August 2016

Binge-Watching Rate as a Predictor of Viewer Transportation Mechanisms

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Abstract

Binge-watching has yet to be adequately analyzed and researched to determine its effects upon viewers, despite the fact that nine in ten Americans engage in the activity (Crupi, 2015). While some studies have attempted to discover causes or effects of the activity, most research fails to capture the viewing aspects of binge-watching that make the experience unique. This thesis attempted to more specifically define binge-watching, as well as measure its association with viewer transportation – viewer immersion – into the visual narrative. A survey design facilitated the exploration of any linkages between the amount of a viewer's binge-watching and his or her immersion in the content. Regression analysis found that increases in both total viewing sessions and hours per session predicted an increase in transportation and the subcomponents therein. However, the interaction of the binge-watching variables predicted a decrease in transportation, implying that too much viewing had adverse effects. Further, viewing on tablets and game consoles predicted higher levels of transportation than viewing on Mac or PC. Results and implications for theory and industry are discussed.

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M.A., Syracuse University, 2014

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Master's Thesis

Submitted in partial fulfillment of the requirements for the degree of

Master of Arts in Media Studies

Syracuse University

August 2016

Acknowledgements

To my family, for always sitting around and watching way too much TV during the holidays.

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Chapter 1: Introduction

It is difficult to talk about television in 2016 without using the term "binge-watching." While the idea of television marathons has been around for decades, as anyone that has sat through hours of *Law & Order* would know, watching long intervals of shows back-to-back has become one of society's most popular leisure activities. This thesis explored the effects of this activity of binge-watching on audience interaction with the content being viewed.

Oxford's definition of binge-watch is "to watch multiple episodes of (a television program) in rapid succession, typically by means of DVDs or digital streaming (Binge-Watching, n.d.). However, this definition barely scratches the surface. This activity is rapidly gaining popularity. In the first quarter of 2014, 44 percent of US households binge-watched three or more episodes of a television show in one day (M. Staff, 2014a). According to Matrix (2014), two-thirds of people age 13 to 49 binge-watch at least somewhat. Additionally, when Netflix released the newest season of Arrested Development in 2013, ten percent of viewers watched all 15 episodes within 24 hours (Matrix, 2014). Not only are people binge-watching, but they are really liking it. Netflix found that 73% of US citizens polled enjoyed and had positive feelings towards binge-watching (West, 2014). However, others feel the activity may not be so harmless.

As with many other leisure activities, the debate over whether or not binge-watching may be detrimental has surfaced. Matrix (2014) offers an excellent metaphor on the subject, comparing binge-watching to binge eating potato chips: "tasty for sure, impossible to stop snacking on after consuming just one, lacking utterly in nutritional or intellectual value, likely to make viewers feel a bit ill in large doses, and ultimately unsatisfying" (Matrix, 2014). The claim is that binge-watching shows may have similar addictive and harmful qualities to those of eating

junk food. Indeed, current research tends to focus on these issues. Addiction to or dependency upon media stimulation were suggested as possible characteristics of binge-watchers (Devasagayam, 2014). Further, binge-watchers were found to more likely be depressed or lonely than non-binge-watchers (Sung, Kang, & Lee, 2015b).

As binge-watching continues to gain popularity despite these possibly harmful associations, more research on the activity is needed. Currently, studies on the topic are particularly scarce. As mentioned above, these tend to focus on linking binge-watching and possible detrimental consequences (Devasagayam, 2014; Sung, Kang, & Lee, 2015a). However, these studies do not attempt to establish causation for any of the detriments they associate with binge-watching. In fact, very few of the studies focus on causation. One such paper, found that the viewer effects of binge-watching vary by program viewed, and that one gratification achieved was escapism (Peña, 2015). Another study found that binge-watching increased the likelihood that viewers skipped the title sequence of a show to get back to the storyline (Davison, 2013). In both cases, the authors seem to discover some more directly associated variables of binge-watching instead of simply correlation between binge-watching and possible detriments.

Current binge-watching research seems to neglect two other important aspects of the phenomenon. First, despite being a main variable in each study, binge-watching activity is never defined more specifically than an amount of episodes watched consecutively, typically two or three (e.g. Davison, 2013; Devasagayam, 2014). While Peña (2015) did measure the rate at which participants binge-watched, the author merely reported the statistics instead of analyzing how the rate affected the participants' other responses (Peña, 2015). The rate at which people watch episodes is rarely considered and may be a more effective independent variable than simply whether or not binge-watching took place, as others have noted (Jenner, 2014). As with

traditional television viewing (Horvath, 2004; Wijndaele et al., 2011; etc.), studying how often and how long people binge-watch may help determine if the intensity of a binge influences the strength of the effects. Secondly, the research generally considers the act of binge-watching as different than traditional television viewing. However, no study has attempted to determine the audience's involvement during binge-watching to see exactly how viewers interact with binged content, as has been done with traditional television (Godlewski & Perse, 2010; Lu & Lo, 2007; McKenzie, 2000). Because binge-watchers may "escape" during viewing (Peña, 2015), research should focus on the extent to which viewers become absorbed or lost in the content they binge. Based on these deficiencies in binge-watching research, this thesis addressed the following research question: To what extent does a viewer's binge-watching rate affect the viewer's transportation with the content? Binge-watching was generally defined as watching multiple episodes of a particular show consecutively. Binge-watching rate was generally defined as the frequency with which a person watched a show and for how long said show was watched. Transportation was defined as the depth to which a person is immersed in the content being watched, as is discussed below.

The purpose of this study was to test how the length and frequency of binge-watching relate to viewer transportation with a particular text. The independent variables of binge-watching rate were generally defined as the number of occasions that a person watched a single show and for how long said show is watched each time. The dependent variable of transportation was generally defined as the depth of absorption into the narrative that a viewer experienced from watching the single show. An interaction of the two rate of binge-watching variables was also used as a moderating variable that measured the average length of time of each instance a person watched a show; this helped determine if a specific number of episodes

watched concurrently would affect individuals differently than simply total viewing time. The control variables were basic demographic information and the frequency with which individuals typically binge-watch.

Studying how the rate of binge-watching relates to audience transportation is important for several reasons. First, this study adds to the very limited body of research in the area. This research helps establish more specific parameters for defining binge-watching, since the definition is currently fluid (Jenner, 2014). Secondly, this thesis helps to determine if binge-watching needs to be monitored similarly to other bingeing behaviors, such as drinking or eating. As Sung et al. (2015) suggest, binge-watching may be more hazardous than society currently believes. By trying to limit the possibility of confounding variables in this research, the goal was to determine if the true effects of binge-watching could become more evident. Thirdly, transportation is often linked to increased content-based beliefs (e.g. Dal Cin, Zanna, & Fong, 2004; Green & Brock, 2000; Murphy, Frank, Moran, & Patnoe-Woodley, 2011). Cognition of how binge-watching affects transportation levels could be a prerequisite for studying further influences of binge-watching, such as belief change. Finally, understanding how the extent to which the audience is transported with binge-watching content is important for marketing. About 60 percent of binge-watchers claim that not having to watch advertisements is a significant reason they enjoy binge-watching (M. Staff, 2014b). Further, the impact that advertisements have on viewers can depend on how intrusive they are to the transportation process (Wang & Calder, 2006). Marketers would benefit from understanding how viewers interact with their content in order to experiment with new advertising techniques. Moreover, approximately 45 percent of respondents from the same survey stated that they discovered new shows and watched more live television as a result of binge-watching. Live television, of course,

is loaded with commercial advertisements. This research could facilitate the understanding of what causes these viewers to view more live television despite their possible aversion to commercials.

Binge-watching is becoming ever more present in the daily lives of content consumers. As the popularity continues to grow, frequency and duration of binges may possibly grow, as well. Research in this area should begin to focus not only on benefits, consequences and likelihood of bingeing, but also on how these are affected by how much a person binge-watches. This thesis sought to explore the activity of binge-watching in a more detailed and causal approach than had been attempted previously, in the hope of facilitating further research in this emerging area.

Chapter 2 reviews the existing literature on binge-watching and transportation. This chapter includes literature on previous viewing behaviors, traditional television viewer immersion, and the various causes and factors of transportation. Chapter 3 discusses methodology, detailing how binge-watching rate and levels of transportation will be measured in this study. Chapter 4 reports the results of the data analysis determining the association of binge-watching and transportation. Chapter 5 discusses the findings in a broader sense, as well as implications, future research directions. Lastly, Chapter 6 concludes this thesis.

Chapter 2: Literature Review

This chapter addresses the previous literature on the activity of binge-watching, as well as the concept of transportation. As stated, this thesis sought to determine what association that binge-watching had with a viewer's transportation. First, the unique viewing experience of binge-watching is discussed. The following section discusses the need for a more accurate measurement for binge-watching. Lastly, transportation literature is discussed, and the theory is linked to the activity of binge-watching.

Binge-Watching

As mentioned previously, binge-watching is gaining popularity and is consistently seen as mostly positive (e.g. Gay, 2013; Matrix, 2014; Spangler, 2013). Not only is the activity becoming more popular, it is considered a superior viewing method for even traditional television shows. Of those polled, seventy-nine percent believe television shows are better when binge-watched (West, 2014). Further, one quarter of those that had finished a full series season within a month did so within two days (Spangler, 2013). Giuffre (2013) offers that this condensed viewing may be somewhat closer to the act of reading than traditional viewing has been considered previously: "binge watching is not just re-running, but rather getting lost in a show with the same passion that literature fans have long been losing entire weekends and sensible weeknights with" (Giuffre, 2013). An aspect of this evolution may be due to the expansion of consumer viewing options.

Increase in viewer options. Binge-watching is not necessarily a new phenomenon. Networks have been airing TV show marathons since before cable existed (Jenner, 2015). And, since shows became available as DVD box sets, "super fans" have been watching extended marathons of their favorite series (Lotz, 2014). Only recently has the phenomenon turned into a

mainstream fascination. An increase in viewing options may be a reason for this. Whether customers are cancelling cable subscriptions – or "cutting the cord" (Baumgartner, 2014; Fontaine & Noam, 2013) – or simply partaking in less appointment viewing (M. Staff, 2014a), "alternatives to traditional television are growing by the day" (Johnson, 2014).

This expanded viewing landscape relates directly to binge-watching. One of the main reasons people enjoy bingeing is the ability to choose what shows they watch (Devasagayam, 2014). Further, more than twice as many people binge-watched with a DVR or streaming service than via live television in the first quarter of 2014 (M. Staff, 2014a). Although Prince and Greenstein (2013) found that that content was not an issue when consumers compared the advantages of traditional television to streaming services, the authors admitted that this might have changed since their data was collected in 2009 (Prince & Greenstein, 2013). Such has been the case; since then, the Netflix series *House of Cards* has won an Emmy and was the second most binged show of 2014 (Gachman, 2014). Consumers are beginning to have more clout in content creation (Lotz, 2014). For binge-watching, this means more than simply deciding *what* to watch.

Viewing aspects. Binge-watching research needs to look at not just who is watching what, but how, when, and at what rate these individuals are watching. Besides choosing what to watch, binge-watching offers viewers increased accessibility. The act of binge-watching includes choosing a show, when to watch said show and how many episodes to watch (Hallinan & Striphas, 2014). People are more likely to binge-watch when they have free time and access to a show (Devasagayam, 2014). Moltke (2014) suggests that attendees of the Berlin Film Festival were more interested in watching all six episodes of the miniseries *Top of the Lake* than leaving after one episode to watch a feature length film (Moltke, 2014). Some authors suggest

that this unlimited freedom leads to too much television – that binge-watching can occur too frequently or replace other activities completely (e.g. Davison, 2013; Matrix, 2014). Although this may be an extreme, as will be discussed below, binge-watching is seen as a way to remove oneself from the outside world. Seventy-six percent of online streamers claim that watching multiple episodes is a welcome distraction from chaotic life (West, 2014).

Another characteristic of the binge-watching process is the converse of choosing when to watch: viewers also choose when to stop watching. A television network schedule does not restrict the individual; only one's own schedule causes restrictions. But, although watching whenever one pleases is a great advantage of binge-watching, controlling when to stop may be problematic. As Aristotle once offered, "everything in moderation" (Aristotle, 1954); discontinuing an enjoyable activity, like binge-watching, can be difficult. Netflix knows this and does its best to keep people watching. The service has a post-play feature that skips the closing credits when a show ends and automatically starts the next episode right after the opening credits (Graves, 2015). Davison (2013) found that binge-watchers purposely skip opening credits while watching consecutive episodes (Davison, 2013). The Netflix post-play feature does this automatically for them.

Watching consecutively allows for viewers to get those nuanced pieces of the show they might miss otherwise (Graves, 2015). Thompson (2007) expands this idea, equating binge-watching to reading a novel. Just as consecutively reading multiple chapters is ideal for getting the most out of a book, binge-watching often extracts more from the narrative (Thompson, 2007). Viewers can be more conscious of the season as a singular narrative piece (Newman, 2009).

Existing Research. Because the phenomenon has gained popularity recently (see: Giuffre, 2013; Matrix, 2014; Spangler, 2013), research regarding binge-watching is fairly limited. Davison (2013) found some of the earliest discoveries about self-reported binge-watching. This qualitative study found that participants skipped more when openings were considered unnecessary to the story, especially when they watched episodes "back-to-back in a compressed timeframe" (Davison, 2013). Skipping the opening suggests that binge-watchers seek to continue the narrative as quickly as possible. One of the earliest studies specifically focusing on the characteristics of binge-watchers suggested that the participants displayed what the author equated to addictive tendencies, including losing track of how many episodes were viewed and having an empty feeling when they finished a series (Devasagayam, 2014). Again, these results were from self-reported focus groups. Therefore, suggesting that binge-watching has addictive properties is conceptual. More quantitative research is needed to determine actual behaviors and effects of the binge-watching process.

More recently, Peña (2015) considered how binge-watching differed from traditional viewing, as well as what gratifications were achieved during the activity. The author focused on three factors: viewer opinion, enjoyment and satisfaction with a show. The exploratory study suggested that these factors depend upon the show, and that a primary gratification of binge-watching is escapism. Peña (2015) opined that the variance of the factors between the shows in the study reflected the makeup of the participants (seventy-eight percent were female) (Peña, 2015). Despite some limitations in the methodology, the finding that binge-watchers achieve some level of escapism is an interesting one and should be examined further.

Pittman & Sheehan (2015) examined the uses and gratifications of binge-watching specifically. They found that individuals that regularly engage in the activity do so for

relaxation, engagement, and hedonism. Further, the quality and cultural conversation of the program were taken into account when planning ahead to binge (Pittman & Sheehan, 2015). Again, the operational definition of binge-watching was two or more episodes.

Another recent study focused on relationships with detriments, looking at the factors leading to binge-watching (Sung et al., 2015a). Using surveys, the authors' primary finding was that the more a participant reported feeling lonely or depressed, the more episodes of a show he or she was likely to watch. Based on this discovery, they concluded that binge-watching was consistent with other bingeing behaviors (specifically binge eating or drinking), in terms of the activity possibly being linked to depression (Sung et al., 2015a). However, previous survey respondents preferred watching with company to watching alone (fifty-one percent to thirty-eight percent, respectively) (Spangler, 2013). Additionally, the findings of Sung et al. (2015a) simply show that depressed or lonely individuals may be more likely to view episodes concurrently (Sung et al., 2015a). In other words, binge-watching may be a coping mechanism for depression, but not a cause.

An April 2016 study found that respondents reported watching two or more episodes in a row a little over once per week. Further, the more that individuals reported binge-watching, the more they confessed that binge-watching took away from "other goal pursuits" (Walton-Pattison, Dombrowski, & Presseau, 2016). In this case, binge-watching was less of an "escape" and more of a procrastination tool. The issue in this paper was that the power of the sample was limited (n = 86) and lacking generalizability.

One of the more thorough binge-watching studies undertaken employed in-depth interviews with binge-watchers (Perks, 2015). The interviewees' responses reinforce the notions that binge-watchers sometimes lose track of how many episodes have been viewed. Suggesting

that “media marathoning” may be a more accurate and positive term, the author found no instances of depression or characteristics associated with addictive behaviors in binge-watchers. The desire to watch more came from wanting to continue the “walk through the wardrobe” – binge-watchers enjoyed the “escapism” achieved during binge-watching and felt engrossed in the text (Perks, 2015). This notion of being fully immersed in the content being read or watched provides an excellent foundation on which to build research concerning the effects of binge-watching.

With the exception of Perks (2015), these studies tend to neglect truly direct effects of binge-watching. Further, the most accurate empirical measurement of binge-watching typically includes asking participants to self-report how often they watch two or more episodes in a row (Devasagayam, 2014; Sung et al., 2015a; etc.). If binge-watching is to be considered the equivalent of other bingeing activities (Sung et al., 2015a), it needs to be measured similarly to test exactly what its effects are.

Explicating Binge-Watching

Currently, binge-watching activity has almost always been defined in terms of the number of episodes in a row (typically, at least two or three) (e.g. Devasagayam, 2014; Matrix, 2014; Peña, 2015). On occasion, participants even identify the term “bingeing” without prompt (Davison, 2013). Walton-Pattison et al. (2016) opined that “the definition would benefit from achieving consensus within the field on cut-offs of time and/or number of episodes that constitute a bout of binge watching” (Walton-Pattison et al., 2016). However, the authors gave no reasoning for their particular operational definition. One thesis did find that significant positive associations exist between binge-watching and attachment anxiety and depression (Wheeler, 2015); however, its operational definition of binge-watching was merely “back-to-

back episodes." As Rutsch (2015) points out, defining binge-watching in terms of only number of episodes does not make for consistency in research. For Sung et al.'s (2015) study, the definition of a binge-watcher included individuals that reported watching two episodes of a favorite program in one sitting. In this case, viewing time would vary considerably: two-episode season finales of sitcoms like *The Office* total less than an hour of screen time, whereas two episodes of the BBC show *Sherlock* would be three times that length. Other studies are specific on timeframe, but lack the number of consecutive episodes watched. Perks (2015) allowed individuals to finish their content whenever they wanted, as long as they finished the show within one week. This is a closer measurement vis-à-vis the essence of binge-watching. It allows for a more natural experience, since people can choose to do the viewing whenever they want. Theoretically however, a two-season show (20 episodes) could easily be viewed in its entirety in one week without any episodes being watched successively. For a more thorough empirical measurement, other excessive behavior research may help.

Bingeing behaviors. In trying to further analyze the nuances of binge-watching, Jenner (2015) proposed an interesting notion: exploring binge-watching while considering other bingeing activities (Jenner, 2015). Binge eating has previously been referenced in the literature – much akin to eating a whole bag of chips, as mentioned (Matrix, 2014) – and the analogy may be very accurate. Binge eating is not based upon a pre-established amount of food intake; each occurrence represents a binge (Wardle & Beinart, 1981). Relating this to binge-watching, perhaps the number of episodes is less important than the activity itself taking place. However, binge eating is considered a compulsive behavior (Lee, Lennon, & Rudd, 2000), often associated with particular conditions like bulimia or strict dieting (Heatherton & Baumeister, 1991; Herman & Polivy, 1975; Mitchell, Hatsukami, Eckert, & Pyle, 1985). Thus far, binge-watching has not

been considered something wholly uncontrollable. Therefore, binge-watching should be considered as more of an overindulgence (instead of compulsory), as some other bingeing activities have been considered.

Another component that sheds light on binge-watching research is the activity of binge drinking. Often, studies look at the frequency of binge-drinking sessions per week (e.g. Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994; Wechsler, Dowdall, Davenport, & Castillo, 1995). This suggests that someone who drinks one drink daily does not equal someone who binge-drinks seven beers once weekly. Further, the number of drinks to constitute a binge is consistent. This is based on the legal BAC limits, which can differ based on size, ethnicity, etc. (Hull, 1981; Wechsler et al., 1994). So, researchers might consider looking at binge-watching similarly: binges of various lengths may affect people differently.

If one is to consider how the length of binge-watching affects individuals, television addiction studies should be considered, as well. Often, these studies only examine the relationship between amount of television watched and other detrimental issues (e.g. Finn, 1992). Further, television viewing time has been positively associated with metabolism issues and risk of diabetes, suggesting an overall pattern of laziness (Sugiyama, Healy, Dunstan, Salmon, & Owen, 2008). However, causation may be of concern; this would mean that a person who runs ten miles and watches three hours of television a day would be at higher risk of diabetes than an inactive person who reads instead of watching television. Wijndaele et al. (2011) controlled for fitness levels (activity, BMI, etc.) and found that increased television time was positively associated with cardiovascular deaths. The authors took it a step further and suggested that even an hour less of television a day would significantly decrease death rates (Wijndaele et al., 2011). But, does this mean that if people watch less television, they will be healthier, or does this simply

show that unhealthy people are more likely to watch television? This again leads to the question of causation.

Binge-watching effects. One notion that seems to arise often in the above mentioned literature is the addictive nature of television. Winn (2002) went in-depth on the subject, suggesting that viewers can block out the world around them, much in the same way that people do with drugs or alcohol (Winn, 2002). However, current binge-watching findings suggest that the primary reason viewers will watch more is that the content is readily available (Davison, 2013; Perks, 2015). Early binge-drinking studies exemplify this idea of overindulgence and controllability. These studies only focused on how frequently binge-drinking occurs (usually among college students), not the effects of that drinking (Johnston, O'Malley, & Bachman, 1991; Wechsler & McFadden, 1979, etc.). This is strikingly similar to the current research on binge-watching. Later research delved deeper into causes and effects, from media (Grenard, Dent, & Stacy, 2013) and social influences (Wechsler et al., 1995) to other life situations (Wechsler et al., 1994), cognitive functions (Hull, 1981) and further drinking (Grenard et al., 2013). This seems to be a more logical approach to constructing binge-watching research. While studies have looked at some psychological conditions, like depression, in relation to binge-watching (Devasagayam, 2014; Rutsch, 2015; Sung et al., 2015a), these conditions tend to be similar to those of high traditional television viewing individuals. These studies do not focus on the actual act of binge-watching as separate from traditional viewing. Research should focus on what specifically happens during the binge-watching process.

Perks (2015) equates binge-watching to one night during college when she and her friends stayed up late to finish a large jigsaw puzzle. It was an obsession (Perks, 2015). No one would call that an addiction, just something in which to be fully invested. Binge-watching

allows for viewers to escape and "forget about life for a while" significantly more often than appointment viewing does (Peña, 2015). Further, people feel like a piece of themselves is missing after a show ends (Devasagayam, 2014), possibly from not "diversifying their media investments" (Perks, 2015). In other words, only watching one show may cause people to have a stronger connection with the content then they would otherwise. This creates a more intense relationship with the characters and the possibility of losing track of how much is watched. As such, binge-watching may be more similar to hypnosis than addiction, as Sigman (2005) suggests. Television viewing decreases frontal lobe activity, meaning less critical thinking and attention to the real world (Sigman, 2005). So, it is entirely possible that what happens during watching is not addiction, but a decrease in the ability to manage time. People make poorer decisions from having less brain power for critical thinking and controlling behavior.

Author John Gardner said that a good writer of fiction was someone who could "create a vivid and continuous dream" in the reader's head (Gardner, 1991). The same could be true about contemporary television writers. If so, this dreamlike state could translate into the feeling of escapism and lack of rationale felt by viewers – a concept described as transportation.

Transportation Theory

The most simplistic explanation of transportation is that it is the state of being absorbed or enthralled in a text. One of the first papers on the subject provides an excellent analogy:

> Someone… is transported by some means of transportation as a result of performing certain actions. The traveler goes some distance from his or her world of origin, which makes some aspects of the world of origin inaccessible. The traveler returns to the world of origin, somewhat changed by the journey (Gerrig, 1993, pp. 10-11).

The reason transportation can take place during consumption is because being immersed in a story is a "natural tendency toward empathy and perspective-taking" (Green, Brock, & Kaufman, 2004). It does not matter if the story is perilous or dangerous, one will be transported (Green et al., 2004). Essentially, anyone whom has gotten really into a good book has experienced transportation.

The main development of this concept for visual material came from Green and Brock (2000). The authors found that transportation may affect belief change and how well liked the protagonists may be. They suggested that people's beliefs change in two different ways: elaboration likelihood, in which individuals critically analyze what they consume and determine a rational position; or transportation, where individuals become so engrossed in the content, that they are unconsciously persuaded to shift beliefs. They found a positive relationship between content-belief change and one's level of transportation (Green & Brock, 2000).

More recent literature has attempted to make transportation more empirically precise. Riddle (2013) developed three subcomponents of transportation to visual media, suggesting that transportation itself might be better understood by focusing on how the subcomponents are affected individually (Riddle, 2013). The first subcomponent is attention. Not only does this include attention to the text, but also the lack of attention to the outside world (Green & Brock, 2000). Anyone who has attempted to talk to a child watching television understands this concept. The second factor of transportation is emotional investment. This is the degree to which viewers are devoted to the characters or storyline. It is sometimes related to parasocial interaction, in which viewers develop a relationship with the fictional characters (Green et al., 2004). The final aspect is mental rumination, or thinking about the content after watching it. This involves thinking about how things could have turned out differently in the story (Riddle,

2013). Each component of transportation can be affected differently. For example, vividness of violence only affects the attention and emotional investment of viewers (Riddle, 2013).

Most transportation literature examines two relationships: what factors affect transportation and how transportation affects individuals' beliefs. The latter relationship has been quite consistent, finding that transportation and content-specific belief change are positively related (Bilandzic & Busselle, 2008; Green, 2004; Green & Brock, 2000; Murphy et al., 2011; etc.). Conversely, the possible factors that influence the level of transportation vary considerably. The particular genre of the content (McKinley, 2013; Slater & Rouner, 2002), enjoyment of the text (Green et al., 2004), and the quality of the work (Busselle & Bilandzic, 2009; Slater & Rouner, 2002) can influence transportation levels. Further, prior narrative-related experiences (Green, 2004) and viewing time (McKinley, 2013) may also affect how immersed viewers become. What is common in all of these studies is the notion that individuals can become so immersed in a good story, they escape to the fictional world somewhat and have limited contact to the real world. This may be the dream that Gardner (1991) mentioned. Therefore, it is possible that the "journey" that the "traveler" takes during transportation (Gerrig, 1993) is actually the "walk through the wardrobe" that viewers experience during binge-watching (Perks, 2015).

Hypotheses

Viewers' perceived quality of a show, including narrative understanding, attentional focus, emotional engagement and narrative presence, affects their transportation levels (Busselle & Bilandzic, 2009). As discussed, binge-watching a show allows for viewers to identify more subtle aspects of the narrative (Graves, 2015), extract more from the narrative (Thompson, 2007) and perceive whole seasons as singular narrative pieces (Newman, 2009). Therefore, binge-

watching would heighten the aspects of a show's perceived quality, affecting transportation. Additionally, extended viewing time (McKinley, 2013) and limited commercial breaks (Wang & Calder, 2006) – two other influences of transportation – are unique to the binge-watching experience (Perks, 2015; M. Staff, 2014b; Sung et al., 2015a). In addition to content-specific factors, prior narrative-related experience (Green, 2004) and knowing what will happen (Tal-Or & Cohen, 2010) affect transportation. This would suggest that watching concurrent episodes of the same show that was just watched would lead to higher transportation. In the binge-watching process, prior experience could be the episode just watched. Likewise, future knowledge could be the understanding that the narrative and characters will continue where the previous episode ended. Based on these observations, the first hypotheses were as follows:

H1: As binge-watching rate increases, the level of viewers' transportation will increase.

H1a: As binge-watching rate increases, attention to the real world will decrease.

H1b: As binge-watching rate increases, the level of viewers' emotional investment in the content will increase.

H1c: As binge-watching rate increases, the level of viewers' mental rumination of the content will increase.

As with food or alcohol bingeing activities, binge-watching has an ultimate physical limit to what can be consumed by an individual (i.e. fainting from exhaustion). However, this thesis did not attempt to find that limit, as the concern is the causal relationships of binge-watching (and, IRB would never approve).

Instead of focusing on specific belief changes related to the content viewed, like "crime doesn't pay" (Green & Brock, 2000), it may be possible that belief change could be considered a viewer's desire to be exposed more to that same belief or content. Further, previous genre

exposure can increase transportation (Bilandzic & Busselle, 2008), as can the enjoyment one experiences from the content (Busselle & Bilandzic, 2009). It could be argued that during binge-watching, the previous episode is the equivalent of prior genre experience, and that wanting to be exposed to the same beliefs or content is equal to the desire to watch more episodes. Therefore, the second hypothesis was:

H2: As binge-watching rate increases, the level of viewers' intent to watch more episodes of a show will increase.

People can stream programming on nearly every piece of technology they own, as long as it has a screen. This "media agnosticism" allows users to access content in a way most favorable to them individually (Lotz, 2014) and, as a result, may be a driving factor of binge-watching (Jenner, 2015). Therefore, the first research question explored this behavior:

RQ1: To what extent is a viewer's transportation affected by the technology on which the content is streamed?

Perhaps because other work on transportation focuses on belief change (Green, 2004; Green & Brock, 2000; Mazzocco, Green, Sasota, & Jones, 2010, etc.), researchers have neglected whether or not interpersonal interaction affects viewers' transportation. One reason for planning to binge-watch is the social aspect of the conversation surrounding the show (Pittman & Sheehan, 2015). As such, this thesis explored if the viewing experience differs for people binge-watching together. The second research question was:

RQ2: To what extent is a viewer's transportation affected by binge-watching with other people?

When three or more variables are considered simultaneously, it is sometimes customary to analyze whether or not the interaction of two of the variables affects the outcome variable

(Cox, 1984). Because binge-watching rate was measured as both frequency of the activity, as well as the duration of each viewing session (two predictor variables), a third research question was asked:

RQ2: To what extent is a viewer's transportation affected by the interaction of the two binge-watching rate variables?

Since other activities considered addictive or detrimental have legal, medical and/or physical constraints (e.g. Finn, 1992; Keck & Fiebert, 1986; Wechsler et al., 1994; Wechsler & McFadden, 1979), determining if binge-watching has an intensified impact after a certain amount of time per binge is necessary in developing an understanding of the process. Knowing the degree to which one is transported based on the rate of one's binge-watching experience will be a step toward that understanding. The following chapter will explain the methodology for analyzing binge-watching rate and its effect on viewer transportation.

Chapter 3: Methodology

In order to measure how transportation was affected by binge-watching rate, a longitudinal panel study was employed. Participants were instructed to watch one television show of their choice and fill out weekly surveys for three weeks.

Because this study focused on the trends of individuals' behaviors and attitudes, a survey design was employed (Creswell, 2014). Other work focusing on transportation (i.e. Busselle & Bilandzic, 2009; Green & Brock, 2000; Riddle, 2013) typically utilizes experimental design. However, this study did not utilize a control group, because only the level of binge-watching rate – a scale theoretically including an absolute zero – was tested (Vogt & Johnson, 2011). Further, one goal of this thesis was to collect data from individuals that binge-watched in a manner that closely resembles how they would engage in the activity if not participating in a study. A survey design helps naturalize this viewing experience (Vogt & Johnson, 2011). Previously, this method has been utilized in other binge-watching research focusing on causation (Peña, 2015). External validity, which can be an issue with self-reporting (Vogt & Johnson, 2011), is discussed further below.

Participants

Participants were recruited from two locations: Amazon's Mechanical Turk (MTurk) and a private northeastern university. Typically, transportation and binge-watching studies using university students have been weighted towards females (Green, 2004; Mazzocco et al., 2010; Peña, 2015; Sung et al., 2015a; etc.). Combining these results with those of MTurk, which tends to weight towards males (Casler, Bickel, & Hackett, 2013) and be more diverse (Buhrmester, Kwang, & Gosling, 2011), was an attempt to allow for the sample to be more representative of the general population.

The sample size goal was approximately 400 individuals, a size that would achieve a *power of 95 (Faul, Erdfelder, Lang, & Buchner, 2009). This size was determined using the software G*Power.

Participants were recruited through MTurk, as well as some of a northeastern university's professors' classes. The questionnaires were created and administered via Qualtrics, chosen due to this author's personal preference of the user interface, as well as the user-friendliness of its mobile site. This allowed for more ease for the participants while completing questionnaires. MTurk workers were given a link to the Qualtrics survey and given a code to enter on their Amazon page upon completion. They were awarded $0.05 for completing each survey. The small amount was due to a further incentive being made available. All participants were incentivized by a drawing in which two participants won $200 Visa gift cards. Only those whom completed all necessary questionnaires were entered into the drawing. This helped to limit mortality (Creswell, 2014).

Content

Researchers of previous transportation studies have edited or created content to control exposure to content-related beliefs that transportation may enhance (McKinley, 2013; Murphy et al., 2011; Riddle, 2013; etc.). However, this thesis was only interested in measuring transportation and its mechanisms. As such, the content used for this study allowed for a more naturalistic experience for the participants and reflected the unique aspects of binge-watching better than previous studies.

Binge-watching behavior. One of the most important components of binge-watching is viewer choice in programming (Davison, 2013; Devasagayam, 2014; Peña, 2015). Further, transportation may be negatively affected if individuals are not given their choice in consumption

(Green & Brock, 2000; Moyer-Guse & Nabi, 2010). Therefore, participants in this study were given a list of shows from which to choose. Additionally, binge-watchers typically choose *when* they watch (Devasagayam, 2014; Giuffre, 2013; Newman, 2009; Peña, 2015). Therefore, individuals were instructed to watch as many or as few episodes as they wished.

Television Shows. Professionally produced texts have been found to be more transporting than researcher-created content (Green & Brock, 2000). Therefore, the choice of shows was limited to those more likely to lend themselves towards being binge-watched, as well as hour-long dramas. This allowed for more consistency in viewing, since different genres (Bilandzic & Busselle, 2008), as well as viewing time (McKinley, 2013), may affect transportation differently. The particular shows came from the culmination of seven Internet lists of top shows to binge-watch[1] and were available on Netflix during data collection (see Appendix A).

Instrumentation

Pre-Questionnaire. Consistent with other transportation research (e.i. Bilandzic & Busselle, 2008; Murphy et al., 2011), participants were given a pre-questionnaire to measure their usual binge-watching activity and familiarity with the show options.

Often in binge-watching studies, participants are asked whether or not they binge-watch, followed by questions about frequency, number of episodes, etc. (Davison, 2013; Peña, 2015; Sung et al., 2015a; etc.). This thesis employed the same technique, with one difference: no mention of a minimum number of episodes to classify a viewing as a binge. This allowed participants to personally determine a definition of binge-watching as it related to their lifestyle.

[1] The lists used for aggregation were from the following: ("15 Shows to Binge Watch," 2015; "23 Shows You Need to Binge-watch Right Now," 2015; Lawler, 2015; Pritchard, 2015; Skells, 2015; R. Staff, 2015; TV, 2015)

Using a modified version of Sung et al.'s (2015) binge-watching behavior instrument, participants were asked how frequently they binge-watched, measured on a seven-point ordinal scale ranging from "Never" to "Once a Day" (Sung et al., 2015a).

Since prior genre familiarity is related to transportation (McKinley, 2013), participants were asked about their familiarity with each show using the pre-test instrument from Peña (2015). Genre familiarity was determined by how many episodes of each show participants had previously viewed. Participants were then asked to select one of the ten shows from the list, that they were least familiar with, to watch for all three weeks. By allowing the participants to choose their own show to watch, possible external invalidity of the "interaction of selection and treatment" was reduced (Creswell, 2014), allowing for greater generalizability. See Appendix B for the full pre-questionnaire.

Weekly Questionnaire. Participants accessed the show through Netflix on their own and watched episodes at their own pace. This helped naturalize the experience by allowing participants to view the show as they normally would. They were informed that their viewing was being tracked for the study. This helped increase the likelihood of participants actually watching the selected shows. Every Sunday night, participants received a link to the questionnaire regarding the episodes viewed during that week. Only administering the questionnaire once a week helped to reduce testing invalidity (Creswell, 2014). MTurk workers were contacted using their unique worker identification numbers. Only those whom completed the prior questionnaires were given the new link.

The instrument included a diary for the participants to record their daily binge-watching activity. They were first asked to report the total number of episodes watched of their chosen show. They were then asked to fill out a diary broken down by day and hour of when they

watched their chosen show. These measures allowed for a more accurate measurement of actual binge-watching, as well as any other viewing behaviors, than in previous work (Peña, 2015). Further, these numbers allowed for more specific binge-watching information, such as percentage of episodes watched, level of activity per day, etc. For Research Question 2, participants were also be asked to indicate on the diary whether or not they watched with others each day.

To study Hypothesis 1, the level of transportation was needed. To measure this dependent variable, a nine-item version of the Green and Brock (2000) transportation scale, as well as viewer intent to watch more, was used. This scale has been used often in studies to measure transportation and is reliable (See: Riddle, 2013; Slater & Rouner, 2002; Wang & Calder, 2006). The version utilized here was modified for use with visual narratives (Bilandzic & Busselle, 2008) and categorized by the transportation subcomponents (Riddle, 2013). All nine items asked participants to rate each statement on a five-point Likert scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). Two items used by Riddle (2013) that referred to excitement levels and responses to violence were excluded, as they measured non-transportation effects specifically for that study (Riddle, 2013). Reliability was calculated using Cronbach's α.

For Hypothesis 1a, 1b and 1c, the subcomponents of the transportation scale were used. These subcomponents were statistically significantly different when tested independently from each other (Riddle, 2013). Hypothesis 1a included viewers' attention. The transportation scale items that measured attention were "During the show, activity going on around me was on my mind" and "I found my mind wandering while watching the show." Both were reverse-coded. Hypothesis 1b, measuring emotional investment included the items "After finishing the episodes, I found it easy to put them out of my mind," "The show affected me emotionally," "The events in

these episodes have changed my life" and "I could easily picture myself in the scenes portrayed in the show." Mental rumination, the variable of Hypothesis 1c, utilized the items "I find myself thinking of ways the show could have turned out differently" and "The events in the show are relevant to my everyday life" (Riddle, 2013).

To measure Hypothesis 2 (intent to watch future episodes), one five-point Likert scale item asking "I plan to watch as many or more episodes of the show in the week to come" was used. The scale ranged from 1 ("strongly disagree") to 5 ("strongly agree").

For Research Question 1, participants were asked to identify the primary device on which they watched their show.

A final open-ended question asked participants to write in their favorite storyline over the episodes viewed for that week. Doing so was an attempt to decrease the likelihood of participants inaccurately reporting how many episodes they watched. The weekly questionnaire can be seen in Appendix C.

Had a participant finished the show he or she had selected prior to the completion of the three-week timeframe, he or she was asked to select another show from the list to watch for the remainder of the study. The participant completed the remaining weekly questionnaires in regards to this new show.

Both questionnaires were pilot tested with approximately ten percent of the entire sample size. Any comments or issues during this time were addressed and revised before recruitment. Institutional Review Board approval was obtained in January, and data collection began in February.

Data Analysis

Once collected, data was analyzed with Stata/SE 14.1 (StataCorp, 2016). Regression analysis was utilized to measure how the dependent variables were associated with the independent variables (Vogt & Johnson, 2011). The following chapter discusses the results.

Chapter 4: Results

376 individuals completed the pre-questionnaire, in which each picked one of the ten shows. 170 (44.85%) were male, and 209 (55.15%) were non-male. 165 individuals completed all four waves of data (the pre-questionnaire and weeks 1 through 3) and were included in this analysis. In this sample, 62 (37.58%) were male, and 103 (62.42%) were female.

To ensure quality of the responses through MTurk, a few precautions were taken, as outlined by Mason and Suri (2012). First, the data was cleaned to eliminate duplicate IP addresses. Next, the survey was exported to Qualtrics and required entry of a unique weekly code to be given credit for completion. Lastly, weekly responses were triangulated using the questions about total episodes watched, the viewing diary entry and the open-ended response to the favorite storyline of that week. These methods helped filter out "bots" and/or bad responses (Mason & Suri, 2012).

Table 4.1 depicts the basic demographic information of the sample, separated by sex. The mean age was 28.79 (SD = 10.00). Age ranged from 18 to 60 and was skewed significantly to the right (skewness = 1.05, kurtosis = 3.50, median = 27). Fifty (30.49%) of the respondents were students of a large private northeastern university. Five (3.05%) respondents described themselves as American Indian or Alaska Native; twelve (7.32%) were Asian or Asian American; eight (4.88%) were Black/African American; and eleven (6.71%) were Hispanic/Latino. The overwhelming majority was Non-Hispanic White, representing 75.61% of the sample (n = 124). Of the 165 respondents, thirty-three (20.12%) were married, nineteen (11.59%) were in a non-married relationship, ten (6.10%) were divorced and 100 (60.98%) were never married. Education levels were more evenly split than other demographic characteristics. Thirty-four

(20.73%) respondents were had high school degrees, sixty-one (37.20%) had completed some college, fifty-four (32.93%) had finished college, and eleven (6.71%) had master's degrees.

Table 4.1

Descriptive Statistics - Demographics

Variable	Male (*n*= 62)	Female (*n* = 103)	Total (*n* = 165)
Age (Mean)	28.03 (8.52)	29.24 (10.75)	28.79 (9.98)
University Student	24.59%	33.98%	30.49%
Race			
Amer. Indian/Alaska Native	4.84%	1.96%	3.05%
Asian/Asian American	4.84%	8.82%	7.32%
Black/African American	4.84%	4.90%	4.88%
Hispanic/Latino	9.68%	4.90%	6.71%
Non-Hispanic White	72.58%	77.45%	75.61%
Other	3.23%	1.96%	2.44%
Marital Status			
Never Married	59.68%	61.76%	60.98%
Married	14.52%	23.53%	20.12%
Divorced	6.45%	5.88%	6.10%
Couple (Non-Married)	17.74%	7.84%	11.59%
Education			
High School	22.58%	19.61%	20.73%
Some College	35.48%	38.24%	37.20%
College Degree	33.87%	32.35%	32.93%
Master's	6.45%	6.86%	6.71%
PhD/Other	1.61%	1.96%	1.83%

Reliability

The transportation scale consisted of three subcategories and one additional statement, totaling eight items (see: Table 4.2). The two terms within the attention mechanism ("During the show, activity going on around me was on my mind" and "I found my mind wandering while watching the show.") had a Cronbach's alpha of .78. The involvement mechanism ("After finishing the episodes, I found it easy to put them out of my mind;" "The show affected me emotionally;" "The events in these episodes have changed my life;" and "I could easily picture

myself in the scenes portrayed in the show.") had a Cronbach's alpha of .68. The mental rumination mechanism was much less reliable (α = .34). However, when combined and including the final item ("I plan to watch as many or more episodes of the show in the week to come."), overall transportation was reliable, with a Cronbach's alpha of .77.

Table 4.2

Descriptive statistics and Cronbach's alpha coefficients of the transportation scale

Item	Mean	(*SD*)	α
Attention	2.26	(1.16)	.78
"During the show, activity going on around me was on my mind." (Reverse-coded)	2.28	(1.26)	
"I found my mind wandering while watching the show." (Reverse-coded)	1.98	(1.18)	
Emotional Investment	1.51	(0.82)	.68
"After finishing the episodes, I found it easy to put them out of my mind." (Reverse-coded)	1.98	(1.18)	
"The show affected me emotionally."	1.88	(1.19)	
"The events in these episodes have changed my life."	0.68	(0.91)	
"I could easily picture myself in the scenes portrayed in the show."	1.51	(1.27)	
Mental Rumination	1.67	(0.86)	.34
"I find myself thinking of ways the show could have turned out differently."	2.31	(1.19)	
"The events in the show are relevant to my everyday life."	1.02	(1.03)	
Intent to Watch More	–	–	–
"I plan to watch as many or more episodes of the show in the week to come."	2.71	(1.18)	
Overall Transportation	1.85	(0.70)	.77

Note: $n = 165$.

Because mental rumination was did not meet the Cronbach's alpha for reliability, only one item of the two in the mechanism was included in analysis of that mechanism ("I find myself thinking of ways the show could have turned out differently."). This item was used, because it is

consistent with the statement used in (Riddle, 2013) to measure the mental rumination subcomponent, the study upon which this scale was based.

Data Analysis

In this thesis, the three waves (week 1, week 2 and week 3) of data – all measuring the same dependent and independent variables – were appended. Essentially, the 165 person observations for each of the three waves of data were appended so that the final dataset has 495 person-wave observations. This is a standard statistical approach for modeling longitudinal data when the associations between the independent and dependent variables are assumed to be consistent across waves (Singer & Willet, 2003). To account for the fact that each respondent has three observations in the appended data, and hence these observations are not independent as is required in standard regression analyses, robust standard errors are used. This procedure ensures that the standard errors are not artificially deflated due to dependence among respondents' observations across waves. In this case, the participants' "id" variable was used in the regression procedure in Stata to identify respondents across waves. Table 4.3 represents a breakdown by week of the regression model used for hypotheses testing, showing that transportation levels, as well as their association with the binge-watching rate variables, remained relatively even throughout all three weeks of data collection. Any temporal increase in the average transportation level could be accounted for by including a term for wave (1,2,3) in the regression model.

Table 4.3

OLS Regression Models For Levels of Transportation by Week

	Week 1			Week 2			Week 3		
Control Variables	*B*	*SE B*	*β*	*B*	*SE B*	*β*	*B*	*SE B*	*β*
Sex (1 = Male)	.18†	.10	.15	.22†	.13	.15	.21	.15	.12
Age	.01	.01	.10	.01	.01	.14	.00	.01	.04
Univ. Student (1 = Student)	.03	.14	.02	.33†	.19	.22	.13	.21	.08
Race (1 = N/H White)	.00	.11	.00	.19	.15	.11	.29†	.15	.17
Overall Binge Frequency	.02	.02	.06	-.02	.04	-.06	.06	.04	.14
Binge-Watching									
Total Sessions	.04**	.02	.31	.06**	.04	.28	.06***	.02	.30
Hours per Session	.12**	.06	.25	.14**	.08	.23	.11†	.07	.14
Device Used									
Mac/PC (Ref.)	-			-			-		
HDTV	-.08	.14	-.05	-.21	.20	-.12	-.23	.23	-.10
Smart TV	.01	.13	.00	-.20	.19	-.10	-.20	.23	-.08
Game Console	.16	.20	.07	.67**	.25	.25	.49†	.29	.18
Tablet	.48*	.23	.17	.01	.25	.00	.58†	.30	.17
Mobile/Cell	.33	.26	.10	.02	.34	.00	.00	.41	.00
SDTV	-.18	.23	-.06	.16	.28	.05	-.09	.27	-.03
Episodes Watched with Others									
None (Ref.)	-			-			-		
Few	-.07	.14	-.04	-.10	.21	-.04	.40	.20	.18
Half	-.43*	.25	-.14	-.46†	.28	-.14	1.42*	.71	.17
Most	-.15	.40	-.03	.59†	.33	.16	.23*	.45	.05
All	.02	.24	.01	.36	.35	.09	.35	.39	.08
Intercept	1.01***	.30		.72*	.41		.48	.37	
Adjusted R^2	.17			.22			.39		
F	2.87***			3.11***			3.48***		
Transportation (*SD*)	1.72 (.61)			1.78 (.72)			1.71 (.79)		

Cronbach's α			
Attention	.68	.81	.85
Involvement	.60	.70	.74
Mental Rumination	.28	.40	.33
Overall	.63	.78	.80
Mean Total Eps	9.15 (8.87)	7.82 (7.49)	7.29 (6.92)

Note. Week 1: $F(18,136)$; Week 2: F(18,150); Week 3: F(18,112)
$^{\dagger}p \leq .1$*$p \leq .05$. **$p \leq .01$. ***p $\leq .001$.

Television Shows

Table 4.4 displays the complete breakdown of shows. Show statistics are given with the appended observation total ($n = 495$), because a small number of respondents changed shows after the first week of data collection. Figure 4.1 highlights transportation level and episode average by show.

Of the ten shows to choose from (unadjusted for covariates), *Lost* ($n = 27$) was chosen the least. *Mad Men* ($n = 99$) was the most popular show. Three shows – *American Horror Story* (51.51%), *Mad Men* (53.97%) and *The Walking Dead* (52.94%) – were chosen more frequently by males than females.

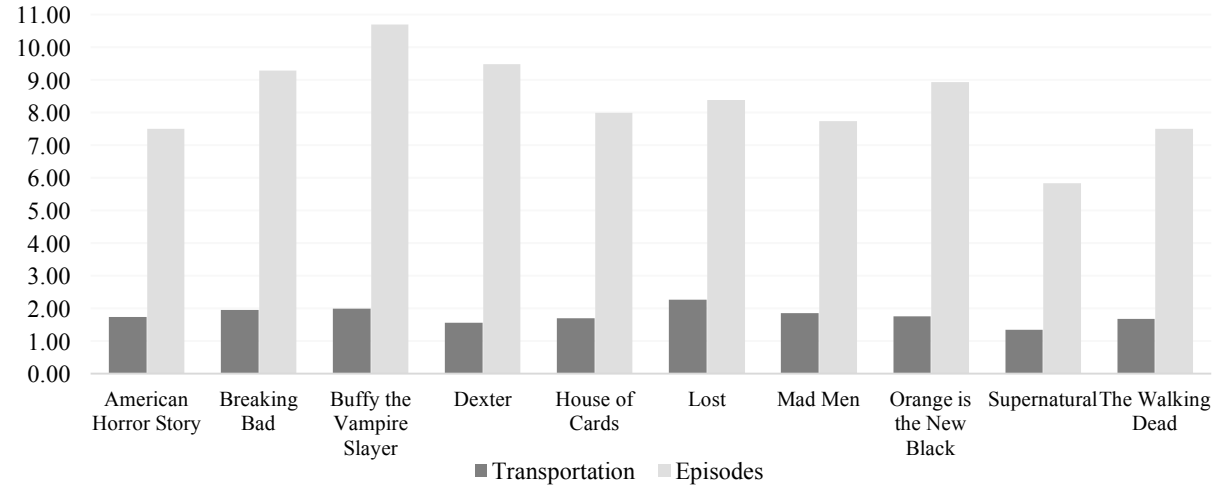

Figure 4.1. Show Summary Statistics

In terms of transportation level, *Lost* (M = 2.27; SD = .54) most captivated respondents. Despite this, viewers of *Buffy the Vampire Slayer* consumed the most episodes, at an average of 10.70 episodes in a week. Those whom watched *Supernatural* (M = 1.34; SD = .72) had the lowest average transportation levels. *Supernatural* (5.83) also averaged the fewest episodes viewed. Further, it was the only show with an average of less than 7.5 episodes.

Table 4.4

Descriptive Statistics - Shows

			Transportation		# of Episodes	
Show	*n*	Percent Male	Mean	(*SD*)	Mean	(*SD*)
American Horror Story	43	51.51%	1.73	(.68)	7.50	(5.97)
Breaking Bad	43	42.31%	1.95	(.62)	9.29	(7.19)
Buffy the Vampire Slayer	30	33.33%	1.99	(.54)	10.70	(10.01)
Dexter	65	36.00%	1.55	(.67)	9.48	(8.50)
House of Cards	67	37.74%	1.70	(.69)	8.00	(9.55)
Lost	27	23.53%	2.27	(.54)	8.39	(7.32)
Mad Men	99	53.97%	1.85	(.65)	7.73	(9.50)
Orange is the New Black	60	26.79%	1.76	(.67)	8.93	(6.68)
Supernatural	63	20.83%	1.34	(.72)	5.83	(5.27)
The Walking Dead	46	52.94%	1.67	(.83)	7.51	(5.52)

Note. Respondents observations (n = 165) from Week 1, Week 2 and Week 3 were appended (n = 495).

Viewing Behaviors

Table 4.5 represents various viewing behaviors and independent *t*-tests by sex. For "Overall Binge Frequency" and "Mean Show Familiarity," the sample size was n = 165, because these variables were measured only once (during the pre-questionnaire) and not during the subsequent waves. For all others, n = 495, as “total sessions,” “hours per session,” total episodes and transportation were measured during each wave and could be appended.

Variable "Mean Show Familiarity," ranged from 0 ("Never heard of it.") to 4 ("Seen every episode."). A “session” was defined as each instance that a person watched at least one

episode of his or her chosen show. So, one hour of viewing time would represent a session, as would six hours of viewing time, if all six hours were consecutive.

Table 4.5

T-Tests for Viewing Behaviors & Habits by Gender

	Male (n = 62)		Female (n = 103)		t-test	Total (n = 165)	
	M	(*SD*)	*M*	(*SD*)		*M*	(*SD*)
Overall Binge Frequency	3.37	(.150)	4.23	(.105)	-2.78**	3.91	(.088)
Mean Show Familiarity	3.10	(.044)	2.93	(.037)	ns	2.99	(.027)
American Horror Story	2.90	(.139)	3.04	(.106)	ns	2.99	(.084)
Breaking Bad	3.94	(.152)	3.29	(.128)	3.17**	3.53	(.101)
Buffy the Vampire Slayer	2.61	(.137)	2.94	(.114)	ns	2.82	(.088)
Dexter	3.11	(.159)	2.80	(.118)	ns	2.92	(.096)
House of Cards	3.16	(.172)	2.67	(.107)	2.56*	2.85	(.095)
Lost	3.35	(.168)	3.07	(.124)	ns	3.18	(.100)
Mad Men	2.63	(.134)	2.45	(.098)	ns	2.52	(.080)
Orange is the New Black	2.97	(.158)	3.42	(.136)	-2.10*	3.25	(.105)
Supernatural	2.58	(.163)	2.53	(.109)	ns	2.55	(.092)
The Walking Dead	3.76	(.150)	3.08	(.119)	3.53***	3.33	(.097)
Total Sessions	3.84	(.316)	3.25	(.198)	ns	3.47	(.172)
Hours per Session	2.06	(.099)	2.07	(.073)	ns	2.07	(.059)
Total Episodes	8.21	(.688)	8.18	(.522)	ns	8.19	(.415)
Transportation	1.80	(.052)	1.57	(.045)	3.29***	1.76	(.035)

Note. For "Overall Binge Frequency" and Show Familiarity, n = 165. For all others, n = 495. Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Variable "Show Familiarity" represents the mean of a 5-point ordinal scale for all shows in the study, ranging from 0 ("Never heard of it.") to 4 ("Seen every episode."). A "session" is defined as each instance of at least one episode. Transportation is the overall 8-item scale mean.

*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Respondents were asked to self-report, in their own words, how often they typically binge-watched. A t-test showed that women (M =

4.23, *SD* = .105) reported a significantly higher binge-watching frequency than men (*M* = 3.37, *SD* = .150), *t*(154) = -2.78, $p \leq .01$.

Men (*M* = 1.80, *SD* = .052) reported a significantly higher transportation mean than women (*M* = 1.57, *SD* = .045), *t*(493) = 3.29, $p \leq .001$. There was no significant difference in gender for total show familiarity (*t*(154) = 1.70, *p* = ns), total sessions (*t*(493) = 1.46, *p* = ns), total episodes (*t*(493) = 0.30, *p* = ns) or hours per session (*t*(493) = 0.17, *p* = ns). Men were significantly more familiar with *Breaking Bad* (*t*(163) = 3.17, $p \leq .01$), *House of Cards* (*t*(163) = 2.56, $p \leq .05$) and *The Walking Dead* (*t*(163) = 3.53, $p \leq .001$). Whereas, females were significantly more familiar with *Orange is the New Black* (*t*(163) = -2.10, $p \leq .05$), one of two shows with a female lead character. Further, females were also more familiar with the other show with a female lead, *Buffy the Vampire Slayer*.

Correlations

A Pearson's correlation test was conducted to evaluate the bivariate relationships among several of the dependent variables, as well as the outcome variable of transportation (Table 4.6).

Transportation had statistically significant positive correlations with total viewing sessions (*r* = .29, $p \leq .001$), hours per session (*r* = .20, $p \leq .001$) and total episodes (*r* = .34, $p \leq .001$), as well as a significant (but less strong) positive correlation with viewing episodes with others (*r* = .09, $p < .05$). Total viewing sessions had a strong positive correlation with total episodes (*r* = .65, $p \leq .01$) and a moderate positive correlation with hours per session (*r* = .12, $p \leq .01$). As one might expect, total episodes and hours per viewing session had a significant positive relationship (*r* = .47, $p \leq .01$). Lastly, there was a statistically significant positive relationship between the number of episodes watched with others and hours per viewing session (*r* = .16, $p \leq .001$).

Table 4.6

Correlations Between Viewing Behaviors and Others Variables

	Total Sessions	Hrs/Session	Episodes	Binge Freq.	Others
Total Sessions	–				
Hrs/Session	.12**	–			
Episodes	.65**	.47**	–		
Binge Freq.	.05	-.04	.05	–	
Others	-.02	.16***	.05	-.08	–
Transportation	.29***	.20***	.34***	.06	.09*

Note. Variable "Transportation" represents the mean of the 8-item scale. Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Others was a 5-point ordinal scale of the number of episodes watched with others, from 0 ("None") to 4 ("All").
*$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Hypotheses

To test Hypotheses 1, 1a, 1b, 1c, and 2, OLS regression models were employed to analyze how well binge-watching rate predicted level of transportation, subcomponents of transportation and intent to watch more episodes, net of important covariates. There were five control variables used throughout all models. Sex was used as a dichotomous variable (“male” = 1). Age was a continuous variable. Two dummy variables were included: race (“N/H white” = 1 and “other” = 0) and whether or not the respondent was a university student (“student” = 1). Lastly, binge frequency – the 8-point ordinal variable previously mentioned – was used to control for those more likely to engage in binge-watching, as individuals more accustomed to binge-watching may be affected differently than those less familiar. The mean of the 9-item transportation scale was used as the outcome variable.

To measure binge-watching, two variables were utilized: total viewing sessions and average hours per session. Again, a session was defined as every instance of at least one hour of viewing time. A session lasted for however many hours of content the person viewed

consecutively. Average hours per session was simply the average number of hours of viewing time per session for each respondent. These predictor variables were first analyzed in the regression models separately, before including them simultaneously.

Hypothesis 1. Hypothesis 1 predicted that as binge-watching rate increases, the level of viewers' transportation will increase. The results of the multiple regression appear in Table 4.7.

Model 1 shows how well the total number of viewing sessions predicts transportation. The model, which includes controls for sex, age, university student, race and binge frequency, explained 15% of the variance ($r^2 = .15$, $F(6, 161) = 6.63$, $p \leq .001$). Both sex ($b = .21$, $p < .05$) and total viewing sessions ($b = .06$, $p \leq .001$) significantly predicted respondents' levels of transportation. Consistent with the previously reported *t*-tests in Table 4.5, males had significantly higher levels of transportation than females. Further, each additional viewing session is expected to increase transportation by .06 units. Age ($b = .01$, ns), university student ($b = .06$, ns), race ($b = .15$, ns) and binge frequency ($b = .03$, ns) did not significantly predict transportation level.

Model 2 was a similar analysis to Model 1, with one change: the hours per session variable was included as a predictor instead of total viewing sessions. As with Model 1, sex and hours per session were significant predictors of transportation level ($r^2 = .08$, $F(6, 161) = 6.53$, $p \leq .001$), net of other variables in the model. Model 2 explained 08% of the variance in transportation. Again, net of other variables, males had significantly higher levels of transportation than females, and for each additional hour of average viewing time per session, transportation is expected to increase by .13 units. Once again, age ($b = .00$, ns), university student ($b = .07$, ns), race ($b = .19$, $p \leq .1$) and binge frequency ($b = .04$, ns) did not significantly predict transportation level.

When the two binge-watching variables are included simultaneously (Model 3), their associations with transportation are nearly unchanged. This shows that the predictor variables are not confounded with each other. In this model, total viewing sessions, hours per session and sex explained 18% of the variance (r^2 = .18, F(7, 161) = 8.05, $p \leq .001$), net of all other variables. As with the previous two models, age (b = .01, ns), university student (b = .13, ns), race (b = .15, $p \leq .1$) and binge frequency (b = .03, ns) did not significantly predict transportation level. Each additional viewing session is expected to increase transportation by .06. Likewise, each additional hour per session is expected to increase transportation by .12. Net of other variables, sex (b = .22, $p \leq .05$) was the only other significant predictor of transportation in the model. Figure 4.2 shows the relationship between the three significant predictor variables (sessions, average hours and sex). Notably, as both the total number of viewing sessions and the average number of hours per session increased in the sample, respondents' levels of overall transportation increased. Hypothesis 1 was supported.

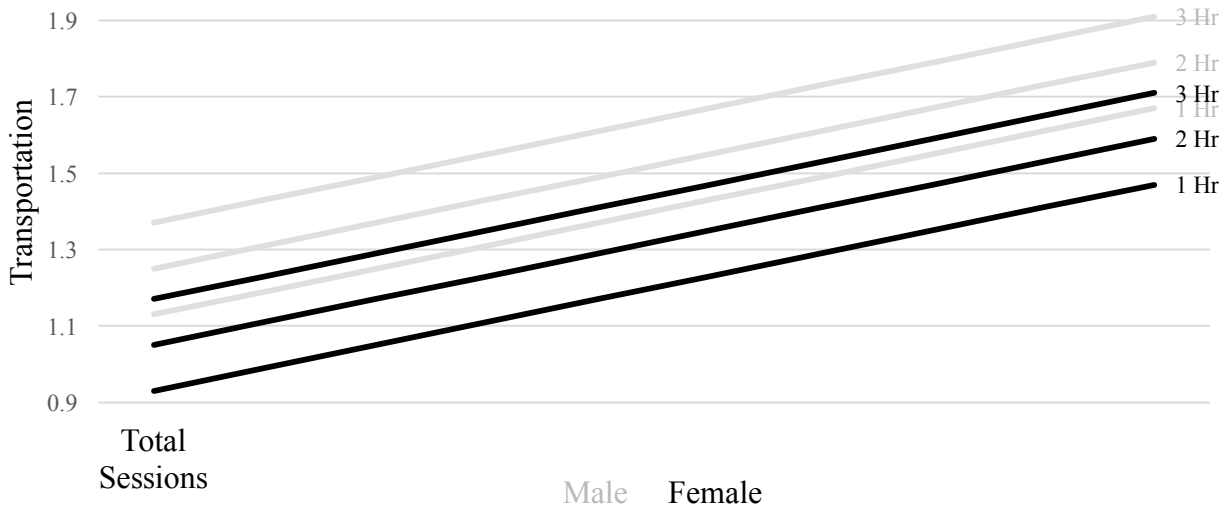

Figure 4.2. Transportation Level by Total Sessions and Gender

Table 4.7

OLS Regression Models For Levels of Transportation

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Binge-Watching Rate												
Total Sessions	.06***	(.01)	-		.06***	(.01)	.06***	(.01)	.06***	(.01)	.09***	(.03)
Hours per Session	-		.13***	(.03)	.12***	(.03)	.14***	(.03)	.14***	(.03)	.21***	(.04)
Device Used												
Mac/PC (Reference Category)	-		-		-		-		-		-	
HDTV	-		-		-		-.13	(.14)	-.16	(.14)	-.17	(.14)
Smart TV	-		-		-		-.06	(.12)	-.07	(.13)	-.06	(.13)
Game Console	-		-		-		.43**	(.16)	.40*	(.16)	.37*	(.16)
Tablet	-		-		-		.34†	(.18)	.34†	(.18)	.35*	(.18)
Mobile/Cell	-		-		-		.13	(.20)	.13	(.20)	.16	(.19)
SDTV	-		-		-		-.16	(.25)	-.13	(.24)	-.13	(.24)
Episodes Watched with Others												
None (Reference Category)	-		-		-		-		-		-	
Few	-		-		-		-		.05	(.10)	.05	(.10)
Half	-		-		-		-		-.27	(.23)	-.28	(.22)
Most	-		-		-		-		.33†	(.19)	.29	(.19)
All	-		-		-		-		.19	(.16)	.24	(.16)
Moderator												
Sessions X Hours	-		-		-		-		-		-.02†	(.01)
Demographics												
Sex (1 = Male)	.21*	(.09)	.26**	(.10)	.22*	(.09)	.20*	(.09)	.20*	(.09)	.20*	(.09)
Age	.01	(.01)	.00	(.01)	.01	(.01)	.01	(.01)	.01	(.01)	.01	(.01)
University Student (1 = Student)	.06	(.13)	.07	(.14)	.13	(.13)	.13	(.13)	.12	(.13)	.14	(.13)
Race (1 = White)	.15	(.10)	.19†	(.11)	.15	(.10)	.15	(.10)	.15	(.10)	.14	(.10)
Viewing Habits												
Overall Binge-Watching Frequency	.03	(.03)	.04	(.03)	.03	(.03)	.02	(.02)	.02	(.02)	.02	(.02)
Intercept	1.02***	(.22)	.97***	(.24)	.78***	(.23)	.76***	(.23)	.76***	(.23)	.57*	(.26)
Adjusted R^2	.15		.08		.18		.23		.23		.24	
F	6.63***		6.53***		8.05***		5.13***		4.74***		4.99***	

Note. $n = 392$. Std. Err. adjusted for 162 clusters in the variable "ID." Variable "Transportation" represents the mean of the 9-item scale. Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Others was a 5-point ordinal scale of the number of episodes watched with other, from 0 ("None") to 4 ("All").

†$p \leq .1$ *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Hypothesis 1a. Hypothesis 1a employed OLS regression models to analyze how well total sessions and hours per session could predict one's level of "attention", a mechanism of transportation. This dependent variable was created from the mean of two of the items on the overall transportation scale (see Table 4.3 for the full breakdown). The same five control variables were used (sex, age, university student, race and binge frequency). The attention variable was reverse-coded for consistency with the rest of the transportation scale. Therefore, these results will be described by how much viewers' attention to the content (as opposed to attention to the real world) was affected by binge-watching rate. These predictor variables were first analyzed in the regression models separately and then simultaneously. The results appear in Table 4.8

Model 1 shows how well the total number of viewing sessions may predict attention, net of control variables. This regression analysis showed that sex (b = .39, $p \leq .05$) and age (b = .03, $p \leq .01$) significantly explained 8% of the variance (r^2 = .08, F(6, 161) = 3.24, $p \leq .01$), and race was marginally significant (b = .35, p = .062). Interestingly, the total viewing sessions variable was not statistically significant (b = .03, ns). Likewise, university student (b = .10, ns) and binge frequency (b = .00, ns) were not significant predictors of transportation. Net of all other variables in the model, Males had average transportation levels .39 higher than females ($p \leq .05$), and for each year increase in age, attention is expected to increase by .03 ($p \leq .01$).

Model 2 analyzed how well attention could be predicted by the average hours per viewing session, net of other variables. The results show that this variable was non-significant (b = .09, ns). Sex (b = .41, $p \leq .05$), age (b = .03, $p \leq .01$) and race (b = .37, $p \leq .05$) significantly predicted attention, net of other variables. 8% of the variance in attention was explained by Model 2 (r^2 = .08, F(6, 161) = 3.62, $p \leq .01$). As with Model 1, university student (b = .14, ns)

and binge frequency (b = .01, ns) were not significant predictors of transportation. In this model, white males had a mean attention level of .78 units higher than non-white females. Additionally, attention is predicted to increase by .03 for every year increase in age.

When both viewing predictor variables were included (Model 3), very little changed. Sex (b = .39, $p \leq .05$) and age (b = .03, $p \leq .01$) significantly predicted attention, net of other variables, and the model explained 9% of the variance (r^2 = .09, F(7, 161) = 2.98, $p \leq .01$). Race was, again, non-significant (b = .35, p = .059). Neither total viewing sessions (b = .03, ns) nor hours per session (b = .08, ns) significantly predicted attention level. Moreover, university student (b = .17, ns) and binge frequency (b = .00, ns) were not statistically significant.

Identical to Model 1, on average, males had transportation levels .39 higher than females ($p \leq .05$), net of other variables. Further, for each year increase in age, attention is expected to increase by .03 in the sample. Contrary to the results for H1, neither independent variables that were analyzed in this regression (total viewing sessions and hours per session) significantly predicted attention levels. Therefore, Hypothesis 1a was not supported.

Table 4.8

OLS Regression Models For Mechanisms of Transportation - Attention

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Binge-Watching Rate												
Total Sessions	.03	(.02)	-		.03	(.02)	.03	(.02)	.03	(.02)	.07	(.05)
Hours per Session	-		.09	(.06)	.08	(.06)	.09	(.06)	.11*	(.06)	.21*	(.08)
Device Used												
Mac/PC (Reference Category)	-		-		-		-		-		-	
HDTV	-		-		-		-.06	(.25)	-.08	(.25)	-.08	(.25)
Smart TV	-		-		-		.05	(.21)	.08	(.22)	.10	(.21)
Game Console	-		-		-		.24	(.32)	.29	(.32)	.25	(.33)
Tablet	-		-		-		.93**	(.30)	.94**	(.30)	.96**	(.31)
Mobile/Cell	-		-		-		.40	(.38)	.38	(.40)	.41	(.38)
SDTV	-		-		-		-.25	(.39)	-.24	(.38)	-.22	(.38)
Episodes Watched with Others												
None (Reference Category)	-		-		-		-		-		-	
Few	-		-		-		-		-.23	(.19)	-.22	(.19)
Half	-		-		-		-		-.65 †	(.35)	-.65 †	(.34)
Most	-		-		-		-		.33	(.23)	.27	(.22)
All	-		-		-		-		-.05	(.22)	.03	(.25)
Moderator												
Sessions X Hours	-		-		-		-		-		-.02	(.02)
Demographics												
Sex (1 = Male)	.39*	(.17)	.41*	(.17)	.39*	(.17)	.37*	(.17)	.35*	(.17)	.36*	(.17)
Age	.03**	(.01)	.03**	(.01)	.03**	(.01)	.03**	(.01)	.02*	(.01)	.02*	(.01)
University Student (1 = Student)	.10	(.23)	.14	(.23)	.17	(.23)	.16	(.24)	.16	(.24)	.18	(.24)
Race (1 = White)	.35 †	(.19)	.37*	(.19)	.35 †	(.18)	.33 †	(.19)	.34 †	(.19)	.32 †	(.19)
Viewing Habits												
Overall Binge-Watching Frequency	.00	(.04)	.01	(.04)	.00	(.04)	.00	(.04)	-.01	(.04)	.00	(.04)
Intercept	.81 †	(.43)	.73 †	(.42)	.65	(.43)	.64	(.44)	.45	(.50)	.45	(.50)
Adjusted R^2	.08		.08		.09		.11		.13		.13	
F	3.24**		3.62**		2.98**		2.95***		2.78***		2.79***	

Note. $n = 392$. Std. Err. adjusted for 162 clusters in the variable "ID." Variable Attention represents the mean of two items on the 9-item transportation scale (see Table 4.3). Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Others was a 5-point ordinal scale of the number of episodes watched with other, from 0 ("None") to 4 ("All").

$^{\dagger}p \leq .1$ *$p \leq .05$. **$p \leq .01$. ***$p \leq .001$.

Hypothesis 1b. Hypothesis 1b considered how total sessions and hours per session were associated with the transportation mechanism of "emotional investment" using the same OLS regression foundation. The dependent variable of emotional investment was created from the mean of four of the items on the overall transportation scale (see Table 4.3 for the full breakdown), representing how emotionally affected a viewer became during and after watching. The same five control variables were used (sex, age, university student, race and binge frequency). The predictor variables were first analyzed in the regression models separately and then simultaneously. The results appear in Table 4.9.

The regression performed in Model 1 analyzed if total viewing sessions was associated with viewers' emotional involvement. This model accounted for 12% of the variance in emotional investment (r^2 = .12, F(6, 161) = 6.98, $p \leq .001$). For each additional session (b = .07, $p \leq .001$), emotional investment increased by .07, net of other variables. Age (b = .00, ns), university student (b = .13, ns), race (b = -.01, ns) and binge frequency (b = .03, ns) were not statistically significant. Interestingly, this was the first analysis in which sex (b = .11, ns), was not a significant predictor of the dependent variable.

Model 2 analyzed the average hours per viewing session. This model also showed that the viewing variable was significant, net of other variables (b = .14, $p \leq .001$). 4% of the variance was explained by this model (r^2 = .04, F(6, 161) = 2.82, $p \leq .05$). As with Model 1, no other variables significantly predicted emotional investment: sex (b = .17, ns), age (b = .00, ns), university student (b = .12, ns), race (b = .06, ns) and binge frequency (b = .05, ns). Emotional investment is expected to increase by .14 for every hour increase in average viewing session time, net of other variables.

Model 3 analyzed how both predictor variables associated with emotional investment. Both total sessions (b = .07, $p \leq .001$) and hours per session (b = .13, $p \leq .01$) were significant predictors of how emotionally invested respondents became during and after viewing, net of other variables, and 15% of the variance was explained (r^2 = .15, F(7, 161) = 7.05, $p \leq .001$). Sex (b = .12, ns), age (b = .00, ns), university student (b = .20, ns), race (b = -.01, ns) and binge frequency (b = .03, ns) were not statistically significant. Net of all other variables, emotional investment is predicted to increase by .07 for each additional session and by .13 for each additional hour per session. Thus, Hypothesis 1b was fully supported.

Table 4.9

OLS Regression Models For Mechanisms of Transportation - Emotional Investment

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Binge-Watching Rate												
Total Sessions	.07***	(.01)	-		.07***	(.01)	.07***	(.01)	.07***	(.01)	.11***	(.02)
Hours per Session	-		.14***	(.04)	.13**	(.04)	.15***	(.04)	.14***	(.04)	.24***	(.05)
Device Used												
Mac/PC (Reference Category)	-		-		-		-		-		-	
HDTV	-		-		-		-.16	(.16)	-.20	(.16)	-.21	(.16)
Smart TV	-		-		-		-.05	(.14)	-.07	(.15)	-.05	(.15)
Game Console	-		-		-		.41*	(.17)	.36*	(.18)	.33 †	(.18)
Tablet	-		-		-		.10	(.28)	.10	(.27)	.12	(.27)
Mobile/Cell	-		-		-		.10	(.17)	.10	(.17)	.13	(.16)
SDTV	-		-		-		.03	(.30)	.06	(.29)	.07	(.29)
Episodes Watched with Others												
None (Reference Category)	-		-		-		-		-		-	
Few	-		-		-		-		.08	(.13)	.08	(.13)
Half	-		-		-		-		-.28	(.27)	-.29	(.26)
Most	-		-		-		-		.45 †	(.23)	.40 †	(.23)
All	-		-		-		-		.21	(.29)	.28	(.28)
Moderator												
Sessions X Hours	-		-		-		-		-		-.02*	(.01)
Demographics												
Sex (1 = Male)	.11	(.10)	.17	(.11)	.12	(.10)	.10	(.10)	.10	(.10)	.11	(.10)
Age	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	.01	(.01)
University Student (1 = Student)	.13	(.14)	.12	(.15)	.20	(.14)	.22	(.15)	.20	(.15)	.22	(.15)
Race (1 = White)	-.01	(.11)	.06	(.12)	-.01	(.11)	.00	(.11)	.00	(.11)	-.02	(.11)
Viewing Habits												
Overall Binge-Watching Frequency	.03	(.03)	.05	(.03)	.03	(.03)	.02	(.03)	.02	(.03)	.02	(.03)
Intercept	.79**	(.25)	.76**	(.29)	.53 †	(.28)	.50 †	(.28)	.50 †	(.28)	.23	(.29)
Adjusted R^2	.12		.04		.15		.17		.18		.19	
F	6.98***		2.82*		7.05***		4.53***		4.07***		3.95***	

Note. $n = 392$. Std. Err. adjusted for 162 clusters in the variable "ID." Variable Attention represents the mean of four items on the 9-item transportation scale (see Table 4.3). Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Others was a 5-point ordinal scale of the number of episodes watched with other, from 0 ("None") to 4 ("All").

$^{\dagger}p \leq .1$ *$p \leq .05$. **$p \leq .01$. ***p $\leq .001$.

Hypothesis 1c. As mentioned, one item on the transportation scale ("I find myself thinking of ways the show could have turned out differently.") was used to analyze how binge-watching variables were associated with mental rumination. The results are shown in Table 4.10.

Total viewing sessions were analyzed in Model 1. This model explained 8% of the variance in mental rumination (r^2 = .08, F(6, 161) = 3.22, $p \leq .01$). Net of all other variables, males (b = .31, $p \leq .05$) thought about how the show could have turned out differently significantly more than females, and with each additional viewing session (b = .07, $p \leq .01$), rumination is expected to increase by .07 units. Age (b = .00, ns), university student (b = -.03, ns), race (b = .28, ns) and binge frequency (b = .03, ns) did not predict mental rumination.

The average number of hours per session was also statistically significant, as seen in Model 2, which explained 5% of the variance (r^2 = .05, F(6, 161) = 3.20, $p \leq .01$). Hours per session (b = .18, $p \leq .01$) and sex (b = .37, $p \leq .05$) were significant predictors, net of other variables. Once again, age (b = .00, ns), university student (b = -.01, ns) and binge frequency (b = .05, ns) were not statistically significant, with race approaching significance (b = .35, p = .053). As with model 1, males had significantly higher levels of mental rumination than females ($p \leq .05$). Moreover, for every hour increase in average viewing session time, mental rumination is expected to increase by .18 in the sample, net of other variables.

Both total sessions and hours per session were used in Model 3. Consistent with the previous two models, sex (b = .32, $p \leq .05$), total sessions (b = .07, $p \leq .01$) and hours per session (b = .16, $p \leq .001$) significantly predicted respondents' levels of mental rumination, net of all other variables (r^2 = .10, F(7, 161) = 4.48, $p \leq .001$). Age (b = .00, ns), university student (b = .06, ns), race (b = .27, ns) and binge frequency (b = .03, ns) did not predict mental rumination.

Males again had significantly higher levels of the transportation subcomponent of mental rumination, net of other variables. Further, each increase in total sessions is expected to lead to a .06 increase in rumination, and each additional hour per session is expected to increase rumination by .16. Therefore, Hypothesis 1c was fully supported.

Table 4.10

OLS Regression Models For Mechanisms of Transportation - Mental Rumination

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Binge-Watching Rate												
Total Sessions	.07**	(.02)	-		.07**	(.02)	.06**	(.06)	.06**	(.02)	.04	(.03)
Hours per Session	-		.18**	(.06)	.16**	(.06)	.21**	(.02)	.19**	(.06)	.16†	(.05)
Device Used												
Mac/PC (Reference Category)	-		-		-		-		-		-	
HDTV	-		-		-		-.46*	(.23)	-.52*	(.23)	-.51*	(.23)
Smart TV	-		-		-		-.13	(.21)	-.20	(.21)	-.21	(.21)
Game Console	-		-		-		.40†	(.24)	.27	(.24)	.29	(.23)
Tablet	-		-		-		-.11	(.38)	-.12	(.38)	-.13	(.38)
Mobile/Cell	-		-		-		-.20	(.46)	-.19	(.46)	-.21	(.47)
SDTV	-		-		-		-.57†	(.34)	-.52	(.34)	-.53	(.35)
Episodes Watched with Others												
None (Reference Category)	-		-		-		-		-		-	
Few	-		-		-		-		.31†	(.17)	.31†	(.17)
Half	-		-		-		-		-.12	(.26)	-.12	(.25)
Most	-		-		-		-		.22	(.35)	.24	(.36)
All	-		-		-		-		.58*	(.25)	.55*	(.25)
Moderator												
Sessions X Hours	-		-		-		-		-		.01	(.01)
Demographics												
Sex (1 = Male)	.31*	(.16)	.37*	(.16)	.32	(.16)	.31†	(.16)	.34*	(.16)	.34*	(.16)
Age	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)
University Student (1 = Student)	-.03	(.20)	-.01	(.21)	.06	(.21)	-.04	(.22)	-.05	(.22)	-.06	(.22)
Race (1 = White)	.28	(.17)	.35†	(.18)	.27	(.17)	.29†	(.17)	.29†	(.17)	.30†	(.17)
Viewing Habits												
Overall Binge-Watching Frequency	.03	(.04)	.05	(.04)	.03	(.04)	.02	(.04)	.02	(.04)	.02	(.04)
Intercept	1.62***	(.43)	1.51**	(.48)	1.30**	(.46)	1.35**	(.44)	1.27**	(.44)	1.37**	(.50)
Adjusted R^2	.08		.05		.10		.13		.13		.13	
F	3.22*		3.20*		4.48***		3.78***		4.06***		5.14***	

Note. $n = 392$. Std. Err. adjusted for 162 clusters in the variable "ID." Variable Mental Rumination represents one statement on the 8-item transportation scale (see Table 4.3) - "I find myself thinking of ways the show could have turned out differently." Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Others was a 5-point ordinal scale of the number of episodes watched with other, from 0 ("None") to 4 ("All").

†$p \leq .1$ *$p \leq .05$. **$p \leq .01$. ***p $\leq .001$.

Hypothesis 2. To analyze if binge-watching affects a viewer's intent to watch more episodes, one item from the transportation scale was used: "I plan to watch as many or more episodes of the show in the week to come." The same predictor and control variables used in the regressions for the analyses of H1 through H1c were employed in the same fashion for Hypothesis 2. The controls used were sex, age, university student, race and binge frequency. Again, the independent variables were total viewing sessions and hours per session. The results can be seen in Table 4.11.

The first model in Table 4.11 analyzed how total viewing sessions associated with respondents' intent to watch more episodes in the following week, controlling for demographics and binge frequency. Model 1 shows that total session (b = .06, $p \leq .01$) and race (b = .36, $p \leq .05$) were significant predictors. The model significantly explained 6% of the variance in intent (r^2 = .06, F(6, 161) = 3.92, $p \leq .01$). Sex (b = .12, ns), age (b = .00, ns), university student (b = -.14, ns) and binge frequency (b = .05, ns) were not statistically significant predictors.

Net of other variables, white respondents were significantly more likely to intend to watch more episodes in the subsequent week than non-white respondents. Further, each additional viewing session is expected to increase future viewing intention by .06 units.

Model 2 analyzed how hours per session associated with intent, rather than total sessions. Consistent with Model 1, race was a significant predictor of intent to watch more episodes (b = .42, $p \leq .05$), as was hours per session (b = .19, $p \leq .001$). Model 2 explained 6% of the variance (r^2 = .06, F(6, 161) = 5.20, $p \leq .001$). Sex (b = .17, ns), age (b = .00, ns), university student (b = -.10, ns) and binge frequency (b = .06, ns) were not statistically significant predictors.

As with Model 1, white respondents were significantly more likely to intend to watch more subsequent episodes than non-white respondents, and future viewing intention is expected to increase by .20 units for each additional viewing session, net of other variables.

Model 3 analyzed both binge-watching variables. Both total sessions ($b = .05$, $p \leq .01$) and hours per session ($b = .18$, $p \leq .01$), along with race ($b = .36$, $p \leq .05$), significantly predicted respondents' intent to watch future episodes ($r^2 = .09$, $F(7, 161) = 5.57$, $p \leq .001$). Sex ($b = .12$, ns), age ($b = .00$, ns), university student ($b = -.04$, ns) and binge frequency ($b = .05$, ns) were not statistically significant predictors.

Consistent with Models 1 and 2, net of all other variables, white respondents were significantly more likely to plan on watching more episodes in the week to come than non-white respondents. Further, total sessions is expected to increase intent by .05 for each added session, and every extra hour per session is expected to increase intent by .18 units, net of other variables. Hypothesis 2 was fully supported.

Table 4.11

OLS Regression Models For Mechanisms of Transportation - Intent to Watch More

	Model 1		Model 2		Model 3		Model 4		Model 5		Model 6	
Binge-Watching Rate												
Total Sessions	.06**	(.02)	-		.05**	(.02)	.05**	(.02)	.06**	(.02)	.13**	(.05)
Hours per Session	-		.19***	(.06)	.18**	(.06)	.20***	(.06)	.18**	(.06)	.33***	(.10)
Device Used												
Mac/PC (Reference Category)	-		-		-		-		-		-	
HDTV	-		-		-		-.06	(.24)	-.09	(.24)	-.10	(.23)
Smart TV	-		-		-		-.20	(.24)	-.25	(.24)	-.22	(.24)
Game Console	-		-		-		.42 †	(.25)	.31	(.25)	.26	(.26)
Tablet	-		-		-		.64**	(.20)	.65**	(.20)	.68***	(.21)
Mobile/Cell	-		-		-		.17	(.44)	.19	(.43)	.24	(.40)
SDTV	-		-		-		-.47	(.38)	-.46	(.38)	-.45	(.38)
Episodes Watched with Others												
None (Reference Category)	-		-		-		-		-		-	
Few	-		-		-		-		.15	(.19)	.16	(.18)
Half	-		-		-		-		.31	(.28)	.30	(.27)
Most	-		-		-		-		.46 †	(.24)	.37	(.24)
All	-		-		-		-		.36	(.26)	.47 †	(.28)
Moderator												
Sessions X Hours	-		-		-		-		-		-.04*	(.02)
Demographics												
Sex (1 = Male)	.12	(.17)	.17	(.17)	.12	(.16)	.10	(.16)	.12	(.16)	.14	(.16)
Age	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	.00	(.01)	.01	(.01)
University Student (1 = Student)	-.14	(.21)	-.10	(.23)	-.04	(.22)	-.06	(.25)	-.07	(.25)	-.05	(.24)
Race (1 = White)	.36*	(.17)	.42*	(.17)	.36*	(.17)	.36*	(.17)	.33*	(.17)	.31 †	(.16)
Viewing Habits												
Overall Binge-Watching Frequency	.05	(.04)	.06	(.04)	.05	(.04)	.04	(.04)	.05	(.04)	.06	(.04)
Intercept	1.86***	(.39)	1.69***	(.42)	1.51***	(.41)	1.51***	(.42)	1.45**	(.43)	1.04*	(.46)
Adjusted R^2	.06		.06		.09		.11		.11		.12	
F	3.92**		5.20***		5.57***		4.96***		4.28***		4.08***	

Note. $n = 392$. Std. Err. adjusted for 162 clusters in the variable "ID." Variable Intent represents one statement on the 9-item transportation scale (see Table 4.3) - "I plan to watch as many or more episodes of the show in the week to come." Binge frequency was an 8-point ordinal scale of respondents' self-reported binge-watching behavior from 0 ("Never") to 7 ("Daily"). Others was a 5-point ordinal scale of the number of episodes watched with other, from 0 ("None") to 4 ("All").

$^{\dagger}p \leq .1$ *$p \leq .05$. **$p \leq .01$. ***p $\leq .001$.

Research Question 1. To test if any association existed between the device used to view content and a person's level of transportation, Model 4 was introduced to the multiple regressions used previously (Table 4.7 through 4.11). The device variable was originally a categorical variable including the values Mac/PC, Hi-Definition TV (HDTV), Smart TV, Game Console (Xbox One, PlayStation 4, etc.), Tablet (iPad, Kindle, etc.), Mobile/Cell Phone and Standard-Definition TV. For the regression analysis, this variable was recoded into six dummy variables (one for each value), with Mac/PC as the reference group. The first analysis can be seen in Table 4.7.

First, the devices were utilized in the overall transportation analysis from Hypothesis 1. When the devices are included, an additional 5% of the variance from Model 3 was explained (r^2 = .23, F(13, 161) = 5.13, $p \leq .001$). As with Model 3, total sessions (b = .06, $p \leq .001$), hours per session (b = .14, $p \leq .001$) and sex (b = .20, $p \leq .05$) significantly predicted transportation. In Model 4 of Table 4.7, only one device – game console (b = .43, $p \leq .01$) – had significantly different transportation levels than the reference group of Mac/PC. The only other device approaching a significant difference was tablet (b = .34, p = .059). Lastly, age (b = .01, ns), university student (b = .13, ns), race (b = .15, ns) and binge frequency (b = .02, ns) remained non-significant. On average, respondents whom watched primarily on game consoles had transportation levels .43 units higher than those that watched primarily on Mac or PC.

Next, Model 4 was added to the regression analysis from Hypothesis 1a (Table 4.8) including the device variables. When the devices are included, an additional 2% of the variance from Model 3 was explained (r^2 = .11, F(13, 161) = 5.13, $p \leq .001$). As with Model 3, total sessions (b = .03, ns), hours per session (b = .09, ns) were not significant predictors of attention, net of other variables. In Model 4 of Table 4.8, sex (b = .37, $p \leq .05$), age (b = .03, $p \leq .01$) and

the device tablet (b = .93, $p \leq .01$) were statistically significant. No other device was statistically significant. University student (b = .16, ns) and binge frequency (b = .00, ns) remained non-significant, and race was approaching significance (b = .33, p = .087). On average, respondents who watched primarily on tablets remained focused on their show significantly more than those whom watched primarily on Mac or PC.

The third analysis for RQ1 looked at the regression analysis for emotional investment (Table 4.9). Model 4 included the device variables in the regression. When the devices were included in Model 4, an additional 2% of the variance from Model 3 was explained (r^2 = .17, F(13, 161) = 4.53, $p \leq .001$). Consistent with the previous models in Table 4.9, total sessions (b = .07, $p \leq .001$) and hours per session (b = .15, $p \leq .001$) were significant predictors of emotional investment, net of other variables. Sex (b = .10, ns), age (b = .00, ns), university student (b = .22, ns), race (b = .00, ns) and binge frequency (b = .02, ns) remained non-significant. As with overall transportation (Table 4.7), only the game console device variable was statistically different than the Mac/PC reference group (b = .41, $p \leq .05$). On average, viewers primarily using game consoles reported emotional investment levels .41 units higher than those whom watched primarily on Mac or PC.

The fourth analysis focused on how the device used to watch was associated with mental rumination (Table 4.10). Model 4 included the device variables in the regression. When the devices are included in Model 4, an additional 3% of the variance from Model 3 was explained (r^2 = .13, F(13, 161) = 3.78, $p \leq .001$). Both total sessions (b = .06, $p \leq .01$), hours per session (b = .21, $p \leq .01$) were significant predictors of emotional investment, net of other variables, consistent with the previous models in Table 4.10. Sex (b = .31, p = .052) and race (b = .29, p = .085) were nearing significance. Age (b = .00, ns), university student (b = -.04, ns) and binge

frequency (b = .02, ns) remained non-significant. In this model, HDTV was the only device statistically different than the reference group (b = -.46, $p \leq .05$). On average, viewers primarily using high-definition televisions reported thinking significantly less about how the show could have turned out differently compared to those whom watched primarily on Mac or PC.

Lastly, the device variables were examined as to their association with viewers' intent to watch more episodes in subsequent weeks. This was done using Table 4.11 from Hypothesis 2. When the devices are included, an additional 2% of the variance from Model 3 was explained (r^2 = .11, F(13, 161) = 4.96, $p \leq .001$). As with the previous models in the analysis, total sessions (b = .05, $p \leq .01$), hours per session (b = .20, $p \leq .001$) and race (b = .36, $p \leq .05$) were statistically significant. In Model 4, only one device was statistically different than the Mac/PC reference group: tablet (b = .64, $p \leq .01$). The only other device approaching significance was game console (b = .42, p = .092). Sex (b = .01, ns), age (b = .00, ns), university student (b = -.06, ns) and binge frequency (b = .04, ns) remained non-significant. On average, respondents whom watched primarily on tablets intended to watch more episodes in subsequent weeks than those whom watched primarily on Mac or PC.

Research Question 2. To test whether watching content with other people was associated with total transportation, a fifth model was analyzed in the multiple regressions used previously (Table 4.7 through 4.11). The others variable was originally a 5-point ordinal variable in which respondents reported how many episodes they watched with others, ranging from 0 ("None") to 4 ("All"). For the regression analysis, this variable was recoded into four dummy variables ("few," "half," "most" and "all"), with "none" as the reference group. The first analysis can be seen in Table 4.7.

The first analysis added to the overall transportation regression from Hypothesis 1. The "other" variables were included in Model 5 of Table 4.7. When the other variables are included, no additional variance from Model 4 was explained (r^2 = .23, F(17, 161) = 4.74, $p \leq .001$). Net of all other variables, three of the four significant predictors from Model 4 did not change when accounting for watching with others: total sessions (b = .06, $p \leq .001$), hours per session (b = .14, $p \leq .001$) and sex (b = .20, $p \leq .05$). However, 7.0% of the association between watching on game consoles (b = .40, $p \leq .05$) and transportation was explained by the "other" variables. Only the social watching variable "most" episodes was marginally significant (b = .34, p = .094).

Next, Model 5 was added to the regression analysis from Hypothesis 1a (Table 4.8) introducing the social viewing variables to the outcome variable of attention. In this case, an additional 2% of the variance from Model 4 was explained (r^2 = .13, F(17, 161) = 2.78, $p \leq .001$). When accounting for the "other" variables, 5.4% of the association between sex and attention was explained (b = .35, $p \leq .05$). Likewise, 50% of the association between age and attention was explained (b = .02, $p \leq .05$). The significant device variable tablet (b = .94, $p \leq .01$) remained relatively unchanged. Further, only the social watching variable "half" of the episodes was approaching a significant difference from the reference group of watching none (b = -.65, p = .070). Interestingly, the inclusion of the the social watching variables in Model 5 caused hours per session to become a significant predictor of viewer's level of attention (b = .11, $p \leq .05$), net all other variables. This is a break from the previous models in Table 4.8.

The third analysis for RQ2 looked at the regression analysis for emotional investment (Table 4.9). Model 5 included the "other" variables in the regression and explained an additional 1% of the variance from Model 4 (r^2 = .18, F(17, 161) = 4.07, $p \leq .001$). Consistent with the previous models in Table 4.9, total sessions (b = .07, $p \leq .001$), hours per session (b = .14, p

≤ .001) and game console (b = .36, $p \leq .001$) were statistically significant. Only the social watching variable "most" episodes was marginally significant (b = .45, p = .055). Further, inclusion of the social watching variables explained some association between emotional investment and hours per session (6.67%), as well as with watching on game consoles (12.2%).

The fourth analysis focused on how watching with others was associated with mental rumination (Table 4.10). When the "other" variables are included in Model 5, no additional variance from Model 4 was explained (r^2 = .13, F(17, 161) = 4.06, $p \leq .01$). Total sessions (b = .06, $p \leq .01$), hours per session (b = .19, $p \leq .01$) and HDTV (b = -.52, $p \leq .01$) were statistically significant, consistent with Model 4 in Table 4.10. However, 9.5% of the association between hours per session and mental rumination was explained when accounting for the social viewing variables. Sex also became significant in Model 5 (b = .34, $p \leq .05$), and race was approaching significance (b = .29, p = .089). In this model, watching "all" episodes with others was statistically significant (b = .58, $p \leq .05$), and "few" was marginally significant (b = .31, p = .067). On average, respondents that watched all the episodes with others had levels of mental rumination .58 units higher than those that watched by themselves.

Lastly, the "other" variables were examined as to their association with viewers' intent to watch more episodes in subsequent weeks. This was done using Table 4.11 from Hypothesis 2. When social viewing variables are included in Model 5, no additional variance from Model 4 was explained (r^2 = .11, F(17, 161) = 4.28, $p \leq .001$). Consistent with Model 4, total sessions (b = .06, $p \leq .01$), hours per session (b = .18, $p \leq .001$) race (b = .33, $p \leq .05$) and tablet (b = .65, $p \leq .01$) were statistically significant. Game console was no longer marginally significant (b = .42, p = .092). Only the social watching variable "most" episodes was marginally significant (b = .46, p = .058). Accounting for the "other" variables, 10% of the association between hours per

session and viewers' intention to watch more was explained. Likewise, 8.3% of the association between race and intent was explained.

Moderation analysis. Following the hypotheses and Research Questions 1 and 2 testing, an additional model was estimated for each multiple regression analysis to explore whether the association between total viewing sessions and transportation level depends on the total length of the viewing session, and vice versa. After computing the interaction term composed of total viewing sessions and average hour per session (Aiken & West, 1991), these two independent variables and their interaction were entered into Model 6 of Tables 4.7 through 4.11.

Results for overall transportation can be seen in Model 6 of Table 4.7. Both total viewing sessions (b = .09, $p \leq .001$) and average hours per session (b = .21, $p \leq .001$) were associated with transportation levels (r^2 = .27, F(18, 161) = 4.99, $p \leq .001$). The interaction between viewing sessions and hours per session was also moderately significant (b = -.02, p = .061), suggesting that the effect of viewing sessions on transportation depends on the length of the session, and vice-versa. Sex (b = .20, $p \leq .05$), game console (b = .37, $p \leq .05$) and tablet (b = .35, $p \leq .05$) were all significant predictors, as well.

The fact that the interaction term is a negative coefficient, while the two viewing predictor variables separately remain positive, means that the positive association between the number of sessions and transportation is attenuated, or even reversed, as the length of the viewing session increases. Figure 4.2 graphically depicts the interaction. Essentially, the effect of the number of viewing sessions on transportation was .02 units lower for each increase of one hour of viewing time per session, and the effect of average hours per session was .02 units lower for each additional viewing session. In other words, transportation is expected to increase less rapidly for viewers the more times they watched and the longer each viewing session was, and

transportation is expected to eventually begin to decrease when total sessions or hours per session reach a certain point. Figure 4.2 shows a prediction of this for hours per session. The effect decreases linearly, and when viewers averaged over five hours per session, their transportation levels actually decreased with each additional viewing session.

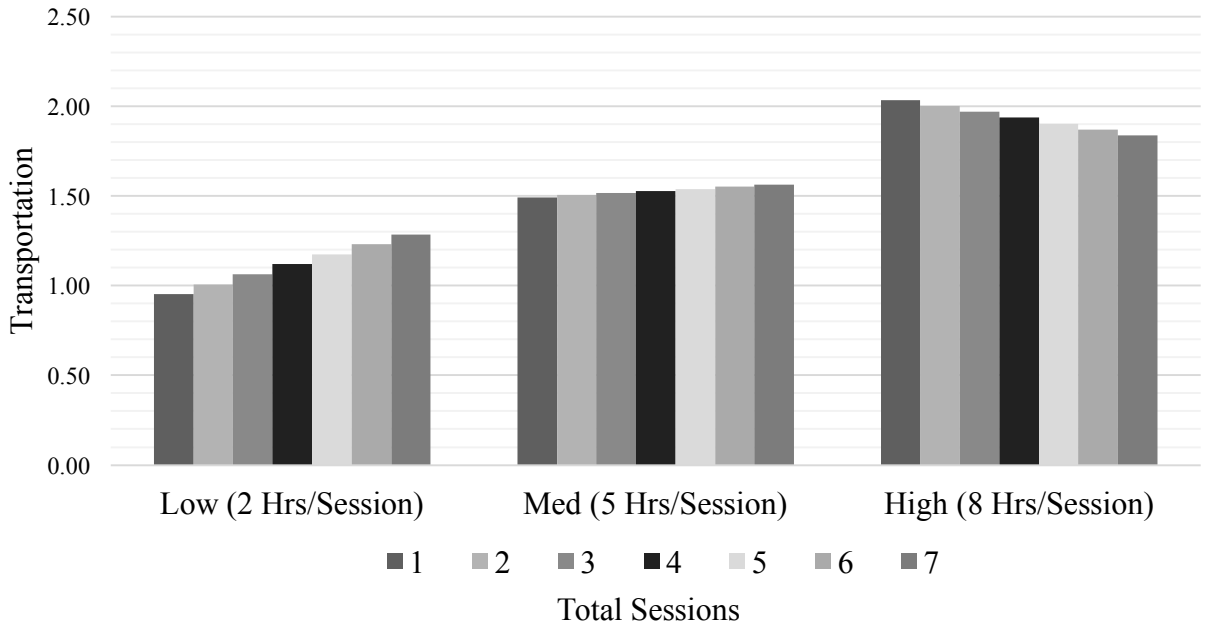

Figure 4.2. Change in Transportation for Each Additional Viewing Session, by Length of Session

The interaction term of total viewing sessions and hours per session was found to be negative for all other regression analyses (Model 6 in Tables 4.8 through 4.11), except mental rumination (Table 4.10) suggesting that it is robust. Further, this interaction term was statistically significant for emotional investment (r^2 = .23, F(18, 161) = 3.95, $p \leq .001$) and intent to watch more (r^2 = .16, F(18, 161) = 4.08, $p \leq .001$). Therefore, as total sessions and hours per session increased, these variables' effects on how emotionally invested viewers were and how much they intended to watch is expected to continue to increase less quickly. Further, these

variables' association with intent and emotional investment, at high-enough levels of viewing, is expected to change from positive to negative.

Chapter 5: Discussion

There were two main goals of this thesis. The first goal was to attempt to operationalize binge-watching in a more accurate and naturalized way than had previously been done. Secondly, this author sought to measure if binge-watching affected how deeply people became engrossed in or transported into what they were watching, and if increased viewing led to increased transportation. This would help establish a causal relationship between binge-watching and some viewing-related statuses. The second goal was represented by the hypotheses and research questions and is addressed first below.

Binge-Watching and Overall Transportation

Hypotheses 1 specifically addressed binge-watching and respondents' levels of overall transportation (Model 3, Table 4.7) and was fully supported. Both binge-watching variables – total viewing sessions and hours per session – were found to significantly predict transportation. As a person partook in more viewing sessions, regardless of the length of each session, his or her transportation into the content increased. Likewise, as the length of time per session increased, transportation increased.

The reason for the continued increase in transportation may be partly explained by previous findings that prior narrative-related experience can increase transportation (Green, 2004). The more a person watches a serialized show in chronological order, the more he or she would potentially know about characters' backgrounds and tendencies, as well as prior storylines. For example, when a character is killed off on *The Walking Dead* (which occurs ad nauseam), a viewer that has seen prior episodes and knows how important that particular character is to certain plot points may be affected on a greater level than someone with a more limited knowledge of the show.

However, when the two viewing variables interact, transportation levels begin to taper off and eventually lessen after a certain amount of watching. While five-hour sessions continue to increase transportation for each additional session, six-hour sessions actually decrease transportation with each additional session. Corroboration of this finding comes from a March 2106 report, stating that Americans average five hours per binge-watching session (Spangler, 2016). This shows that there is a point at which the length of a binge-watching session has adverse effects, at least in terms of how immersed an individual can become. If the parallel is to be made between transportation and "escapism," eventually the ability of a binge session to help someone "escape" would begin to work against the perceived gratification at the outset of the activity. There is no reason to believe that this plateaued strength of effect would not transfer to other types of outcome variables, such as enjoyment.

The other significant predictor of transportation was sex. Males had significantly higher transportation levels in this sample. This goes in the opposite direction of some previous findings (Green & Brock, 2000; Mazzocco et al., 2010), as well as the finding that women have higher transportability (Bilandzic & Busselle, 2008). In each of these previous studies, an experiment was employed, which may account for some of the differences in transportation by gender between this thesis on those prior articles. However, male children have been found to identify with television characters more than female children, possibly due to the majority of television characters being male (Reeves & Miller, 1978). One potential explanation of the gender discrepancy in transportation is that seven of the lead characters in the shows available in the study were male. Peña (2015) seemed to find a difference between enjoyment level by gender for the two shows – one with a male lead and one with a female lead (Peña, 2015).

Perhaps females did not identify as closely with the shows in this thesis, because females were underrepresented in the study's content.

Binge-Watching and Attention

Hypothesis 1a examined how binge-watching rate is associated with the level of viewers' attention to the real world. In this case, neither of the binge-watching variables predicted viewers' attention levels. Only sex and age had significant effects. Attention to the real world decreased the older a viewer was. Likewise, males paid significantly less attention to the real world than females. A possible explanation of the gender difference is the same as discussed for overall transportation. Male viewers may have paid more attention to the content, because a majority of the lead characters were male.

Another possibility refers back to the potential association between binge-watching and depression (Sung et al., 2015b). Women experiencing depressive symptoms have been found to think about their condition significantly more than men (Strauss, Muday, McNall, & Wong, 1997). Further, men have been found to use more active coping strategies that help distract when in a bad mood, whereas women use more passive strategies (Thayer, Newman, & McClain, 1994). If there is some connection between depression and likelihood to binge-watch, as suggested by Sung et al. (2015b), some respondents in this sample (male or female) may have watched more than usual due to the presence of depressive symptoms. If so, males in this sample experiencing depressive symptoms may have paid attention to the content rather than their situation more often than their female counterparts, due to the desire to be distracted. This could explain the difference by gender.

Binge-Watching and Emotional Investment

The level of viewers' emotional investment in the content was successfully predicted by both total viewing session and hours per session (H1b). This is consistent with how the binge-watching variables affected overall transportation. Each additional session and each additional hour per session increased how much viewers were affected emotionally. The more people watched, the more difficult it was for them to put the show out of their mind, as well. These variables even increased how much the show changed viewers' lives and how easily viewers could picture themselves in the scenes. In this analysis (Table 4.9), sex was not a significant predictor of emotional investment.

This relationship seems logical; prolonged exposure to a particular stimulus has been found to increase likability of that stimulus (Zajonc, 1968). This subcomponent of transportation seems to be the crux of that feeling associated with binge-watching: feeling engrossed or emerged in the world of the show. Controlling for all other variables, viewers in this sample became more engrossed in the world of the show the more times they watched, as well as the longer they watched. This shows significant enhancement of this aspect of transportation with an increased rate of binge-watching, regardless of demographic information.

However, emotional investment was the only mechanism of transportation in which the interaction between total sessions and length per session was truly a significant predictor. This means that emotional investment decreases if the average length of a binge session becomes too great. Too much viewing made the ease of picturing oneself in the show's scenes lessen with every session. So, viewers may continue to increase attention to and rumination about a show as they continue to watch. But, viewers may become less emotionally attached after watching too much.

Binge-Watching and Mental Rumination

Increases in both total sessions and hours per session predicted an increase in mental ruination in this thesis. Respondents reported thinking more about how their shows could have turned out differently the more they watched. This analysis is consistent with the analyses of both overall transportation and emotional investment.

One notion to consider is what particular aspect of the story viewers were deliberating and how that affected the intensity of mental rumination. One possibility is that viewers were thinking about the storyline of *each episode*. In this case, a viewer would have been ruminating about each episode's plot individually. Therefore, the more a viewer watched, the more episodes he or she would be considering, thus compounding the reflection of the show. The other possibility is that viewer rumination included a serialized storyline, occurring over several episodes. This would mean that as more of the episodes were watched, more of the storyline was presented, possibly increasing mental rumination in the process. If only the former were to be considered, serialization would become moot. Episodic television would then have an equal effect on viewers' mental rumination as serialized television, because only the number of episodes would be significant. When the results of Hypothesis 1b are considered (emotional investment), the findings suggest that serialization does factor into the rumination process. As such, an individual's reflection of how a show's story played out is most likely associated with a combination of both finite episodic plots and prolonged serialized storylines.

Binge-Watching and Intent to Watch More

Total viewing sessions and hours per session both predicted viewers' intent to watch more episodes of their show. As both binge-watching rate variables increased, intent to watch more in subsequent weeks increased. This supports the argument made in Chapter 2 suggesting that the

desire to be exposed to the same beliefs or content may be equivalent to the desire to watch more episodes. Likewise, the notion that previous episodes may be comparable to prior genre experience was supported by the results of Hypothesis 2.

Interestingly, white respondents intended to watch significantly more the following week than non-whites. One possibility for this discrepancy was that all shows in this study exhibited predominantly white casts. Previous work has found that black viewers may be more likely to watch shows with black cast members (Dates, 1980). This thesis shows that non-white viewers reported lower levels of some aspects of transportation. Race incongruity between viewer and cast members could potentially be a reason for these lowered levels.

When the binge-watching interaction is considered in the model, a similar reaction to emotional investment occurs. At increasingly elevated levels of viewing, intention to watch more began to decrease. This means that if someone in the sample watched too many episodes, he or she was likely to not have the intention of watching as many episodes in the week to come.

There could be a few factors that led to the lowered intent at high levels of viewing. First, the respondents that watched substantial numbers of episodes could have realized that they watched more than they should have. Or, some people may have had more free time than usual during the week of data collection. Thus, they planned to watch a few less the following week. Another possibility is that people that watched too many episodes developed some resistance to the show and therefore, were not interested in watching as many episodes the following week.

In any case, the fact that intent decreases after a certain level of viewing sessions and length of session would be a counterargument to the idea of binge-watching being addictive in nature. Not only did the quickness with which intent rose decrease consistently when adding additional sessions or hours, but also the average number of episodes watched by the sample

population decreased each week. This could imply several things. First, respondents became busier with each passing week. Secondly, the shows decreased in quality as they progressed in the story, leaving viewers with less of a desire to watch. Third, the viewer ran out of episodes to watch. Or fourth, a possible combination of the previous options occurred, and the activity of binge-watching did not act as a catalyst of continually increased viewing.

Streaming Technology

The answer to Research Question 2 regarding viewing devices was that both watching on a tablet and a game console generally increase some transportation aspects, compared to watching on a Mac or PC. Overall transportation and emotional investment were increased by using a game console; whereas, attention and intent to watch more were increased by using a tablet. Lastly, the frequency of viewers' thinking of how the show could have turned out differently was significantly lower when watching on HDTV than on Mac or PC.

Previous research has found that how active the user interface of video games is affects "the sense of being in the game, 'presence,' and enjoyment" (Kim, Prestopnik, & Biocca, 2014). These variables are very similar to the description of transportation. Perhaps this association extends to the slightly more active Netflix interface on game consoles, which utilizes a game controller (or specialized remote) and an application within the gaming system.

The other significant device was the tablet. Previous literature has found that increased use of tablets leads to increased absorption, or "the extent to which the primary focus of the (respondent's) attention and engagement was with the device rather than (others)" (Radesky et al., 2014). A possible reason for this increase in attention could be the singular nature of the tablet. Typically, one person uses a tablet at a given time. Further, tablets are typically used closer to the face than other viewing technology, other than mobile devices. These closeness and

personal characteristics of tablets may play into how transported someone can become during the viewing process. Likewise, the small screen may account for why intention to watch more episodes was higher for tablets than computers, as well. Mobile screens have been found to be as satisfying or more satisfying than desktop computers when watching video clips (See-To, Papagiannidis, & Cho, 2012). Perhaps the same is true for tablets, which typically have screens closer in size to mobile devices than computers.

Binge-Watching with Others

The only social viewing that seemed to affect any aspect of transportation was viewing most of the episodes with others. Overall transportation, emotional investment and intent to watch more were all nearing significance. The social aspect of binge-watching has been suggested as a predictor of planning ahead to watch (Pittman & Sheehan, 2015). Relating this to the findings in this thesis, respondents that watch most of the episodes with others perhaps planned to watch as many or more episodes with the same group of people in the following week. Thus, the cultural conversation surrounding their show could allow for a greater level of emotional investment or transportation, as respondents' and their friends continue to discuss the storylines depicted in the content.

Interestingly, inclusion of the "other" variables caused hours per session to significantly predict attention level. This could potentially act as a suppressor variable. A possibility is that some social interaction during viewing that would normally relate to outside occurrences is instead relating to the content itself. Watching with one's friends may allocate the social interaction towards the content, because everyone is sharing in the same experience.

Examining Binge-Watching

As stated in the previous chapters of this thesis, some aspects of binge-watching are usually neglected during research. First, binge-watching is typically defined as watching two or three episodes in a row. In this study, the effect of the number of episodes on transportation was linear. This suggests that two or three episodes, while being a fairly simple definition, may be arbitrary when considering the more general effects of binge-watching. In fact, the discoveries herein only find detrimental effects (that is, when transportation levels begin to decrease with each viewing session) when viewers watch more than five hours in a row. This tapering off of the effects with higher levels of binge-watching substantiates the idea that binge-watching should be more accurately operationalized. Five hours may be too long to be considered a binge. However, these findings imply that this may be a better margin for when researchers simply ask viewers how often they binge-watch. Further, women in this study reported binge-watching significantly more than men, when using their own definition. Yet, there was no statistical difference in amount the viewing time by sex in this study. In fact, men averaged more viewing sessions than women. This suggests that there is a difference in the definition of "binge-watching" depending on gender.

Another consideration is that of "escaping." West (2014) found that people enjoyed being distracted by binge-watching (West, 2014). These results certainly agree with that. However, attention was the only subcomponent that was not significantly predicted by total sessions. Only emotional investment and mental rumination were predicted by total viewing sessions. So, is attention not related to forgetting about life for a while, or "escaping?"

These results seem to suggest that rather than losing attention to the outside world, contemplation of the fictional world increases. Based on this thesis, escapism may actually be

reallocating critical thinking toward the fictional world, instead of away from the outside world. As suggested in the literature review, people may choose to binge-watch instead of partaking in other things due to having less brain power for critical thinking and controlling behavior (Sigman, 2005). This process of thinking more about the fictional world could be interpreted as the "hypnosis" of which Sigman (2005) speaks. If this is the case, it is possible that people are not necessarily "escaping," but rather "vacationing." Eventually, their thoughts will be transferred back to their actual reality, as they reach a point at which viewing plateaus and begins to work conversely.

Using this idea of "vacationing," binge-watching could be considered similar to binge-eating and purging. With binge eating, self-perceptions can lead to issues like anxiety and depression. The bingeing and purging process is an attempt to escape this state, by moving focus away from the self and the overly-critical thoughts about the self. This narrowing of attentiveness loosens typically rational thoughts about eating, thus resulting in overconsumption (Heatherton & Baumeister, 1991). Some caution should then be considered for those that claim binge-watching helps them escape life for a while. Much in the way binge eating is an attempt at escaping self-criticism, some could potentially use binge-watching as a way of placing themselves in a reality that is more positive than their own. The viewing process could potentially be a symptom of a greater psychological or physiological issue and be a tool for reality avoidance, as some have suggested.

That is not to say that binge-watching actually is a detrimental activity. The findings in this thesis suggest that binge-watching is not a precursor for depression. Rather, an increase in binge-watching (to an extent) pulls individuals further into and makes them want to watch more of the content they are viewing. And, transportation has never been insinuated as a cause of

depressive symptoms. Therefore, this author proposes that this type of research should explore the use of binge-watching as a potential indicator of depressive symptoms, rather than a cause of the symptoms. Studies exploring the link between depression and binge-watching must carefully identify the causal relationship between the two subjects.

Implications

This is the first study on binge-watching to attempt to find causality, as the level of transportation was a true dependent variable. This thesis shows that binge-watching can be measured as an independent variable, with outcome variables measured as a result of binge-watching. This method can be replicated for use with testing other viewing effects using the binge-watching framework.

In terms of transportation, this study shows that prior genre exposure and belief change can potentially be operationalized as other types of variables, such as episodes of a show. Comparing the findings of H2 (intent) to those of H1b (emotional investment), the similarity in results seems logical. Specifically, it may be probable that the more difficult it is for a viewer to get a storyline out of his or her mind would lead that person to desire to watch more episodes. Further, if prior genre exposure can be compared to previously watching episodes of a show, the desire to watch more of the same show may correlate with previous work's dependent variable "belief change" (i.e. Green & Brock, 2000). This could contribute to transportation research by signifying that researchers can seek out quality fiction to use as stimuli for their studies.

Further, the effect of the interaction of total sessions and hours per session also has implications for the aspect of belief change within transportation. Too extreme a viewing time may have adverse effects on people. This could potentially lead to a decrease in the effect or possibility of potential belief change. Granted, most transportation research limits the amount

time that subjects are exposed to their stimuli. However, examining how different rates of viewing affect the transportation and belief change process would be beneficial for understanding how significant these effects may be in the real world.

Another implication that has been previously discussed is of comparing binge-watching to binge drinking. There are established parameters of how often consumption occurs (Wechsler et al., 1994; Wechsler et al., 1995), as well as how many drinks (Hull, 1981), as to what is considered a binge. These findings would suggest that if such a parameter were to be contemplated for binge-watching, five hours would be the cutoff point. It is at this level that binge-watching begins to decrease potentially positive effects. Anyone that has watched over five hours of *House of Cards* might agree with this proposal. However, the adverse effects do not become overly significant until seven or eight consecutive hours. This implies that, as with drinking, the threshold only represents when effects *begin* to become detrimental. After that binge drinking limit, a person can still think he or she is benefitting from the desired effects of alcohol. But at some point, his or her abilities will begin to deteriorate.

Interestingly, there is a physical limit to how much alcohol one can consume. With enough drinking, eventually vomiting, fainting or death occurs. Conversely, the physical limit of binge-watching is simply exhaustion. So, if binge-watching does begin to have less positive effects after a certain amount of time, there could be cause of concern. Theoretically, the activity of binge-watching could reach levels that drinking could not, in terms of relative intensity and duration, because a viewing binge could potentially last significantly longer than a drinking binge.

Reflecting on addiction, longer and more frequent viewing increased respondents' intent to watch more episodes. This could potentially be seen as a precursor for addictive patterns.

However, intent does not necessarily lead to execution. In fact, the mean number of episodes each week decreased. Likewise, intent began to decrease when viewing was too elevated. This indicates that viewers may be less inclined to watch as many episodes in subsequent weeks if they consider their current binge-watching amount to be too severe. This author posits that binge-watching is not a behavior to which someone can become easily addicted, in the strictest sense of the definition.

Peña's study suggested that the particular show did matter. Perhaps this only matters when the programming is not chosen by those being studied, as was the case in Peña's study (Peña, 2015). In this thesis, the option for ten shows was an acceptable number, as transportation stayed relatively even. Also, the number of episodes watched was above one per day for all shows except *Supernatural*. In this sense, the binge-watching aspect of consumer choice was fairly natural. If people pick what they want to watch, it is possible that transportation does not depend on the show. Viewers usually pick shows that they *want* to binge-watch. Two potential questions arise concerning this, in terms of transportation level. Is the particular show a non-factor, because people choose something to watch that they expect to enjoy? Or, does the show not affect transportation for the simple reason that people are allowed to choose their show, regardless of if they like it or not? In other words, does the freedom of choice factor into potential transportation?

Respondents in this sample were allowed to watch any of the ten shows (with encouragement to choose something a bit less familiar to them). Binge frequency had no bearing as a control variable. So, people potentially only watched in a way that maximized their enjoyment. This would suggest that binge-watching is a fluid term that is unique to each viewer. As Jenner (2015) suggests, this subjective nature may even lead to operational definitions based

on the researcher's personal media consumption (Jenner, 2015). Researchers should consider if their operational definition is biased towards their own unique perspective.

The other piece of evidence that the content matters if it is chosen *for* the viewer, is that males had significantly higher levels of transportation. Coincidentally, nearly all shows had male leads. This is in line with Peña's findings of the differences in show enjoyment: females enjoyed the show with a female lead considerably more than males did (Peña, 2015). In this study, females could pick which show to watch, but potentially could not choose the shows with female leads (*Buffy the Vampire Slayer* and *Orange is the New Black*). This would have been due to having already seen these two shows. As such, they would be less familiar with, and encouraged to choose from, nearly all the other shows. In fact, one-tailed *t*-tests of show familiarity demonstrated that females were statistically significantly more familiar with those two shows. Thus, they were persuaded not to choose those shows. This suggests that the gender of the characters of the viewed show matter in the effectiveness of binge-watching.

The interaction of viewing sessions and hours per viewing session may be of great concern to industry professionals, as binge-watching continues to increase in popularity (Spangler, 2016). Over-the-top services experiment with release schedules for their programming, seemingly at random. The notion that the effects on transportation, emotional investment and intent may decrease in strength as viewing time reaches higher levels could help drive more effective release schedules. For instance, if five hours at a time is the limit before the benefits of viewing content start to become detriments, media professionals may want to limit how many episodes of a show they release in a week. Likewise, because the effect on the dependent variables in this thesis is strongest at one hour per session, releasing one episode weekly may actually be ideal for hooking people onto a show.

The viewing session and length interaction has implications for marketers, as well. The impact of advertisements on transportation depends on how intrusive the ads are (Wang & Calder, 2006). Depending on the length of a commercial break, it is possible that a viewing session would be fully interrupted by the ads. And, when the program continues, a new viewing session begins. Therefore, if enough commercial breaks take place while a person is watching, that individual could end up being absorbed in or enjoying the content less than when he or she started watching. Further, Wang and Calder (2006) also found that catching up on a show by binge-watching meant that viewers were more likely to watch live (Wang & Calder, 2006). Live shows on broadcast are still released once a week. Transportation increases most rapidly when watching one hour at a time. So, watching a show live would allow for better transportation than when the show is being binged. Transportation may decrease if too many ads are included in the programming.

Limitations and Future Research

As with any survey method, self-reporting can be a limitation, because respondents can misremember or be dishonest. However, invalidity in this thesis was reduced by corresponding the numbers of episodes watched with both the diary entries and the favorite storyline. Further, the number of episodes and total hours were nearly even, suggesting consistent self-reporting. Future studies on binge-watching could employ this same strategy as a way to find more causal associations with viewing benefits or detriments. This method could also be used to develop an experimental design. Using a control group, binge-watching could further be examined as a cause or consequence of other states or conditions.

Because narrative transportation theory research often incorporates belief change, those focusing on the association between transportation and binge-watching should consider this

aspect in their studies. This author chose to exclude belief change in order to determine if binge-watching could, in fact, be measured to the detailed degree that it was in this thesis. Because the method was effective, subsequent studies can and should have belief change variables incorporated into the analysis.

In line with belief change, transportability – or the predisposition of a person to be transported – is also an aspect of multiple transportation studies and was excluded in this thesis. Transportability tends to be a significant factor in transportation and can regulate how transported someone becomes during the viewing process (Bilandzic & Busselle, 2008). Therefore, subsequent studies on binge-watching and transportation should incorporate this variable, as it may control for some of the viewing effects.

A third element to consider relates back to the idea that prior narrative-related experience can increase transportation (Green, 2004). All shows in this study were very serialized. It would be interesting to see how transportation levels are affected by more proceduralized shows (*CSI*, *Law & Order*, etc.). Binge-watching can help viewers grasp certain details of the story or characters that might be missed if watched less frequently (Cormier, 2016). On one hand, transportation may increase less quickly, because these types of storylines are less continuous from prior episodes; having a new narrative each episode may "reset" transportation levels, in a way. On the other hand, the procedural component of crime or medical shows rely more "on the familiarity bred by repetition than on engagement with unfolding events" (Newman, 2006). It could be entirely possible the "prior narrative-related experience" applies more directly to the general arcs of the plotlines in a show rather than to specific storylines. For example, knowing generally that the "bad guy" will be caught at the end of the episode could potentially allow for greater acceptance or investment into what is being watched. If so, the effect of procedurals on

transportation may be *more* intense than with serialized shows. Further, the results of the mental rumination subcomponent of transportation raise the question of whether episodic or serialized storylines more intensely affect a viewer's contemplation of a show's events. This potential difference in narrative type is an area that could be examined in future studies.

Another area of research worth exploring is how transportation is affected by the gender of the characters in the content. This thesis found results that ran counter to several transportation studies. Male viewers had significantly higher levels of overall transportation than females, specifically attention and mental rumination. Along with gender, character ethnicity could potentially be an area of research to consider. Being white predicted a higher level of intent to watch more episodes than being non-white. One possibility to consider in future research could be if ethnicity of the characters plays into how deeply someone is transported. Both are areas that would benefit from examination.

Along similar demographic lines, socioeconomic class was not reported in this thesis. While employment status was requested, class could have implications on if individuals have the free time to devote to leisurely binge-watching or can even afford streaming services in general. Future studies should consider this characteristic.

Controlling when to stop bingeing is another area of concern. Because transportation begins to decrease after five hours, respondents may begin to lose interest in their content and realize the desire to stop watching. Future research could look to see at what point people begin to think they need to stop watching, as well as motivating factors on what drives people to discontinue the activity. In addition to exploring why people choose to stop watching, research should focus on what keeps people from stopping. Both will help determine exactly where binge-watching falls in relation to the other bingeing activities, or if it relates at all.

Chapter 6: Conclusion

"Television" is a very different word than it used to be. Granted, the spirit of watching a program on a screen still exists. But while some still think of television as the object to gather around in the living room each night, the technology that has made viewing content easier for the consumers has made television more of an agnostic medium that sometimes only requires a cell phone.

Binge-watching, as it has become known today, is a different viewing experience than traditional TV viewing for multiple reasons. The ability to watch whenever, wherever, whatever and however have allowed for this phenomenon to become a relied-upon form of consumption for both content consumers and creators. As Jenner (2015) noted:

> "…a key factor is that the viewing is autonomously scheduled: control over one's own viewing behaviour is only possible because control over scheduling, traditionally in the hands of the broadcaster, is given to the viewer. Thus, binge-watching suggests an entirely different media experience than 'traditional', scheduled television can offer" (Jenner, 2015).

And, perhaps a "media experience" is the more accurate classification of binge-watching than "viewing activity." The computer, not television, was the most common streaming device in this study's sample. Plus, one of the two viewing devices with increased effects on viewers was the tablet (the other being the game console). Television binge-watching is not limited to the medium to where the content being viewed is still thought of as belonging.

The infatuation that people tend to feel while binge-watching their favorite show can be difficult to express plainly, but everyone knows it when it is happening. "Getting lost" in a show or movie or book can truly make an individual feel as though he or she were actually in the

fictional world. And, if the content is good enough, there is no need for 3-D glasses or Oculus Rifts of any other developing immersion media technologies. This thesis attempted to put a name to that immersion that people feel while watching a show. Additionally, this thesis sought to examine how that transportation was affected by binge-watching. To do so adequately, this author believed that binge-watching needed to be defined in a manner that allow for more detailed scrutiny of the behavior.

The findings herein show that the definition of "two or three" episodes does not allow for sufficient analysis of binge-watching effects. Only when broken into total viewing sessions and average length per session was binge-watching detailed enough to show significant effects on people's levels of transportation. Moreover, this detailed binge-watching rate significantly predicted emotional investment, mental rumination and intent to watch more episodes.

A more nuanced operational definition of binge-watching rate was also beneficial in discovering that adverse effects existed if people in this sample watched too much. One objective that this author pursued coming into this thesis was to have the opportunity to prove or discredit if the definition of two or three episodes in a row was an appropriate boundary when studying binge-watching effects. This study suggests that five episodes is a better cutoff point for examining how binge-watching affects viewers. Alternatively, making binge-watching a more continuous variable allows for the assessment of how strong associations may be between binge-watching and its effects. Both methods laid out here should be considered when developing binge-watching studies.

It is easy to understand the appeal of binge-watching. People even significantly prefer it over other viewing activities ("State of the broadcasting industry 2016," 2016). This thesis has laid the foundation of how scholars can produce sound, valid studies about binge-watching, as

they continue to explore the budding research area. Consumers will continue to watch episodes of shows consecutively. Content creators will continue to develop programming with consecutive viewing in mind. Researchers need to continue to find effective ways to measure and analyze binge-watching, because it appears the activity will not be cancelled anytime soon.

Appendix A

Television Show Options

Title	IMDB Description	Score*	IMDB Rating
Breaking Bad	A chemistry teacher diagnosed with a terminal lung cancer teams up with his former student to cook and sell crystal meth.	25	9.5
The Walking Dead	Sheriff's Deputy Rick Grimes leads a group of survivors in a world overrun by zombies.	17	8.7
House of Cards	A Congressman works with his equally conniving wife to exact revenge on the people who betrayed him.	16	9.1
Orange is the New Black	The story of Piper Chapman, a woman in her thirties who is sentenced to fifteen months in prison after being convicted of a decade-old crime of transporting money for her drug-dealing girlfriend.	15	8.4
Lost	The survivors of a plane crash are forced to work together in order to survive on a seemingly deserted tropical island.	13	8.5
Buffy the Vampire Slayer	A young girl, destined to slay vampires, demons and other infernal creatures, deals with her life fighting evil, with the help of her friends.	12	8.2
Supernatural	Two brothers follow their father's footsteps as "hunters" fighting evil supernatural beings of many kinds including monsters, demons, and gods that roam the earth.	10	8.6
American Horror Story	An anthology series that centers on different characters and locations, including a haunted house, an insane asylum, a witch coven, a freak show, and a mysterious hotel.	10	8.3
Dexter	A Miami police forensics expert moonlights as a serial killer of criminals whom he believes have escaped justice.	9	8.9
Mad Men	A drama about one of New York's most prestigious ad agencies at the beginning of the 1960s, focusing on one of the firm's most mysterious but extremely talented ad executives, Donald Draper.	8	8.7

Note. All shows available on Netflix.

*Score is based on the sum of scores for selected online binge-watching lists (p. 21).

Appendix B

Pre-Questionnaire

Thanks for your interest in my thesis study!
Informed Consent:

My name is Stephen Warren, and I am a graduate student at the S.I. Newhouse School of Public Communications at Syracuse University. I am interested in learning more about binge-watching and how people choose to binge-watch. You will be asked fill out an initial questionnaire about some basic TV questions. After, you will be asked to watch one TV show over the course of three weeks as much or as little as you want. After each week, I will send you a questionnaire with some questions about what you watched that week. Upon completion of all four questionnaires, your name will be entered into two drawings for $200.00 Visa gift cards, from which two winners will be chosen once all respondents have finished their participation. I am inviting you to participate in a research study. Involvement in the study is voluntary. This means you can choose to participate and that you may withdraw from the study at any time without penalty. Whenever one works with email or the Internet there is always the risk of compromising privacy, confidentiality, and/or anonymity. Your confidentiality will be maintained to the degree permitted by the technology being used. It is important for you to understand that no guarantees can be made regarding the interception of data sent via the Internet by the parties. If you feel that the study has been discussed with you and all your questions have been answered, do you agree to proceed? If you have any questions, concerns or complaints about the research please contact Prof. Bob Thompson at rthompso@syr.edu. Or you may contact the Syracuse University Institutional Review Board at orip@syr.edu. By continuing to the next page, you are stating that you are 18 years of age or older, and wish to participate in this research study. Thank you!

Thanks for considering my study! Here's the intro questionnaire. It's about five minutes long. At the end, you'll get instructions for moving forward. Basically, you're gonna watch TV and click some boxes each week. Piece of cake! In a minute, I will have you answer a couple questions about shows that are all available on Netflix. At the end, you'll be picking one of them to be the show you watch for the next few weeks. The only requirements are that you need to have access to Netflix to watch the show. Thanks again!

Q1 In your own words, how would you define "binge-watching?"

Q2 Using your own definition, how often do you binge watch?

- ❍ Never (1)
- ❍ Rarely (2)
- ❍ Once a Month (3)
- ❍ A Couple Times a Month (4)
- ❍ Once a Week (Usually the Weekend) (5)
- ❍ A Couple Times a Week (More on the Weekend) (6)
- ❍ A Couple Times a Week (More During the Week) (7)
- ❍ Daily (8)

Q3 How familiar are you with each of these shows?

	Never Heard of It (1)	Know It, Never Seen It (2)	Seen a Few Episodes (3)	Seen Many Episodes (4)	See Every Episode (5)
American Horror Story	❍	❍	❍	❍	❍
Breaking Bad	❍	❍	❍	❍	❍
Buffy the Vampire Slayer	❍	❍	❍	❍	❍
Dexter	❍	❍	❍	❍	❍
House of Cards	❍	❍	❍	❍	❍
Lost	❍	❍	❍	❍	❍
Mad Men	❍	❍	❍	❍	❍
Orange is the New Black	❍	❍	❍	❍	❍
Supernatural	❍	❍	❍	❍	❍
The Walking Dead	❍	❍	❍	❍	❍

Q4 Select the three (3) shows that you are LEAST familiar with:

Q5 Great! Next, please select one (1) of the shows you were LEAST familiar with to be your show to watch for the next few weeks.

(Example Response): Looks like you'll be binge-watching American Horror Story - "An anthology series that centers on different characters and locations, including a house with a murderous past, an insane asylum, a witch coven, a freak show, and an enigmatic hotel."
For the next three weeks, all you need to do is watch as many or as few episodes of your show as you want. Try to keep in mind how many episodes you watch, when you watch them, and any storylines that you enjoy. Okay, almost done. One page left.

Now, some basic demo stuff...

Q24 What is your sex?
- ❍ Male (1)
- ❍ Female (2)
- ❍ Other (3) _____
- ❍ Prefer Not to Answer (4)

Q25 How do you describe yourself? (please check the one option that best describes you)
- ❍ American Indian or Alaska Native (1)
- ❍ Hawaiian or Other Pacific Islander (2)
- ❍ Asian or Asian American (3)
- ❍ Black or African American (4)
- ❍ Hispanic or Latino (5)
- ❍ Non-Hispanic White (6)
- ❍ Other (7)
- ❍ Prefer Not to Answer (8)

Q26 Are you currently:
- ❍ Employed for wages (1)
- ❍ Self-employed (2)
- ❍ Out of work for more than 1 year (3)
- ❍ Out of work for less than 1 year (4)
- ❍ A homemaker (5)
- ❍ A student (6)
- ❍ Retired (7)
- ❍ Unable to work (8)
- ❍ Prefer Not to Answer (9)

Q27 Are you:
- ❍ Married (1)
- ❍ Divorced (2)
- ❍ Widowed (3)
- ❍ Separated (4)
- ❍ Never been married (5)
- ❍ A member of an unmarried couple (6)
- ❍ Prefer Not to Answer (7)

Q28 What is the highest grade or year of school you completed?

Q28 What is your age?

Q19 So I can send you the questionnaire link each week, please enter your email. I won't send anything unrelated to my study or give out your email, I promise (plus, Syracuse University would yell at me). MTURK WORKERS - EMAIL NOT NEEDED.

That's it! Remember, for the next three weeks, starting Sunday February 21st, watch as many or as few episodes of your selected show as you want. Try to keep in mind what time and days you watched. Each Sunday, I'll send you the link to a diary where you'll fill in when you watched your show and TV in general, as well as a couple other questions. That's it! If you do that, you'll be entered into the two $200 drawings. Again, thank you so much for the help. Have fun! For those of you from MTurk, your code is "initialbinge2016'. And, please remember to click "next" to close out the survey.

Appendix C

Weekly Questionnaire

Welcome to the WEEK 2 binge-watching questionnaire! I hope you enjoyed watching your show this week! I just have a couple pages of questions for you to fill in - less than ten minutes.

Q10 What show did you pick to watch?

Q23 To the best of your memory, how many episodes did you watch this week?

Q24 Which season of your show are you currently watching?

Now, fill in the diary below with all the times you watched TV for each time period. Don't worry if you can't remember everything. Just try your best!

Click once (GREEN) for when you watched YOUR CHOSEN SHOW. Click twice (RED) for when you watched ANY OTHER SHOWS. Three clicks CHANGES BACK TO WHITE.

EARLY MORNING

	SUN	MON	TUE	WED	THU	FRI	SAT
Early Morning	5:00 AM	5:00 AM	5:00 AM	5:00 AM	5:00 AM	5:00 AM	5:00 AM
	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM	6:00 AM
	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM	7:00 AM
	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM	8:00 AM
	9:00 AM	9:00 AM	9:00 AM	9:00 AM	9:00 AM	9:00 AM	9:00 AM

Click once (GREEN) for when you watched YOUR CHOSEN SHOW. Click twice (RED) for when you watched ANY OTHER SHOWS. Three clicks CHANGES BACK TO WHITE.

DAYTIME

	SUN	MON	TUE	WED	THU	FRI	SAT
	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM	10:00 AM
	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM	11:00 AM
	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM	12:00 PM
Daytime	1:00 PM	1:00 PM	1:00 PM	1:00 PM	1:00 PM	1:00 PM	1:00 PM
	2:00 PM	2:00 PM	2:00 PM	2:00 PM	2:00 PM	2:00 PM	2:00 PM
	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM	3:00 PM
	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM	4:00 PM

Click once (GREEN) for when you watched YOUR CHOSEN SHOW. Click twice (RED) for when you watched ANY OTHER SHOWS. Three clicks CHANGES BACK TO WHITE.

EVENING/PRIME TIME

	SUN	MON	TUE	WED	THU	FRI	SAT
Early Evening	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM	5:00 PM
	6:00 PM	6:00 PM	6:00 PM	6:00 PM	6:00 PM	6:00 PM	6:00 PM
	7:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM	7:00 PM
Prime Time	8:00 PM	8:00 PM	8:00 PM	8:00 PM	8:00 PM	8:00 PM	8:00 PM
	9:00 PM	9:00 PM	9:00 PM	9:00 PM	9:00 PM	9:00 PM	9:00 PM
	10:00 PM	10:00 PM	10:00 PM	10:00 PM	10:00 PM	10:00 PM	10:00 PM

Click once (GREEN) for when you watched YOUR CHOSEN SHOW. Click twice (RED) for when you watched ANY OTHER SHOWS. Three clicks CHANGES BACK TO WHITE.

LATE NIGHT

	SUN	MON	TUE	WED	THU	FRI	SAT
	11:00 PM	11:00 PM	11:00 PM	11:00 PM	11:00 PM	11:00 PM	11:00 PM
Late Night	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM	12:00 AM
	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM	1:00 AM
	2:00 AM	2:00 AM	2:00 AM	2:00 AM	2:00 AM	2:00 AM	2:00 AM
	3:00 AM	3:00 AM	3:00 AM	3:00 AM	3:00 AM	3:00 AM	3:00 AM
	4:00 AM	4:00 AM	4:00 AM	4:00 AM	4:00 AM	4:00 AM	4:00 AM

Q11 Please mark how much you agree or disagree with each of the following statements:

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
During the show, activity going on around me was on my mind. (4)	❍	❍	❍	❍	❍
I found my mind wandering while watching the show. (5)	❍	❍	❍	❍	❍
After finishing the episodes, I found it easy to put them out of my mind. (6)	❍	❍	❍	❍	❍
The show affected me emotionally. (7)	❍	❍	❍	❍	❍
The events in these episodes have changed my life. (8)	❍	❍	❍	❍	❍
I could easily picture myself in the scenes portrayed in the show. (9)	❍	❍	❍	❍	❍
I find myself thinking of ways the show could have turned out differently. (10)	❍	❍	❍	❍	❍
The events in the show are relevant to my everyday life. (11)	❍	❍	❍	❍	❍
I plan to watch as many or more episodes of the show in the week to come. (12)	❍	❍	❍	❍	❍

Q12 How did you primarily watch your show this week?

- ❍ Standard Definition TV (8)
- ❍ Regular HD TV (1)
- ❍ Smart TV (2)
- ❍ Videogame Console (3)
- ❍ Mac/PC (4)
- ❍ Tablet (5)
- ❍ Mobile Device (6)
- ❍ Other (9) _____

Q16 How much of your show did you watch with others?

- None of it. (1)
- A few episodes. (2)
- About half of the episodes. (3)
- Most of the episodes. (4)
- All of it. (5)

Q13 In your own words, please describe your favorite storyline from the episodes you watched this week.

Almost done!

Q17 So I can send you next week's survey, please enter your email again. (And, I still won't give it out or send anything unrelated to my thesis project). MTurk workers: enter your Worker ID in this field.

All done! Thanks again for the help. It means a lot! Go out and binge on! MTurk workers: your code is on the next page.

MTurk Workers: YOUR CODE FOR MTURK IS: "thesisbinge2". Please click next to complete the survey. Thanks!

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EDUCATION:

M.A. Syracuse University
Syracuse, NY
SI Newhouse School of Public Communications August 2016
Media Studies
Thesis: Binge-Watching Rate as a Predictor of Viewer Transportation Mechanisms
Advisor: Professor Bob Thompson
GPA: 3.97/4.00

M.A. Syracuse University
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SI Newhouse School of Public Communications May 2014
Television, Radio & Film
Advisor: Professor Bob Thompson
GPA: 4.00/4.00

B.S. Middle Tennessee State University Murfreesboro, TN
Recording Industry: Music Business December 2010
Minor in Business Administration
Dean's List
GPA: 3.64/4.00

RESEARCH INTERESTS:

My research interests focus on television and video streaming services and their viewers' behaviors and habits. Particularly, I am interested in the activity of binge-watching, as well as the current landscape of sports on television. I have experience in both qualitative and quantitative methods of social science, as well as Q methodology.

RESEARCH:

CONFERENCE PAPERS

Warren, S., Zhou, C., Brown, D. & Bias, C. (2015). *Minnie Mouse, modern woman: Anthropomorphism and gender in children's animated television*. Presented at the Association for Education in Journalism and Mass Communication Conference. San Francisco, CA.

Chen, L. & Warren, S. (2016). *Framing gender and power: A visual analysis of Peng Liyuan and Michelle Obama in Xinhua and the Associated Press*. Presented at the Association for Education in Journalism and Mass Communication Conference. Minneapolis, MN.

TEACHING EXPERIENCE

SI Newhouse School of Public Communications, Syracuse University Syracuse, NY
Instructional Assistant 2013 – 2016

Guest Lectures:

TRF 235 – Media Industry Principles & Practices (2/29/16)
"The 2016 Oscars - Diversity in Entertainment"
TRF 461/661 – Advanced Media Management (2/24/16 – 4/6/16)
Weekly Case Studies (Total of Five)

Communications Department:

COM 408 – Advertising and Public Relations Law

Television, Radio & Film Department:

TRF 235 – Media Industry Principles & Practices
TRF 400/600 – Gaming Narratives
TRF 461/661 – Advanced Media Management
TRF 483/683 – Communication Industry Frontiers
TRF 530 – Pop Culture Studies – Film Classics
TRF 530 – Pop Culture Studies – Sports for Television
TRF 530 – Pop Culture Studies – Walt Disney
TRF 592 – Film Business
TRF 594 – Television Business
TRF 655 – Screenwriting and Production Workshop

- Lecture and meet with students individually.
- Run discussion sessions with up to 40 students.
- Write, administer and grade exams and assignments.
- Provide necessary support for professors.
- Coordinate up to 28 guest lectures of media professionals per semester.

PROFESSIONAL EXPERIENCE

Syracuse University Press Syracuse, NY
Marketing Intern June 2014 – Aug 2014

- Developed and produced book trailers for selections from the Fall 2014 catalog.
- Coordinated with various authors and organizations regarding reproduction rights of audio/video materials for use in book trailers.

Creative Agenda Entertainment Syracuse, NY
Research Assistant Jan 2014 – Dec 2014

- Contributed script coverage and story development for 15 potential projects/films.
- Contributed three research pieces to the development of the book *Slay the Dragon: Writing Great Video Games***.**

- Researched historical information relating to a film project for an accomplished screenwriter.

Sherwin-Williams Company Rochester, NY
Assistant Market Manager Jan 2011 – July 2014

- Managed daily operations of the store, including accounts receivable, transactions, maintenance of machinery and controlling of inventory.
- Controlled wholesale pricing and products, balancing customer satisfaction and profit margins.

SKILLS

Graphic & Presentation Software:

- Keynote, PowerPoint, Prezi

Research Software:

- NVivo, Endnote, SurveyMonkey, Qualtrics, MTurk.

Statistical Analysis Software:

- SPSS, Stata

Audio/Video Software:

- Final Cut Pro, Pro Tools, Adobe Audition, Reason 4

Web Software:

- Word Press