, social structures, and human interaction” (p. 125). As in structuration theory, the relationship among these things is recursive—an ongoing process of influence and change that helps create and recreate social behaviors. In this framework, code as law (or code as explicit rule) controls both allocative and authoritative resources: the objects within the virtual space, their abilities and features are all certainly governed by code and to a lesser extent, so too are the actions people take there. For instance,

code may control the allocative resource of space within a discussion board, setting the parameters for the type of discussion to be had on each page. Code may also control the authoritative resource of who has access to those pages or who can comment on certain posts. In the *Moonstone Quest*, for example, code is used to block the function in SL for players to fly, forcing their avatar to walk instead when playing on Adamourne on Wells Island.

Specifically, the main sources of structure at work when groups use technology to interact with one another are the technology itself, which includes feature sets, capabilities, and limitations (or *code*, as Lessig would have it); the sense of task given to that technology, or its ‘spirit’ and direction; and the emergent social processes of the group using that technology (DeSanctis & Poole 1994, p. 128). The spirit or intent of the space creates an interesting perspective on misbehavior in virtual places: simply, that it is wrong because it goes against what the designers intended or expected to happen. Hence, misbehavior can easily be identified by taking the position of the game designer, analyzing the virtual world as a text which simply and with finality communicates social norms. By ignoring the possibility that new meaning and new rules of domination are created through social interaction, behavior can be seen as dictated and even predictable.

However, such an explanation is incomplete. As Desanctis and Poole point out, pieces of technology, if not the system in its entirety, can be appropriated (used and adapted) faithfully or unfaithfully. Faithful moves combined with positive attitudes about those moves can lead to favorable decision outcomes, namely to increased idea generation and overall increased participation. Unfaithful uses are not necessarily wrong or bad, but instead are “simply out of line with the spirit of the technology” (1994, p. 127). From this perspective, if the internal logic and code of the space suggest it is intended to be used in a certain way, people who use it in

alternative ways are misbehaving, but perhaps not “cheating” as such, as will be discussed in a later chapter. In other words, by unfaithfully appropriating (using or interpreting) the internal mathematics, logic, or written rules of conduct, users transgress a stated standard of behavior. Desanctis and Poole (1994) argue that when this happens, group processes and participation drop off, leading to unfavorable usage outcomes. A key question of this thesis, then, is, does this mean that misbehavior, or unfaithful appropriation, always leads to dysfunction? If rules are intentionally broken, are groups unable to continue using the virtual space? Do group activities come to a halt? Or, can unfaithful appropriations help a group move through a virtual space with more ease and better efficiency? In short, can unfaithful appropriations still allow groups to faithfully use a virtual space? Part of the answer to these questions lies in the way people create meaning within the virtual setting, addressed by Giddens’ notions of signification.

3.1.2. Signification: Signs, Symbols, and Meaning

According to Giddens’ (1984) structuration theory, signification provides human agents with “interpretive schemes” from which inferences, interpretations, and meanings can be derived. It is useful to think of these schemes as maps which guide the interpretation of the many signs and symbols found in the environment and in text-based documents that might accompany it. Signification, then, is context dependent, often drawing on localized, colloquial definitions in order to rationalize behavior.

An important component of structuration theory is the distinction Giddens (1984) makes between *settings*, *locales*, and *contexts*. Though this distinction is not specific to any of the three structural dimensions of social systems, it is prudent to mention it at this juncture for it holds special relevance to processes of signification and legitimation. Specifically, Giddens argues that *settings* are the aesthetic information and concrete detail contained in the surrounding

environment, such as the steampunk style of the buildings and décor of Adamourne on Wells and the Victorian style of speech its characters use. *Locales* provide further social information about that environment, such as the size, parameters, and layout of the island itself, and *contexts* are larger systems of both settings and locales, such as *Second Life* as a whole.

As settings, virtual worlds communicate information to users through written rules, instruction sets, and mathematical formulae which establish feature sets and abilities. Settings may also contain semiotic information in their visual aesthetics which may begin to impart clues about how that space should be used. For instance, a setting is a room with a painting, beige walls, a couch, and a TV. A locale is a living room in a private home where people gather to socialize, talk about their day, or watch movies together. Context references the situatedness of locales within larger, long standing systems of structure such as the town or state where it is located. Thus, the word ‘context’ carries with it macro-level information about locales, making it a very broad term. Because the SCRIBE project did not set out to study *Second Life* as an environment but instead a specific island within in, this proposal will focus on and analyze game *settings* and *locales*. It is important to note, however, that the context of SL is assumed to have powerful influences on how players engage with the settings and locales of the *Moonstone Quest*.

To examine language and communication in virtual worlds, the following subsections first draw on a strictly semantic point of view that uses Sausurre’s (1959) semiotics as a tool for understanding the virtual setting. Then they apply a social approach to understanding communication in virtual locales. These perspectives are, in some ways, at opposite ends of a spectrum—the former over-emphasizing the importance of the visual aesthetic, the latter under-emphasizing it. As situated locales, virtual environments provide important normative and

behavioral information that contribute to the formation and course of social interaction that occurs there (Stromer-Galley & Martey, 2009). In order to better understand why people behave and misbehave when, how, and where they do, it is necessary to examine the nuanced implications of this.

3.1.2.1. *The Semiotics of Game Setting*

Saussure (1959) famously declared that all language is a system of differences, meaning that signs, or letters, language and communication, are the result of combinations of signifieds (the concept being referred to) and signifiers (the image or manifestation of the thing). ‘Meaning’ then, is only derived from a constant comparison of the interplay and differences between signs, which are themselves the result of the constant interplay between signifiers and signifieds.

As a method of textual analysis, semiotics (Sausurre, 1959) can be a useful tool for analyzing the impact game environments have on social behavior. Barr, Noble, and Biddle (2006) use the “semiotics of opposition” (n.p.) to assert that game values are revealed and “become meaningful through their differences or oppositions” (n.p.). Hence, oppositional play, or intentionally playing the “wrong” way, is a tool for discovering game values and for determining what is and is not appropriate behavior. Akin to oppositional readings as described by Hall (1973), such play is that which counters the intended meanings encoded by producers into the game. Barr, Noble, and Biddle (2006) use this as a tool for analyzing the game context, but it should be noted that players may also use forms of oppositional play to explore in-game semiotic possibilities. For example, in the *Moonstone Quest*, excessively tall fences, locked gates, and invisible walls were all used to create boundaries within the virtual space. These barriers were erected in order to keep players from long, aimless wanderings in places without

clues. Yet, some participants regularly and repeatedly attempted to jump over these barriers and ignore their implied meaning. Perhaps this behavior is the result of a contradiction between the meanings implied by visual barriers and participants' assigned roles as detectives. In other words, in order to determine where clues are and collect them—as good detectives should—perhaps players felt as though they must play and explore in opposition to the rules established by the visual game space.

This thesis examines the semiotics (Sausurre, 1959) of the game developed for the SCRIBE project in order to identify ways in which visual and textual information contributes to players' understandings of the social norms encoded by developers (who consist of the SCRIBE team). In this analysis, the author is in a unique position to examine this information from both a player's and a producer's perspective by virtue of having been part of its creation. Thus players' engagement with the aesthetics of the game can be examined explicitly against the intended actions, meanings, and responses of the game designers, rather than making assumptions about what dominant readings might be based on the texts alone. By incorporating both the aesthetics as they were presented as well as the processes of developing those aesthetics, it is possible to glean additional insight about the ways that these factors form a structure of signification that contextualizes the sessions being analyzed here. For example, the SCRIBE team intended to enhance group cohesion and identity by providing players with free costumes to wear in the quest. Examining the ways in which players took up or resisted researchers' suggestions to wear these costumes can take this intended goal into account.

However, examining the game setting as the sole determinant of player behavior can be misleading. Indeed, as Martey and Consalvo (2011) observe not only the request by researchers but also the norms of the groups as they developed, players' outside group memberships, and

personal aesthetics influenced players' choices of whether or not to wear the costumes provided. Kuecklich (2009) asserts that the fundamental problem of a semiotic approach to games research is that it disregards the larger context "in which computer game play takes place" (p. 6). Zagal (2009) makes a similar conjecture: that there always remains the possibility that "the narrative context, for example, may not provide the player with enough information to contextualize his actions in the game" (p. 3). Additionally, it is argued that games, when treated as texts, often become subjugated by methods of literary, film, and other media analyses (Aarseth 2004; Humphreys, 2003). Humphreys (2003) argues that this is inappropriate because computer games place players in "configurative" roles that are decidedly less passive than those of the consumer of traditional media such as television or books. Exclusively examining game structures, textures, objects, color schemes, etc. relegates social behavior and communication to the product of a single input: aesthetic context. Therefore, the strictly semiotic approach to studying behavior in virtual worlds is only a first step in understanding virtual interaction. Processes of signification cannot be isolated from social interaction: if meaning is truly context-dependent, then an important part of the virtual world context is the social interaction taking place among game players.

3.1.2.2. Game Locales, Genre, and Social Meaning

Game genre presents an interesting bridge between setting and locale. Genre studies look to identify patterns across stories in order to develop 'codes' of meaning, which may change and evolve over time. The core concept in genre studies, then, can be said to be one of definition and boundary construction. Huizinga's (1955) *magic circle* makes a similar argument: that play occurs within "a temporary world within the ordinary world, dedicated to the performance of an act apart" (p. 15). Within this temporary world, rules and expectations are specific to that

environment. At first glance it is easy to identify the magic circle by tracing the boundaries of a video game or a virtual world such as *Second Life*. Such spaces are often places of fantasy, creativity, and play, each with their own definitions and expectations about behavior. This technical boundary is only part of the structure developed, however.

With regard to computer games, some scholars have examined the effects of genre and context on player behavior. Myers (1991) has argued that play starts out as objective - meaning the player draws upon structures outside the game world - but becomes increasingly subjective as only the game world's structures begin to guide play. Hence, the player makes a transition into the game's magic circle. Other researchers have concluded similarly that in certain instances, players draw on offline standards, rules and norms to guide their behavior, even after game play is well established. For example, Martey and Stromer-Galley (2007) describe certain in-game structures such as a virtual house as "metaphors" and "organizing principles" (p. 327) that evoke offline norms for virtual house guests and hosts.

Kuecklich (2004) has conducted extensive work with game genres. She argues that game genre overlap is sure to occur as hybrid genres such as role-playing games (RPGs) take from adventure, action, and simulation games. These latter types are what Kuecklich (2004) identifies as the pure genres or "genre prototypes" (p. 3). Furthermore, she argues that the kinds of cheats available to gamers help define the game and genre, adding that "a game can even be regarded as 'incomplete' if it does not feature a certain set of generic cheats" (2004, p. 3). Indeed, it is common for single-player games to provide "cheat codes" allowing players to avoid damage or acquire objects automatically. Such codes are often earned by finishing the game the first time. In her genre matrix, computer games are assigned a genre by their levels of narrativity (storytelling), interactivity (the environment's ability to respond to players) and openness (the

degree to which the game can be explored). While this doesn't explicitly define game genres per se, it does describe games' playability, or what kind of experience gamers can expect from them. She argues that adventure games, for example, score high on narrativity and low on interactivity and openness. Therefore, cheats in these kinds of games "serve to remove 'narrative obstacles,' either by 'foretelling' the game's story (walkthroughs) or by offering instant access to higher levels" (p. 3). Such thinking is useful for identifying the types of game traits players may be responding to when they decide to misbehave. In environments that are focused on storytelling, that have elaborate plots, players attempt to skip as much of the narrative as possible. In short, they seek to get ahead of the plot.

Despite advances in graphics and computing power, in-game language communicated through text and voice is still a large part of how information is relayed to players. For instance, a current trend in game design is the use of theatrical cut scenes, wherein non-playable segments of video and subtitles relay parts of the narrative. Cut scenes may reveal where a player is supposed to go next or how they should go about solving a particular problem through hints or instructions given in spoken dialogues. Some games, such *World of Warcraft* also use a point-and-click format to reveal information. For example, when an object or NPC is clicked, lines of text chat or floating text appear. In either case, processes of meaning-making help players interpret the world around them. The language of the visual, textual, and social environment contributes to the transformation of game space (or setting) into game (locale), thus providing players in that environment with an interpretive scheme for personal conduct and social interaction.

In similar fashion to Giddens' distinction between setting and locale, Harrison and Dourish (1996) conceptualize a difference between *space* and *place* in CMC environments.

Space, they argue, is the 3D virtual world—its structures, objects, and textures—and is often treated as a textual object of study. Place, on the other hand, is a “cultural phenomenon” (Dourish, 1996, p. 4) that is constructed through the “social interpretation of cues in the physical environment” (Dourish, 1996, p. 9). To ignore the latter is to deny that people can create their own standards of appropriate action and to overemphasize the control virtual space has over social interaction. Aarseth (1997) has termed the ‘texts’ that allow and even encourage this *ergodic literature*, adding that cyber texts and digital games allow players to explore the game world, even get lost in it if they choose to do so. Therefore, ‘meaning’ in these environments, especially concerning what may be appropriate or normative play, is not limited to the implications found in the game setting, but literally emerges as the player engages the digital landscape.

The point here builds off those made in the previous section: if code creates virtual setting with explicit rules, game text, genre, and aesthetics create virtual locales, meaning is not fixed in these locales as players can *actively resist* game texts and create new meaning as needed. Considering such responses as a type of misbehavior emphasizes – and indeed, perhaps over-emphasizes – the ways in which players resist encoded meanings from both aesthetic and social structures of signification. That is, the meanings communicated by the visual and textual elements of a game along with the patterns of how players engage, adapt, and resist the spaces contribute to the development of structures of meaning that form a context for game play.

3.1.3. Legitimation, Deindividuation, and Group Norms

The crux of this project rests in normative standards of conduct, their formation and people’s decision to resist or adopt them. This is what Giddens (1984) calls legitimation or the normative component of social life wherein accountability and expectation influence social

interaction. Norms are created when knowledgeable human actors become accountable for their actions in that they “explicate reasons for them and...supply the normative grounds whereby they may be ‘justified’” (Giddens, 1984, p. 30). That is not to say that norms *only* exist when people acknowledge the consequences of their actions; norms exist because humans are reflexive and responsive to their social setting. Actors infer obligations from their surroundings and act on the rights those surroundings grant.

Approaches used to study norms and normative behaviors are inextricably tied to examinations of social groups. A notable exception may be the social cognitive school of social psychology which treats individual, cognitive level processes as determinants of social behavior (Abrams 1999). However, given the small group orientation and cooperative nature of the *Moonstone Quest*, approaches that emphasize social interaction as such are more appropriate to this thesis. The strengths and weaknesses of several group-oriented approaches are discussed next.

3.1.3.1. Approaches to Group Behavior and Norms

Crowd psychology, a branch of social psychology, holds as its basic premise that people behave differently in groups than they do as individuals (Le Bon, 1968; Festinger, Pepitone, & Newcomb, 1952). Early crowd psychologists believed that individuals in a crowd were prone to violent and irrational behavior because they became anonymous and suggestible in large numbers (Le Bon 1968). Later researchers came to call this condition *deindividuation*, or the condition in which people “are not paid attention to as individuals” (Festinger, Pepitone, & Newcomb, 1952, p. 382). In this deindividuated state, individuals demonstrate decreased self-evaluation and individuality. This results in a loss of self-consciousness and restraint, freeing the individual to act on impulses normally considered undesirable. However, empirical evidence of

deindividuation has been contradictory and limited. Postmes and Spears (1998) conducted a meta-analysis of 60 deindividuation studies and found little support for the theory. And though it was not originally developed for such purposes, the theory finds little support in CMC research as well. Coleman, Paternite, and Sherman (1999) applied the deindividuation model to CMC discussion groups and found that while their participants perceived their discussants as “team members” instead of individuals, they observed no increase in anti-normative behavior.

More recent work in the field conceptualizes deindividuation and group behavior in a different light. Theories of social identity suggest that selves are not lost but that the concept of self is mobile and capable of shifting, that individual identities are tied to social categories (or groups such as political affiliation or nationality) which impart defining characteristics on their members (Tajfel & Turner, 1986; Turner, 1987; Hogg & Terry, 2000). Social identity theory asserts that people have numerous categories to choose from at any given moment and will come to define themselves by whichever is most appropriate or desirable. Furthermore, the social identity approach holds that psychological processes are not fully responsible for observed behavior and phenomena—social context cannot be divorced from observed behavior as context often carries important information about belonging to in and out groups, each of which carries certain advantages and consequences for their members (Abrams, 1999).

The Social Identity model of Deindividuation Effects (SIDE) co-opts social identity theory’s postulates specifically for CMC environments (Lea & Spears, 1991). It predicts that as group identity becomes more salient than individual identity, antinormative behavior is likely to decrease even when members of that group are anonymous (Spears & Lea, 1994; Reicher, Spears, & Postmes, 1995; Spears, Postmes, Lea, & Watt, 2001). Hence, as individuals identify themselves with a social group, they are more likely to abide by the norms that group subscribes

to. Alternatively, if individuals retain a sense of self, they are likely to abide by their own rules and norms.

Denegri-Knott and Taylor (2005) conducted a meta-analysis of deviance in CMC environments using SIDE and concluded that current scholarship often overlooks local norm creation and the specific group processes that produce behavior in favor of identifying and labeling 'deviance' by offline standards. In other words, Denegri-Knott and Taylor (2005) emphasize the importance of the local norms, contexts, and social processes working to produce behavior *before* labeling any act as deviant. Thus, part of their recommendation for studying anti-normative behavior is to clearly "relate deviance to the appropriate micro level and macro level understandings that prevail at the current time" (p. 104). They also argue that SIDE encourages researchers to examine norms and group structures as interdependent phenomena. Hence, "it would be necessary to observe the mechanisms and hierarchies from which norms originate within a particular online group" (p. 101). Such thinking marries social context with group-specific processes, locating, examining, and defining norms and related behaviors within the specific circumstances that produce them. Concerning misbehavior, this allows researchers to consider cheating, flaming, and griefing as potentially normative aspects of game play instead of immediately labeling them antinormative. This thesis takes up this perspective to examine the ways in which misbehavior is contextualized within social interaction and group processes, rather than assuming that it is necessarily anti-normative in a specific setting.

If SIDE's main postulate is that anti-normative behavior will decrease as the salience of a group identity increases, effectively immersing people in the group identity and related group processes, it should follow that people actively participate in those group activities. Indeed, some have argued that the "success" of the virtual group depends on the level of participation it gets

from its members (Bross, Sack, & Menel, n.d.). It has also been shown that through participation, group members can achieve increased levels of power, self-efficacy, and self-esteem (Wasko & Faraj, 2000; Hogg & Abrams, 1990; 1993). But the study of group participation in computer games or virtual worlds is thin. This may be because participation is explicated unclearly as social interaction, behavior, or general communication in these environments. As such, the study of participation in group activities is largely taken up by those examining virtual communities of practice (CoPs). For instance, Ardichvili, Page, and Wentling (2003) conceptualize participation in CoPs as acts of knowledge sharing. Koh and Kim (2001) add that participation may also be marked by contributing to problem solving activities. Such activities have often been identified and measured by counting the number of web postings group members make to community forums and message boards (as in Bross, Sack, & Menel, n.d.).

Kim (2011) augmented SIDES's arguments about group identification and behavior by assigning similarly dressed avatars to participants in CMC environments. Chat partners who were only identifiable by small pictures of generic, randomly assigned avatars were shuffled so that each person interacted with others who had avatars identical to and slightly different from their own. Her findings were inconsistent with the SIDE model. She found instead that having an appearance similar to other avatars both increased people's identification with group members and increased perceived threats to their uniqueness. This caused some people to intentionally act out against the group (in order to establish their own uniqueness) even if the behavior was not what they truly felt or believed. These findings are consistent with other research conducted on need for uniqueness and group membership (Kim, 2009; Lee, 2004). Such findings suggest that there may be circumstances in which the SIDE model inadequately explains individuals' behavior in groups. In particular, such findings suggest that people may identify with group

members and a collective group identity but may conduct themselves by their own standards of behavior from *within* a social group. Doing so is a type of misbehavior as choosing to abide by any standard of behavior different from the social groups' transgresses local norms.

These studies used appearance as the only marker of uniqueness, but they raise an interesting question: might there be other reasons a person retains their own identity in group settings? If so, can players participate in group activities without participating in group norms? Or vice versa?

3.2. Research Questions

To this point, Giddens' (1984) structuration theory has guided this proposal's conceptualizations of misbehavior in virtual worlds. Accordingly, I have divided social interaction and its associated behaviors in virtual worlds into three main categories of that model: processes of signification, domination, and legitimation. What follows is a summary of the argument presented thus far and the specific research questions that I will pursue.

According to Giddens' (1984) structuration theory, rules and the resources they govern compose systems of domination and power within social settings. These rules are often explicit, codified rules like canons of law. In virtual places, code is law (Lessig, 2006). Written instructions can also function as sets of explicit rules in these spaces. As AST argues, people using technology to interact with one another may faithfully or unfaithfully appropriate (use) pieces of that virtual place. Faithful appropriations lead to productive group work, increased participation, and increased idea generation while unfaithful appropriations lead to the opposite. Unfaithful appropriation moves are here synonymous with misbehavior as both imply that a standard of conduct has been transgressed. Desanctis and Poole (1994) predict that group participation will drop off if appropriation moves are unfaithful. But can explicit rules be broken

in order to better participate in group activities? Research question 1 is, **when players exploit codified, written rules can they still participate effectively in group processes?**

Concerning signification, processes of meaning making and language use allow groups to determine the intent of the virtual place. The information contained in text based communications like written instructions, clues, text bubbles, and narrative documents contribute to the ways in which groups appropriate the structures present in the virtual world. Game genre may contribute to the specific tone, form, and direction such language takes.

One of structuration theory's main tenants is the idea that structure has a dual nature—that processes of signification are constantly at work defining and redefining the systems of meaning that guide *social interaction* (Giddens, 1984). For instance, factors like game genre and the specific form of game visual and textual language may provide a source of structural signification, thus determining the nature of the interaction that occurs. If such information can be gleaned from game text and language, is it possible that players can resist or ignore the information provided and still be involved in the social interaction created by that text? Thus research question 2 is, **When players resist the intentions of game language, can they still contribute to the group's goals?**

Legitimation, or the processes knowledgeable human actors undergo as they continually reconcile implicit or tacit behavioral rules and expectations with their own conduct, comprises the normative component of social interaction. The social identity model of deindividuation effects is specifically tailored to groups in CMC environments and posits that people will conform to behavioral norms if they come to perceive a group identity as dominant to their personal identity (Lea & Spears, 1991). Thus, when people chose to retain their personal identity, they do not accept the social group's norms and continue to behave by their own

standards. Some researchers have identified circumstances in which people intentionally act out (or misbehave) in order to retain their personal identity *within* the group (Kim 2011; 2009). This suggests that those who acted out refused to contribute to and participate in group activities. If this occurs, can this person still be considered part of the group? What effect do such actions have on a group's ability to achieve their goals? Research question 3 is, **can players productively participate in group activities without participating in group norms?**

Each of these three questions asks something different about misbehavior. Using Giddens' (1984) structuration theory as a framing device should present a detailed picture of why and how people chose to misbehave in virtual worlds. As such, the answers to each of these questions will contribute to answering this project's overarching question: **Can misbehavior benefit an online social group?**

CHAPTER 4. DEFINING MISBEHAVIOR IN VIDEO GAMES

The previous chapter identified structures that contribute to expectations of appropriate and normative behavior in social spaces. Understanding how players of a multiplayer online game resist or adopt those structures requires considering notions of resistance more carefully. This chapter draws on research on cheating and misbehavior in the literature to argue that not all resistance to such structures is futile for those seeking to participate with a social group.

Types of virtual misbehavior must be distinguished from one another, as each has different consequences and potentially different meanings and motivations. For instance, breaking the rules in virtual spaces can be labeled cheating, griefing, or flaming – or as part of the “right” way to play (Consalvo 2007). But what are the differences between these terms and the actions they describe? And how might these behaviors detract from or contribute to the social gaming experience? This section examines the terms used for different types of misbehavior in virtual worlds, especially games, in order to develop the idea that misbehavior may not always be detrimental to social groups.

4.1. Types of Cheating

Cheating is among the most commonly studied type of misbehavior in virtual worlds and video games. Typically, it is described as being a means to an end (Kucklick, 2007) and is frequently defined as gaining an unfair advantage (Consalvo, 2007; Smith, 2004; Yan & Randall, 2005) while impinging upon the experience of other players “mostly in a negative way” (Kucklick, 2007). Typically, naming and committing cheating behaviors involves several considerations. Yan and Randall (2005) posit that there are three key considerations in examining cheating: vulnerability (what is exploited?), consequence (what type of failure can be

caused?), and principal (who is cheating?) (p. 8). This includes considering the intent of the designer, the code of the game itself, and the effect such actions will have on other players. Though cheating's effect on others is often closely associated with the practice of griefing—"playing to disrupt or distress other players' gaming experiences" (Lin & Sun, 2005, p. 1)—cheating and griefing should not be used interchangeably as each implies a specific type of behavior.

Many scholars as well as professionals in the gaming industry examine cheating from a security and game development perspective (Yan & Randall, 2005). In many cases, this approach to cheating is studied in order to understand how best to prevent the damaging negative instances of it (Yan & Choi, 2002). For example, Yan and Randall (2005) developed a typology of cheating behaviors based on an IT and information security perspective. They list fifteen different kinds of cheating which includes monitoring and manipulating data in the game packets sent over a network ('cheating by lack of secrecy') to taking advantage of the game's design itself ('cheating by exploiting a bug or loophole'). While taking advantage of a bug or loophole requires no technical knowledge of game code, other types of cheating do. Gamers with advanced technical skill often create their own bots, hacks, and mods to change the underlying logical and mathematical structure of a game. This type of cheating allows gamers to give themselves unfair advantages in skills, abilities, and/or resources and can disrupt the game and other players (Consalvo, 2007).

Several authors conceptualize cheating as an economic activity whereby people fail to deliver real world payments for virtual goods, cheating a player out of the product of their labor (Yan & Randall, 2005) or by deciding to sell a virtual good altogether, as this is a violation of many Terms of Service agreements (Webb & Soh, 2007). Webb and Soh (2007) consider this

type of cheating a “game level cheat”, meaning the player has made no alteration to the game structure or code in displaying this behavior. This type of cheat is not relevant to this project, but provides context to the spectrum of cheating identified in the literature. Moreover, this type of cheating is most often the subject of legal or other administrative actions by game companies.

The legal aspects of cheating behavior usually involve discussion of copyright and free speech. Zetterstrom (2005) discusses how cheating can be combated using copyrights, trademarks, and contracts. He explains that contracts like user agreements and terms of service can help deter cheaters while trademarks and copyrights protect game code structures. Ludlow and Wallace (2007) devote an entire book to the case study of a virtual newspaper in *The Sims Online* (TSO) and *Second Life* (SL). The authors examine the legality of in-game cheating amongst players, such as experienced gamers stealing hundreds of dollars by taking advantage of newbies’ unfamiliarity with in-game transaction windows, as well as the legality of administrative responses to technical hacks and collaborative attempts to beat un-beatable creatures.

Consalvo (2007) conducted extensive research on the nature and impacts of cheating in gaming. Her 2007 book is a qualitative approach to studying the phenomenon, using in-depth interviews and observation to outline types of cheating and the motivations behind them. These interviews revealed that cheating is invariably conceptualized as involving wrongdoing, rule breaking, and/or gaining an unfair advantage. Combined with the perspectives provided by the research outlined above, this view portrays cheating in a negative light—as a socially stigmatized and condemned behavior. This is certainly not surprising; some cheating can leave players dissatisfied with their gaming experience or render that experience completely unplayable. For instance, some players of the first person shooter *Halo* discovered that if they made their

character jump repeatedly during a chase or firefight, they would induce lag and gain an advantage fighting their enemies. When they played against other players, the lagging, jumping character would appear to teleport from place to place making them almost impossible to shoot (Consalvo, 2007).

Other types of cheating have a more malicious intent: to make the game play experience miserable for others. This kind of cheating is called *griefing*, or the “intentional harassment of other players” (Warner & Raiter, 2005, p. 47). Ludlow and Wallace describe an elaborate griefing attack that occurred in *Second Life* wherein one player built a “nuclear bomb” and dropped it on another player’s sim (or the world that player created). The bomb was actually a sophisticated jumble of code that reset the other player’s sim to its region default, returning the land to its undeveloped state and crashing several of *Second Life*’s servers. When the victim next logged in, they found that all the hard work that had gone into their time spent in-world was gone. Despite the potentially disastrous effect cheating has on other gamers or the games they play, not all cheating is cheating. That is, not all of it is of the malicious and unfair variety.

4.2. Cheating as Misbehavior

Smith (2004) identifies three types of “social tension” in games: cheating, local norm violation, and grief play. Similar to how other researchers have defined the phenomenon, cheating here means committing a “blatant violation of the game design and intent in order to achieve an unfair advantage” (p. 14). But as Consalvo (2007) points out, there are specialized circles of experienced gamers who pride themselves in their ability to negotiate the narrative and environmental structures of a game. In other words, cheaters can “subscribe to their own beliefs” about cheating and, in the process, paint it as a normative part of the gaming experience (p. 123). Furthermore, Kuecklich (2007) points out that a game’s “playability depends on the margin of

movement within the structure provided by the game's rules" and that that movement creates meaningful play (p. 361). Kuecklich (2004) has also argued that the kinds of cheats available to gamers help define the game and genre, adding that "a game can even be regarded as 'incomplete' if it does not feature a certain set of generic cheats" (p. 3). In her typology of game genres, games are organized by their levels of interactivity, openness, and narrativity. Adventure games, she argues, score high on narrativity and low on interactivity and openness. Therefore, cheats in these kinds of games "serve to remove 'narrative obstacles' either by 'foretelling' the game's story...or by offering instant access to higher levels" (p. 3).

This link between genre and the kinds of cheats they encourage implies that cheating is an important and even expected part of the gaming experience. Combined with Consalvo's (2007) assertions that cheating may actually be a normative behavior in certain situations, it presents researchers with the possibility to explore the phenomenon in new ways. For the purposes of this thesis, the usefulness of these ideas lies in their assertion that cheating as a normative behavior may actually benefit the social experience rather than detract from it. For instance, in November 2003, employees at Sony Online Entertainment (SOE) watched as nearly 200 players of the game *EverQuest* quit fighting each other and banded together to slay an unkillable beast known as The Sleeper. SOE had intended the beast to be immortal, but instead of making it immune to attacks from gamers, they imbued with a massive amount of 'hit points,' that represented the beast's overall health. Thus, The Sleeper was *nearly* impossible to kill and the *EverQuest* servers were alive with chatter about those who were attempting to bring it down. Over the course of several hours, the gamers had reduced those health points down to nearly zero. However, just when The Sleeper was about to die, SOE removed it from the game. It simply vanished. At a later point in time, the beast reappeared at full health, in violation of every

rule about how battles and playing the game of *EverQuest* works. Andrew Phelps, professor of game programming at the Rochester Institute of Technology wrote of the situation, “Poofing the Sleeper said, ‘we do not really understand why you are doing this, so stop it’...[the players] thought of something you didn’t, something legal by the rules of the game you set forward and you meddled” (quoted in Ludlow & Wallace, 2007, p. 15). In other words, the rules and norms of the game players thought they knew were shattered. SOE responded as though killing The Sleeper was a violation of their game rules, but players believed they were working within the game’s code and rules, creating a disconnect between what was possible and what was permissible.

Killing The Sleeper is not exactly cheating by the definitions given above—for it does not impinge upon the experience of other gamers or seek to establish an unfair advantage for any one player or even modify the game code. Returning to structuration theory’s terminology, the behavior was not in violation of the *space*’s explicit or underlying rules. Nor did it violate any of the game’s implicit rules. As such, there were no sanctions to help communicate or signify the meaning of the act being undertaken. The behavior was not prohibited by local norms either—Ludlow and Wallace go on to describe how gamers across many of the game’s servers traveled to join the fight and did so in a coordinated manner consistent with local norms present in questing groups.

There is a compelling argument here that suggests this kind of behavior can actually be productive for the group or the individual. On one hand, it may appear that the intent of the space may have been unfaithfully appropriated in that players killed something that was supposed to be immortal. Yet, on the other, players faithfully engaged the intent of the space by banding together to slay another of *EverQuest*’s monsters. If *EverQuest* is a game of creating

guilds and raiding parties then using the combined talents of such parties to kill monsters, why should approaching The Sleeper in the same way be anything but expected? Simply put, these gamers pursued and achieved common goals using local norms and game rules to guide them along the way. Such actions are something decidedly different from cheating and in order to best describe it, I propose using the term *misbehavior*.

The term misbehavior acknowledges that pieces of a virtual space are being intentionally used against their intent but does not carry the negative associations of *cheating*. As such, misbehavior can be considered anything that counters intended meanings and structures from the game, other players, or the context, but I do not assume that misbehavior is either anti-normative or counter-productive to group goals (although it certainly can be). In other words, misbehavior in virtual worlds can occur when people modify, change, or augment the *means* by which they achieve a space's or a group's stated objective, as well as when people resist those objectives. As a more all-encompassing term, misbehavior allows for the possibility that resisting the dominant structures of a space can result in group cohesion, coordination, effective game play, and enjoyable participation. Although it might seem that by this definition, Smith's (2004) category of cheating local norm violation would result in failure to achieve such positive outcomes, this thesis makes no such assumptions. Indeed, it is quite possible that those who violate all three of Smith's categories of social tension - cheating, local norm violation, and grief play – can nevertheless participate effectively in group processes. Understanding if and how this might occur is the task of this thesis.

CHAPTER 5. METHODS

In order to study groups of people and the ways in which they misbehave online, this thesis performs a secondary analysis of data from a large study of virtual world behavior. The data to be analyzed as part of this thesis is drawn from the efforts of the SCRIBE research team made up of researchers from Colorado State University, The State University of New York at Albany, Ohio University, and Lockheed Martin, and funded through a federal grant. Phase 1 of their project, “Virtual to Real World Inferences: Multi-Variant Analyses of Leadership, Gender, and Related Player Characteristics through the Lens of Group Dynamics,” was conducted from October, 2009 to March, 2011, and examined the relationships between communication and behavior in the virtual world *Second Life* and participants’ offline characteristics such as age, education, gender, leadership, social conformity, and others. The project used online surveys, participant-observation, video recordings, interviews, and computer logs of player behavior to analyze behavior and communication during a custom game created in *Second Life*. Data from the study’s pilot sessions (N=31) as well as formal sessions (N=211) were analyzed for this thesis.

I played a role in the development and implementation of this study. As a Graduate Research Assistant to a project Principle Investigator, Rosa Mikeal Martey, I collaborated with the SCRIBE team throughout the project. My participation included research and site design, for which I helped create the game narrative and in-game challenges; participant recruitment, during which I developed and implemented a recruitment plan; and data collection and analysis, during which I served as the participant observer present in each quest group and contributed to the

development of coding schemes and statistical model development. These roles gave me an in-depth knowledge of Adamourne's features and the data collected there.

Data methods and analytic approaches are described in the sections that follow. First, the SCRIBE project and its original data collection methods are presented. The next section details the data sources used for this thesis, and discusses the implications and limitations of conducting a secondary analysis of these sources. The final chapter outlines a discourse analysis and grounded theory approach to analysis of misbehavior in virtual worlds.

5.1. The SCRIBE Project: Methods and Data Collected

The SCRIBE researchers used a mixed methods approach to study virtual behavior and seven offline characteristics: age, education, gender, leadership, conformity, digital nativity, and gamer culture. The SCRIBE team performed their research in SL not only because of its popularity but also because it allows its 'residents' to design their own buildings, objects, clothing, and avatars. Nearly all avatars, objects and movements in SL are customizable, which allowed researchers to construct the field site in according to their specific data-collection needs. As they argue in their Phase 1 report (Martey et. al, 2011), the proliferation and popularity of virtual environments presents people the opportunity to represent themselves online in many ways. Thus, their study draws on participant observation, surveys, and interviews along with automatic logs of behavior and chat to examine the relationships between online and offline behavioral characteristics.

5.1.1. Research Interests and Setting

In order to pursue their research goals, the SCRIBE team created a private island in SL called Adamourne on Wells. This island served as the setting of the *Moonstone Quest* and was populated with various buildings, landscapes, and non-player characters (NPCs). The quest was

designed to evoke behaviors indicative of the seven offline characteristics they studied, such as collaborations requiring leadership and coordination, use of gender-differentiated costumes and clothing, and “easter eggs,” or hidden special items of particular appeal to gamers and younger players. A steampunk aesthetic was chosen as the game’s theme and was reflected in everything from strange, steam powered machines to elaborate Victorian era costumes participants were encouraged to wear during their session. See Chapter 2 for a more complete description of the research setting.

5.1.2. Pilot Study

From January 29 to February 18, 2010, a pilot study was run on an initial build of the *Moonstone Quest*. Thirty-one participants were recruited from undergraduate classes at CSU. Based on game testing, participant feedback and researcher observations, a number of changes were made to the research setting, data collection techniques, and game play after pilot sessions were concluded and analyzed. Many of these changes are relevant with regard to this thesis. Most importantly, as a result of observation and analysis of ways that participants could work-around or cheat the game’s design, opportunities for player misbehavior were ‘built’ into and out of the game. For example, at first, players could explore behind some buildings in the game’s “town” area, using up too much time. This area was then barricaded off to improve overall game play. Conversely, an open window in the Factory allowed enterprising players to bypass a difficult challenge to open a door. This window was left vulnerable to allow this “cheat” to occur and subsequent analysis of player reactions.

Overall, the pilot study exposed areas of the research site that could be exploited by participants in such a way as to render the remainder of the quest (and the study documenting it) un-playable as well as in ways that contributed to good quality data. Though researchers

recognized the importance of the observed cheating behaviors, none were in favor of allowing them to derail data collection or effective game play among participants. Therefore, the larger, most crippling opportunities were blocked (or covered up). However, because the team recognized the value of tracking if and when players cheated – and others’ reactions to those behaviors - more limited opportunities were actually added to the game, such as allowing the possibility to explore certain “off limits” areas. This decision remains an important one.

This thesis’s examination of player misbehavior in detail is ideally matched to the SCRIBE project data because these opportunities for misbehavior were considered carefully in design and were incorporated into the data collection and analysis of the larger SCRIBE project. By examining the intent of the space and the very definition of cheating in Adamourne, this thesis will be able to address vital aspects of the SCRIBE project that remain under-studied. These issues will be discussed in detail as part of the current analysis.

5.1.3. Participants and Recruitment

SCRIBE participants in the full sessions were recruited using *Facebook*, *Twitter*, and SL advertisements from June 3 through June 23, 2010. Advertisements on *Facebook* accounted for the vast majority of participant recruitment (about 1,000 respondents). Each advertisement sent potential participants to a landing page and an initial online survey. Demographics, social indicators, and SL experience were gathered by the first online survey. Only those who were at least 18 years old and had at least 10 hours of in-world experience were selected to participate.

In all, 225 participants were scheduled for research sessions, 211 of whom completed the quest and all questionnaires. Participants averaged 37 years old and 51% were women. 82% were white/Caucasian, 4% were black, 3% were Hispanic, 4% were Native American, and 7%

reported mixed race. Additionally, 70% reported being SL residents (or SL ‘players’) for over 2 years and 90% were United States citizens.

5.1.4. Conducting the Research Sessions

Research sessions began on June 10, and ended on July 8, 2010. In total, 50 sessions were scheduled, 48 were run, and 211 participants completed all stages of the research. Participants played the quest in groups of 3-5 people (averaging 4), with the typical research session lasting about 2.5 hours.

Each session began the same way: researchers scheduled to attend and run the session in one of several roles arrived in-world 30 minutes before the session began. Upon arriving, researchers joined a Skype conference call for the duration of the quest. One researcher was in charge of taking detailed field notes, and others observed and discussed with the note-taker key ideas and observations that emerged. This group of researchers watched the sessions on platforms out of sight of players. For the duration of the quest, they used ‘spies’ or floating, moveable cameras that tracked participant text chat and helped researchers keep up with player movement and action.

Two additional researchers (Researchers 1 and 2 hereafter) were more closely involved with running the sessions and guiding participants directly. Working from introductory scripts, or protocols, Researcher 1 welcomed participants to the Adamourne on Wells Island and oriented them to the world they had just entered and reminded them their participation was being recorded, and that they could leave any time. Researcher 1 then introduced the participants to Researcher 2, the participant observer “Unit Nyn.” From that point on, Researcher 1 left the participants to join the observing researchers while Researcher 2 accompanied the participants through the quest as an unobtrusive participant-observer. The role of Unit Nyn was to remain

largely silent throughout the session, only responding to questions or addressing technical and other problems if participants got stuck. However, participants sometimes initiated conversations with Unit Nyn, and thus protocols were set in place to ensure his/her involvement was minimal and communicate clearly Nyn was not part of the group. As mentioned previously, I played the role of Researcher 2. The observers discussed Nyn's behavior and reactions to players as they moved through the game, suggesting language and examining decisions such as when to take points away for "cheating" and when not to. Thus Nyn's behavior was not the result of Researcher 2's decisions alone, but was discussed at length by the observing team. In addition, post-session debriefing allowed researchers to adjust Nyn's protocols and scripts to better reflect the role envisioned for it and improve data collection processes.

5.2. Data Sources and Management

The SCRIBE project used a number of data collection techniques including pre and post surveys designed to measure each of the study's main variables, and sophisticated in-world automatic logging tools to capture avatar movement and chat, field notes, and post-session interviews. For the purposes of this thesis, I draw on the video recordings, field notes, and group chat logs. My intent was to triangulate observed phenomena across multiple sources, allowing my analysis to tell a more complete story of misbehavior in the virtual environment.

The SCRIBE researchers designed the island of Adamourne and the *Moonstone Quest* to best fit the variables most relevant to their inquiry—misbehavior was not initially part of this inquiry. Thus, the data types chosen were those best suited to capture text chat, so that punctuation, hedges, and commands could be studied; movement, so that avatars could be tracked by region within each of the five quest zones; video logs, to identify the relationship between movement and chat; and field notes, so that the felt of experience of participant

observers could be drawn upon to illuminate the nuances of social interaction in a virtual space. All of these data sources were intended to help identify patterns in and levels of gender, age, education, leadership, and conformity. Though misbehavior is not among these, the data types and methodological approach to generating them lend themselves nicely to the study of misbehavior. Each data type used for this thesis is detailed in the subsections that follow.

5.2.1. Session Videos

Session videos were created using the screen recording software Camtasia. Researcher 2 (or Unit Nyn) filmed these videos from his or her perspective during the research sessions. While Camtasia only captures what is on the screen, Unit Nyn's point of view within SL was from above and behind, giving a wide view of the participants around him as well as a view of the avatar Unit Nyn itself. Due to the incredible amount of visual data (buildings, moving avatars and objects, landscapes, etc.) present on the screen at any one time and long sessions, the videos were recorded at 2 frames per second to reduce file size. Even at such a low setting, session videos ranged in size from 6 - 9 GB and were stored on an encrypted hard drive using a standardized naming convention, making them easy to sort by date and session number. Researcher 2 was responsible for creating these videos during the research sessions and ensured that each recording began when the first participant arrived. Camtasia was locked to the open SL window on Researcher 2's computer. These 48 videos (one for each session) will be analyzed for this thesis to examine specific events and interactions.

5.2.2. Session Field Notes

Additional data was collected from researcher field notes. Each session had a designated field note taker who observed the session from afar, well out of sight of the participants. Field notes were created using a note taking protocol that asked the researcher to take note of several

specific things in addition to their own observations. This protocol, used by all note takers, included instructions to pay special attention to included instances of misbehavior/cheating such as using SL's camera options to look behind walls ("camming"); jumping barriers; audio or textual emote use; and consistent animation overrides or gestures that animated participant's avatars. My own field notes included what Lindlof and Taylor (2002) call asides, or short, pieces of writing that occur as parentheticals in the margins of field notes. These are usually reflexive descriptions of particular events witnessed during research sessions and serve to further illuminate important events. In grounded theory, these are called memos and create a map of emerging patterns and processes (Goulding, 2009). As this thesis was already in development at that time, my notes focused specifically on player misbehavior. Although all researchers noted player misbehavior, my notes were more detailed in this regard. In addition, when I observed sessions but did not have primary responsibility for taking field notes, I made additional notes about misbehavior. Therefore, all of the field notes from the study notes incorporate observations of misbehavior and form a rich body of data for analysis of this phenomenon.

5.2.3. Chat Logs

Verbatim chat logs were created by the logging tools used to record player behavior in the game. These are separated by session, time stamped, and marked with avatar names. These logs were subsequently coded for dialog acts (whether the text as a directive, information-request, etc.), as well as for a range of other chat variables such as punctuation use, apologies made, laughter, hedges, emoticons, and topic introduction. These logs will primarily be examined qualitatively in this thesis, and quantitative results of coding will be used as supplemental data when helpful.

Chat logs have long been a staple among internet and virtual worlds researchers. Especially early on, text chat was used to study social interaction via instant messenger and reduced cue environments (Walther, 1996). Even as researchers moved to study virtual worlds where visual aesthetics were (and continue to become) rich, robust, and essential to virtual life, text chat remained an important source of data. Martey and Stromer-Galley (2007) argue that both linguistic and visual information are key factors in understanding norms in virtual spaces. Furthermore, Stenikhueler (2006, p. 48), believes that discourse in virtual worlds is a tool by which users both create “interpretive schemes” and use those schemes to express, augment, and discover their virtual identities. The keyboard remains an important link between user and computer as well as between language, social interaction, and virtual identity. Collecting data from text chat logs will be essential to the study of virtual worlds as long as this remains true.

CHAPTER 6. DATA ANALYSIS

The SCRIBE team designed their study to identify relationships among online behavior and a specific set of participant characteristics: leadership skills, conformity behavior, gender effects, digital nativity, age, and education. Note that the topic of this project—misbehavior—was not part of the original SCRIBE proposal. As such, this data set was not intended to test the validity of the SCRIBE team’s findings or to replicate their study in any way, but to study misbehavior as a phenomenon important to online interaction. However, because considerations about cheating and misbehavior were deemed important to the SCRIBE research in the development phase and data were collected specifically on cheating, this thesis had the opportunity to draw on data specific to that phenomenon in-depth.

My role in the SCRIBE project was as group facilitator controlling an in-game character, “Unit Nyn;” I interacted with participants and answered questions as they arose. Methodologically, this role was a participant observer. As a participant observer, the researcher is usually charged with the task of taking field notes, to record initial impressions and the felt experience of phenomena being observed. However, given the complexity and demands of this role as Unit Nyn, I was not a regular field note taker. And though notes about misbehavior were part of the field note protocol for the official note taker, I often made small notes about misbehavior for my own purposes. These often took the form of what Lindlof and Taylor (2002) call *asides* or *parentheticals* (see section 5.2.1.2 for further description). Thus, it is difficult to argue that my analysis used an ethnographic approach. It relied partly on ethnographic data, but I will be analyzing that data as an act apart from the felt experience of the circumstances that

created that data. In other words, my analysis viewed these data as documents or artifacts to be analyzed using thematic analysis.

Importantly, a challenge in conducting the research proposed in this thesis was selecting and managing the large volume of available data. In order to focus my analysis, I first identified and separated out instances of misbehavior to serve as the focus point for analysis and discussion. I drew largely on the chat logs and field notes in my analysis, consulting session videos as needed to review and clarify specific events. Where appropriate, I incorporated some of the quantitative findings of the SCRIBE team to provide a broader context, but I will not analyze quantitative data as part of this project.

Using those notes as a guide, I examined session videos and chat logs using thematic analysis. I sought out themes and patterns in participants' behavior and language to identify how and when participants misbehaved, as well as the reactions from and consequences for group members. I paid special attention to specific opportunities for cheating identified by the SCRIBE team and me during development, including:

1. Attempting to jump fences
2. Exploring an accessible area that was described as "forbidden" by an NPC in the Manor
3. Using "camming" to look into locked buildings and click clues before players gained access
4. Jumping through windows or otherwise accessing locked buildings before challenges were completed
5. Attempts to use overrides or workarounds to fly or move across zones

6.1. Secondary Analysis and Qualitative Data

The current project is a secondary analysis of the SCRIBE team's data, including survey data, qualitative observations, and assessments of participant behavior during the sessions. I reviewed video recordings of each session, analysis performed by the SCRIBE team, and logs of participant chat and movements. Such analysis of qualitative data can be tricky. Heaton (1998), in her review of secondary analysis methods literature, points out that one of the greatest pitfalls of using secondary analysis is in compromising the relationship between data and researcher. Especially in qualitative studies, data is contextualized and interpreted by the researcher. Field notes, for example, are accounts of one researcher's felt experience during data collection or field work. Other researchers looking to analyze this and other forms of qualitative data run the risk of misinterpreting or completely overlooking the *minutiae* of the original researcher's experience. Thus, Thorne (1994) suggests that such analysis should be left to experienced researchers especially when the secondary analyst was not part of the original research team.

However, having been a part of the original research team, having access to the primary investigators, their field notes and all other data, I argue that I am in a unique position to conduct a thoughtful and thorough analysis of the SCRIBE team's qualitative data. Furthermore, Szabo and Starng (1997) suggest that secondary analysis is actually a good approach to research for students. And as Heaton (1998) points out, secondary analysis "can be used to generate new knowledge, new hypotheses, or support existing theories" (N.P.). Given that my research interests were included early planning and design stages, my analysis offers additional insight and nuance to questions about online social interaction generally and to the SCRIBE dataset in specific. This helps contribute to new knowledge about behavior and misbehavior in virtual settings.

6.2. Qualitative Analysis

Boundaries between certain types of qualitative analysis are fuzzy and often difficult to discern (Bruan & Clarke (2006). In particular, discourse analysis, grounded theory, and thematic analysis proscribe similar methods for analyzing data. All three were considered for this project, and overall, thematic analysis was selected for its flexibility, especially across data types. However, the analytical methods used did draw heavily on principles of discourse analysis, ultimately combining thematic and discourse analysis. Early work to define discourse was undertaken by Foucault, who asserted that discourse is an abstract “entity” of signs that forms meaning between objects, ideas, and concepts (Foucault & Sheridan, 1972). As such, discourse has been said to be “language beyond the sentence” (Yule, 2006), or the communication of meaning beyond grammar, linguistics, and isolated speech acts. Discourse analysis, then, examines the construction of meaning in naturally occurring language, paying close attention to the context that produces that language (Harris, 1990; Gee, 2004).

Specifically, Gee (2004) argues that discourse analysis seeks to understand the relationship between form and function in language where form is the actual construction of the sentence—its clauses, subjects, and syntax—and function conveys the meaning of that form. The correlation of discourse form to function can be understood at a general, “utterance-type” level where phrases are understood to have meaning within broad systems of reference like the English language. Or they can be understood at a more specific “utterance-token” level (see Levinson, 2000). In the latter, context is inseparable from meaning. Gee (2004) refers to this level of analysis as “situated meaning” and explains that it examines discourse within “specific contexts of use” which include “material setting, the people present...the language that comes

before and after a given utterance, [and] the social relationships of the people involved” (pp. 28-29).

There is a strong symmetry here between Gee’s (2004) idea of context and the structural properties in Giddens’ (1984) theory of structuration (see Chapter 3): both share the assumption that meaning is as an evolving, recursive component of interaction that shapes and is shaped by specific contexts. However, there is a problem to be overcome here. As much as structuration theory is a broad outline of social interaction and the ways in which that interaction is maintained, discourse analysis is as equally far reaching. Essentially, the problem is that context in both cases is difficult to define. For instance, Steinkhueler (2006) asserts that MMO gaming is participating in a discourse that has “fuzzy boundaries that expand with continued play” (p. 50). Where, then, does that context end? And how many contexts are important? Where does one draw the line?

Grounded theory is a popular approach to a variety of topics within the social sciences. It is best suited to questions about the “processes by which actors construct meaning out of intersubjective experience” and about “how individuals interpret reality” (Suddaby, 2006, p. 634). It was originally developed by Glaser and Strauss (1967). They devised their approach in “reaction to the extreme positivism that had permeated most social research” (Suddaby, 2006, p. 633). That is, they rejected the idea that social behavior occurred as a result of some universal truth that could be ‘discovered’ and embraced the idea that ‘truth’ exists only as an interpretive phenomenon (Suddaby, 2006). Like discourse analysis and thematic analysis it uses a variety of data types, including field notes and interview transcripts which are coded in several rounds, moving toward abstraction and theory building with each successive pass (Goulding 1999; 2000; 2009). However, grounded theory works in reverse of most scientific approaches by allowing

theory to emerge from the data instead of applying theory *a priori* to categorize and examine observed phenomenon. I applied theory a priori to help guide my analysis and therefore cannot be said to have used a grounded theory approach to reach conclusions about the data

Instead, I undertook a theoretical thematic analysis using Giddens's Structuration Theory (1984) as a guiding framework to help focus the area of study to this particular setting.

Generally speaking, a thematic analysis seeks to identify and analyze patterns in a given data set (Braun & Clarke, 2006; Maguire & Delahunt 2017). The approach can be further refined by tying the method of analysis to a theoretical framework wherein the researcher codes for patterns specific to informed research questions. This type of theory based thematic analysis "tend[s] to be driven by the researcher's theoretical or analytical interest in the area, and is thus more explicitly analyst driven" (Braun & Clarke, 2006, p. 12). Based on the broad social and meaning making components of Structuration Theory, I attempted to identify and analyze latent level themes in the data because doing so requires data to be examined beyond its semantic content and looks to "identify the features that gave it that particular form and meaning" (Braun & Clarke, p. 13). Additional theories were introduced to further focus my line of inquiry and to better contextualize the broad components of Giddens's ST (1984).

Although there are no hard and fast guidelines specific to structuration theory or thematic analysis to help focus academic inquiry, Rogers (2004) contends that the scope of analysis should match the scope of the research questions. Are they local, institutional, or societal level questions? In the current study, the analysis only reached the local level of abstraction. That is, it examined behavior within the Adamourne setting without making consideration of conventions from the larger SL environment that may also be influencing behavior and social interaction.

However, the *discussion* of the analysis does abstract further and considers the influences of those outside conventions.

6.3. Summary

In order to study how people misbehave in virtual worlds, this project performed a secondary analysis on data collected by the SCRIBE team as part of their *Real World to Virtual World Inferences* (Reene et al., 2011) project. Additionally, as a participant observer during the research sessions, I had an in-depth knowledge of the data collected. Specifically, the data sources under scrutiny for this thesis were session field notes (mine as well as those created by other researchers), session videos, survey results, and chat logs. Using a theoretical thematic analysis that drew on principles of discourse analysis, I pursued the overarching research question; **can misbehavior benefit an online social group?** This question had three sub-questions:

RQ1: When players exploit codified, written rules can they still participate effectively in group processes?

RQ2: When players resist the intentions of game language, can they still contribute to the group's goals?

RQ3: Can players productively participate in group activities without participating in group norms?

CHAPTER 7. RESULTS

7.1. Introduction

This thesis examined participant behavior in a virtual setting in order to explore if and how misbehavior can benefit an online group. To do so, it examines the difference between cheating and misbehavior. Despite common notions of cheating being destructive, inhibiting, and unfair to other players (Kucklick, 2007; Consalvo, 2007; Smith, 2004; Yan & Randall, 2005), this thesis sought to determine if misbehavior could be a normative, productive behavior in virtual settings. This thesis found that misbehavior can benefit social groups in virtual settings if participants faithfully appropriate either structures of signification or structures of legitimation. Specifically, misbehavior was most normative, and therefore most productive for social groups, when participants were deindividuated in the *Moonstone* setting and allowed the group identity of detective trainee to guide their behavior in place of their individual identities.

The *Moonstone Quest*, built by the SCRIBE research team as a private location within the virtual world *Second Life*, presents researchers with an opportunity to observe, document, and analyze behavior of small groups interacting with each other and the virtual environment. This project conducted a secondary analysis of the data generated by the SCRIBE team and examined player behavior using a theoretical framework based largely on Giddens' Structuration Theory (1984) to conceptualize behavior and misbehavior in complex virtual worlds. Though Giddens' (1984) theory is aimed at explaining the constitution of whole societies (that is, how larger groups of people create and sustain their social order), it is applied here as a lens through which micro-level social processes can be observed. Its main tenants—that structure produces and is influenced by processes of language (signification), rules (domination), and social

norms/interaction (legitimation)—suggest that the study of misbehavior requires a multi-disciplined, even a multi-theoretical approach.

Each of the main research questions proposed here is directly related to one of Giddens' (1984) three main sources of structure: domination, signification, and legitimation (see Chapter 3 for detailed explications). I have tailored the far reaching system outlined by Giddens (1984) to fit a study of misbehavior in virtual worlds by combing the fundamentals of each structural system with appropriate supplemental theories and perspectives. I have paired structures of domination with Adaptive Structuration Theory (see DeSanctis & Poole, 1994) to address RQ 1; wherein code and rules in virtual spaces act as indicators of intended uses and hard rules influencing virtual behaviors. Structures of legitimation are tied to the application of semiotics (Sausurre, 1959) to address RQ 2, wherein text chat, visual aesthetics and game genre are examined as important social and behavioral cues that help create context and meaning. And finally, structures of legitimation are tied to the Social Identity Model of Deindividuation Effects (see Lea, & Spears, 1991; Postmes & Spears, 1998) to address RQ 3, wherein social norms and identity are examined specifically in virtual spaces.

7.2. Analysis

This project examined groups of participants in a custom-built quest game in the virtual world *Second Life*. There, researchers created a steam-punk themed island where players had to work together as a group to solve the mystery of a missing family heirloom, a large diamond called the Moonstone. Participants played the role of detective trainees and investigated five different levels (or areas) as they progressed through the story. These consisted of the Blayfield Manor and surrounding gardens, from which the diamond was stolen; a small Victorian downtown with cobblestone streets and narrow alleys where participants investigated local

businesses and a bank vault, a factory with a large parts-strewn yard and mechanical traps where participants witnessed a murder, and a private residence where the thief kept the diamond.

Victorian-era costumes were provided to those who wanted to dress the part, NPCs in each area delivered clues and offered advice, and a participant observer, playing the role of an automaton detective named Unit Nyn accompanied each participant group to both record the session and to offer clues should the group become stuck.

Cheating behaviors are perhaps most noticeable and blatant when they violate hard and fast rules or when they target individuals and their experience in the virtual world. Although participants in the *Moonstone Quest* did not exhibit any grieving behaviors – actions where individual participants were targeted for malicious treatment – some used several kinds of exploits and workarounds. These actions specifically targeted the underlying logic and boundaries created by game code and had noticeable affects on others within the quest group. Generally, these types of exploits included jumping, using SL menu commands, camming, and nuanced workarounds that do not categorize neatly. The following sections discuss each type of action to examine how it can be used to misbehave in the context of the quest.

7.2.1. Jumping

Jumping could occur anywhere within the *Moonstone Quest* and could be used to access locked or off-limits areas without solving the prerequisite puzzles first. For example, players had to give a diamond to an NPC in order to unlock the door of a factory they needed to access. Some players tried to jump through the window instead. Jumping was most commonly observed near visible and invisible boundaries. Frequent jumping attempts were made at visible boundaries in the Blayfield manor where a velvet rope draped across the base of the stairs intended to keep participants from entering the second storey; along pathways in the Manor

gardens where tall wrought iron fences blocked off most of the property; at Madame Drusilla's Cart where wooden crates were piled high to block a street; in Town outside the park where wrought iron fencing separated the park from the street; and at the Factory where a large metal guardian prevented participants from entering the complex until a riddle was solved. In each of these instances, players often made several attempts to jump over the boundary and probed long sections of each, changing their approach and sometimes jumping on smaller nearby objects to give them a leg up.

Researchers also placed invisible boundaries in certain areas, often directly behind visible boundaries to further discourage participants from entering off limits areas. Invisible boundaries were often taller than the visible boundaries and served as a backup should participants make it past the initial blockage. As such, jumping at invisible boundaries occurred at many of the same sites as did jumping at visible boundaries. These commonly included the velvet ropes in the Manor, behind Madame Drusilla's cart, and at the wrought iron fencing in the Park. In one session, a participant tried to use a pogo stick that had been provided as a reward to jump over velvet ropes blocking off an area of the Manor.

7.2.2. Using Menu Commands

While researchers disabled some common menu commands for the *Moonstone Quest*, others were left functional. This was not necessarily by design. Within the SL interface, participants were able to select certain drop down commands or enter them in the chat bar to make their avatars perform specific actions. These actions often allowed participants to take shortcuts around designed challenges, although they were less common than jumping. For example, one participant found himself ensnared in a cage in the town Bank. The game was designed so that he and his group mates had to work together to free him and unlock the next

area. However, the trapped participant used a menu command to exploit a function in *Second Life* that transports a character across the screen. In this case, the participant right-clicked an object outside the cage and selected the ‘sit’ option from the menu. This command automatically places an avatar in a seated position on the clicked object. In this way, his avatar moved from inside the cage to sitting on the outside object, bypassing the need to solve the puzzle and dismantle the cage as was originally intended by the game designers.

This was the only use of menu commands at the cage, but it wasn’t the only one seen in the *Moonstone Quest*. More common was the use of the *camming* feature. This is a feature in SL that allows a user to change the point of view of the screen without moving the avatar. Normally, the SL display shows the avatar and what is within its field of “vision.” Camming detaches that field of vision from the avatar to allow the user to examine things more closely, see around corners, or see behind walls. Although hard to detect when observing sessions, camming can be detected when a player describes information the avatar should not be able to “see.” Participants frequently used this feature in Town, noticeable because they would talk about what was inside closed off areas or locked rooms without moving their avatars. Instead of moving through each street alley and building, players would leave their avatar near the zone entry point (the teleporter they used to arrive) and cam through large areas of the quest space.

Camming is problematic because it allows participants to enter locked areas without solving challenges first and gives them the ability to click items, NPCs, and gather clues without the rest of their group participating or even knowing that part of the plot has been revealed. In these instances, one participant would gather important information and click NPCs to prompt them to deliver their lines of dialogue. However, NPC dialogue and information provided by clue

objects is only visible to avatars within a short distance. As a result, all the players – including the one camming – missed vital information for solving the mystery.

Other instances of using menu commands included the ‘stop animating my avatar’ function. At one point the game took control away from participant avatars by using an animation that “infected” them with “madness” near the end of the game. Before solving the final challenge and retrieving the missing diamond, some avatars, depending on their proximity to the device when activated, were made to go “mad.” Player avatars jumped, flailed their arms above their heads and kicked their legs wildly until the final challenge was solved. Only a few participants chose to stop animating their avatars before the challenge was solved, avoiding the code that prompted them to solve one last challenge.

7.2.3. Object Generation

The least common form of cheating observed involved materializing objects from a player’s inventory (rezzing items) in order to manipulate quest challenges. For example, when players had to collect several diamonds to appease a greedy kitten and convince it to open a locked factory door, one player placed, removed, and re-materialized a single diamond multiple times instead of finding all three hidden diamonds required. There was no programmed difference in the three diamonds that would preclude this solution, and once an object is in a participant’s inventory it can be re-materialized multiple times. Other examples of materializing objects to get around quest challenges included using an object unrelated to the quest that players had previously in their avatar inventory, such as one player who materialized a car to move more quickly through some threatening ghosts.

These behaviors, jumping, camming, and object rezzing, manifested in many different ways and evoked a range of responses from other players. At times they were welcome attempts

to solve problems facing the group; other times they removed a player from the group collaboration and were met with censure. Overall, the majority of the instances of misbehavior observed in the 50 groups who played through the quest contributed to the group's goals of overcoming challenges. The nature of the interaction around that misbehavior is discussed next.

7.3. Discussion

From the observations made during this research project, there are no indications that any one type of misbehavior is *inherently* more or less damaging, problematic to the group goals, or problematic to other players than any other. Neither is it accurate to say that any type of misbehavior *always* has a positive or negative impact on group processes. The ongoing negotiation of several social inputs, or what Giddens (1984) calls the duality of structure, makes each instance of misbehavior its own. For example, the set of circumstances that lead to one instance of jumping may be different from those that lead to another instance. Furthermore, each instance of jumping may have different effects, or no effect, on group processes and decision making. The aim of this thesis is not to categorize the misbehaviors observed as good or bad. Instead, the focus is to investigate if and how these behaviors can be used to further group processes.

7.3.1. Addressing Research Questions

The actions participants took to misbehave as outlined in section 7.2 were the not the first step in a process of misbehaving, but an observable outcome of a process still in progress. The actions they took were not in themselves misbehavior--not all jumps were acts of transgression, some occurred with no discernible purpose, with no object to leap, leading me to make note that such actions could signal "boredom [or] impatience." As such, I coded session videos, chat logs, and my own notes only when a behavior transgressed a rule or invisible boundary (domination),

a visible boundary or game language (legitimation), or a social norm (legitimation). Certain themes began to emerge, particularly in chat logs, which indicated players were misbehaving for particular reasons. These themes are listed below:

- To further explore an area
- To further investigate an area they have already investigated
- To resolve doubt about NPC motives
- Out of frustration or lack of progress
- To fulfill the duties proscribed by a role/identity
- To bypass a specific challenge or plot point

Each of these themes was often closely related to all three of Giddens' (1984) social structurations. For instance, code (tall fences or ropes), signs (stated requests by NPCs and researchers), and norms (established by player groups to avoid cheating) were all transgressed when players chose to further explore an off limits area. However, players often faithfully appropriated structures of signification and legitimation in order to unfaithfully appropriate game code. In these instances, the misbehavior was still productive as it moved the group through the quest without rebuking or excluding the offending participant. Therefore, in answer to research question 1, participants are able to effectively participate in group processes when they have unfaithfully appropriated the features, form, function, and underlying coded or written rules of the space only if such actions also faithfully appropriate structures of legitimation and signification. That is, misbehavior positively effects group processes if code is broken in order to resolve conflicts or satisfy curiosity created by game genre or game language and if it is broken to faithfully appropriate participant roles as detective trainees. Additionally, Despite AST's (Desanctis & Poole, 1994) assertion that lower group cohesion, decision making process,

and participation should result from actions that transgress the spirit, intent, or code of the space, participant groups were observed to actually increase group processes by breaking codified rules when misbehavior helped overcome an existing frustration over lack of progress.

Similarly, when participants ignored the intentions of game language or information presented in the aesthetic environment, they were frequently responding to tropes of the mystery game genre by doubting NPC statements and seeking to uncover what they may be hiding. Participants in these instances seem to have entered the game's "magic circle" (Huizinga, 1955) and allowed the game world's structures to begin guiding play (Myers, 1991). In answer to research question 2, participants are able ignore expectations of behavior as relayed by game language from NPCs and from aesthetic cues in the *Quest* environment by faithfully appropriating tropes of game genre over faithfully appropriating technical features and functions of the *Quest* space. When responding to elements of game genre, participants disregarded visible (coded) boundaries designed to physically bar them from certain areas. Through effective group processes like communication, discussion, and group problem solving, participants both satisfied the curiosity and resolved doubts created by game genre. In a game with a tightly scripted plot like the Moonstone Quest, previous research has suggested that players will cheat in order to skip ahead in the plot (Keulich, 2004). However, this thesis found the opposite—that players misbehaved to reveal as much of the plot as possible to ensure they solved the mystery of the missing diamond.

Finally, in answer to research question 3, participants are not able to productively participate in group activities without participating in group norms. Instances of misbehavior were most jarring to the group when participants did not accept the role of detective trainee or when they maintained a radically unique avatar appearance. Misbehavior was more acceptable

to the group when participants demonstrated through chat or appearance that they were playing the part of detective trainee, letting their assumed group identity overtake their individual identity during game play. This is the clearest conclusion reached by this thesis: that misbehavior is normalized by other social actors if it is clear to those actors that the offending player is not playing a team game as an individual, but instead playing as part of the unique quest group present. Accepting the group identity and playing the role of detective trainee justified instances of misbehavior—specifically exploration in the name of investigation—that helped fulfill the duties assigned to a detective.

On one hand, this finding is inconsistent with research concerning misbehavior and uniqueness (Kim, 2011; Kim 2009; Lee 2004). Results in those studies found that similar avatar appearances cause some participants to intentionally act out in order to establish their own uniqueness amongst a group of like others. In fact, in the data collected from the *Moontsone* setting, the most jarring and disruptive misbehavior was committed by participants who retained their unique avatar looks and dress, thereby retaining their unique appearance. The *Moonstone* data is more consistent with SIDE's (Lea & Spears, 1991) postulate that group norms are adopted over individual norms as the group identity becomes prevalent over individual identities specifically because the group identity in the *Quest* required that exploration and investigation were the norm from the beginning. Therefore, most behaviors undertaken to explore or investigate were normative as long as the individuals committing them made an effort to adopt the group identity and the norms established by it. It appeared in these instances that identity and group norms over-ruled the written, coded, and interpretative rules proscribed by other structures at work in the quest space.

Specific examples pertaining to each research question are discussed in detail in the following sections.

7.3.2. Rules as Code

Structuration theory takes the broad view that transgressions against codified rules, or those so fundamental to organized social life that they become formalized into law, is antithetical to productive social interaction (Giddens, 1984). In virtual settings, *computer* code is law more than specific codified rules about behaviors (Lessig, 1999). For instance, the underlying code of the Aadamourne Island governed participants' behavior by setting boundaries and limits on the actions available to them, such as disabling flying or putting impassable walls around forbidden areas. Ropes, fences, walls, and locked doors were all installed to keep participants from wandering through large, irrelevant spaces as well as to force them to solve puzzles to move into new areas. Adaptive Structuration Theory (AST) argues that when the code of a virtual space is broken, manipulated, or used in ways the space's creators did not intend, the result is lower group cohesion, lower group participation, and less desirable use outcomes (Desanctis & Poole 1994).

Researchers did not observe any hacking or altering of the actual lines of SL code during the *Moonstone Quest*, but participants were clearly using workarounds to manipulate the rules that code sought to enforce. That is, participants did not attempt to re-write code using the programming language of SL to change the rules, but they did try to use basic capabilities available in the larger *Second Life* context such as camming to get around the coded boundaries created specifically for the *Moonstone Quest*. For example, one participant used the sit command, to sit his way out of the cage in the bank vault. The sit command allows a player to right click an object in the distance and select 'sit' from a list of menu commands. The avatar

will then move from its current position to sit on the selected object regardless of the objects, barriers, and distance in between. Doing so for this participant meant he traveled from inside the cage to outside the cage without solving the puzzle intended to release him. This stalled the group's progress for nine minutes because the puzzle was intended to work with one participant trapped and the others working together to free him. Once the cage was lifted, the next area was unlocked. However, without one participant inside, the puzzle was functionally broken and the group was not able to solve it. The participant who sat his way out of the cage perhaps frustrated, perhaps confused, or perhaps problem-solving in a way that researchers did not intend, disrupted his group's progress. In this case, the misbehavior did not help the quest group solve the challenge at hand, but instead delayed and confused them. It was another several minutes of trial and error before they stumbled upon the right sequence of actions to unlock the cage and vault door behind it.

As discussed previously, camming was a common workaround observed during the *Moonstone Quest*. In session 9, the group was stuck inside the factory at a button challenge. This challenge required four group members to stand on four "security buttons" in a particular order. After several minutes of experimenting with the buttons, one participant, Lei, remarked that he thought that the order in which they stand on the buttons was important. A few minutes after Lei made his suggestion, Brunnhilda said, "I can camera in," implying that she could cam through the door to see if there were hints to opening it on the other side. Lei responded, "It won't help, we need to get up there." Lei's comment here was close to an admonishment of her behavior. He seems to know that the game is not intended to work that way and that disembodied exploring will not help the group solve the challenge. If they could not get upstairs, their progress would have been stopped and they would not be able to complete the quest. Lei and another player,

Toxic, returned to experimenting with the security buttons and Brunhilda chimed in with a suggestion to stand on the buttons at the same time. It is significant that Brunhilda rejoins her group so quickly. She leaves her idea about camming alone, does not act on it and does not suggest anything outside the rules of the space. This is one of few examples in which participants acknowledge that camming is not allowed. Though the action is technically available to them, they understood that such action went against the intent of the space. Acknowledging that an unfaithful appropriation of the quest space will not benefit them they move on to further discussion and quickly reveal the intended method for solving the challenge.

In these examples, codified rules have been broken (or a suggestion was made that they should be broken) and the intent or spirit of the quest world has been transgressed. Misbehavior like this should have a deleterious effect on group processes according to AST (Desanctis & Poole, 1994). However, low group cohesion, low group decision making processes, and low group idea generation were observed *before* the misbehavior occurred. That is, the misbehaviors documented here were commonly observed *after* AST's negative use outcomes were already observed. The use of camming and other menu commands to circumvent code may have been in response to frustrations with an existing lack of progress through the quest. Instead of *causing* low group cohesion, low group idea generation, and low group participation, misbehavior can be a *response* to those same conditions. This is not a new finding. Consalvo (2007) makes a similar assertion concerning lack of progress and cheating behaviors. It may be useful to consider misbehavior in these instances not as intentionally malicious actions but as an attempt to jump start progress and re-establish the group dynamics necessary to complete a multi-player game. Though the unfavorable use outcomes that AST proscribes as a *result* of misbehavior were already present when the misbehavior occurred, the misbehaviors did not appear to *further*

deteriorate group dynamics. Instead, they maintained the status quo or, as in session 9, re-directed the group's focus back to productive problem solving. In other words, this particular group was able to discuss the misbehavior, dismiss it as a useless action, and then quickly move on to new idea generation. In instances when participants are already stuck, frustrated, or perhaps disengaged from quest material, misbehavior is neither inherently beneficial nor inherently damaging. Instead, it serves as one option among many to address a problem.

The most common workaround used to circumvent game code was a benign type of exploration: jumping. Though this was an action participants were allowed and would often use to jump locked gates, tall fences, or over other visual barriers. They made repeated attempts to get beyond these barriers, often jumping against tall fences until they found a small glitch in the virtual world that allowed them over. In many cases, jumping was also a response to being stuck. In one session, Edgar was the first to jump over the manor fence. His group mate Tawny saw this and approached the fence at the same spot. She stood directly in front of it for a moment then made two attempts to jump over as well. When both are beyond the fence, Edgar remarked, "I'm either on to something or breaking something." At the time, I noted as participant observer that the group was stuck and appeared to explore beyond the fence out of "desperation." Despite their desperation, I also noted that the behavior here seemed "very related to the pursuit of the games' goal." Jumping the fence did not help the group, as there were no clues beyond it. Nor did jumping the fence facilitate any discussion amongst the group. Only two of the four participants made it over and each explored until they were satisfied they had not missed any clues. As in the previous example, being stuck seemed to have already created negative use outcomes which participants responded to by exploring beyond what the space intended. In

these cases, there does seem to be a good faith attempt to expand the group's search for clues they may have been missing.

This example highlights an interesting conflict. Within a virtual setting there are competing structures of intent at work: those proscribed by virtual space designers (or researchers) through code and those inferred by the people using that space. Judging any behavior in virtual settings solely against coded rules and expectations of behavior makes no consideration of the context within which those behaviors occur (Denegri-Knott & Taylor, 2005). Thus these behaviors *can* contribute to positive use outcomes like increased idea generation, but not always. To get a better, more complete answer to the questions posed by this project, it is helpful to next consider how and why participants might infer meaning contrary to what is conveyed by game code. Thus RQ 2 deals with the contextual meaning making processes occurring amongst social groups and RQ3 explores normative structures that guide other participants' response, rejection, or acceptance of misbehavior. Each will be discussed in the sections that follow.

7.3.3. Rules about Rules

The duality of structure (Giddens, 1984) cautions us not to accept any social behavior as always being the fixed outcome of any set of structural or social variables. While it may be true that misbehavior is not *always* beneficial to group processes and that it *can* be a symptom of the undesirable outcomes AST (Desanctis & Poole, 1994) describes, misbehavior can also be a beneficial, productive, and even a necessary part of social interaction in group settings. What then is the difference between productive and unproductive misbehavior? On the Adamourne Island, why this happens may hinge on specific meaning making and normative structures participants used to interpret code and the behavior it proscribed.

7.3.3.1. *Rules as Signs, Signifieds, and Signifiers*

Very early in the quest, an NPC named Lady Blayfield (of the same Blayfield's from which the diamond was stolen) greets participants and delivers a monologue about the theft at her home. She then politely asks participants to avoid the upstairs during their investigation in order to respect the privacy of the Blayfield family. Immediately behind her is a grand staircase leading to the second storey with velvet ropes draped in front of it. The lines she delivers are scripted, intended to keep participants from heading upstairs. From a design perspective, this facilitated quest progress by keeping players from wandering through a large and empty space, but it also created a clear directive that players *could* violate if they chose. This provided the researchers the opportunity to observe if and how participants might misbehave. Combined, the dialog and ropes are elements of game language and aesthetic that sought to communicate rules and expectations of behavior on top of those proscribed by programmed code. Researchers observed several groups openly challenge Lady Blayfield's request. Others, sometimes without comment, simply jumped the ropes at the base of the stairs after Lady Blayfield delivered her request. If code, game language, and game aesthetic were all used to keep players from going upstairs, why did so many participants do so?



Figure 3. The visible boundary at the bottom of the stairs in the Blayfield Manor.

Given their remarks about Lady Blayfield's request, one possible contributing factor could be the quest's mystery plot structure. Genre, as a method of classifying and structuring plot lines, provides its own tropes, themes, and devices. Kuecklich (2004) argues that the cheats provided to players by game genre help define game play. In the interactive Adamourne setting, a mystery themed game may be encouraging participants to doubt, challenge, or question their surroundings and to subvert implied expectations. For instance, in session 4, Ender commented, "why should we avoid the upstairs?" Only a fraction of a second later, Stinky said, "I'm totally going upstairs." Participants in this example demonstrated a clear challenge to Lady Blayfield. They openly and immediately questioned her, as though she may have been hiding something. As a participant observer, I noted that in a mystery game it may have made sense to players that an NPC would mislead them and that they should therefore disregard her request to avoid the upstairs. Other groups seemed to share the same suspicion. In session 12, all three participants jumped the ropes and proceeded upstairs without comment or discussion. When they all returned to the main level several minutes later, one player, Ice, remarked, "heh, ropes, out of bounds..."

Similarly, in another session, one participant easily jumped the ropes just after Lady B delivered her lines. After looking around and finding nothing of interest, he returned and remarked, “the ‘avoid the upstairs’ bit seems to be more than a polite suggestion.”



Figure 4. **The tall fence and visible boundary enclosing the Blayfield Manor Garden.**

There was other off limits areas, like the manor garden, that players could attempt to jump into. In session 39, the group arrived at the police box to report their findings to Unit Nyn and discussed jumping the tall gate to get into the garden. It was the only area they had not already explored. They quickly decided jumping over it would be cheating and do not make any attempts to gain entry. However, two participants in this group had previously jumped the barrier at the bottom of the stairs after the group decided to double check the area. The garden wall is much higher than the ropes but does not come with NPC instruction to avoid it. In this case, game code worked as intended and there was no successful misbehavior. Though the thought process at the garden gate was the same as at the bottom of the stairs (jump the barrier to fully investigate the area), the behavioral outcome was different. One explanation may be that at

the bottom of the manor stairs, game genre is more overtly influential than in other areas. The request made by Lady Blayfied occurs at a moment where narrativity is high and interactivity is low. Kuechlich (2004) argues that in these instances, players seek cheats that allow them to skip ahead in the story. But that does not appear to be the case here—game narrative and the specific request to avoid the upstairs play into specific mystery tropes wherein everyone is a suspect and a good investigation leaves no stone un-turned. Instead of skipping ahead in the story, participants' behavior at the ropes actually seeks the opposite—to fully experience the story despite the extra time it may take to do so. While other instances of misbehavior may have occurred due to a lack of progress, these examples of misbehavior indicate that players can benefit their quest group by faithfully appropriating game genre while unfaithfully appropriating game code.

The seeming willingness with which participants transgressed written instructions and quest code may reflect what Dourish (1996, p. 9) calls “the social interpretation of cues in the physical environment”. In other words, participants used rules implied through genre and aesthetic – do not believe everything the characters say – to subvert those proscribed by code. Exploring the empty upstairs or camming into the vault early did not advance the story or provide any immediate clues. Engaging in misbehavior in these instances was, however, still part of players' participation in group processes: the discussion of whether or not they had fully explored an area is an important part of interacting with the game space and each other. That participation is often beneficial to the quest groups present as it may satisfy their curiosity or prove that they have indeed investigated an area to its fullest, thus allowing the group to collectively move on to the next area, clue, or point of discussion. In that way, such behavior can

benefit quest groups despite having used game code, game language, and game aesthetics in unfaithful, unintended ways.

7.3.3.2. Rules as Norms

If it is too narrow a position to only consider the researchers' intended use of game space (as expressed through code) when evaluating the effects of misbehavior, it is too broad a position to consider only individual interpretations of various social inputs when evaluating those same effects. Such logic implies that rules themselves are so highly malleable that they may allow for any type of behavior at any time. The balance between these two positions is the third of Giddens' (1984) structuration tenants: legitimation, or the normative component of social life wherein other social actors determine if individual interpretations of law (code) and context (signs, signifiers, and signifieds) are permissible and consistent with social expectations of behavior.

SIDE argues that when a group identity is salient over the identities of the individuals comprising that group, group members accept group norms over their own and are less likely to engage in antinormative behavior (Lea & Spears, 1991). In the *Moonstone Quest*, misbehavior seems to be most beneficial when participants have accepted their assigned role as detective trainees.

In session 39, the quest group clicks through all the clues in the Blayfield manor and discussed what they needed to do in order to advance to the next area. They knew they had collected enough clues from this area in the quest and knew they needed to prepare a report of their findings for Unit Nyn before moving on. Despite knowing they had collected everything, they decided to listen to Morgance when she suggested they "do a double check" of the area.

The group scattered and all participants made another pass through the Manor. Two participants returned to the bottom of the stairs and jumped the ropes, which they had not previously done.

Soon after both were upstairs, Enerji remarked, “you jumped the rope. Shame on you. Lolol.” Cera responded with a simple, “yeah,” then adds “nuttin up here though.” Both seemed to know that they were not supposed to go upstairs. They even discussed and confirmed that jumping the ropes and the garden fence is likely considered cheating in the Adamourne setting. Like other groups who misbehaved at this same point in the quest, Enerji and Cera went over the ropes to complete their investigation. They had previously acknowledged they had enough points to move on to the next area, but mentioned they wanted to “double check” the area before reporting their findings as part of their duties as detective trainees. While filing the report, one participant said she wished there were more investigative tactics available to them. Morgance lamented, “too bad we can’t like dust for prints on the necklace chain that was ripped off”. Her comment suggests she not only embraced her role as detective trainee, but also wanted to play it more fully. A few of her group mates responded positively to her comment with a hearty “LOL.”

In this example, participants’ decisions to disregard game language, code, and aesthetic signs and symbols benefited their quest group contrary to AST’s prediction that a negative use outcome and decreased group processes should have occurred. However, as argued by (Lea & Spears, 1991), when the group identity, in this case that of detective trainee, becomes salient over the individual identities of its component members, individuals will subscribe more to group norms and be less likely to engage in antinormative behavior. The group in this session seemed to be aware that this misbehavior would satisfy the requirements of both the genre and their identity as detectives as indicated by their discussion about double checking the area despite

having already investigated it fully and their further discussions that show their intent and desire to play their role of detective trainee . Therefore, misbehavior became the behavioral norm and was accepted by the group's members. As a normative behavior, it spurred group discussion and interaction with the game space. Collectively adopting their role as detective trainees within the game's detective genre appeared to contribute to normalizing *misbehavior*, even when it directly contradicted game code.

The same principle is demonstrated in pilot session 4 but with the opposite outcome. In this example, two participants decided they would jump their way into the Factory. At this point, the participants were exploring a large open yard in front of an imposing, rusting, but clearly operational factory. There was a large mechanical guardian that prevented them from entering until a riddle was solved. It delivered clues and accepted only one answer before granting access to the interior of the building. However, two participants, Ender and Stinky, discovered that it was possible to skip this riddle by jumping up onto the mechanical guardian and leaping from its head through an open window behind it. As the bulk of the group remained outside, the two participants on the inside clicked through all the clues alone. The participant observer asked Ender and Stinky to return the group immediately, but the first requests were met with silence. Only when Unit Nyn called their actions "cheating" and their group members started commanding that they return outside did the two exploring participants return to the yard. They did not comment on the incident or share any of the information they had gathered, which severely delayed the group's progress through this portion of the quest.

Why did this instance of misbehavior have such a radically different outcome than others? Why were Ender and Stinky admonished for their behavior while Enerji and Cera were not? One reason may be that Enerji and Cera were overtly attempting to explain their behavior

in relation to their role as detective trainees in a murder mystery, thus relying less on their individual identities to justify their behavior and more on norms established in the *Moonstone Quest* and by the group. They likely knew what they were doing was not allowed, as suggested by Enerji's joking chastisement, "shame on you, lol."



Figure 5. Stinky's avatar appearance as he jumps to bypass the factory challenge

In contrast, Ender and Stinky violated game norms in various ways. They retained their radically unique physical appearances and dress rather than dressing in the steampunk clothing of the game; Stinky wore an American flag outfit and had an oversized, mascot-like foam head. Both were uncommunicative with their group mates and detached from group processes throughout most of their session. In a sense, they were participating in the quest as themselves as players, rather than as detectives in the game world. For example, Stinky also used several large and loud animated items from his personal inventory during the quest, which seemed to annoy the other players. Stinky's decision to rez items from his personal inventory may be acceptable in the larger SL context, but it violated the group's sense of cohesion within the *Moonstone* setting. This suggests that these participants had not accepted their identity as detectives within the quest *locale*, but retained their individual identities from the larger SL *context*.

The differences in group responses to these two sets of misbehaving participants speaks to a larger point about outside norms and local meaning making processes: normative or deviant behavior can only be judged against those factors at work in the specific contexts in which the behavior occurs (Denegri-Knott & Taylor, 2005). Although it may be common and acceptable to cam, fly, sit, or rez any item from one's inventory in the larger SL context, those actions were not acceptable amongst quest groups in this genre specific role playing game. In fact, many of these actions were forbidden by written instructions delivered to each participant early in the quest. When participants drew on norms from the larger SL context that violated those of the *Moonstone* game, negative effects on group processes and participation were common.

Perhaps bringing norms (as well as items, appearances, and identities) from one context into another breaks the magic circle (Huizinga, 1955) that establishes boundaries around the rules participants (and the game itself) create. Norms and behaviors imported from the larger SL context broke the boundary that allowed participants to "perform an act apart" (Huizinga, 1955 p. 15). In the world they temporarily inhabited. This suggests that following external but not internal norms would create a social divide between those that are deindividuated and those that are not; that is, those who allow their individual identity to override the group's identity are consequently separated from the group through their actions. This may be especially the case when the imported norms interfere or conflict with those established by the group. It follows, then, that the group members following local norms would react with irritation to Ender and Stinky's behavior but not to that of Enerji and Cera. The inverse is implied as well: when participants faithfully appropriate game genre while violating some aspect of game norms, groups approve of and benefit from misbehavior.

Prior research suggests such misbehavior may be part of attempts to establish a unique identity within a group (Kim 2011; Lee, 2004). In those studies, researchers found that a need for uniqueness when avatar appearances were the same caused some people to act out against the group. The current study suggests that social groups are negatively impacted when misbehavior violates group, but not necessarily contextual norms, as SIDE (Desanctis & Poole, 1994) would predict.

7.4. Discussion Summary

The focus of this thesis was to determine if and how misbehavior can benefit social groups in a virtual setting. To address this question common types of misbehavior had to be identified in the *Moonstone Quest*. The most prominent were: jumping to transgress visible and invisible boundaries, using menu commands like the ‘cam’ feature to bypass challenges and access locked areas, and generating out context objects from participants’ inventories. These types of misbehavior were part of each quest group’s unique experience and had varying outcomes for group decision making, idea generation, participation, and progress through the virtual space. Gidden’s (1984) three forms of social structuration were used to build a thematic framework and to conduct a theoretical thematic analysis to examine the causes and consequences of each of these types of misbehavior.

I argued that structures of domination in virtual spaces include lines of underlying mathematical code. This code establishes boundaries, functions, and features of the technology and outlines the intended use of the virtual space. AST (Desanctis & Poole, 1994) was used to further examine structures of domination at work in virtual worlds because of its consideration of faithful and faithful (or expected and unintended) uses of the virtual space. Researchers did not observe any hacking or altering of the actual lines of SL code during the *Moonstone Quest*, but

participants did use workarounds to manipulate the rules that code sought to enforce.

Participants tried to jump over visible and invisible barriers and used the camming feature to access locked areas and bypass challenges. AST asserts that misbehavior, or those actions “out of line with the spirit of the technology” (Desanctis & Poole, 1994, p. 127) should result in low group decision making, low group cohesion, and decreased participation. However, misbehavior that sought to circumvent the rules enforced by code may have been caused by frustrations with an existing lack of progress through the quest. Instead of *causing* low group cohesion, low group idea generation, and low group participation, misbehavior was, in cases, a *response* to those same conditions.

Structures of signification or the signs and cues present in game environment and in game language guide social behavior by providing contextual information with which participants create meaning and interpret their surroundings. Semiotics (Sausurre, 1959) was a useful lens through which the effect of these cues, as elements of either game language (NPC dialogue) or aesthetic (visual signs that convey meaning), could be analyzed. Though the internal meaning making processes occurring within participants’ minds are unable to be heard, observed, or otherwise discerned, their interactions with NPCs and conversations about their motivations to misbehave reveal key pieces of those processes. Game genre and its collection of specific tropes, signs, signifieds, and signifiers presented another layer of rules for participants to navigate during the quest. These rules competed and often conflicted with those created by game code, causing participants to question lines of NPC dialogue and requests those NPCs made. The base of the Manor stairs was the most notable example of this conflict wherein players openly defied Lady Blayfield’s request to avoid the upstairs of their mansion out of respect for the family’s privacy. Several participants remarked that she must be hiding something entered

the upstairs, ignoring not only Lady Blayfield's written request but also the visual barrier erect to signify the upstairs was off limits. Contextual cues (the rope demarking an off limits area), game code (the physical boundary that accompanied the rope), and game language (the written request to not go upstairs) were all transgressed. Yet, many participant groups were not negatively affected by these actions because they satisfied the group's curiosity that each area had been fully explored and no clues had been missed.

Structures of legitimation deal with normative standards created by social actors in social settings and represent a third set of rules for participants to navigate in the *Moonstone Quest*. Social norms establish expectations of behavior in social settings and determine the acceptability of those behaviors in group settings. The social identity model of deindividuation effects (Lea & Spears, 1991) suggests that the salience of group identity over that of individual identity determines if actions committed by individual members will be accepted by the larger group. In cases where individuals have adopted the group identity, antinormative behavior will decrease as individuals accept group norms over their own. In the *Moonstone Quest*, it was not observed that instances of antinormative behavior decreased if the group ID was salient over individual ID. Participants misbehaved whether they retained their individual identity or adopted the group identity of detective trainee. However, instances of misbehavior committed by those who retained their individual identity were far more jarring to the quest group than those that were committed by participants who more closely played the role of detective trainee. This suggests that the norms adopted by quest groups more closely aligned with the rules associated with quest genre, rather than those proscribed by game code.

The duality of structure (Giddens, 1984), or structuration's recursive nature, is important to remember during this analysis. There is no defined order in which elements of structuration

work. They do not build off each other linearly, but instead interact with each other fluidly—each influencing, changing and guiding the others all at once. I mean not to imply that misbehavior is only productive if structures of domination are transgressed first and structures of signification second, and structures of legitimation third. Instead, the central finding of this thesis asserts that structures of all three types can be transgressed at any time but the key to their acceptance by social groups relies on participants accepting the group identity to faithfully appropriate their role within the specific context the environment establishes – here, as detective trainees.

CHAPTER 8. CONCLUSIONS

This study drew on Giddens's (1984) Structuration Theory to examine the structures at work in social settings and the ways in which knowledgeable social actors use those structures to make and remake rules about their behavior. Its main focus was to analyze participants' behavior and determine how their misbehavior in social settings could actually be productive and beneficial to the quest group present. According to Giddens (1984), the duality of structure or the constant interplay between rules (domination), contextual signs, signifieds, and signifiers (signification), and emerging social norms (legitimation) suggests that the guiding forces of social interaction are recursive, both product and producer of the interaction they govern. Since social interactions in any setting are inseparable from the context within which they occur, there is no proscribed, comprehensive set of rules, norms, or expectations for behavior in any particular space. The central question of this thesis then was to determine if participants' misbehavior, or behavior that went against the rules, context, and intent of the space, could still be a socially acceptable, beneficial, and productive part of social interaction.

This thesis drew on additional theories to more closely examine each of ST main tenants in the *Moonstone Quest*. Adaptive Structuration Theory (Desanctis & Poole, 1994) was used to examine structures of domination, or rules as code, in virtual settings. Semiotics (Sausurre, 1959) was applied to the social interpretation of signs, signifieds, and signifiers in the *Quest* environment to better understand structures of signification. Finally, the Social Identity Model of Deindividuation Effects (Lea & Spears, 1991) was used to examine structures of legitimation, or the emerging normative expectations of behavior amongst participant groups.

These theories were applied to participant observation data, chat logs, and session video recordings. As the participant observer, the researcher took notes during sessions and used screen recording software to record participant groups from a first person perspective. The researcher's initial impressions were noted during the sessions while each session's video and chat logs were available for further analysis. A qualitative, theoretical thematic analysis was conducted using Structuration Theory as a guiding framework.

The current research shows ways that all three forms of social structuration (Giddens 1984) influence participants: they respond to codified rules (domination), visual signs and thematic tropes (signification), and navigating emerging normative expectations of behavior (legitimation) in the *Moonstone Quest*. Adaptive structuration theory (Desanctis & Poole, 1994) connects social groups to the structure of the technology they are using. When participants misbehave in relation to the features and intent of that technology, less collaboration, interaction, and idea generation is expected, but was not always observed. In fact, participants were observed to unfaithfully appropriate structures of domination in response to *existing* negative use outcomes in order to jump start those same processes and benefit their social group.. The mystery genre of the *Moonstone Quest* and its component signs and symbols further challenged participants to break rules and appropriate the code and features of the quest space via their own means rather than the means provided by the game. Though genre's influence seems enough to redefine faithful and unfaithful uses of the quest space for participants, it does not, on its own, determine if use outcomes will be positive or negative for the quest group. In other words, the interpretive schemes provided by quest genre, while important, were not what ultimately determined the use outcomes for quest groups. The results of this study indicate that beneficial use outcomes of unfaithful appropriations of any structure rely mostly on identity, role, and the

emerging normative standards they establish. When participants were de-individuated in the *Moonstone Quest*, as demonstrated by their willingness to accept their role and identity as detective trainees, outcomes of their misbehavior were positive for the quest group. In those instances, when the group's identity was more salient than the individual's identity, participants generally acted within the *Moonstone Quest's* magic circle (Huizinga, 1955) and abided by emerging group norms in the game's setting. As SIDE (Desanctis & Poole, 1994) predicts, use outcomes were negative in instances of misbehavior when participant identity was salient over group identity.

The findings of this project might lead some to believe that rules are what you make them; that expectations of behavior are malleable and subjective, making any misbehavior permissible despite its effects on others present. But this project demonstrates the opposite is true: that narrow expectations of how social groups should interact with a virtual setting may prevent certain behaviors that lead to increased satisfaction, participation, and group cohesion. Breaking rules, impinging on the experience of others, and seeking to gain an unfair advantage, despite potential negative outcomes on both groups and individuals in virtual settings can lead to productive uses of a virtual space and to positive interactions amongst group members.

8.1. Limitations

Like all research, this study is not without its limitations. Chief among these limitations is the problem of definition. In this thesis, I have been careful not to confuse *misbehavior* with *cheating* (see Chapter 4). The difference, as defined here, is that cheating is a means to an end (Kucklick, 2007) and is frequently defined as gaining an unfair advantage (Consalvo, 2007; Smith, 2004; Yan & Randell, 2005) while impinging upon the experience of other players “mostly in a negative way” (Kucklick, 2007). Cheating, in short, implies malice and has a

decidedly negative connotation. However, the term *misbehavior* acknowledges that players can intentionally misuse pieces of the virtual world in order to faithfully accomplish some larger objective or group goal. That is, misbehavior allows for the possibility that resisting the dominant structures of a space can result in group cohesion and an effective use of that space. Though it may be useful to delineate this kind of behavior from the more commonly studied *cheating*, misbehavior may be difficult to point to. Since it may not involve the transgression of a stated rule or norm, it may not inherently involve overt or intentional wrong doing. Misbehavior is a nuanced type of behavior that is the product of specific social, group, and virtual contexts.

Additionally, this study's unique research setting may limit my finding's conclusions. First and foremost, the *Quest* was built within *Second Life*. *Second Life* is less a game and more, as the name implies, a second life. It is extremely open ended, giving participants complete freedom to build anything they want, dress any way they want, and assume any identity they want. The space is therefore low on narrativity and high on openness, which suggests players may come into the *Moonstone Quest* predisposed to misbehave in certain ways (Kuelclich, 2004). Unlike players in the larger SL context, participants in the *Moonstone Quest* were assigned an objective—to solve the mystery of the stolen family heirloom. This assignment is the result of an established plot, genre, and back-story—none of which are common elements of other *Second Life* spaces.

The narrative of the *Moonstone Quest* is highly structured and therefore suggests participants will misbehave by seeking to skip parts of the plot (Keuclich 2004). Although this thesis found the contrary—that participants were faithfully appropriating their roles as detective trainees and misbehaving to expose as much of the plot as possible—the most frequent mode of

misbehavior observed was jumping over visible and invisible barriers to explore, or investigate, the *Quest* space thoroughly. Such exploration in the open ended spaces that make up large portions of SL may be common practice outside the *Moonstone Quest* and may be viewed by *Moonstone* participants as normative behaviors in the virtual world. This could make it easier for group members to normalize those behaviors regardless of the context specific structures at work in the *Quest*. As Steinkheuler (2006) notes, MMO games have “fuzzy boundaries that expand with continued play” (p. 50). Although this thesis attempts to examine participant behavior as it evolves within the *Moonstone Quest*, participants may draw on their accumulated knowledge of many other spaces in order to guide their behavior.

Researcher bias may be present in this study as well and may lead to problems of repeatability. As both a participant observer and a member of the design team that created the research setting, I was very aware of the intent of the *Quest* environment. I was part of discussions about what types of boundaries to construct, where to place clues, and if invisible boundaries needed to be erected. As such, I made a conscious effort to be objective while memoing during research sessions and while conducting data analysis. However, my knowledge of the space’s intent, rules, and structures made it difficult at times to separate myself from the research setting. Failure to do so could mean that I over-relied on the intentions of game space (or structures of domination) to make arguments about the misbehavior that occurred at the expense of more fully considering the effects and influences of structures of signification and legitimation.

Additionally, participant levels of experience with *Second Life* exceeded my own—70% of participants had 2 or more years of experience in the virtual world while I had far less. Again considering my role as an instrument for data collection and data analysis it is important to

acknowledge that the single player and action adventure games I am familiar with may have furthered my tendency to focus on misbehavior that transgressed structures of domination and signification. These games lack the social component of game play built into the *Moonstone Quest*. Just like participants may have drawn on conventions from outside contexts while misbehaving during the quest, my own experiences with those same external contexts may have made me predisposed to notice certain types misbehavior more frequently than others.

Furthermore, misbehavior itself may be the result of a different interplay of social structures in other game types and genres. For instance, in games that focus more on individual game play like action-adventure games or first person shooters, structures of legitimation and the role evolving social norms play in governing player behavior may be significantly reduced. The theoretical framework constructed in this thesis would not apply evenly to such virtual settings and would require significant re-structuring. Its conclusions about how the salience and acceptance of a group identity shape emerging expectations of normative behavior would also not apply to single person game play.

As outlined in Chapter 6, it is also important to consider the implications of this project being a secondary analysis. Such analysis, especially of qualitative data, may lead to inefficiencies in interpreting data. That is, researchers producing qualitative data, such as field notes, often have an intimate understanding of the transcribed experience. The intricacies of that experience may be better remembered or interpreted by the original researcher. The occurrence of such inefficiencies should be lessened here, as I served as a participant observer during the research sessions and transcribed my own asides throughout each one.

8.2. Areas of Future Research

This thesis sought to identify the cause and consequence of misbehavior in virtual settings by asking how and if misbehavior could be a beneficial part of social interaction. Using thematic analysis and participant observation to study players' actions and language illuminated important aspects of how participants processed and responded to the social structuration of the virtual space. However, there are several areas of future research that may further contribute to the conclusions reached here.

Decisions to misbehave and their ultimate contribution or detraction from group processes hinged on whether or not participants accepted the group identity of detective trainee. This acceptance was measured primarily by participant statements before and after the misbehavior occurred and by the observations made by the participant observer. Identity and participants willingness to accept a new group identity or retain their individual identity could be further scrutinized by their costume use. Perhaps costume use indicates that a participant has abandoned their personal identity in favor of assuming a space appropriate identity. Though this thesis does note that costume use appears to be an important indication of accepted identity, it did not explore processes of identity creation in virtual worlds nor does it measure how often avatars changed into one of the *Moonstone* outfits. It also did not explore how other participants viewed and interacted with costumed vs non-costumed participants. Further research in this area could reach both qualitative and quantitative conclusions about a player's likelihood to misbehave and the likelihood that participant groups will normalize that behavior.

Leadership and how it influences misbehavior may also be an important line of inquiry. Identifying participants in leadership roles and how they influence group decisions about misbehavior may be an important component of the legitimation process. How much influence do leaders have on normalizing or stigmatizing misbehavior? When a strong leader is present,

do they act unilaterally in determining if an action is cheating or misbehavior? Do they interfere with or override emerging social norms? If the former, perhaps leaders could stunt processes of legitimation and signification occurring within the participant group.

8.3. Final Thoughts

Overall, this project found that players can misbehave by unfaithfully appropriating features of game code, norms, and aesthetic cues as long as the group identity of detective trainee was salient over participants' individual identities. In such cases, participant groups responded positively to individual actions that used the group identity and tropes common to mystery genre games to redefine expectations of behavior in the virtual space. Increased discussion, idea generation, and participation in the Quest were observed under these circumstances, contrary to the assertions made by AST (Desanctis & Poole, 1994), could create beneficial use outcomes by spurring discussion, encouraging participation, and generating new ideas and uses of the quest space.

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