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Film Viewing in the Interactive Age

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FILM VIEWING IN THE INTERACTIVE AGE

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SCHOOL OF COMMUNICATION

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ABSTRACT

Streaming films online has become a popular and unique way to view films. This study was designed to identify the uses and gratifications of using streaming film services, and identify any differences in quality of the streaming experience when compared to the original film. This study drew from past uses and gratifications research on film, television, VCRs, DVDs, and other film-related technologies to develop a survey determining the motivations of both streamers and non-streamers. Additionally a content analysis was used to determine the quality of film presentation when streaming a film online. The survey revealed that the main uses and gratifications for online film streaming could be broken down into five distinct categories. It also demonstrated that viewers are concerned about the quality of the film they are receiving, but it is not necessarily enough to cause them not to use a streaming service. The content analysis revealed that distinct differences exist between the quality of streaming films and the original film, including aspect ratio, color and sound quality, and picture clarity.

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CHAPTER I

INTRODUCTION

The definition of what constitutes a high-quality film-viewing experience has become more complex since the days when movie theaters were the only place to watch films. Film in its theatrical presentation has experienced competition from other ways to watch similar content, starting with the introduction of television. Since the 1950s, widescreen has been the dominant format for filmmaking, involving a transition from a nearly-square image to one in which the picture was wider (often much wider) than it was high. Experiments in widescreen had been conducted in earlier decades, but the format was solidified as standard practice during the film industry's rush to compete with television in the 1950s (Neuendorf & Lieberman, 2010). The inauthentic presentation of television was mocked in films such as *Will Success Spoil Rock Hunter?* In one particular scene, an "interruption" occurred to show viewers what television viewing is like. The screen became smaller and the film changed from color to black and white (Tashlin, 1957).

Beginning with the 1961 network TV broadcast of *How To Marry A Millionaire* (1953), pan and scan was introduced as a way to cut widescreen films down to fit television screens (Neuendorf, Lieberman, Ying, & Lindmark, 2009). Films that were shot in a 1.85:1 aspect ratio were trimmed to 4:3 for television broadcast. Along with this change in format, many other changes were made to films shown on television, including censoring, changes in editing, the insertion of breaks for commercials, and sometimes colorization of black and white films. Overall, the audience was not viewing the original film in the same quality that the filmmakers intended.

The use of Internet streaming services for watching films presents the latest threat to film quality. Such services have increased in popularity over the past few years. Companies that offer films for streaming, such as Netflix, Hulu, and Amazon Prime, have been discussed heavily in the press, due to competition and customer concern over costs. These services have also caused significant changes in the film business. Producer Harvey Weinstein declared that nearly every Hollywood film deal now has an online distribution component due to Netflix's success (Copeland, 2010). In 2011, television viewing reached an all-time high (O'Neal, 2011) despite the fact that television ownership is down (Hibbert, 2011). This outcome is thought to result from the increased usage of online streaming websites that allow viewers to watch television shows (O'Neal, 2011). It is not unreasonable to assume that if people are watching more television on streaming websites, that they are probably watching more films through online streaming as well.

Despite the plethora of news coverage, there has been little information to determine the quality of the film-watching experience via streaming sites. As with

television, streaming sites can cause interruptions to the viewing experience by their very nature. Subscribers to such streaming sites might find their film viewing interrupted through the site's bandwidth calculations. Additionally, it is worth asking whether audiences are even concerned about receiving the film in a quality similar to other presentations. With the instant gratification warranted by streaming services, customers may not care about the quality of their experience as long as they are entertained. There has yet to be research done on the reasons audiences view films through online streaming services, much less their concern about the level of quality they experience through online streaming. The specific rationale for this study is that a research gap exists regarding the uses and gratifications of watching films through streaming services. Additionally, very little is known about how the quality of the experience, or lack thereof, affects the viewing experience.

CHAPTER II

LITERATURE REVIEW

2.1 Quality of Film Presentation

Widescreen production formats became common at the same time that television became a popular form of entertainment. In order to compete with television, the film industry tried to set themselves apart as a dynamically different and visually compelling form of entertainment. Widescreen was meant to showcase the great size and scope one could expect by choosing to see a film in a movie theater rather than viewing a program on television. According to Belton in *Widescreen Cinema* (1992), widescreen innovations began with Cinerama in 1952. Panavision standardized the widescreen format in the 1960s with the CinemaScope anamorphic lens. It created an aspect ratio of 2.35:1, compared to television's 1.33:1 aspect ratio (Belton, 1992). For the purposes of this study, high-quality is defined as the way films were meant to be seen in the theater. This typically includes a widescreen aspect ratio (but not always) and the best quality of sound, color, and picture.

While widescreen was brought to mainstream use in an attempt to compete with television, quality became an issue specifically in the 1960s when films began to be sold for broadcast on television (Neuendorf, Lieberman, Ying, & Lindmark, 2009). A treatment that became known as “pan and scan” was developed by 20th Century Fox in order to change the shape of films from 2.35:1 to 1.33:1 in order to be broadcast on television (Belton, 1992). The process used a “finder frame” which signaled a computer. In turn, this computer could track the most dramatically significant portion of the frame (Belton, 1992, pp. 216-217). In some cases the sides of a shot were cut off if it was determined that the main action took place in the center of the original shot. Additionally, a single shot could be cut into two separate shots. This allowed the viewer to see everything that was involved in the original widescreen image, while still fitting the widescreen image to a television screen.

The cutting of films into a pan and scan format has raised the ire of filmmakers and film buffs alike from its inception. In 1997 the director Sydney Pollack won a lawsuit filed against a Danish television network for cropping his film *Three Days of the Condor* from its original 2.35:1 aspect ratio to a 4:3 aspect ratio for television broadcast. The Danish Director’s Guild, who filed the lawsuit on Pollack’s behalf, claimed that the cutting of the film violated Pollack’s “rights as an artist” (Neuendorf, Lieberman, Ling, & Lindmark, 2009).

Other directors have spoken out against the practice of pan and scanning films for television. Martin Scorsese, Michael Mann, Sydney Pollack, and other film industry professionals spoke out against pan and scan in a short clip made for the cable channel Turner Classic Movies. TCM prides itself on showing films in their original format,

uncut and uncensored. In the clip, Scorsese calls pan and scan a “redirection” of a film from what the actual director intended (Turner Classic Movies, 2007). Others note that pan and scan changes the depth and meaning of a shot so dramatically that it completely alters what the director was attempting to convey about the world in which the film takes place (Turner Classic Movies, 2007).

In the 1980s colorization became an issue among filmmakers. Ted Turner, the owner of Turner Classic Movies, once hoped to colorize classic films that were originally filmed in black and white (McLeland, 2011). Various filmmakers spoke out against the process, notably Orson Welles. Turner owned the rights to Welles’s *Citizen Kane* and could have colorized the film if he wished. This caused Welles to speak out against any change to his film’s original form (McLeland, 2011). The issue was taken to Congress (Wagner, 1989), with various film industry professionals protesting Turner’s plans. The director John Huston even sent a letter on his behalf explaining the detriment colorization would cause to the original vision of his film *The Maltese Falcon* (Huston, 1987). In his statement Huston claimed the colorization process encouraged by Turner had “obliterated” the work of his cinematographer and set designer, who had planned for a black and white film (Huston, 1987).

However, Sherman and Dominick (1988) found that viewers were almost evenly split on whether they preferred films that had undergone a colorization process. A very slight majority enjoyed the colorized versions of black and white films more than the same films in their original black and white presentation. Similarly, Neuendorf, Lieberman, Ying and Lindmark (2009) found an almost even split between subjects preferring pan and scan versions of widescreen films or films presented in their original

widescreen format. These findings suggest that viewing a film in its original form might not be important to all audience members. They also point to the wide variance in audience preferences in this regard.

The broadcast of films on television can cause other affronts to quality aside from those that have been readily protested by filmmakers. Aspect ratio is only one factor that can be changed for television. Films are cut in order to fit into specific broadcast lengths. They are also censored so as to comply with broadcast regulations. Language may be changed, sometimes to the point that a character's mouth does not match what he or she is saying. Specific scenes might also be cut short or removed from the film entirely if they are deemed indecent for broadcast. Foreign films might be dubbed, meaning that English-speaking voice actors rerecord the lines. In this case, the original voice actors are removed. Finally, films shown on television are almost always broken up into sections in order to allow for commercial breaks. The viewer is routinely taken out of the world of the film when viewing it on television.

As with television before it, online streaming is the next potential threat to both the film industry and the quality presentation of film. While streaming movies holds obvious benefits (namely instant gratification), Netflix's streaming service has not been met without criticism. The company has slowly grown its streaming content, which started with mostly direct-to-video releases, horror films, and classic silent films (Braun, 2011; Caulfield, 2011; FeedFliks, 2009). As the collection of content increased to include more recent releases, reports surfaced that not all studios or distribution companies were comfortable with the idea of instant streaming availability through Netflix (Frommer, 2010). Some films that Netflix celebrated obtaining streaming rights to were later pulled

from the service when a deal could not be reached with the parent studio (Richwine & Adegoke, 2011). Other studios have claimed that online streaming is not a “high-end” medium that would properly showcase their films (Savitz, 2011).

Furthermore, customers began to complain about lack of selection, especially when Netflix announced the separation of its streaming and DVD packages (Braun, 2011). Some did not feel the company had a substantial enough streaming catalog in order for it to stand on its own (Shaw & Lang, 2011). Others complained that Netflix’s streaming catalog lacked new releases and was thus not worth the cost (Shaw & Lang, 2011). In January of 2012, blogger Tristan Louis calculated that Netflix offered streaming of only five out of the 100 biggest films of 2011 (based on box office). In contrast, other streaming services such as Amazon, iTunes, and Vudu offered most of these films. Some even offered streaming of particular films before their DVD release (Louis, 2012). On February 28, 2012, Netflix lost a significant part of its streaming catalog when Starz Play declined to renew its contract (Miller, 2012). This was a significant loss, because Starz Play provided over 1,000 recent and popular releases from studios such as Disney and Sony (Erbland, 2011).

The company has also faced some criticism over the inauthentic presentation of films offered through their streaming service. This outcry has been minimal compared to the criticism of its streaming selection, but it has been increasing (Nem_Enforcer, 2011; Ricciardi, 2008; Young, 2008). A post on Hacking Netflix, a Netflix news blog, claimed that two films originally in 2.35:1 aspect ratio were presented in 1.66:1 aspect ratio when streamed (Hacking Netflix, 2007). Other customers have claimed that films that originated in 2.35:1 aspect ratio have been cut down to a 1.85:1 aspect ratio for streaming

(Nem_Enforcer, 2011; Ricciardi, 2008). In 2007 a Netflix spokesperson claimed that the studios were responsible for the film format provided for streaming, and that films provided in different aspect ratios than their original releases may have been versions made for television (Hacking Netflix, 2007).

In addition to aspect ratio, the very nature of streaming content over the Internet can provide an inauthentic viewing experience. Netflix has received criticism for frequently having to recalculate bandwidth, which interrupts film viewing, and for potentially throttling the streaming performance for some customers (Kalla, 2009). There has been some research, independent of Netflix, which claimed that the amount of streaming video, over the Internet or wireless networks, that can be supported at one time is inhibited by the media's high transfer rates and the requirement of real-time playback (Alsmirat & Sarhan, 2010).

Despite quality being an issue of importance among filmmakers and film studios, there is a gap in research concerning how changes to the original theatrical film presentation affect the audience's perception of the film. Given the wide range of changes that can happen to a particular film and the various mediums through which films can now be viewed, it is not unreasonable to wonder how differences in aspect ratio, editing, or cutting a film for commercial breaks could affect the overall message of the film. Changes in colorization and breaking widescreen shots into smaller, full frame shots can affect the visual message that the director attempted to convey to the viewer. Audiences might miss important visual information that further accentuates a character or storyline. Thus, it is important to determine how changes in the film can affect its perception among audience members.

Thus, a series of research questions addresses these practical concerns:

RQ1: To what extent are viewers bothered by differences in quality between streaming presentations of films and other presentation modes (i.e., DVD, theatrical)?

RQ2: How often are the aspect ratios changed for online streaming?

RQ3: How frequently do inconsistencies occur in films viewed through online streaming when compared to their original format?

RQ4: Of the inconsistencies that occur, which are the most prevalent?

2.2 Uses and Gratifications of Film Viewing

The uses and gratifications approach has repeatedly been used to analyze and explore new media as they emerge (Ebersole, 1999), beginning with radio and television. The perspective posits that individuals use various types of media in order to fulfill specific gratifications and needs (Ebersole, 1999). It is an “active audience” theory, because it involves the motivation of the individual using the particular media (Katz, Gurevitch, & Haas, 1973). The theory has a rich research tradition, having been applied to various media innovations beginning in the 1940s with radio. Herzog (1944) found that radio serial listeners sought gratifications such as emotional release, compensation for gaps in their lives, or advice about appropriate behavior. Television has received considerable attention through a uses and gratifications framework. Rubin (1983) found that people watch television in order to be entertained, to escape from reality, or for information.

While much of the research on uses and gratifications of visual media has focused on television viewing, it is reasonable to believe these could easily apply to film viewing

(Katz, Gurevitch, & Haas, 1973). Audiences may be using entertainment media such as film in order to escape from problems (Herzog, 1944), in order to feel less lonely or gain a sense of social interaction (Rubin, 1983) or to relieve boredom (Rubin, 1983). Others watch visual media in order to gain information (Rubin, 1983). Specific to film, few scholars have assessed individual viewing motivations, and when they have, it has usually been as related to viewing of particular genres (e.g., Mares, Oliver, & Cantor, 2008; Neuendorf & Sparks, 1988; Oliver, 1993; Oliver, 2008; Oliver & Bartsch, 2010). Mares, Oliver, and Cantor (2008) surveyed 188 young adults (ages 18 – 25), 92 “middle” adults (ages 26 – 49), and 93 older adults (ages 50 and older). They found that younger adults sought dark or violent films, because they had a greater interest in experiences negative emotions than other age groups. They also viewed films for entertainment and to relieve boredom. Older adults sought emotional stability and thus wanted to view happier films. Oliver’s (1993) study on sad films found that people who watch such films feel that being sad is part of the experience. This occurred more in females than males, which caused Oliver to theorize that this was due to sympathy and empathy being rewarded in women in our culture. Oliver (2008) found that a desire for meaningfulness or insight might be more of a motivation to view tragic or dramatic films, rather than simply wanting to be entertained. Oliver and Bartsch (2010) conducted three separate studies asking undergraduate students their feelings toward films of various genres. They found that the desire for a moving or thought-provoking experience motivated people to watch drama, history, documentaries, or art films. It has been determined that viewers watch horror films (in addition to other violent media) for sensation seeking (Johnston, 1995; Sparks, 1986; Tamborini & Stiff, 1987; Zuckerman, 1994; Zuckerman, 1996).

2.3 Uses and Gratifications of Theater-Going

Johnston (2008) argued that certain film-related media are “acceptable” for online viewing while some must be viewed in theatres due to their visual grandeur. He referenced the release of *Star Wars: Episode I* where fans eagerly awaited a teaser trailer for the film to be posted online. The teaser had been released in theaters, but was pirated by theater-goers and later posted on websites such as YouTube. Lucasfilm, the makers of the *Star Wars* films, eventually posted the trailer on their official website, but warned viewers that the teaser should be viewed in a movie theater. Their statement claimed that:

Unless you have a THX-certified Web browser, you won't be seeing with top-quality audio and visual presentation quality. We hope you'll see the trailer first as it was made to be seen, in a theater (Walk, 1998).

Johnston (2008) argued that viewers either felt differently or were attracted to the instant access granted by the Internet, since the trailer was downloaded 450 times per second. While filmmakers and studios obviously feel their products are made to be seen in a theater, especially when special effects and CGI are taken into account, there is little evidence to determine whether audiences feel the same way.

There is some research on the motivations for watching films at a movie theater, which is where the film would be presented in its highest quality. Collins and Hand (2005) conducted a study on theater-going in the United Kingdom and found that the main movie-going audience was 15 – 34 years old, with the majority being 15 – 24 years old. They also found that the more income one has, the greater the chance that he or she will watch movies in a theater. Austin (1986) identified seven reasons individuals attend a movie theater. These included learning and information, escaping from real life,

watching movies as an enjoyable and pleasant activity, to pass time, to relieve loneliness, to gain behavioral resources, and to learn about self. Chuu, Chang, and Zaichkowsky (2009) suggested that people tend to view films in theaters rather than at home when purposes in addition to entertainment are important, such as social gathering. In this case, the movie itself would not be the sole reason for attendance. There is evidence that larger screen sizes cause more arousal when compared to smaller screen sizes, particularly when violence or sex is shown (Reeves, Lang, Kim, & Tatar, 1999).

Vahemetsa (1979) and Chuu, Chang, and Zaichkowsky (2009) found that art film audiences prefer to view movies in theatres because they genuinely enjoy the experience of watching movies. In fact, Chuu, Chang, and Zaichkowsky (2009) found that art film audiences are more likely than commercial film audiences to attend theaters alone. Commercial film audiences are more likely to attend a movie theater primarily as a social activity, with the actual film viewing coming second. For art film audiences, the decision to watch a film in a theater is mostly based on what films are playing at a given theater (Chuu, Chang, & Zaichkowsky, 2009). Generally, they are more serious about film in general, often seeking out information about movies before seeing them in a theater (Chuu, Chang, & Zaichkowsky, 2009), and would thus prefer to see films in their intended viewing state (Austin, 1984). Art film audiences feel that films are important parts of their lives, more so than commercial film audiences do (Chuu, Chang, & Zaichkowsky, 2009).

Based on the research of Vahesmetsa (1979) and Chuu, Chang, and Zaichkowsky (2009), a concept of “film buff” was developed for the purposes of this study. Since these studies found that theater-going is more likely among those more

serious about film and those who prefer films in their original viewing state, “film buff” is conceptualized as a person who cares about the quality of their film experience and prefers to see films in a state most closely related to their intended viewing state (such as the theater).

Based on this limited research, the following hypothesis is proposed:

H1: Those who consider themselves “film buffs” will use an online film streaming service less often than those who do not.

2.4 Uses and Gratifications of New Film Technology

Harvey and Roth looked at the uses of videocassette recorders (1985-1986) and determined that they had six main uses. The first was skipping commercials, followed by time shifting. Time shifting means that viewers are not bound to the television at a particular time in order to watch what is being broadcast. Establishing an environment for children was third, mostly cited by parents. The fourth reason was increasing viewing choices, followed by increasing noncommercial viewing by building a library of programs. Fast viewing by scanning through programs was the final main use. Of the six, Harvey and Roth reported that time shifting and increasing viewing choices were listed as the most important uses. Furthermore, Dobrow (1987) found that communication behaviors affect VCR use. Heavy television viewers used VCRs to keep up with their favorite shows while lighter television viewers used the VCR for diversity in viewing.

Levy and Gunter (1988) found that VCR use stemmed from three factors: the ability to choose family-friendly films, social interaction by the ability to watch with others, and time shifting, meaning that viewers could watch when they wanted. A more recent study by Collins and Hand (2005) posited that choosing to watch films on videos

at home over theater-going is mostly an issue of convenience. This could be the convenience of viewing at home or the convenience of being able to watch the film at a time of the viewer's choosing. Overall, Collins and Hand reported that this convenience must be held in a higher regard than the time the viewer has to wait for a film to be released on video or DVD. However, they found that the best predictors of theater-going were high income and young age.

A uses and gratifications approach does not seem to have been applied to Betamax, the video cassette recorder format that competed with VHS. Rosen, Schroeder, and Purinton (1998) theorized that Betamax may have lost out to VHS due to customer perception of superiority. While Betamax's parent company, Sony, may have felt they had a technologically superior product to VHS, it only matters if the customers feel that the product is superior (Rosen, Schroeder, & Purinton, 1998). It has been claimed that Betamax had better picture quality (Cusumano, Mylonadis, & Rosenbloom, 1992; Perry, 1988; Rosen, Schroeder, & Purinton, 1998), but Sony's lack of research on customer demands led to its eventual loss of the market. Customers did not necessarily want better picture quality, but instead wanted longer playing time (Cohen, 1989). Furthermore, films released on VHS were sold for \$29.95 while films released on Betamax were sold at prices ranging from \$79.95 to \$89.95 (Cohen, 1989). Scholars cite these factors as reasons that ultimately trumped picture quality for the average consumer.

During the 2000s, DVDs replaced VCRs and videotapes as the dominant format for viewing films at home. Kim and Lee (2003) found three distinct types of DVD users and different gratifications for each through a survey of 51 Americans belonging to home entertainment discussion groups. First, Audiophiles used DVDs for better sound quality

and often bought sound equipment to further enhance it. Secondly, Technophiles were early adopters who viewed DVDs for the novelty of new technology. This group also enjoyed the superior sound and picture quality. The final group was Recreation Seekers, who used DVDs for enjoyment and escape. Recreation Seekers seem to be simply interested in watching movies, since they reported still using VCRs if the movie they wanted to watch was available on video instead of DVD.

Recently the use of DVDs has been called into question due to the increasing use of online streaming services. Peter Dean, a professor at the University of Bedfordshire in the United Kingdom, predicted that the extra content and add-ons afforded by purchasing DVDs is not enough to save DVD sales in an era of instant streaming content (2007). Dean also inferred from the increased amount of online film viewing that viewers might only be interested in the feature film alone. He pointed to cost as the main motivator for this shift in choosing online streaming over purchase of DVDs. Film studios have apparently noticed this trend as well. In recent years they have restricted rental and streaming sites such as Netflix from offering DVD extras, hoping that this will cause customers to purchase the DVD instead (Hacking Netflix, 2010; Singer, 2010).

High definition television (HDTV) has increased in popularity in recent years. Dupagne (1999), in a telephone survey of 613 respondents in Florida, found that those who use HDTV are more likely to go to theaters for movies and also more likely to own home entertainment products in general. The likelihood of purchasing HDTV was related to sports viewing and also to screen size. The results indicated that users of HDTV might be attempting to create a viewing experience similar to that of a movie theater, since they are more likely to have other equipment and see screen size as important. However,

avoiding the theater due to cost does not seem to be a reason for HDTV usage since income was positively related to HDTV usage (Dupagne, 1999). In a 2010 study Dupagne and Driscoll found that HDTV ownership could be predicted by reading news online and owning other communication technologies such as DVD players, cable television, direct broadcast satellite, premium television channels, CD players, and home theatre systems.

Based on these varied findings, the following research question is offered:

RQ5: Is use of online film streaming services predicted by the use of other recent film viewing technologies?

2.5 Uses and Gratifications of Streaming Media

Research on online streaming services is extremely limited. Lin (2001) found that satisfying the gratifications of informational learning and escape and interaction were significant predictors in adoption of online services in general. Entertainment was also considered a predictor, but was found to be less influential than the other gratifications. In another study, Lin (2008) posted a survey on the websites of local broadcast stations asking respondents if they were interested in viewing local, original programming online. She found that people were more likely to view webcasts if they already used the Internet for functions involving both communication and information gathering and preferred online radio to traditional radio. The strongest gratifications found for webcast use were using webcasts as “infotainment,” escapism, and interpersonal communication.

A study conducted by Albarran, Anderson, Bejar, Bussart, Daggett, et al. (2007) on frequency of traditional radio use compared to online radio streaming found that about half of their respondents streamed some form of media online. In a survey conducted by

Yang and Chan-Olmsted (2009), it was found that people using online television platforms watched reality shows most often, followed by sports programs and news. The greatest difference between adopters of online television and non-adopters was perceived ease of use of such platforms. Sixty-one percent of respondents claimed they used online television platforms to substitute traditional television viewing, while 44% answered that their online viewing was only a partial substitute.

Due to the lack of information on film streaming, the following questions need to be addressed:

RQ6: What are the main uses and gratifications for the use of online film streaming services?

RQ7: Is the amount of use of online streaming film services predicted by the uses and gratifications typically related to these technologies?

2.6 Rationale For the Current Study

There seems to be great concern among various groups within the film industry regarding quality. There has been a resurgence in emphasizing the authentic film form, as seen in the commercial from Turner Classic Movies in which modern filmmakers plead for audiences to view films in their original, widescreen format. Regal Cinemas recently began playing an advertisement for a new marketing slogan before films begin (Regal Entertainment Group, 2011). Similar to the theater claims of the 1950s when owners were concerned about the competition from television, these Regal Cinema advertisements display the difference between watching a film in the theater and watching a film on television. In the advertisement, scenes of sweeping landscapes are interspersed with exciting explosions and action sequences. The scenes eventually

become smaller and the sound becomes quieter. The advertisement then asks the audience why they would watch something so exciting anywhere else but a theater, where they have the largest screens and the best sound systems (Regal Entertainment Group, 2011).

It is worthwhile to note that the film industry seems to have become concerned with “authentic” or higher quality film-viewing experiences at a time that coincides with greater restrictions being placed on online film rental services and film streaming services. It has already been noted that some film studios refuse to allow their content to be offered through streaming services, and some distributors have pulled content that once was available to stream. As noted in the literature on DVDs, the companies that produce DVDs have disallowed online rental services from offering the extra features that typically accompany DVD releases (Singer, 2010; 2011). These extras have never been made available on streaming services, and there are no apparent plans to change this. Furthermore, major studios have forced online film services, such as Netflix, to wait 28 days in order to offer new releases (Frommer, 2010). Studios hoped this would cause people to either buy the DVD or rent it from a company such as Blockbuster, which they have longstanding relationships with. Recently, there have been reports of studios either pulling their films from Netflix’s online streaming service or disallowing them to be offered in the first place (Frommer, 2010; Richwine & Adegoke, 2011).

It is clear that quality of film presentation and online streaming film services have been causing concern within the film industry. However there is little research on how the audience feels about such issues. Quality of film presentation and its effects (or lack thereof) on audience members is an area almost completely lacking in research. It is

worthwhile to discover whether quality is important to the viewer. New film, television, and sound equipment have become increasingly popular, despite their sometimes-high cost and relative complexity. This could explain why certain means of viewing films are used over others, and it also could explain why some people have been willing to upgrade from a standard television set for their homes. Furthermore, the gratifications derived from both theater-going and watching movies at home have been examined. Past innovations that had major effects on the way films are viewed have been researched, but online streaming has not yet been examined. Because we do not currently know the motivations behind the use of such services, it is impossible to tell what kind of film viewing experience streaming customers are seeking.

In sum, the following hypothesis and research questions will be addressed:

H1: Those who consider themselves “film buffs” will use an online film streaming service less often than those who do not.

RQ1: To what extent are viewers bothered by difference in quality between streaming presentations of films and other presentation modes (i.e. DVD, theatrical)?

RQ2: Are the aspect ratios changed for online streaming?

RQ3: How frequently do inconsistencies occur in films viewed through online streaming when compared to their original format?

RQ4: Of the inconsistencies that occur, which are the most prevalent?

RQ5: Is use of online film streaming services predicted by the use of other recent film viewing technologies?

RQ6: What are the main uses and gratifications for the use of online film streaming services?

RQ7: Is the amount of use of online streaming film services predicted by the uses and gratifications typically related to these technologies?

CHAPTER III

METHODS

3.1 Survey

A survey was used to ascertain the uses and gratifications of viewing films through online streaming services. Section A (Appendix A) contained questions asking the respondents about their media use, such as how many hours per day they watched television and how many hours per week they viewed films, played video games, listened to the radio, and read the newspaper. They were also asked how much of this media use was done online, such as streaming television shows online. A series of items measured on a 0-10 response scale followed, which asked respondents to indicate why they watched films. These were developed from previous research on film and television uses and gratifications (Katz, Gurevitch, & Haas, 1973; Ruben, 1983) and theater-going (Austin, 1984; Chuu, Chang, and Zaichkowsky, 2009; Vahemestsä, 1979). Respondents then received different versions of the survey based on whether they streamed films online or not. Those who did stream films online were asked why they used such services

and how (Appendix A, section B). For example, they were asked if they used streaming services to find a specific film to watch or simply watched whatever was available. These were developed mainly from various complaints and articles on streaming services, detailed in Section 2.1 (Braun, 2011; Caulfield, 2011; FeedFliks, 2009; Kalla, 2009; Nem_Enforcer, 2011; Ricciardi, 2008; Shaw & Lang, 2011; Young, 2008). In an attempt to ascertain the uses and gratifications of online streaming, section C asked what respondents liked about streaming and why they used a streaming service. These questions were developed from the literature on film, television (Katz, Gurevitch, & Haas, 1973; Ruben, 1983), VCR (Dobrow, 1987; Harvey & Roth, 1985-1986; Levy & Gunter; 1988), and DVD (Kim & Lee, 2003) uses and gratifications. Section D asked users what they disliked about streaming, how they felt about the quality of the films they watch online, and if there were any types of films they would prefer to watch in a theater. These questions were partially derived from the literature on theater-going (Austin, 1984; Chuu, Chang, and Zaichkowsky, 2009; Vahemetsa, 1979) and the complaints of streaming services detailed in section 2.1 (Braun, 2011; Caulfield, 2011; FeedFliks, 2009; Kalla, 2009; Nem_Enforcer, 2011; Ricciardi, 2008; Shaw & Lang, 2011; Young, 2008). All sections utilized items with 0–10 response scales, and respondents chose to what degree they agreed with each statement.

Those who did not stream films online were asked why they chose not to use a streaming service and how they typically watch films (Appendix A, section E). These were developed from the literature on theater-going and complaints related to Netflix streaming (Braun, 2011; Caulfield, 2011; FeedFliks, 2009; Kalla, 2009; Nem_Enforcer, 2011; Ricciardi, 2008; Shaw & Lang, 2011; Young, 2008). The following section

(section F) asked respondents if there were any aspects they did like about streaming that might encourage them to stream in the future. As with section C, these questions were derived from film, television (Katz, Gurevitch, & Haas, 1973; Ruben, 1983), VCR (Dobrow, 1987; Harvey & Roth, 1985-1986; Levy & Gunter; 1988), and DVD (Kim & Lee, 2003) uses and gratifications. Finally, in section G non-streamers were asked what they disliked about streaming, how they felt about the quality of streamed films, and if there were any genres they would prefer to watch in the theater. As with section D, this also was taken from the literature on theater-going (Austin, 1984; Chuu, Chang, and Zaichkowsky, 2009; Vahemestsä, 1979) and the complaints of streaming services detailed in section 2.1 (Braun, 2011; Caulfield, 2011; FeedFliks, 2009; Kalla, 2009; Nem_Enforcer, 2011; Ricciardi, 2008; Shaw & Lang, 2011; Young, 2008). Again, all sections utilized items with 0–10 response scales, and respondents chose to what degree they agreed with each statement.

This survey was provided to undergraduate communication students at Cleveland State University and was also shared on social networking websites such as Facebook, Twitter, and Reddit as a link to the survey on Survey Monkey. The survey instrument and data collection protocol were approved by the university Institutional Review Board. The instrument, including the Informed Consent Statement employed, may be found in Appendix A.

3.2 Content Analysis

A content analysis was used to determine the quality of films streamed online in terms of aspect ratio, editing (either for time or content), color (in terms of colorization and saturation), picture quality, and sound quality. Interruptions were also accounted for,

including pauses in film viewing for buffering, maintenance of the streaming service's website, or freezing of either the film stream or the streaming device (such as a computer). A variable for additional or missing information around the edges of the streaming film was added due to necessity once coding began. The addition of this variable and changes to others throughout the coding process rendered the content analysis to be more like a pilot study. Quality was defined for the purposes of this study as the way films were originally meant to be seen in the theater. However, since it is impossible to now view the films for this study in theaters, the coders defaulted to DVD for this content analysis as the "next best" format. Netflix was the service used for the content analysis, due to availability. Since the population was the entirety of the Netflix streaming catalog, a sampling frame was used to obtain a more manageable sample. The website Instant Watcher keeps track of the most-viewed films on Netflix streaming in the past 24 hours. This list was recorded every day for 25 days. One film was randomly selected from each day. The unit of analysis was the chapters of the DVDs. This was determined to be standard across all DVDs of the same film and could thus be relied upon to be the same for all coders. The use of DVD chapters as the unit of analysis also allowed the films to be more manageable for the coders and allowed for the possibility of changes in quality as the film streamed.

Coders watched the DVD versions of the films on a television while simultaneously streaming the online version of the same film on a computer or laptop. The coding related to the streaming version of the film as compared to the original version (in this case, the DVD). The coding scheme, which can be found in Appendix B, first asked the coders to indicate the day and time they coded each film. This was derived

from the cited complaints on buffering and throttling and to see if a high-traffic time, such as Saturday night, might have lower quality than a different time. The coders indicated the beginning and end time of each chapter as displayed on the DVD player. The variables coded were developed mostly from complaints over streaming services (Braun, 2011; Caulfield, 2011; FeedFliks, 2009; Kalla, 2009; Nem_Enforcer, 2011; Ricciardi, 2008; Shaw & Lang, 2011; Young, 2008) and from the researchers' personal streaming experiences. The first variable was aspect ratio, derived from the literature on pan and scan and widescreen formats (Neuendorf, Lieberman, Ying, & Lindmark, 2009) as well as complaints that Netflix may have different aspect ratios for their streamed films. Missing and added information related to aspect ratio (a film that was cut down could have information missing), but it was found during coding that additional information in streaming versions needed to be an option as well due to the differences in aspect ratios between DVD and streaming formats. Shot reframing also related to aspect ratio, mostly if pan-and-scan had occurred.

The variable of interruptions was unique to streaming films online. The interruptions included those due to buffering, the film stream freezing, and interruptions due to the streaming device freezing, again derived from complaints cited against Netflix streaming. Editing was derived from films being edited for television viewing, including editing out objectionable material and cutting a film in terms of length so that it could fit into a broadcast time slot. Color was added partially as a question of quality, but also derived from the Sherman and Dominick study comparing black and white and color (1988). The variable of picture quality was somewhat unique to streaming, accounting for

blurriness and heavy pixelation. Finally, sound was a variable added due to the possibility of variations in quality.

CHAPTER IV

RESULTS

4.1 Description of Survey Sample

Social networking web sites provided 540 respondents, while 137 came from undergraduate classes, resulting in a sample of 678 respondents. They were 68.4% male and 31.6% female, ranging in age from 18 to 65, with a mean of 25.61 years. 82.5% of the sample was Caucasian, while 4.2% were African American, 3.7% were Hispanic, and 2.6% were Asian American. They watched an average of 2.69 hours of television daily ($sd = 2.05$), and watched an average of 1.29 hours of television online ($sd = 1.47$). An average of 1.78 hours of television were watched alone ($sd = 2.21$). A measure of cable or satellite television ownership was dummy coded (0 = no, 1 = yes), as was a measure of DVR or TiVO ownership. Over two-thirds (67.5%) received cable or satellite television ($sd = .47$), while 38.8% owned a DVR or TiVO ($sd = .49$). They spent an average of 5.46 hours per week watching films ($sd = 4.94$), with an average of 2.59 hours being viewed online ($sd = 3.44$) and an average of 2.99 hours viewed alone ($sd = 3.88$). They reported

an average of .97 films viewed in a movie theater in the past month ($sd = 1.49$). An average of 2.71 films were viewed on television in the past month ($sd = 4.53$). An average of 3.26 films were viewed via prerecorded media in the past month, including via DVDs and DVRs ($sd = 4.44$). Respondents reported an average of 7.68 hours per week playing video games ($sd = 10.82$), with an average of 5.86 hours spent playing video games online ($sd = 9.97$) and an average of 5.96 hours spent playing video games alone ($sd = 9.58$). They listened to the radio an average of 2.10 hours per day ($sd = 3.01$), with an average of 1.07 hours spent listening online ($sd = 2.36$) and an average of 1.64 hours spent listening alone ($sd = 2.46$). They spent an average of 1.51 hours per day reading the newspaper ($sd = 1.59$). On average, 1.40 hours of newspaper reading was done online ($sd = 1.50$). They read an average of 2.32 books per month ($sd = 2.82$). An average of .67 books read were ebooks ($sd = 1.43$). A comparison of the media use and demographics for the undergraduate student subsample and the subsample derived from social media websites can be found in Appendices E and F.

4.2 Description of Content Analysis Sample

Only narrative films that had an American theatrical release were included in the content analysis, meaning that television shows, television movies, direct-to-DVD releases, and documentaries were excluded. Twenty-five films were randomly selected, but since the unit of analysis was the DVD chapters, the analysis has an n of 506. The randomly selected films ranged in years from 1963 to 2011. About half (48%) of the films were released in the last two years, 20% of the films were released in the 2000s, and 16% were released in the 1990s. Two films were in Italian, one was in German, and one was in Japanese. The rest were in English. 40% of the films were categorized by

Netflix as dramas and 24% were categorized as action films. According to Netflix, 12% of the films were independent productions. (A list of the films in the sample may be found in Table 2.)

4.3 Reliability for Content Analysis

Intercoder reliability was difficult to assess due to the nature of the content analysis. Two coders used different equipment and Internet connections, which may have caused some differences in the coding. Furthermore, many of the variables depended on the coder's individual streaming experience, such as the number of times the film stream froze. A reliability check was run using PRAM (Neuendorf, 2002) on the variables of original aspect ratio and streaming aspect ratio. Both ratios were calculated by measuring the picture size of the DVD version on televisions and the streaming versions on a laptop or desktop computer. Since these were ratio variables, a Pearson Correlation and Lin's Concordance were conducted. A coefficient of .70 is considered an acceptable level for Pearson Correlation and this reliability check resulted in a Pearson Correlation of .72, and the Lin's Concordance is .5, which are at a barely acceptable level. Importantly, it was surprising to find that the coders had experienced different results even on variables that were previously considered by the researchers to be standard. Original aspect ratio was actually different on different equipment, and also was changed by the tendency of televisions to "stretch" the pictures on DVDs to fit the screen. Thus, even the aspect ratio of the original versions, in this case the DVDs, may not have truly been what was intended.

4.4 Analysis for H1

H1 predicted that those who considered themselves “movie buffs” would stream films less often than those who did not. Participants were asked to indicate on an 11-point scale how much they considered themselves to be “movie buffs” (0 = strongly disagree; 10 = strongly agree). A correlation was conducted between this item and the amount of hours subjects indicated they used online streaming films services each month. The resulting correlation of $r = .147$ showed that the stronger the agreement with the statement “I consider myself a movie buff,” (mean = 6.89) the more hours the subjects spent streaming films online (mean = 11.1). The correlation was significant at $p < .01$. Since this significant linear correlation is in the opposite direction of what was hypothesized, H1 was not supported.

Table 1. Correlations between measures of “movie buff” indicators and measures of film viewing habits

	Hours spent streaming in a month	Movies seen in theater in past month	Movies viewed on TV in past month	Movies viewed via prerecorded media in past month
I consider myself a movie buff	$r = .147^{***}$ $p < .001$ $n = 677$	$r = .209^{***}$ $p < .001$ $n = 677$	$r = .134^{***}$ $p < .001$ $n = 677$	$r = .243^{***}$ $p < .001$ $n = 677$
I enjoy watching foreign films	$r = .086^*$ $p = .025$ $n = 677$	$r = .055$ $p = .156$ $n = 677$	$r = -.146^{***}$ $p < .001$ $n = 677$	$r = .072$ $p = .062$ $n = 677$
I enjoy watching independent films	$r = .105^{**}$ $p = .006$ $n = 676$	$r = .061$ $p = .112$ $n = 676$	$r = -.049$ $p = .206$ $n = 676$	$r = .077^*$ $p = .046$ $n = 676$
I think it's important to see a film immediately when it's released	$r = -.038$ $p = .325$ $n = 675$	$r = .259^{**}$ $p = .000$ $n = 675$	$r = .036$ $p = .351$ $n = 675$	$r = .092^*$ $p = .017$ $n = 675$
I think watching films in a theater is the best way to view films	$r = -.020$ $p = .611$ $n = 676$	$r = .377^{**}$ $p = .000$ $n = 676$	$r = .005$ $p = .887$ $n = 676$	$r = .086^*$ $p = .025$ $n = 676$

* $p < .05$

** $p < .01$

*** $p < .001$

The measure of “movie buff” was further examined for possible correlations with the number of times subjects saw a movie in a movie theater in the past month (mean = .97), the amount of movies watched on television in the past month (mean = 2.62), and the amount of movies viewed via prerecorded media (such as DVDs or DVR) in the past month (mean = 3.20). There was a small, significant ($p < .01$) correlation with movies seen in the theater ($r = .209$) and a small, significant ($p < .01$) correlation with amount of movies viewed on television ($r = .134$). The largest correlation was with amount of movies viewed via prerecorded media ($r = .243$). It was significant at $p < .01$.

Additional correlations were conducted with factors that could be considered measures of the concept of “film buff”. These were “I enjoy watching foreign films,” “I enjoy watching independent films,” “I think it’s important to see a film immediately when it’s released,” and “I think watching films in the theater is the best way to view films.” They were measured on the same 11-point scale as the measurement for “movie buff.” A significant ($p < .05$), but extremely low, correlation was found between enjoyment of watching foreign films (mean = 6.13) and the amount of hours subjects streamed films per week ($r = .086$). A somewhat higher correlation was found between enjoyment of independent films (mean = 6.70) and amount of hours streamed per week ($r = .105$). This was significant at the .01 level. Furthermore, the amount of times subjects viewed films in a movie theater in the past month (mean = .97) had very small and nonsignificant correlations with both enjoyment of foreign films ($r = .055$) and enjoyment of independent films ($r = .061$). Neither enjoyment of foreign films ($r = .055$) nor enjoyment of independent films ($r = .061$) had significant correlations with the amount of movies viewed in a movie theater in the past month. Enjoyment of foreign films had a significant ($p < .01$), negative correlation with the amount of films viewed on television in the past month ($r = -.146$). Enjoyment of independent films also had a negative correlation with amount of films viewed on television, but it was not significant ($r = -.049$). There was a slight correlation between the amount of films viewed via prerecorded media and enjoyment of foreign films ($r = .072$), but it was not significant. There was a slight, significant ($p < .05$) correlation between the amount of films viewed via prerecorded media and enjoyment of independent films ($r = .077$).

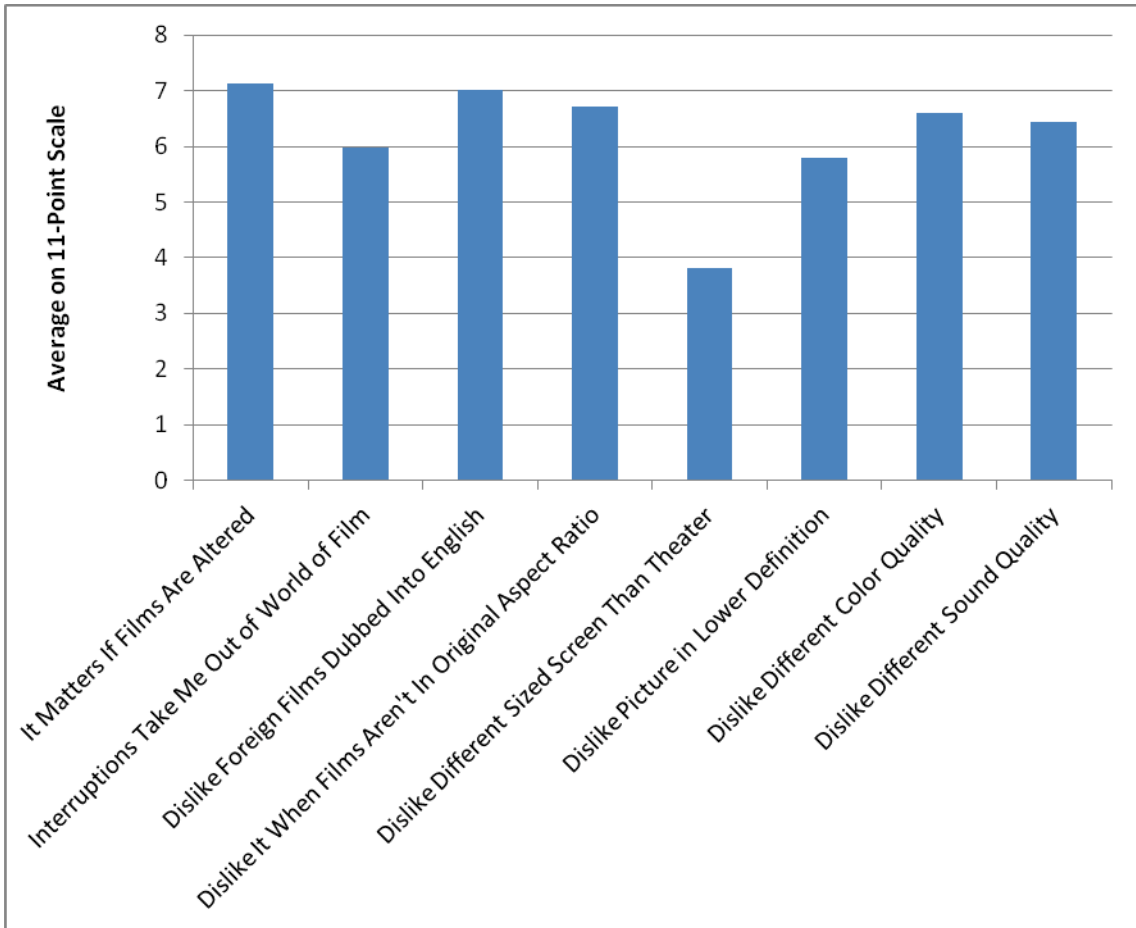
A negative and nonsignificant correlation was found between thinking it's important to see a film immediately when it is released (mean = 3.44) and the amount of streaming usage per month ($r = -.038$). Not surprisingly, a positive and significant ($p < .01$) correlation was found between feeling it is important to see a film immediately when it is released and the amount of films viewed in the theater in the past month ($r = .259$). A very small and nonsignificant correlation was found with the amount of films viewed on television in the past month ($r = .036$) and a small, significant ($p < .05$) was found with the amount of films viewed via prerecorded media in the past month ($r = .092$). There was a small, negative correlation between thinking that viewing films in the theater is the best way to view films (mean = 5.32) and the amount of streaming usage per month ($r = -.020$). This correlation was nonsignificant. A positive, significant ($p < .01$) correlation was found between thinking the theater was the best way to view films and the amount of films seen in a theater in the past month ($r = .337$). A very small, nonsignificant correlation ($r = .005$) was found with the amount of films viewed on television in the past month, and a small, significant ($p < .05$) was found with the amount of films viewed via prerecorded media in the past month ($r = .086$)

4.5 Analysis for RQ1

RQ1 asked to what extent viewers were bothered by differences in quality between streaming film presentations and other modes of film presentation. Issues pertaining to this were measured on an 11-point scale where 0 = "strongly disagree" and 10 = "strongly agree," and only those who had previously indicated they used online streaming film services were asked these questions. Nearly a third (32.8%) of respondents "strongly agreed" (10 out of 10) that it mattered to them if films on

streaming film services were altered (mean = 7.13; n = 466); 19.2% of respondents “strongly agreed” that they are taken out of the world of the film when film viewing is interrupted (mean = 5.98; n = 468); 33.5% of respondents “strongly agreed” that when watching a foreign film, they did not like it when the voices were dubbed into English (mean = 7.02; n = 469). 25.9% of respondents “strongly agreed” that they did not like when the image on the streaming film presentation was not in the original aspect ratio in which the film was released (mean = 6.72; n = 464). However, the most common choice (16.7%) showed subjects were neutral (5 out of 10) on whether they were bothered by a screen size different than the size of the screen in a movie theater (mean = 3.81; n = 454). 15.3% “strongly agreed” that they did not like it when the image of the streaming film was not as high in definition as the original film (mean = 5.8; n = 464). 21.4% “strongly agreed” that they were bothered by the streaming film not being as high in quality as the color in the original film (mean = 6.59; n = 459), and 17.8% “strongly agreed” that they were bothered by the streaming film not having as high sound quality as the original film (mean = 6.43; n = 461).

Figure 1. Concerns Over Differences in Streaming Quality



4.6 Analysis for RQ2

RQ2 asked whether the aspect ratios are changed for streaming film presentations from their original aspect ratios. For the purpose of this study, the original aspect ratios were considered the aspect ratios used on the DVD version of the film. During the content analysis, aspect ratio was determined by measuring the width and height of the picture and then calculating the ratio. This was done for both the original versions and the streaming versions. As seen in Table 2, the original and streaming versions frequently

have slightly different aspect ratios. However, a few films have substantial differences in aspect ratios. For example, *A Knight's Tale* was originally in 2.33, but presented in 1.78 during online streaming. Overall, five of the 25 movies coded (20%) had drastic differences in their aspect ratio from the original version to the online streaming version. While this mostly occurred in films originally in a 2.1 – 2.4 aspect ratio, not all films originally in this aspect ratio were changed for online streaming. One notable film was *Meek's Cutoff* (2010), which was originally filmed in 1.33, but the picture on the DVD was stretched to fit the television on which it was viewed. In this case, the streaming aspect ratio was closer to the original.

Table 2. Aspect Ratios

Film	Year	“Original” (DVD) Aspect Ratio	Streaming Aspect Ratio
Medicine For Melancholy	2008	1.8	1.79
The High Cost of Living	2010	1.89	1.86
A Knight’s Tale	2001	2.33	1.78
Midnight Express	1978	1.81	1.73
Downfall	2004	1.79	1.78
Insidious	2011	2.4	2.36
The Next Three Days	2010	1.78	2.26
The Expendables	2010	1.78	2.26
Backdraft	1991	1.78	2.26
Meek’s Cutoff	2010	1.77	1.3
The Last Kiss	2001	2.38	2.36
Limitless	2011	2.37	2.36
8 ½	1963	1.77	1.71
13 Assassins	2010	2.37	2.36
The Romantics	2010	2.37	1.79
The Siege	1998	2.33	1.79
Rumble Fish	1983	1.86	1.82
Edward Scissorhands	1990	1.83	1.84
Take Me Home Tonight	2011	2.37	2.36
The Constant Gardener	2005	1.86	1.86
Iron Man 2	2010	1.86	1.86
Red State	2011	1.84	1.78
Morning Glory	2010	2.4	1.73
Hook	1991	2.41	2.36
What We Do Is Secret	2007	1.8	1.84

4.7 Analysis for RQ3

RQ3 asked how frequently inconsistencies occurred in films viewed through online streaming when compared to their original format. Frequencies were run on the variables included in the content analysis, including those dealing with missing information, interruptions due to buffering and equipment freezing, and differences in editing, color, and sound. In total, 10.7% of DVD chapters coded were shown to have

less information on both the top and bottom of the screen in the streaming versions; 14.8% of DVD chapters were shown to have less information on the left of the streaming picture when compared to the DVD picture, and 20% were shown to have less information on the right side of the screen during streaming. However, 10.5% of chapters were shown to have more information in their streaming versions (refer to Figure 2). This means that there are differences in both the aspect ratio and the visual information that viewers are receiving, but the results are not uniform enough to understand why this is occurring.

More than half (53.1%) of chapters were shown to be interrupted at least once due to the film stream freezing while viewing the film through online streaming. Zero interruptions were the most common at 55.9%, followed by one interruption at 16%. However, as shown on Figure 3, chapters were interrupted up to eleven times. When considered altogether, Figure 3 shows coders were interrupted during almost half of the streaming cases. It was determined that 74.3% of chapters had less saturated color on the streaming versions and 70.9% of chapters were shown to have lower sound definition in the streaming versions. These findings display an obvious lack of presentation quality. The picture quality of the chapters during streaming was considered less than clear in 42.9% of chapters (Figure 4). On an 11-point scale, where 0 was clear, 2 – 3 were considered blurry, and 10 was considered heavily pixelated, “clear” was chosen most often at 57.1%. Points 1 and 2 followed at 15.6% each. Again, the findings show that almost half of the time, coders experienced a lower quality experience while streaming a film online.

Figure 2. Additional and Missing Information

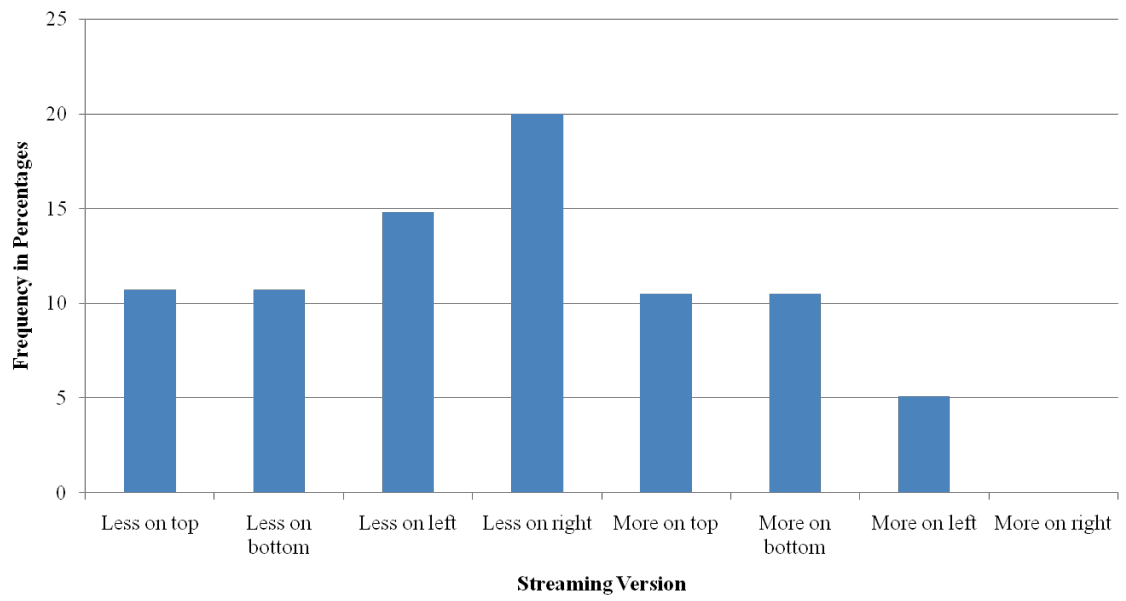


Figure 3. Amount of Times Film Stream Froze

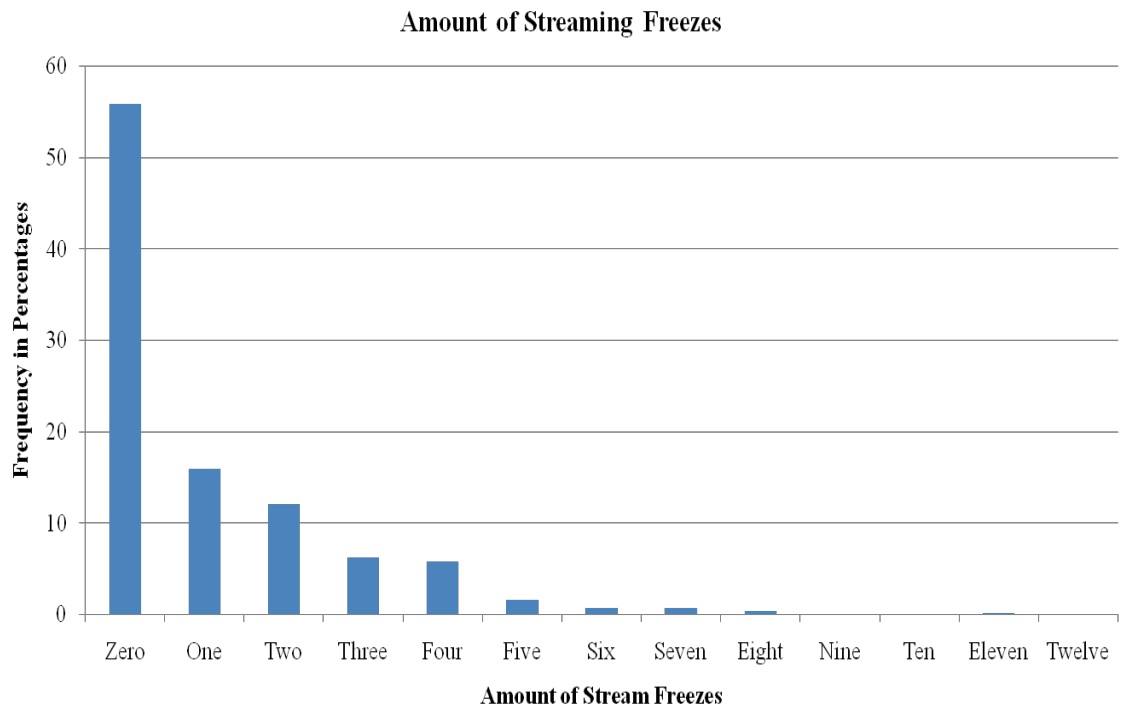
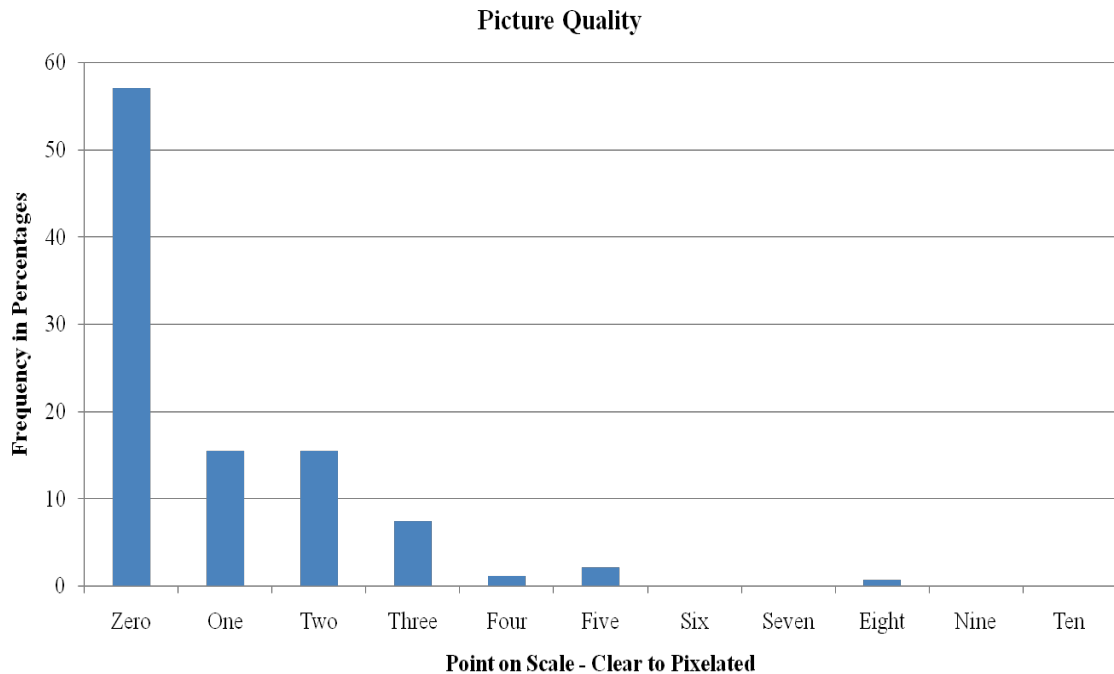


Figure 4. Streaming Picture Quality



4.8 Analysis for RQ4

RQ4 asked which inconsistencies in online streaming were the most prevalent. Less color saturation in online streaming film presentations was the most prevalent inconsistency, occurring in 74.3% of chapters, followed by less sound definition in streaming presentations (70.9% of chapters). Interruptions due to the film stream freezing during online streaming were the third most prevalent, occurring in 53.1% of chapters at least once.

4.9 Analysis for RQ5

RQ5 asked if the use of new film-viewing technology could be used to predict use of online streaming film services. A logistic regression was conducted, using the independent variables of subscribing to cable or satellite television and having DVR or

TiVO recording capabilities. The dependent variable was whether or not the participants used an online streaming film service. As shown in Table 3, the full equation/block was significant at $p = .05$. The Exp(B) for subscribing to cable or satellite was .633, which is negative and significant ($p < .05$). This means that use of cable or satellite decreases the odds of using an online streaming film service. The Exp(B) for use of DVR or TiVo was 1.466, which is positive and nearly significant at $p < .05$. This means that those who have DVR/TiVO service have 46.6% greater odds of using an online streaming film service than do those without.

Table 3. Logistic Regression Predicting Use of Streaming Services

	Final Exp(B)	Step or Block Chi-Sq	Model - 2LL	Cox & Snell R ²	Nag. R ²	Hosmer & Lemeshow Chi-Sq
Block 1		5.979*	817.382	0.009	0.013	.000
Cable/Satellite	.633*					
DVR/TiVO	1.466					

* $p < .05$

4.10 Analysis for RQ6

RQ6 asked what the uses and gratifications of online film streaming are. The survey asked respondents how important various factors were to them when deciding to use an online streaming film service. A factor analysis was conducted on the set of questions asking respondents who indicated they stream films why they stream (see Appendix A, section C). These questions were based on previous film, television, VCR, and DVD uses and gratification studies (see sections 2.2 and 2.4). These included typical uses and gratifications, such as entertainment, relieving boredom, escaping from reality, and gaining information. The variables also reflected newer methods of viewing films, such as time shifting (watching when the viewer wants), and avoiding commercials and

previews at the movie theater. Quality of the viewing experience was represented by including variables such as avoiding editing for television and avoiding editing for length.

A principal components extraction method was used with a varimax rotation, which resulted in five factors. The first, titled Convenience, included the uses and gratifications of watching movies at any time, convenience, entertainment, and the fact that streaming is less expensive than other ways to watch films. The second factor, labeled Social and Psychological Issues, included uses and gratifications such as relieving loneliness, escaping reality, relieving boredom, gaining information, and being able to discuss films with others. The third factor, called Theatrical Annoyances, contained uses and gratifications related to avoiding movie theaters, including annoying audience members, and commercials and previews shown at the theaters. The fourth factor, Control, included uses and gratifications such as having the freedom to do other things while watching films, having control over viewing, scanning through material that one does not want to watch, and having more films to choose from. The final factor, Quality Issues, dealt with uses and gratifications related to the quality of film presentation. These included streaming films in order to avoid editing for television and editing for time.

Table 4. Uses and Gratifications of Film Streaming: Factor Analysis

	Factor Loadings					Communi- nality
	Convenience 1	Social/ Psych Issues 2	Theatrical Annoy- ances 3	Control 4	Quality Issues 5	
C5 – Watch Movies Any Time	.815	.136	.077	.112	.183	.736
C4 – Convenient To Stay At Home	.815	.129	.112	.108	.149	.726
C2 - Entertainment	.717	.234	-.090	.052	.065	.584
C3 – Less Expensive	.648	.107	.140	.223	-.016	.501
C9 – Relieve Loneliness	-.065	.837	.081	.123	-.019	.726
C8 – Escape From Reality	.163	.768	.025	.032	.086	.626
C6 – Relieve Boredom	.182	.696	-.073	.326	.039	.631
C7 – Gain Information	.258	.611	-.005	.135	.136	.477
C10 – Discuss Movies w/Others	.206	.558	.083	-.131	.234	.433
C12 – Avoid Previews at Theater	-.013	.014	.886	.126	-.026	.802
C11 – Avoid Commercials at Theater	.092	.036	.853	.127	.129	.770
C13 – Avoid Annoying Audience Members	.149	.011	.741	.144	.163	.619
C16 – Freedom To Do Other Things	.190	.103	.051	.842	.103	.769

C17 – Have Control Over Viewing	.385	.046	.138	.679	.290	.714
C15 – Scan Through Material I Don’t Want To Watch	-.064	.171	.364	.626	.023	.559
C14 – More Films to Choose From	.322	.133	.231	.449	.209	.420
C19 -Avoid Editing For Time	.154	.168	.126	.172	.920	.945
C18 – Avoid Editing For TV	.150	.164	.129	.187	.916	.940

Eigenvalue	2.805	2.677	2.368	2.117	2.012	[11.979]
Percent of Total Variance	15.585%	14.871%	13.153%	11.761%	11.178%	[66.548%]
Percent of Common Variance	23.4%	22.3%	19.8%	17.7%	16.8%	100%

KMO measurement of sampling adequacy = .816

Bartlett’s test of sphericity: approx. chi-square = 1858.955, df = 190, $p < .001$

A multiple response analysis was conducted on the responses to an open-ended question asking subjects what motivated them to use an online streaming film service, allowing for up to three responses per participant. A total of 633 responses from the 421 participants were tallied. The more frequently reported response dealt with issues of convenience (27.2%), following closely by answers involving cost (21.3%). Answers involving access to a large amount of films to choose from was third (16%). A multiple response was also conducted on responses to an open-ended question asking those who stream films why they continue to do so. A total of 1,110 responses were analyzed from

470 participants. The highest number of responses dealt with ease of use (15.2%), followed closely by responses dealing with convenience (15%). Responses dealing with escaping from reality were third (13.4%).

A factor analysis was also conducted on what subjects did not like about streaming services, despite using them (Appendix C). The variables included questions involving film quality, with respondents indicating on an 11-point scale how bothered they were by lower definition, smaller screen size, differences in sound and color quality, and interruptions to their viewing, including buffering and the streaming site freezing (Appendix A, section D). A principal components extraction method was used with a varimax rotation. Only two factors were found, labeled Issues of Quality and Interruptions. Issues of Quality included disliking when the images on streaming were not as high in definition, had different sound quality, different color quality, were shown in a different screen size than would be shown in a theater, and when the images were not in their original aspect ratios. Interruptions included interruptions by buffering, the streaming web site being down, when films are unavailable for streaming, and when film viewing is interrupted by distractions around the viewer. A multiple response analysis was also conducted on an open-ended question asking subjects who did use streaming services what they disliked about them. A total of 464 responses were analyzed from 368 participants. Responses dealing with lack of selection were highest (47.6%), followed distantly by responses dealing with streaming interruptions, such as buffering and freezing (20.3%). Responses dealing with poor quality of the streaming presentation were third (11%).

A factor analysis was also conducted on factors non-streamers indicated they liked about streaming and which might cause them to use a streaming service in the future. Those who had previously indicated they were non-streamers were asked to what degree they agreed with various factors involving why one might stream films. These were similar to the variables used in Table 4, derived from the uses and gratifications of film, television, VCRs and DVDs (see 2.2 and 2.4; Appendix A, section F). A principal components extraction method was used with a varimax rotation, but the factor analysis of these measures failed to produce clean and meaningful factors. However, a multiple response analysis was conducted on the open-ended responses to the question of what non-streamers liked about streaming services. Out of a total of 143 responses from 104 participants, those dealing with convenience were first (22.4%), with film selection second (21%). Third was ease of use (15.4%).

A final factor analysis was conducted on what non-streamers disliked about streaming films online (Appendix D). Respondents indicated on an 11-point scale to what extent they disliked differences in definition, differences in color and sound, differences in aspect ratio, and interruptions through various means (Appendix A, section G). A principal components extraction method was used with a varimax rotation. This resulted in three factors. The first was labeled Quality, which included reasons such as the image while streaming might not be as high in definition, sound quality, color quality, and that the image while streaming might not be in the original aspect ratio. The second factor, labeled Interruptions, included interruptions by buffering and the streaming web site being down, and also films being unavailable for streaming. The third factor, labeled Home Viewing, included noises made by the streaming device, interruptions by

distractions around the viewer, and a different screen size than what would be found in a movie theater. It is worth noting that the image being a different screen size had a double loading in both Quality and Home Viewing.

A multiple response analysis was also conducted on responses to an open-ended question asking non-streamers what they dislike about such services. Among 185 responses from 125 participants, answers dealing with cost were highest (25.4%), followed by answers dealing with lack of film selection (23.2%). Answers dealing with streaming interruptions, such as buffering or freezing, were third (10.3%).

4.11 Analysis of RQ7

RQ7 asked if the traditional uses and gratifications cited for media use could be used to predict the amount of use of online streaming film services. A multiple regression was conducted, using factors generated from a factor analysis determining what the main uses and gratifications for film streaming are (see RQ6, Table 4). The dependent variable was how many hours the participants streamed films online in a typical month. The largest correlation was Male ($r = .117$) and it was significant at $p < .01$. The largest negative correlation was Theatrical Annoyances ($r = -.119$) and it was significant at ($p < .01$). Other significant negative correlations included use of cable or satellite television ($r = -.104$) at $p < .05$ and use of DVR or TiVO ($r = -.084$) at $p < .05$. The only other positive, significant correlations were for Convenience ($r = .081$) and Social/Psych Issues ($r = .086$), both at $p < .05$.

The total equation only accounted for 7% of the variance, but this was significant at $p < .01$. Of the three blocks, only the final one, that of uses and gratifications, contributed a significant increment of variance explained, and this was modest at 3.4% (p

< .05). When controlling for all other variables, only three variables were significant contributors toward how much one used a streaming service per month. The final beta for “male” was .127 (although this was in a non-significant block) and -.120 for Theatrical Annoyances. Both were significant at $p < .05$. Social/Psych Issues was barely significant at $p = .05$ with a final beta of .097.

Table 5. Multiple Regression Predicting Amount of Film Streaming

Block Name & Number	Variables	r	Final Beta	R ² Change
1. Demographics	Male	.117**	.127**	.026
	Age	.075	.075	
	Married	.000	.002	
	Film Courses	.056	.029	
	American	.014	.019	
	Income	-.044	-.014	
2. New Technology	Cable/Satellite	-.104*	-.061	.010
	DVR/TiVO	-.084*	-.053	
3. Uses & Gratifications for Streaming	Convenience	.081*	.048	.034*
	Social/Psych Issues	.086*	.097*	
	Theatrical Annoyances	-.119**	-.120**	
	Control	.073	.089	
	Quality Issues	.068	.058	

$$R^2 = .071$$

$$\text{Adjusted } R^2 = .041$$

$$F_{(13, 406)} = 2.374^{**}$$

* $p < .05$

** $p < .01$

CHAPTER V

DISCUSSION

5.1 Discussion

The main purposes of this study were to determine whether films presented through online streaming had differences in quality when compared to the original film, whether viewers cared about such differences, and finally to fill the research gap that existed in uses and gratification literature by ascertaining the uses and gratifications of online film streaming. Through the content analysis it is clear that some differences in quality do exist. Aspect ratio is obviously changed for some films, as can be seen in Table 2. Similar to the complaints cited in section 2.1 (Nem_Enforcer, 2011; Ricciardi, 2008) most films that were in a 2.1 – 2.4 aspect ratio when presented on DVD (the “original” version for the purposes of this study) were presented in an aspect ratio closer to 1.85 when streamed. It is not clear why this occurs. Similarly, streamed films sometimes displayed more or less visual content when compared with the original versions (Figure 2), but the reasons behind this are not clear. It is also reasonable to ask

whether a typical viewer would notice this addition or subtraction of visual information when streaming normally. The differences were easy to spot while coding, since both versions were viewed side by side.

Further complicating the issue of aspect ratio is the fact that newer, flatscreen televisions will often “stretch” DVD pictures to fit the television screen. This was notable in the coding of *Meek’s Cutoff*, which should have been in a 1.33 aspect ratio according to the information on its DVD case. When the aspect ratio was measured on the television, the aspect ratio calculated was 1.77. Another interesting occurrence happened when streaming *8 1/2*. The streaming version was not only letterboxed, but had black bars on the left and right of the film, effectively turning the film into a small rectangle in the middle of the laptop screen. This could have been partially fixed by changing the “zoom” settings on the laptop screen, but the picture then would have been blurry. It is possible that this occurred due to *8 1/2* being an older film (1963), but the DVD version had only the standard letterboxing of a widescreen film.

The content analysis also displayed differences in color, sound, and picture quality, along with interruptions to viewing that are unique to this medium. The content analysis determined that 74.3% of chapters had less saturated color in the streaming versions than in the DVD versions. To ensure an equal “starting point” for the color comparison, the television used for coding was calibrated using color bars. The laptop and computer used for coding were then calibrated as close to the television color settings as possible. One example of this difference in color saturation occurred in the film *Rumble Fish*, which was filmed mostly in black and white. The few objects that were colored had such different saturation levels that one object was red in the streaming

version and the same object was purple in the DVD version. Sound quality was found to be of a lower definition in the streaming versions of films 70.9% of the time, however this could be attributed to the sound quality of a laptop or computer versus a television.

Picture quality was determined to be less than clear in 42.9% of chapters. The most common issue with picture quality was a slightly blurry screen, which was seen in 15.6% of chapters. Finally, interruptions were counted every time the film froze, the website froze, or the film was interrupted for buffering. 44.1% of chapters had at least one interruption. However, it is not clear whether these interruptions occurred due to the quality of the Internet connection used for coding or from some other reason. It is worth noting that as the coding went on, the picture quality was consistently worse while the interruptions occurred less. This could lend some credence to the claims that Netflix throttles heavy users, resulting in poor streaming quality (Alsmirat & Sarhan, 2010; Kalla, 2009). For example, *Edward Scissorhands* was the final film coded, after the researchers had used Netflix streaming nearly every day for a month. Nearly every chapter was coded as a 2 on the 11-point picture quality scale, which meant a blurry picture. Most chapters had either one interruption or none. Similar results occurred in the final four films coded. In comparison, *A Knight's Tale* was one of the first films coded. Most chapters were coded as 0 for film quality, which meant a clear picture. Every chapter had at least one interruption with at least one chapter having seven interruptions. While the differences in color, sound, picture quality, and interruptions could be due to the varied equipment and Internet connections used to stream films, it is difficult to see a solution. The fact that streaming can occur anywhere with an Internet connection, and with a myriad of different equipment and streaming devices, makes it difficult ensure that

issues with connectivity or lack of theater-quality equipment will not result in a lower quality viewing experience. Future studies may need to conduct such coding using the same equipment in order to ensure greater reliability of results.

Interestingly, respondents to the survey indicated that, on average, viewers care about the quality of the product they receive from streaming services. The statement “dislike a smaller screen size” resulted in average of only 3.81 on an 11-point scale and “dislike it when the streaming film is not as high in definition” resulted in an average of 5.8, which indicates that viewers might have come to accept that certain aspects of home-viewing simply will not achieve the quality of a movie theater. However, the higher average for the item “dislike it when the films are altered” (mean = 7.13) indicates that streamers are concerned with quality, but perhaps not concerned enough to outweigh other benefits of streaming films online. Interestingly, those who do not stream films online cited interruptions due to buffering and freezing as their second-most common reason for not using such services (20.3% of responses in a multiple answer analysis). The third highest response was due to poor quality of the streaming film presentation (11%). It is possible then that some people who choose not to stream do so due to their concern over quality.

Furthermore, the fact that those who consider themselves “movie buffs” actually tend to use a streaming service more often suggests that the importance to “movie buffs” might be to watch films wherever or whenever possible, rather than to seek out the best possible presentations of films. This can be seen in the correlations between “movie buff” and the amount of films viewed in theaters, on television, and via prerecorded media in the past month (Table 1). All three correlations are significant at p

< .001. In the studies conducted by Vahemetsa (1979) and Chuu, Chang, and Zaichkowsky (2009), it was found that those who liked art films often viewed films in the theater and preferred to view films in their intended viewing state. However, the current study found that those who enjoyed watching foreign films and independent films (two types of films that could be considered artistic rather than commercial) did not have significant correlations with movies seen in the theater in the past month. Enjoyment of both foreign films and independent films had negative correlations with movies viewed on television, which could simply indicate that these types of films are not shown on television often. However, it is surprising that enjoyment of both types of films have small correlations with movies viewed via prerecorded media, suggesting that streaming might be either the desired medium for these films or that streaming provides the best selection of such films.

A negative correlation between thinking it is important to see a film immediately when it is released and streaming usage was not surprising, nor was the negative correlation between thinking that a theater is the best way to view films and the amount of streaming used. Both items had larger, significant ($p < .01$) and positive correlations with the number of movies seen in the theater in the past month, which again makes sense. What is surprising is that feeling it is important to see films immediately when released and thinking that the theater is the best way to view films had a small, but significant ($p < .05$) correlation with movies viewed via prerecorded media in the past month. Due to the very small and nonsignificant correlations with movies viewed on television, it could be determined that this prerecorded media refers more to DVDs than films recorded onto a DVR from broadcast television.

The survey also allowed some insight into predictors for streaming usage. As stated, those who considered themselves “movie buffs” actually streamed more within a month. They also watched movies on television and via prerecorded media (Table 1). However, use of cable and satellite television showed to decrease the odds of using a streaming service (Table 3 and Table 5) while use of DVR or TiVO fell short of being a significant predictor for using a streaming service (Table 3). The multiple regression (Table 5) showed that gender, particularly being male, had a positive and significant correlation with a higher amount of streaming usage per month. Issues relating to convenience, as determined by the factor analysis on reasons why people stream (Table 4), were shown to have a slight correlation with the amount of time spent streaming (Table 5). These included the ability to watch movies at any time, the ability to stay at home, entertainment, and streaming being less expensive than other ways to view movies. Factors relating to social and psychological issues, also determined by the factor analysis on Table 4, were shown to have a slight correlation with amount of streaming usage as well. These included relieving loneliness, escaping from reality, relieving boredom, gaining information, and being able to discuss films with others. According to the multiple regression (Table 5), being male and the factor of Convenience were significant predictors of streaming usage. A factor involving social and psychological issues, as determined by a factor analysis, was shown to be a significant predictor as well. These included relieving loneliness, escaping from reality, relieving boredom, gaining information, and being able to discuss films with others. Theatrical Annoyances were a significant non-predictor. This was another factor determined by the factor analysis in

Table 4. It included variables such as avoiding annoying audience members and avoiding commercials and previews at the movie theater.

There were also some interesting non-predictors found for using online streaming services. Cable and satellite usage had a negative and significant correlation with online streaming ($r = -.104; p < .05$), as did DVR and TiVO usage ($r = -.084; p < .05$). This could indicate that respondents who have cable, satellite, DVR, or TiVO use such services as their main avenue through which to view films. However, the negative correlations are interesting because previous research has shown that use of recent film-viewing technologies can predict use of newer technologies. For example, Kim and Lee (2003) found that keeping up with film-viewing technology and having previously used VCRs were predictors of DVD use at a time when DVDs were just beginning to become popular. One interesting non-predictor was the factor named Theatrical Annoyances ($r = -.119; p < .01$). This was determined by the factor analysis in Table 4 and included the variables of streaming films in order to avoid annoying audience members in theaters and avoiding previews and commercials in theaters. While it would seem these variables would predict more streaming usage in order to avoid such issues, the respondents who were most annoyed by theater issues might use theaters as their main way to view films. If viewing films in the theater was preferred over streaming, this could result in higher levels of annoyance due to having to deal with such issues every time these respondents viewed a film in the theater. It would also explain why streaming was used less often among such respondents.

Finally, adding to the uses and gratifications literature was an important part of this study. A factor analysis determined that the uses and gratifications for streaming

films online could be broken down into five factors. These were named Convenience (watching movies at any time, convenient to stay at home, entertainment, and streaming is less expensive than other ways of viewing films); Social and Psychological Issues (relieving loneliness, escaping from reality, relieving boredom, gaining information, and the ability to discuss movies with others); Theatrical Annoyances (avoiding annoying audience members, avoiding commercials and previews shown at the theater); Control (having the freedom to do other things while watching, having control over viewing, the ability to scan through material I don't want to watch, having more films to choose from); and Quality (avoiding editing for time and editing for television). These five factors show distinct uses and gratifications for streaming films online. Most relate to traditional film-and-television-related uses and gratifications, but it is worth noting that some relate to avoiding other methods of viewing films. Respondents indicated they use online streaming to avoid the high cost of other film-viewing methods, avoid annoyances at the movie theater, and to avoid editing that occurs when films are shown on television. Thus, they are able to derive the same satisfactions from online streaming as from going to the theater or watching a film on television (entertainment, escaping from reality, relieving boredom, and so on) with some additional benefits of avoiding things they dislike.

5.2 Limitations

This study was not without some limitations. First, the survey sample was heavily skewed to males in their 20s. This was partially due to the methods used for obtaining responses. Undergraduate college courses will obviously provide a younger group of participants by their nature. While collecting responses through social media was meant to allow for a more diverse sample, those sites too allowed for younger respondents by

their nature. They are frequented by a younger population. Furthermore, some of the survey questions are quite subjective. In dealing with age, factors of streaming services such as “ease of use” could be taken one way for an older adult who did not grow up using the Internet and is not used to it in general. It could be taken another way by an adult who is familiar with the Internet, but not streaming film services or their platforms specifically. Additionally, the study did not account for reasons why one might be “forced” in to using a streaming service, such as the closing of video stores or living in an area with limited options. Finally, the variable of “film buff” had some additional indicators (Table 1), and so a scale could have been developed to investigate the performance of this construct further.

Additionally, the content analysis became more of a pilot study than an actual content analysis. Variables were changed and added as the coding went on, such as the coding for additional or missing information. It was originally thought that aspect ratio and additional/missing information should be standard across coders, and thus used for the reliability check. This was eventually discovered to be incorrect, as even the aspect ratios could be different due to the equipment used (specifically, the “stretching” that could occur on television screens). Thus, future studies of the occurrence of streaming interruptions and artifacts might need to take more of a survey approach, polling or observing users as they encounter such issues in various viewing situations.

The coding was conducted by two coders using completely different equipment in two separate areas. Since many of the variables are dependent upon the individual viewing experience, having both coders code in the same place at the same time would have allowed for a larger number of variables that could be subjected to reliability testing

and possibly better reliability overall. A limitation related to the dynamic nature of streaming was the availability of films included in the sampling frame. Some films in the original sample had been removed from Netflix before data collection began (due to their license expiring), which meant that the next film on the list for that particular day had to be added to the sample. This experience meant that a constant check of the sample's availability was required.

5.3 Directions for Future Research

Further research is necessary to supplement the findings above. As noted in the limitations, a further examination of how self-identification of being a “film buff” relates to avenues for film viewing could be conducted through construction of a multiple-item scale. Different definitions for “film buff” could also be considered, such as those who enjoy films in their intended state (Austin, 1984; Chuu, Chang & Zaichkowsky, 2009), those who enjoy the artistic aspect of films, or those who enjoy films in general and want to see as many as possible. The final option is what the current study seems to suggest, and that alone could be examined further by specifically asking why “film buffs” use each avenue for viewing.

While the factor analysis in Table 4 allowed for meaningful factors that displayed some basic uses and gratifications for online film streaming, replications of these measures are needed to validate these results. Specifically, it would be helpful for future research on the topic to ask multiple questions of each variable included in the uses and gratifications factor analysis. This would hopefully allow for specific uses and gratifications, instead of the broader factors that are presented in this study. There are also certain variables that do not necessarily make sense in each factor, such as

“entertainment” loading in the factor titled Convenience and “more films to choose from” loading in the factor titled Control. These two variables alone could constitute their own gratification, which could be ascertained by adding multiple questions to each of the variables presented here.

Any future content analysis on the topic could include the variables used in the current study. Since there were changed and added as the content analysis was conducted, they reflect every issue that could arise through online streaming at this time. Future coding should be conducted by having the coders in the same place and at the same time to account for the individuality of the viewing experience during online streaming. This would allow for greater reliability through all variables included in the content analysis. Furthermore, future researchers should be aware of the changes that can occur without warning when using online streaming services. Films may be removed without prior warning and the streaming web site might be unavailable on days when data collection was planned. Finally, it might be worthwhile for future research to attempt to ascertain the amount of differences viewers notice in streaming film presentations, such as additional or missing information or a slightly blurry picture. These were easy to point out in the content analysis for this study when both the streaming and original formats were viewed at the same time. It is not clear whether the average viewer notices such inconsistencies when watching a film through online streaming.

5.4 Conclusion

The study focused on a topic that has a clear path of research behind it (in terms of uses and gratifications), but there is no past research specifically focusing on streaming film services or why they are used. This study showed that there is some validity to the

claim that viewers do not receive the same quality of experience when watching films through online streaming than through DVDs or in the movie theater. Furthermore, it has shown that those who use such services still care about the quality of film presentation. Interestingly, like Betamax before it, online streaming services maintain customers for reasons that seem to trump quality. Those who do not use online streaming film services have shown that lack of quality (or perceived lack of quality) can be a factor in choosing other mediums through which to view films.

Additionally, this study showed what the uses and gratifications are for using an online streaming film service, something that has yet to be presented through research. Traditional uses and gratifications are represented in terms of why people choose to stream films. The reasons why they might choose not to use a streaming film services reflect the nature of the service and new film-viewing technologies, such Internet-related interruptions and the fact that viewers can now choose from a variety of methods through which to view films. The results of this study fill a gap in uses and gratifications research, but further research regarding online streaming film services is needed considering the fast pace at which such services are growing and the possibility that this method of film viewing could eventually surpass the use of physical media.

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APPENDIX

APPENDIX A
SURVEY INSTRUMENT

Informed Consent

Film Watching In the Interactive Age Study 2012

Thank you for taking the time to participate in this study. A faculty member and graduate student in the School of Communication at Cleveland State University (Dr. Kim Neuendorf and Rachel Campbell) are studying why people choose to use online streaming services to watch films. You will be asked to take a survey in which various questions about your media use will be asked.

Please answer all questions to the best of your ability. You are not being judged in any way by your answers, and as your responses are confidential (indeed, this form will at no point be matched up with your responses), please be as truthful and honest as possible. Your participation is voluntary, and you may choose not to participate or withdraw at any time without penalty. The survey should take about 30 minutes to complete. There are no foreseeable risks in participating in this study beyond those of daily living. If you have any questions, feel free to contact Prof. Kim Neuendorf at 216.687.3994.

Respondents who complete this survey will be entered in a drawing to win a \$50 Amazon gift card. Entering the drawing is optional. At the end of the online survey, you will be directed to a separate page that will collect your contact information (name and email address) for the drawing, and this information will not be linked in any way to your survey responses.

Thank you.

If you have any questions about your rights as a research subject, you can contact Cleveland State University's Institutional Review Board at 216.687.3630

By clicking "next" you are confirming that you are 18 years or older, have read and understood this consent form, and agree to participate.

Film Watching in the Interactive Age
04.16.12

A. Media Use

A1. What are your three favorite TV shows of all time?

A2. What are your three favorite movies of all time?

A3. How many hours per day do you typically spend watching television?

A3a. How much of this is viewed online?

A3b How much of this is viewed alone?

A4. How many hours per day do you typically spend watching films?

A4a. How much of this is viewed online?

A4b How much of this is viewed alone?

A5. How many hours per day do you typically spend playing video games?

A5a. How many of these hours are spent playing video games online or with your console connected to the Internet?

A5b How much of this is done alone?

A6. How many hours per day do you typically spend listening to the radio?

A6a. How many of these hours are done online?

A6b How much of this is done alone?

A7. How many hours per day do you typically spend reading the news?

A7a. How many of these hours are spent reading news online?

A7b How much of this is done alone?

A8. In the past month, how many books have you read?

A28d. If YES, via what device do you view MOST OFTEN? (check ONE)

____ Television 3x4 (old type—almost square)

____ Television 16x9 (widescreen) – small

____ Television 16x9 (widescreen) – medium

____ Television 16x9 (widescreen) – large

____ Computer or laptop

____ iPhone

____ Other cell phone

____ iPod

____ Tablet/iPad

____ Other; please specify _____

A29. Do you use any type of online streaming **film** service (Netflix, Hulu/Hulu Plus, Amazon Prime, etc)?

____ YES

____ NO

A29a. If YES, please list all services you use _____

A29b. If YES, through what device(s) do you stream? (check all that apply)

____ PC

____ MAC

____ Xbox360

____ PlayStation3

____ Wii

____ Roku

iPhone

Other cell phone

iPod

Tablet/iPad

Other; please specify _____

A29c. If YES, via what device(s) do you view? (check all that apply)

Television 3x4 (old type—almost square)

Television 16x9 (widescreen) - small

Television 16x9 (widescreen) - medium

Television 16x9 (widescreen) - large

Computer or laptop

iPhone

Other cell phone

Tablet/iPad

iPod

Other; please specify _____

A29d. If YES, via what device do you view MOST OFTEN? (check ONE)

Television 3x4 (old type—almost square)

Television 16x9 (widescreen) - small

Television 16x9 (widescreen) - medium

Television 16x9 (widescreen) - large

Computer or laptop

iPhone

___ Other cell phone

___ Tablet/iPad

___ iPod

___ Other

A29e. If YES, what is your Internet connectivity?

___ DSL

___ Cable TV

___ Dial-Up

A29f. If YES, who is the subscriber listed on the streaming account?

___ You

___ Parent/guardian

___ Relative aside from parent/guardian

___ Roommate

___ Other; Please specify _____

A29g. How many times per month do you typically use online streaming film services?

**If you answered YES to question 29, please go on to question B1
If you answered NO to question 29, please skip to question E1**

B. Use of streaming service

B1. What motivated you to start streaming films online? (Note: this refers to films only, not television shows)

DISAGREE

AGREE

B6b. I feel the genres of films available on this service are adequate.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

B7. I feel that ease of use makes up for any lack of selection.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

B8. I feel that the cost of the service makes up for any lack of selection.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

B9. I use the service to find a specific film I want to watch.

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

B9a. I tend to find the specific film I am looking for.

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

B10. I use the service to relieve boredom, without looking for a specific film to watch.

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

B11. I think the films I watch on this service have been altered in some way.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

B12. It matters to me if the films on this service have been altered.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

DISAGREE

AGREE

C9. I stream movies to relieve loneliness.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C10. I stream movies so I can discuss them with others.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C11. I stream movies to avoid commercials at the theater.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C12. I stream movies to avoid previews at the movie theater.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C13. I stream movies to avoid annoying audience members.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C14. I stream movies so that I have more films to choose from.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C15. I stream movies in order to scan through material I don't want to watch.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

C16. I stream movies to have the freedom to do other things at the same time.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY

D3. How often is the film you want to watch unavailable?

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

D4. I don't like it when my viewing is interrupted by buffering.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

D5. How often is your viewing interrupted by buffering?

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

D6. I don't like it when my viewing is interrupted by the web site of my streaming service being down.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

D7. How often is the web site of your streaming service down?

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

D8. I don't like it when the image I see is not in the original aspect ratio (the shape of the original movie).

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

D9. How often is the image you see not in the original aspect ratio?

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

D10. I don't like that the image I see is on a different size of screen than if I had seen it in a theater.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

D18. How often is the film you are viewing not in the authentic sound definition?

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

D19. The device I stream movies on makes noise that interferes with the sound of the film (e.g., a loud laptop or computer).

0 1 2 3 4 5 6 7 8 9 10
NEVER ALWAYS

D20. There are certain genres that I would prefer to view in a theater or through a medium other than online streaming.

_____YES _____NO

If YES, what genre(s) and why? _____

Skip to Question H1

E. No use of streaming service

E1. Why don't you use a streaming film service?

E2. I don't use a streaming service because I use a rental service.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY DISAGREE STRONGLY AGREE

E2a. If you use a rental service, how satisfied are you with it?

0 1 2 3 4 5 6 7 8 9 10
NOT VERY
SATISFIED SATISFIED

E3. Cost is important in my decision not to use a film streaming service.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

E3a. What is the most you would be willing to pay for a streaming service?

E4. Ease of use is important in my decision not to use a film streaming service.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

E5. Film selection is important in my decision not to use a film streaming service.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

E6. Genre selection is important in my decision not to use a film streaming service.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

E7. My lack of a fast Internet connection is important in my decision not to use a film streaming service.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

E8. I do not stream films because my computer/laptop/gaming console does not have the capacity to handle streaming.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

F11. If I subscribed to a streaming service it would be to avoid commercials at the movie theater.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

F12. If I subscribed to a streaming service it would be to avoid previews at the movie theater.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

F13. If I subscribed to a streaming service, it would be to avoid annoying audience members.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

F14. If I subscribed to a streaming service it would be so that I have more movies to choose from.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

F15. If I subscribed to a streaming service it would be so I could scan through material I didn't want to watch.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

F16. If I subscribed to a streaming service, it would be to gain information.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY STRONGLY
DISAGREE AGREE

STRONGLY
DISAGREE

STRONGLY
AGREE

G4. I don't like that my viewing would be interrupted by the web site of the streaming service being down.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY
DISAGREE

STRONGLY
AGREE

G5. I don't like that the image I see might not be the original aspect ratio (the shape of the original movie).

0 1 2 3 4 5 6 7 8 9 10
STRONGLY
DISAGREE

STRONGLY
AGREE

G6. I don't like that the image I see might be on a different size of screen than if I had seen it in a theater.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY
DISAGREE

STRONGLY
AGREE

G7. I don't like that the image I see might not be as high in definition as the original movie.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY
DISAGREE

STRONGLY
AGREE

G8. I don't like that my viewing might be interrupted by other people or other distractions around me.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY
DISAGREE

STRONGLY
AGREE

G9. I don't like that the film I would view might not be in the authentic color of the original film.

0 1 2 3 4 5 6 7 8 9 10
STRONGLY
DISAGREE

STRONGLY
AGREE

- Widowed
- Never been married, in a relationship
- Never been married, not in a relationship

H4. Which of the following categories best describes your political affiliation?

- Strong conservative
- Lean towards conservative
- Middle of the road
- Lean towards liberal
- Strong liberal

H5. How would you describe your racial/ethnic background?

H6. How would you describe your sexual orientation?

H7. If you are in college, what is your academic major?

H8. What courses about film and video have you taken? (Please list)

H9. Were you born in the U.S.? (Check one)

Yes

No

If NO, in what country were you born? _____

H10. What is your religious affiliation?

- None
- Protestant (Please specify _____)
- Catholic
- Muslim
- Jewish
- Buddhist
- Taoist
- Hindu
- Other (Please specify _____)

H11. What is your annual household income?

- Less than \$25,000
- \$25,000-49,999
- \$50,000-74,999
- \$75,000-99,999
- \$100,000-149,999
- \$150,000 or more

H12. Do you wear glasses or contacts?

- Yes
- No

Thank you for participating in this study.

APPENDIX B

CONTENT ANALYSIS CODING SCHEME

Coding Scheme – Authenticity of Film in Online Streaming Presentations 04.02.12

Unit of Data Collection: Each chapter on the DVD release of each film will be the unit of analysis. The chapters are predetermined by the DVD release and often called “chapters” or “scenes.” This will ensure that each coder has the same beginning and end points.

Other coding directions:

Use one coding sheet per chapter.

Answers on the coding sheet should relate to the streaming version of the film

Films should be coded while watching the DVD version and the online version simultaneously.

When entering data, use 0 for “No” and 1 for “Yes.” Use 2 for “Just A Bit.” Use 1 for “PM” and 2 for “AM.”

Transfer coding of all chapters for a particular DVD to the spreadsheet when finished.

Do not code opening or closing credits.

Coder IDs

1. Rachel
2. Kara
3. Alex

Day

1. Monday
2. Tuesday
3. Wednesday
4. Thursday
5. Friday
6. Saturday
7. Sunday

Time (specify AM (2) or PM (1))_____

Chapter Number: _____

Time at Beginning of Chapter: _____

Time at End of Chapter: _____

Aspect Ratio

	<u>Original</u>	<u>Streaming</u>
1. Width of image in inches:	_____	_____
2. Height of image in inches:	_____	_____

Missing/Added Information

	0 NO	1 YES
101. In streaming, character partially cut	_____	_____
102. In streaming, character missing completely	_____	_____
103. In streaming, object partially cut	_____	_____
104. In streaming, object missing completely	_____	_____
105. In streaming, printed material partially cut (e.g., sign)	_____	_____
106. In streaming, printed material cut completely (e.g., sign)	_____	_____
107. In streaming, other important information cut from scene	_____	_____
Specify other _____		

	0 NO	1 YES	2 JUST A BIT
108. Streaming has less information at top of frame:	_____	_____	_____
109. Streaming has less information at bottom of frame:	_____	_____	_____
110. Streaming has less information at left of frame:	_____	_____	_____
111. Streaming has less information at right of frame:	_____	_____	_____
112. Streaming has more information at top of frame:	_____	_____	_____
113. Streaming has more information at bottom of frame:	_____	_____	_____
114. Streaming has more information at left of frame:	_____	_____	_____
115. Streaming has more information at right of frame:	_____	_____	_____

Reframing

	0 NO	1 YES
201. Shot has been reframed	_____	_____
202. Artificial panning is visible (pan and scanning)	_____	_____

Interruptions

301. Interrupted by buffering

Number of Times Within Scene

302. Interrupted by Web site/film stream freezing _____
303. Interrupted by laptop/computer/streaming device freezing _____
304. Other _____
- Specify other _____

- | | 0 | 1 |
|------------------------------------|-----------|------------|
| | NO | YES |
| Editing | | |
| 401. Scene shortened from original | _____ | _____ |
| 402. Scene cut completely | _____ | _____ |
| 403. Scene censored – language | _____ | _____ |
| 404. Scene censored – visually | _____ | _____ |

- | | 0 | 1 |
|---|-----------|------------|
| | NO | YES |
| Color | | |
| 501. Black and white original, now in color | _____ | _____ |
| 502. More saturated color than original | _____ | _____ |
| 503. Less saturated color than original | _____ | _____ |

Picture Quality – Original/DVD

0	1	2	3	4	5	6	7	8	9	10
CLEAR		BLURRY								HEAVILY PIXELATED

Picture Quality – Streaming

0	1	2	3	4	5	6	7	8	9	10
CLEAR		BLURRY								HEAVILY PIXELATED

- | | 0 | 1 |
|--|-----------|------------|
| | NO | YES |
| Sound | | |
| 601. Higher definition than original | _____ | _____ |
| 602. Lower definition than original | _____ | _____ |
| 603. Sound not clear or muffled | _____ | _____ |
| 604. Noise from streaming device
(laptop, computer, etc) interfered with film | _____ | _____ |
| 605. Sound did not sync with picture | _____ | _____ |

APPENDIX C

Table 6. Aspects of Streaming Disliked By Users: Factor Analysis

	Factor Loadings		Communality
	1 Issues of Quality	2 Interruptions	
D11-Image not as high in definition	.733	.099	.607
D10-Different screen size than theater	.734	-.078	.545
D8-Image not in original aspect ratio	.667	.219	.493
D17-Different sound quality	.640	.387	.560
D15-Different color quality	.608	.432	.556
D4-Viewing interrupted by buffering	.112	.779	.620
D6-Viewing interrupted by web site being down	.130	.753	.584
D2-Film I want to watch is unavailable	.068	.698	.492
D13-Viewing interrupted by distractions around me	.367	.509	.394
Eigenvalues	2.529	2.322	[4.851]
Percent of Total Variance	28.102%	25.798%	[53.9%]
Percent of Common Variance	52.1%	47.9%	[100%]

KMO measurement of sampling adequacy = .803

Bartlett's test of sphericity: approx. chi-square = 1067.269, df = 36, p < .001

APPENDIX D

Table 7. Reasons Non-Streamers Do Not Use a Streaming Service: Factor Analysis

	Factor Loadings			Communalities
	1 Quality	2 Interruptions	3 Home Viewing	
G7-Image might not be as high in definition	.854	.216	.052	.779
G10-Sound quality	.825	.058	.348	.805
G9-Color quality	.786	.153	.354	.767
G5-Image might not be in original aspect ratio	.704	.441	.093	.700
G4-Interruptions by web site being down	.126	.850	.196	.777
G3-Interruptions by buffering	.269	.745	.109	.639
G2-Films unavailable	.080	.702	.117	.513
G11-Streaming device might make noise	.177	.143	.850	.773
G8-Interruptions by distractions	.188	.268	.742	.657
G6-Different screen size than theater	.519	.042	.540	.562

Eigenvalues	2.954	2.133	1.885	[6.972]
Percent of Total Variance	29.544%	21.329%	18.849%	[69.722%]
Percent of Common Variance	42.4%	30.6%	27%	[100%]

KMO measurement of sampling adequacy = .821

Bartlett's test of sphericity: approx. chi-square = 879.203, df = 45, $p < .001$

APPENDIX E

Table 8. Comparison of Media Use Between Subsamples

	Undergraduate Subsample	Social Networking Subsample
Hours of TV Watched Per Day	mean = 2.95 <i>sd</i> = 2.12	mean = 2.62 <i>sd</i> = 2.03
Hours of TV Viewed Online	Mean = .73 <i>Sd</i> = 1.00	mean = 1.44 <i>sd</i> = 1.53
Hours of TV Viewed Alone	mean = 2.22 <i>sd</i> = 3.45	mean = 1.66 <i>sd</i> = 1.75
Hours Per Week Spent Watching Films	mean = 5.46 <i>sd</i> = 5.92	mean = 5.49 <i>sd</i> = 4.66
Hours Spent Watching Films Online	mean = 1.66 <i>sd</i> = 3.29	mean = 2.83 <i>sd</i> = 3.44
Hours Spent Watching Films Alone	mean = 2.97 <i>sd</i> = 4.09	mean = 3.00 <i>sd</i> = 3.44
Hours Per Week Playing Video Games	mean = 4.71 <i>sd</i> = 9.74	mean = 8.44 <i>sd</i> = 10.97
Hours Per Week Playing Video Games Online	mean = 2.99 <i>sd</i> = 7.78	mean = 6.64 <i>sd</i> = 10.35
Hours Per Week Spent Playing Video Games Alone	mean = 3.17 <i>sd</i> = 7.07	mean = 6.70 <i>sd</i> = 10.02
Hours Per Day Spent Listening to the Radio	mean = 2.03 <i>sd</i> = 2.52	mean = 2.12 <i>sd</i> = 3.13
Hours Per Day Spent Listening to Radio Online	mean = .73 <i>sd</i> = 1.41	mean = 1.17 <i>sd</i> = 2.55
Hours Per Day Spent Listening to Radio Alone	mean = 1.53 <i>sd</i> = 1.83	mean = 1.67 <i>sd</i> = 2.61
Hours Per Day Spent Reading Newspaper	mean = 1.01 <i>sd</i> = 1.52	mean = 1.64 <i>sd</i> = 1.59
Hours Per Day Spent Reading Newspaper Online	mean = .70 <i>sd</i> = .82	mean = 1.58 <i>sd</i> = 1.58
Books Read In Past Month	mean = 1.79 <i>sd</i> = 3.64	mean = 2.46 <i>sd</i> = 2.56
eBooks Read In Past Month	mean = .16 <i>sd</i> = .53	mean = .81 <i>sd</i> = 1.56
Movies Seen in Theater In Past Month	mean = 1.07 <i>sd</i> = 1.24	mean = .95 <i>sd</i> = 1.56
Movies Watched on TV in Past Month	mean = 3.77 <i>sd</i> = 4.67	mean = 2.44 <i>sd</i> = 4.54
Movies Watched Via Prerecorded Media In Past Month	mean = 3.90 <i>sd</i> = 4.34	mean = 3.10 <i>sd</i> = 4.46
Percent Who Have Cable or	84.8%	63%

Satellite TV		
Percent Who Own DVR/TiVO	54.3%	34.8%

APPENDIX F

Table 9. Comparison of Demographics Between Subsamples

	Undergraduate Subsample	Social Networking Subsample
Percentage of Male Respondents	49.6%	73.2%
Average Age	22.6	26.2
Marital Status	Married: 2.1% Divorced: 2.1% Widowed: 0% In a relationship: 35.6% Not in a relationship: 54.1% Missing: 6.2%	Married: 14% Divorced: 1.7% Widowed: .1% In a relationship: 21.1% Not in a relationship: 27.9% Missing: 35.2%
Political Affiliation	Strong conservative: 3.4% Lean toward conservative: 8.9% Middle of the road: 35.6% Lean toward liberal: 30.8% Strong Liberal: 13% Missing: 8.2%	Strong conservative: 1.3% Lean toward conservative: 5.3% Middle of the road: 16.8% Lean toward liberal: 23% Strong Liberal: 17.6% Missing: 35.9%
Racial/Ethnic Background	Caucasian: 59.6% African-American: 17.8% Hispanic: 3.4% Asian: 1.4% Arab: 2.1% Mixed: 4.1% Pacific Islander: 0% Native American: 0% Indian: 1.4% Other: .7% Missing: 9.6%	Caucasian: 53.5% African-American: .1% Hispanic: 2.3% Asian: 1.8% Arab: .4% Mixed: 2.8% Pacific Islander: .2% Native American: .4% Indian: .2% Other: 0% Missing: 38.3%
Percentage of Respondents Born in America	90.4%	71.7%
Sexual Orientation	Heterosexual: 76% Homosexual: 1.4% Bisexual: 3.4% Missing: 19.2%	Heterosexual: 55% Homosexual: 2.3% Bisexual: 2.3% Missing: 40.5%
Religious Affiliation	None: 33.6% Protestant: 23.3% Catholic: 26% Muslim: 2.7% Jewish: 1.4%	None: 44.9% Protestant: 9% Catholic: 5% Muslim: .4% Jewish: 1.4%

	Buddhist: 0% Taoist: 0% Hindu: .7% Atheist: 2.1% Other: 1.4 Missing: 8.9%	Buddhist: .8% Taoist: .2% Hindu: .2% Atheist: 1% Other: .2% Missing: 36.7%
Annual Household Income	Less than \$25,000: 33.6% \$25,000-\$49,999: 17.8% \$50,000-\$74,999: 18.5% \$75,000-\$99,999: 12.3% \$100,000-\$149,000: 4.8% \$150,000+: 4.1% Missing: 8.9	Less than \$25,000: 16.6% \$25,000-\$49,999: 16.6% \$50,000-\$74,999: 13% \$75,000-\$99,999: 6.2% \$100,000-\$149,000: 7.9% \$150,000+: 3% Missing: 36.7%
Average Number of Film Courses Taken	2.23	2.19