

NETFLIX AND CHILLING:
BINGE-WATCHING BEHAVIORS AND THE CULTIVATION EFFECTS OF
HORROR TELEVISION SHOWS

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Sheana J. K. Y. Humphries

Thesis Committee:

Amy S. E. Hubbard, Chairperson

R. Kelly Aune

Emiko Taniguchi

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Abstract

This study investigates various elements of cultivation theory on television viewing behaviors in different time compression formats. Colloquially known as “binge-watching,” viewing several episodes of a television show, back-to-back, is becoming more prominent with entire series readily available on any mobile device. However, research on the cultivation effects associated with time compression on television viewing behaviors is sparse, with most knowledge focused on the influence of total viewing time and exposure to various genres. This study expands work on cultivation theory by analyzing both the amount of viewing and the time frame in which the viewing occurred, specifically examining horror genre television shows and the different first-order and second-order effects that may be cultivated. This investigation found some evidence for the relationship between the number of hours spent watching horror shows and first-order effects. Additionally, there were some differences between viewing horror shows in a compressed versus non-compressed format on first-order effects. However, there was no significant relationship between number of hours spent watching horror shows and second-order effects and no significant difference between compressed and non-compressed viewing of horror shows on second order effects.

Keywords: cultivation theory, time compression, horror genre, first-order effects, second-order effects

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CHAPTER 1: INTRODUCTION

Aside from the typical categories of drama, sci-fi, comedy, or horror, “binge-worthy” is a new category to select from when choosing which television series to watch in full. Although consumers in the late 20th century had to wait for series to become available on video cassette tapes, and later, DVDs or even DVR, new developments in the early 21st century made watching TV programming easier and more accessible (Eboch, 2015). Netflix, which is a well-known entertainment company, began streaming television shows and movies online in 2012. This event was a large part of TV’s evolution by making entire television series available to people, instead of making them wait for episodes to be broadcasted on TV about once a week.

In the past, researchers wondered about television’s effects on its viewers and found that it can influence how people perceive the world (Gerbner & Gross, 1976a). Research that included studies of television shows were limited by the fact that new episodes of a show were only released once a week. With complete series being available, researchers have yet to investigate the effects of television viewing when consumed in a single sitting in a compressed format or with the same number of hours in a non-compressed format. Thus, this investigation will review cultivation theory, the empirical research regarding what theorists claim about television’s influence on viewers, and research from various areas that have looked at effects of time compression in an intensive format and its possible implications on TV viewing behavior and outcomes.

Cultivation Theory

Pathways to cultivation theory were paved in 1967/1968 when George Gerbner began researching the role and purpose of violence as portrayed in television dramas (Gerbner & Gross, 1976a). The National Commission on the Causes and Prevention of Violence funded a study, led

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by Gerbner, to record the characteristics and number of violent occurrences as seen in television programming. This study was the beginning of a larger research investigation called the Cultural Indicators project. Over time, the project gained popularity and received support from a variety of organizations such as the U.S. Surgeon General's Scientific Advisory Committee on Television and Social Behavior, the Screen Actors' Guild, the White House Office of Telecommunications Policy, the U.S. Commission on Civil Rights, the American Medical Association, the National Institute of Mental Health, and the National Science Foundation (Gerbner et al., 1986).

The Cultural Indicators project focused on analyzing the effects of violence in network television dramas on viewers' perception of reality (Gerbner & Gross, 1976a). Based on their study's findings, Gerbner and Gross (1976a) claimed that people who watch larger amounts of TV programming compared to people who watch smaller amounts were more likely to have conceptions of reality that were consistent with the world as portrayed on the programs. The claim was that heavy TV viewers, or people who spend about four or more hours watching TV each day on average, are exposed to more violence and crime-related imagery than light viewers, people who spend about two hours or less watching TV each day on average (Gerbner & Gross, 1976a; Hughes 1980). This heavy amount of exposure meant that the viewers could see the real world as more violent, scary, and crime-ridden than it actually was (Gerbner & Gross, 1976a, 1976b; Gerbner et al., 1986).

In order to analyze the cultural influences of TV viewing, the Cultural Indicators project used a three-pronged research strategy that included institutional process analysis, message system analysis, and cultivation analysis (Gerbner et al., 1986, p. 22). The first prong, institutional process analysis, was designed to examine factors that were involved behind the

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scenes. This prong was meant to investigate how TV corporations determined what messages to play and whether they influenced a specific view on their audience or not. The first prong focused on investigating the policies that prescribe media messages to its audiences. In the second prong, message system analysis, researchers examined and recorded the patterns that occurred in media messages. The researchers identified any recurring patterns of demographics, relationships, or other types of repeated imagery in TV portrayals of violence, minorities, gender roles, and occupations (Shanahan & Morgan, 1999).

Out of the three prongs of the Cultural Indicators project, the third has been the most frequently studied. The third prong was used to help answer hypotheses derived from the first and second prongs. It was meant to examine how the exposure to the TV world affects viewers' perception of the real world. Using a cultivation analysis, researchers examined whether individuals who watched more television answered questions with a TV answer, one that reflects the same message as seen on TV, in comparison to those who watched less TV.

Aside from the popular concerns that TV violence triggered and elicited aggressive behavior in viewers, Gerbner and colleagues began to think that perhaps heavy viewing cultivated exaggerated perceptions of mistrust, danger, and fear of becoming a victim, as well as inaccurate beliefs about crime and law enforcement (Gerbner & Gross, 1976b; Morgan & Shanahan, 2010). In their research, when compared to light viewers, heavy viewers were more likely to believe that most people were untrustworthy, greedy, and likely to take advantage of others if they had the opportunity to. This concept became known as the "Mean World Syndrome"; believing there are a lot of bad people and that the world is a scary place. However, other researchers were concerned about this finding when they found no relationship between viewing amount and viewers' attitudes towards violence and perception that the world is "mean"

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(Hirsch, 1981). Some researchers stated that the evidence appeared to show a relationship between amount of viewing and fear of being victimized, but only after controlling for crime in respondents' respective neighborhoods (Doob & MacDonald, 1979). Other researchers also counterclaimed that it was actually the non-viewers that tended to be the most fearful in comparison to other viewers, and that the evidence Gerbner and his colleagues gathered was skewed because they had not controlled for other extraneous variables such as income or education (Hirsch, 1980, 1981; Hughes, 1980).

Mainstreaming and Resonance

In response to critiques of the original formulation of cultivation theory, additional propositions were introduced to help strengthen the theory (Doob & MacDonald, 1979; Hirsch, 1980; Hughes, 1980; Morgan & Shanahan, 2010; Potter, 1993, 1994; Shanahan & Morgan, 1999). In order to explain how people's TV experiences meshed with their real-life experiences, cultivation theorists suggested two new processes that explain different ways in which cultivation works: mainstreaming and resonance (Cohen & Weimann, 2000).

The concept of *mainstreaming* is the "homogenization of people's divergent perceptions of social reality into a convergent view" (Cohen & Weimann, 2000, p. 101). Through this process, viewers are learning what the real world is like by observing through their television screens. It is believed that memories of TV experiences are stored almost automatically and viewers use these memories to learn facts about the real world (Cohen & Weimann, 2000).

Morgan, Shanahan, and Signorielli (2015) argued that through the mainstreaming process, heavy television viewing might have the potential to override other influences. What this means is that attitudes and behaviors that are typically influenced by social, cultural, political, or demographic factors may diminish or become absent for individuals who are heavy

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viewers and is replaced with values and outlooks of reality that the TV world cultivates (Gerbner, et al., 1986). Evidence for mainstreaming came from multiple National Opinion Research Center General Social Surveys which formed the Mean World Index. Analyses of these data revealed that the overall amount of TV viewing was significantly related to people's beliefs that most people are just looking out for themselves, that one must be careful dealing with others, and that people, if given the chance, will take advantage of others. The relationship was strongest when the education level of heavy and light viewers was compared. Heavy viewers, who reported some to no college education, tended to express more interpersonal mistrust in comparison to light viewers.

There was also evidence of people experiencing the mainstreaming process when they viewed medical dramas. For instance, Chung's (2014) study analyzed the relationship between amount of medical drama viewing and viewers' perceptions and beliefs on health-related topics. This specific genre tells stories by using patient-doctor and doctor-doctor relationships in the various types of medical cases portrayed in the drama. The anomalous medical cases used in this genre tend to be overly represented in order to depict exciting storylines (Chung, 2014; Murphy, Hether, & Rideout, 2008). Medical dramas such as *Grey's Anatomy*, *ER*, *House*, and *Strong Medicine* also tend to include atypical health issues more frequently and underrepresent the more common and chronic health issues (Chung, 2014). Results of Chung's (2014) study indicated that heavier viewers of medical dramas, compared to lighter viewers, tended to underestimate the severity of chronic illnesses (e.g., cancer and cardiovascular disease) in the society, but held more fatalistic views of these types of illnesses just as the mainstreaming process would suggest.

Another example of mainstreaming is captured in Calzo and Ward's (2009) study on attitudes toward homosexuality. Men and individuals high in religiosity were less accepting of

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homosexuality compared to women and those low in religiosity. Through the mainstreaming process, viewers with diverse perspectives were expected to be drawn closer towards the center on a spectrum. Results from this study indicated that the differences between the opposing views for both gender and religiosity decreased for the participants who reported having more exposure to media. This was demonstrated when men and students who were high in religiosity were exposed to more media (i.e., television shows and magazines) developed more accepting attitudes of homosexuality, and women and students who were low in religiosity developed less accepting attitudes of homosexuality. This idea of centering of attitudes demonstrates that the mainstreaming process works when people are frequently exposed to media (Calzo & Ward, 2009).

The mainstreaming process has also been studied and supported in other areas such as political views (Gerbner et al., 1986) and environmentalist attitudes (Good, 2009). In Gerbner et al.'s (1986) study on political orientation, those who were categorized as heavy viewers of TV overall were more likely to label themselves as "moderate" instead of "liberal" or "conservative." Gerbner et al. (1986) argued that messages in television shows are made to balance opposing views in order to gain higher numbers of viewers. By balancing the liberal and conservative perspective portrayals in television, the message being presented in terms of political ideology was a moderate view. Findings from Gerbner et al.'s (1986) study indicated that this balance led heavy viewers of television to have a more moderate view compared to light viewers.

Good's (2009) research looked at television viewing and concern for the natural environment. Good speculated that heavy general TV viewing meant that there was more exposure to materialistic content that contained fewer pro-environmental messages. In her study,

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environmentalists (people presumed to have a significant concern for the environment), who were classified as heavy viewers of general TV, actually displayed less concern for the natural environment over environmentalists who were considered light viewers. This resulted in heavy viewing environmentalists holding similar environmental attitudes to the general public (one that represents a moderate concern for the environment). Good (2009) suggested that this is evidence of the mainstreaming process.

The second process, *resonance*, refers to when viewers' constructed view of the world, created from mainstreaming, is highly consistent with their own direct experience in reality (Cohen & Weimann, 2000; Gerbner et al., 1986). If the level of consistency is higher, resonance can intensify (Cohen & Weimann, 2000). Morgan, Shanahan, and Signorielli (2015) argued that when a person's everyday reality and TV-mediated experiences are similar to each other, viewers may get a "double dose of messages that 'resonate' and amplify cultivation" (Morgan, Shanahan, & Signorielli, 2015, p. 682).

An example of the resonance process, that was discovered unexpectedly, can be found in Doob and MacDonald's research on fear of victimization (Doob & MacDonald, 1979; Shanahan & Morgan, 1999). When building upon Gerbner and his colleague's research and after controlling for crime in viewers' neighborhoods, Doob and MacDonald suggested that the actual incidence of crime in one's neighborhood might relate to the amount of fear someone has. Gerbner et al. (1986) claimed that Doob and MacDonald helped contribute to cultivation analysis by clarifying the phenomenon of "resonance" which is the process of one's daily environment being consistent with and reinforcing television's messages. Doob and MacDonald (1979) found that people who watched the most television tended to be the most afraid and that people who lived in high-crime areas watched more television; specifically, more violent television. Gerbner

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and his colleagues replicated Doob and MacDonald's research and obtained similar results for the relationship between viewing and perceptions of violence and crime (Gerbner, Gross, Morgan, & Signorielli, 1980; Hawkins & Pingree, 1981). Gerbner et al. compared residents with low income and high income in both city and suburban areas. The relationship between residence and income had no difference with perception of danger for suburban residents, but the results differed for residents living in the city. Gerbner et al. (1980) found that the relationship between viewing and perceptions of violence and crime remained positive and significant for only low-income city residents (people who presumably might live in high crime areas) but was zero for high-income city residents.

Shrum and Bischak (2001) also examined the concept of resonance. In their study, they asked participants about their perceptions of crime risk (i.e., societal crime risk, personal crime risk in their own neighborhood, and personal crime risk to themselves in New York City), experience with crime (i.e., direct or indirect), and amount of television viewing. What they found was that having a high direct experience with crime was greater among heavy viewers than light viewers in all levels of crime risk perception. Shrum and Bischak (2001) suggested that these patterns imply effects of resonance because the heavy viewers seemed to have higher levels of crime risk estimates and reported more direct experience.

Fikkers, Piotrowski, Weeda, Vossen, and Valkenburg (2013) studied how resonance can intensify when an adolescent is exposed to media violence and experiences conflict with one's own family. The researchers found that adolescents in families with more conflict and with high media violence exposure tended to report higher levels of aggressive behavior. But adolescents in families with less conflict and with high media violence exposure reported lower levels of aggressive behavior. Fikkers et al.'s (2013) findings support the concept of resonance because

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when the TV-mediated experience and direct experience were similar to each other, the effect of aggressive behavior increased.

Resonance has also been applied in judicial settings. Television shows that depict court cases in a dramatic manner for entertainment purposes can foster unrealistic beliefs about practices of law in its viewers (Friedman, 2001; Lane, 2007; Simpson-Wood, 2015). Many people believed that shows such as *Judge Judy*, *People's Court*, and *Divorce Court* were real courts (Friedman, 2001). For example, the California Commission on Judicial Performance, an agency that is responsible for disciplining and managing issues relating to actual judges (State of California Commission on Judicial Performance, 2017), received complaints from people who believed *Judge Judy* goes too far and from others who were disappointed about judges not acting like they do on television (Friedman, 2001). Friedman (2001) and Simpson-Wood (2015) claimed that viewers believe that these courtrooms are real because of the convincing sets, costumes, and actors in these shows. Simpson-Wood (2015) believe that viewers will experience increased resonance if shows such as *Judge Judy* consistently present rare and dramatic court cases and if viewers of these shows experience similar dramatic scenarios in real life. The greater the consistency between television court shows and the viewer's real-life situation, the more intense resonance will be.

First-order and Second-order Cultivation

After adding the mainstreaming and resonance processes and understanding their role in cultivation, cultivation theory was further modified with two more components: first- and second-order effects (Morgan, Shanahan, & Signorielli, 2015). In the third prong of the Cultural Indicators project, cultivation analysis, Gerbner and colleagues examined responses to questions regarding frequency, probability, beliefs, and attitudes about the real world. Hawkins and

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Pingree (1982) suggested that these parts of the cultivation analysis represented separate types of cognitive psychological concepts, rather than simple indexes of the cultivation effect. First-order effects pertain to frequency (e.g., perceptions about the percentage of people who have been victims of violence or the perception of how many people in the workforce are doctors or lawyers) and probability of events occurring (e.g., perception about the likelihood of being a victim of crime) (Shrum & Lee, 2012). Second-order effects concern beliefs and attitudes about reality (e.g., the average person is untrustworthy or the average person is friendly).

Shrum (2007) suggested that first-order cultivation effects occur from the use of heuristic processing strategies when people form judgments of frequency or probability (Shrum, 2007). Shrum (2007) argued that watching TV can increase the accessibility of relevant information stored in one's memory and with this accessible information people can "use the ease of recall as a basis for their judgment" (p. 65). To test this, Shrum and colleagues had participants provide probability and frequency judgments on a variety of topics that are portrayed more on television than in real life (e.g., incidence of violent crime, prevalence of certain occupations). Participants were timed as they were formulating their thoughts and judgments. What the researchers found was that compared to lighter viewers, heavier viewers tended to answer more quickly and gave higher estimates of probability and frequency judgments on how often crimes occurred and how prevalent it was for people to have jobs in law enforcement or healthcare. Shrum and colleagues argued that speed of response acted as a "surrogate measure" to demonstrate that information accessibility was heightened for those who watched TV shows more frequently (Busselle & Shrum, 2003, p. 259).

Although first-order cultivation effects pertain to information on probability and frequency, second-order effects are more subjective and concern relationships between television

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viewing and a person's attitudes, values, and beliefs (Morgan, Shanahan, & Signorielli, 2015; Shrum & Lee, 2012). Rather than having information being retrieved upon request, these second-order effects are made and altered while viewing or immediately when information is encoded into long-term memory (Coenen & Van den Bulck, 2016; Hastie & Park, 1986; Shrum & Lee, 2012). According to Morgan and Shanahan (2010), cultivation occurs at the moment of judgment for both first- and second-order effects, but the difference is when the judgment is made. For first-order effects, judgments are made at the time they are called upon, and for second-order effect, judgments are made at the time of viewing.

Kahlor and Eastin (2011) found evidence regarding first- and second-order effects in their study. Participants reported approximately how much television they typically watch on a weekday and how much time they spend watching soap operas and crime dramas in a week. These types of genres were chosen because, based on prior research, soap operas and crime dramas tend to have the most rape-related content. First-order effects of rape myths concerned what percentage of rape accusations were false and second-order effects concerned the degree of rape myth acceptance. The results of Kahlor and Eastin's study support the idea that general TV exposure is positively and significantly related to first- and second-order effects of rape myths. The results also indicated that there were positive relationships between viewing soap operas and believing that most rape accusations are false, and viewing soap operas and believing in rape myths.

Morgan and Shanahan (2010) believed that the cultivation of instantaneous judgments or second-order effects can be enhanced by the viewer's attentiveness and involvement or engagement in the show because these are elements used when processing these types of judgments. Shrum, Lee, Burroughs, and Rindfleisch (2011) conducted a study to test how

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second-order cultivation effects are created when watching television shows and to what extent. They manipulated the view of materialistic content to determine a causal relationship between TV viewing and material values with the moderating role of narrative engagement. Participants were presented with either a high materialism movie clip (i.e., *Wall Street*) or a low materialism movie clip (i.e., *Gorillas in the Mist*). Shrum et al. found that the effects of viewing the high or low materialism clips were stronger for those who reported being absorbed or transported into the narrative during viewing (Shrum et al., 2011). Viewers in the high transportation group who watched the low materialism movie clip had lower material values and those who watched the high materialism movie clip had higher material values.

Narrative Transportation

Engagement in the TV narrative can enhance the cultivation effect for a viewer (Shrum et al., 2011). This idea of engagement derives from the larger concept of narrative transportation. Narrative transportation is a process in which readers, listeners, or viewers are absorbed into the narrative's world. When viewers are interested and cognitively engaged in the narrative they can have strong emotional reactions and vivid thoughts (Green & Brock, 2000). In order to become transported viewers must cease any skepticism, avoid counterarguing the story, and set aside real-world facts that may contradict the narrative's message.

For instance, horror movies are notorious for having improbable situations when it comes to the protagonist or victim's escape. Yet, people can still be transported and fully engaged in horror films. In the 2017 American horror film, *Get Out*, the main character, Chris, was faced with the difficult situation of being strapped to a chair and avoiding hypnosis. Chris was able to defend himself from the auditory hypnotic trigger (i.e., the clinking of a spoon on a teacup) by stuffing cotton from the chair's armrest into his ears. If viewers were transported, their focus

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would remain in the *Get Out* world rather than scrutinizing the efficacy of cotton serving as a sound barrier.

Other instances in which viewers may set aside real-world facts or refrain from counterarguing can be found in movies or TV shows that are depicted in a highly unrealistic manner. An example of this would be Disney's computer-animated musical film, *Moana*. Most people would agree with the idea that shapeshifting is not a common phenomenon and that demigods are mythological characters. If non-transported viewers are watching *Moana* and see Maui shapeshifting into different animals, they could easily focus on how fictitious the movie is based on his actions and the fact that he is a demigod in the movie. But if transported viewers are watching the movie, they will be fully engaged in the movie's magic and not question Maui's existence or shapeshifting ability. Overall, these transported individuals tend to hold more narrative-consistent beliefs which can increase a narrative's overall persuasive impact (Green & Brock, 2000).

Summary of Cultivation Research

Evidence from cultivation research indicates that watching television shows can influence viewers' perceptions of reality through its many facets (Shanahan & Morgan, 1999). Viewers' perceptions are altered through the processes of mainstreaming and resonance and the content of the shows. The strength of these processes and effects depend on the number of hours viewers spend watching television (Gerbner et al., 1986), as well as the viewers' transportation into the shows (Green & Brock, 2000). Understanding how these effects work has been accomplished by observing common themes or patterns within TV overall and within specific genres.

Genre-Specific Patterns in TV Shows

Many TV shows have visible patterns. These patterns vary by the genre of the show. Genre-specific patterns are often identifiable by their event structure, character labels, and settings (Bilandzic & Busselle, 2008).

For instance, Frampson and Linvill (2017) analyzed the type of jealousy commonly portrayed in romantic comedies. Using a content analysis, researchers looked at instances of jealousy in 51 of the top-grossing films in this genre. They determined that these romantic comedies frequently displayed the type of jealousy in which a partner reacts to a direct threat (e.g., infidelity) to their relationship. This is known as reactive jealousy.

Health content-related programs and episodes of other programs with medical scenarios often portray similar health-specific patterns. Murphy et al. (2008) analyzed health content in every episode of the top 10 prime time television shows from 2004-2006. This was done to determine the frequency and type of health content found in popular TV shows such as *Grey's Anatomy*, *Friends*, *ER*, *Desperate Housewives*, *George Lopez*, and *House*. Murphy et al. (2008) recognized these popular television shows have common storylines that frequently depicted characters with atypical health issues and rarely depicted them with more common ones.

Patterns in Horror Genre TV Shows

Action, comedy, and drama were referred to as the popular genres in the past (Nash Information Services, n.d.). But now, horror genre is also included in the mix. In fact, the number of horror movies released have doubled from 1995 to 2017. The market share for horror movies, indicated by the number of tickets sold, jumped from about 500,000,000 to over 1,500,000,000 in the same range of years.

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The horror genre has been variously defined as a genre that relies on invoking horror in its audiences (Carroll, 1990), that depicts uncomfortable and disturbing desires (Strinati, 2000), and that contains elements that are uncanny, extraordinary, and nonsensical (Prohászková, 2012). Horror genre films are those that focus on “the dark side of life, the forbidden, and strange and alarming events...” that can elicit fear from “our nightmares, our vulnerability, our alienation, our revulsions, our terror of the unknown, our fear of death and dismemberment, loss of identity, or fear of sexuality” (Dirks, n.d., para. 1). People seem to be drawn to horror generally because of their curiosity in the monster of the story (Carroll, 1990), to test their bravery, or to seek excitement (Johnston, 1994; Prohászková, 2012).

With any genre, there are classic plot patterns can be recognized. The general structure of horror film plots revolves around some kind of monster and the attempt to discover this monster’s identity, origin, purpose, powers, and weaknesses (Carroll, 1990). This generic structure is used in the different types of horror in which the monster is portrayed by a character that best fits the type of horror. Depending on the type of horror, there are different patterns that will emerge (Prohászková, 2012). All films and shows begin by presenting the audience with the environment. The story behind horror shows are typically set in spooky, eerie locations such as in cemeteries, abandoned castles, gloomy forests, or old houses (Prohászková, 2012). Prohászková (2012) noted that vampires, zombies, demons, ghosts, serial killers, psychopaths, bad children, and possessed people are common characters depicted in horror shows. These characters, or figurative and literal monsters, are used in the genre to threaten or endanger the protagonist (Moncrieff & Dorai, 2003). The common event structures the protagonists experience are exhibited in horror shows through the characters’ display of fear (Altman, 1984; Carroll, 1990; Prohászková, 2012), prolonged chase sequences between the monster and its

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victim(s) (Altman, 1984; Carroll, 1990; Moncrieff & Dorai, 2003; Prohászková, 2012), scenes of sexuality (Carroll, 1990; Williams, 1991), violence (Carroll, 1990; Prohászková, 2012; Williams, 1991); displays of blood (Prohászková, 2012), and death (Altman, 1984; Carroll, 1990).

Timing Effects

A key component to understanding television's influence is identifying the amount that is being consumed. This was usually measured by the duration, typically the number of hours viewed a day or a week, with the shorter viewing period being approximately two or fewer hours a day, and the longer period being about four or more hours a day (Bryant & Zillman, 2002; Gerbner & Gross, 1976a; Gerbner et al., 1980; Hughes 1980; Shrum & Bischak, 2001). But what has yet to be examined is whether the act of compressing the time spent watching a television show has any effect on cultivation. This may be relevant to study because as mentioned earlier, viewers can watch an entire television series at any time they want and are no longer bound to the just-once-a-week schedule.

So far, research on time compression effects in terms of television viewing has not used a cultivation aspect but has used other approaches. One approach looked at how society's television viewing habits have changed and are changing with the introduction of new mediums and viewing devices (de Campos Rezende & Gomide, 2017). A second main approach concentrated on understanding why and how people engaged in these compressed viewing habits (de Feijter, Khan, & Gisbergen, 2016; Mikos, 2016; Pittman, 2015; Trouleau, Ashkan, Ding, & Eriksson, 2016; West, 2013). A third approach to time compression and viewing research identified the effects it has on viewers physically and emotionally (Forshey, 2017) and solutions to optimize one's TV viewing experience in a healthier way (de Feijter, Khan, & Gisbergen, 2016; Forshey, 2017).

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Although time compression has not been researched from a cultivation analysis standpoint thus far, there are studies in other fields that have compared the effects of varying time compression formats. Examining this kind of research may provide insights on whether there is a difference between compression of time and its non-compressed counterpart on television viewing habits. A compressed time frame might be advantageous in some cases, but in other situations a non-compressed format might be better, or there may be no difference associated with time compression.

For instance, research on romantic relationships and speed-dating have provided examples of a compressed time effect. Houser, Horan, and Furler (2008) looked at what factors can predict decisions to engage in future dates in the speed-dating setting. Speed-dating is like a compressed version of traditional dating. Where traditional dating is typically done with meeting a few people over time, the compressed or speedier method of dating allows single people to engage in multiple six- to 12-minute encounters with others to gauge whether they would like to be in a future relationship with one of them (Deyo & Deyo, 2002).

Deyo and Deyo (2002) believe that with speed-dating people are able to reduce the amount of time it would take to build relationships in comparison to traditional dating by potentially meeting multiple partners at one event. Meeting a lot of people in this compressed and intense format pushes people to make quick judgments about their partners to see if they are worth the time and emotional investment (Houser et al., 2008). Speed-dating companies suggest that the compressed time frame of these dates help individuals save time by not having it wasted with traditional dating with people who show no relationship potential. Speed dating may allow potential partners to discuss important issues sooner in the relationship rather than later (Houser, Horan, & Furler, 2008).

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Other examples of time compression have been looked at in education research. Researchers sought to find out how students' learning was impacted by courses with differing lengths (e.g., intensive courses versus regular semester courses) (Daniel, 2000). Regular, non-compressed semester courses have classes that meet about twice or thrice a week whereas intensive courses tend to compress the same amount of class meeting times throughout the week but have shorter semester durations. Daniel (2000) reviewed literature on research that compared courses in regular and intensive semesters. She concluded that intensive semester courses can be more beneficial to students, and even faculty, by resulting in superior test scores, increased discussion, and innovative teaching methods to create a comfortable learning environment. Whether the intensive courses are held in summer, winter, or weekend sessions, those that have shorter semester durations, with a similar number of contact hours, tend to produce positive student learning outcomes (i.e., higher test scores) when being monitored alongside their traditional semester counterparts (Daniel, 2000). Daniel (2000) mentioned that some limitations to these studies are that student success might be biased by motivation (Christy, 1993), preparedness (Curren & Kirk, 1986), and age (Caskey, 1994). Additionally, most of the studies included pre- and post-test analyses, and post-test scores on course material may vary between students in the regular and intensive semesters because those in regular semesters are learning information over longer periods of time (e.g., 15 weeks or 18 weeks) than those in the intensive courses (e.g., 5 weeks or 9 weeks).

Researchers Austin and Gustafson (2006) reinforced the claim that compression of class meeting times results in more benefits than non-compression of meeting times when they addressed the limitations noted by Daniel (2000). The researchers compared observations of over 45,000 student records from fall, spring, and summer semesters using a large database (Austin &

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Gustafson, 2006). They found that students taking intensive courses had higher grades than those in the traditional 16-week semester courses even after controlling for demographics and other characteristics. With all other factors made equal, shortened or intensive courses were found to have the same power in predicting performance in future sequential courses as the 16-week semesters. This finding was consistent in math, English, language, and economics courses that had prerequisites. Also, there seems to be no evidence supporting assumptions that shortened courses are made easier by teachers lowering standards for student performance because sequential courses require a certain level of understanding of the material in order to advance.

The evidence from speeding dating research and learning in education research demonstrated that time compression is beneficial. However, a non-compressed format might be more valuable in other situations. For instance, according to the Mayo Clinic (2017) and the Timberline Knolls Residential Treatment Center (n.d.), a form of compulsive overeating is consuming a large amount of food within a short period of time (e.g., two hours). Engaging in this type of behavior can lead to many health issues such as diabetes, heart disease, major depression, and so on as opposed to eating at regular intervals.

Sometimes, compressed and non-compressed time formats might not even have much variance. An example of this is exercise routine. In their study, O'Donovan, Lee, Hamer, and Stamatakis (2017) claimed that the recommended duration of weekly exercise (e.g., 150 minutes of moderate exercise or 75 minutes of vigorous exercise) can be done in a shorter, compressed period of one or two sessions, or a longer, spread out period of three or more sessions and still result in similar health benefits. Regardless of when the recommended amount is performed, people can reduce the risks for all-cause, cardiovascular disease, and cancer mortality.

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These examples that highlight effects of time compression demonstrate that the factor of time intensity can have a meaningful difference. Some physiological processes do not clearly benefit from behaviors that are performed in spaced out time intervals, or a more non-compressed manner. However, learning processes might differ when the cognitive tasks are accomplished in an intensive, or time compressed, versus non-intensive manner.

Hypotheses

According to cultivation theory, watching television can have an influential effect on its viewers. Heavy viewers of TV shows experience these effects to an even greater degree in comparison to light viewers (Gerbner & Gross, 1976a). Once their interest is peaked and they are fully engaged in the show, heavy viewers can get transported into the TV world, leaving the real world behind (Green & Brock, 2000). Even when viewers are pulled back into reality, they may develop a TV-consistent view of the world; seeing the real world through the lens of one of their favorite shows (Gerbner & Gross, 1976a).

Viewers will be exposed to different genre patterns depending on the shows they watch. In the instance of horror shows, viewers may be exposed to more scenarios that include abandoned castles, old houses, and eerie forests with characters such as vampires, serial killers, zombies, and psychopaths in prolonged chasing scenes. The strong relationship heavy viewers have with their TV and the shows they watch can sometimes affect how they perceive reality (Gerbner & Gross, 1976a). Viewers may begin to have skewed ideas of frequency or probability of events and have a change in attitudes, values, or beliefs (Morgan, Shanahan, & Signorielli, 2015). Despite the fact that cultivation theorists have not looked at this genre, findings are expected to be consistent with the research from other genres. For instance, in terms of first- and second-order effects, heavy viewers of horror shows may believe that old- or eerie-looking

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places have something scary lurking inside, they may have an exaggerated perception of how many serial killers there are in the world, that anytime they are out at night something might follow and chase after them, or they may have a stronger belief in supernatural monsters.

H1: Heavier viewers of horror television shows will demonstrate more first-order cultivation effects in comparison to lighter viewers.

H2: Heavier viewers of horror television shows will demonstrate more second-order cultivation effects in comparison to lighter viewers.

Although, the content that viewers are watching is important, how viewers are consuming these shows matters too. There is research on varying time compression formats and their effects on different situations. The possible effects that can occur is that compressed time is superior to non-compressed time, non-compressed time is superior to compressed time, or that there will be no difference between the two formats.

Research on both romantic relationships and education demonstrated that time compression might be more valuable. Performing mental tasks such as deciding who will be a potential mate (Deyo & Deyo, 2002; Houser et al., 2008) or learning course material (Daniel, 2002) seem to do well in an intensive time format. However, compression of time may be undesirable from a dietetics point of view. Providing the human body with more than it needs, such as consuming large amounts of food in a compressed period of time, can lead to many dangerous health issues (Mayo Clinic, 2017; Timberline Knolls Residential Treatment Center, n.d.). But aside from whether time compression is desirable or not, it is also possible that there could be no difference between compression type and their effects. For example, some researchers who study the effects of exercise habits claim that physical activity can be performed in a compressed format or non-compressed format and still provide health benefits (O'Donovan,

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Lee, Hamer, & Stamatakis, 2017). The research on eating and exercising demonstrated the physiological benefits one can have while the benefits of a compressed time effect is illustrated through one's mental process. This suggests that compression of time may not be ideal for physiological functions, but it may be suitable for enhancing effects on cognitive and learning outcomes. Furthermore, non-compressed time formats can potentially diminish the effects on cognitive and learning processes. For instance, research on workplace behavior demonstrated a negative relationship between email management and work productivity (Gupta, Sharda, & Greve, 2011; Jackson, Dawson, & Wilson, 2003; Marulanda-Carter & Jackson, 2012). Responding to emails little by little, in a non-compressed manner versus responding in a condensed time frame can lead to more interruption effects and longer resumption times for work responsibilities. Sometimes email interruptions result in tasks taking a third longer because it distracted employees (Marulanda-Carter & Jackson, 2012).

If cognitive abilities are reinforced through the compression of time and are hindered by the non-compression of time, then understanding the cultivation effects of binge-watching television shows can benefit from this information. "Binge-watching" is the consecutive viewing of television shows (de Feijter et al., 2016). This is the equivalent to time compression in terms of television viewing. People binge-watch shows to relax, to learn, to escape, to pass the time, and to simply be entertained (Pittman, 2015). These motivations in which people engage in binge-watching behaviors are all related to cognitive processes. Binge-watching, or compressed viewing behaviors, may likely have a strengthening effect, when compared to non-compressed viewing.

Watching multiple episodes in a single sitting allows viewers to spend more longer periods of time in the TV world, without being distracted. Being more engaged in the show can

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allow audiences to have a heightened television-view of the world when compared to non-binge-watching viewers. If one is binge-watching a horror TV series, then not only will they have a TV-view of the world as portrayed in the series, but patterns that are consistent with that type of show can become more salient to the viewer. This implies that viewers of the horror genre can experience first- and second-order effects to a greater degree if they are binge-watching.

H3: People who watch horror television shows in a compressed format will experience stronger first-order effects compared to people who watch horror television shows in a non-compressed format.

H4: People who watch horror television shows in a compressed format will experience stronger second-order effects compared to people who watch horror television shows in a non-compressed format.

CHAPTER 2: METHODS

Participants and Procedures

Participants for this study were undergraduate students at the University of Hawai'i at Mānoa and were recruited through Sona, an online research management system. In exchange for their participation, students had the opportunity to earn course credit or extra credit in their Communicology courses. Participants were required to be at least 18 years of age. The sample included 37 participants in total with 24% being males ($n = 9$) and 76% being females ($n = 28$). The average age of participants was 21.65 years ($SD = 4.50$, range = 18-38).

Participants signed one of two consent forms (Appendix A; Appendix B) that differed by condition. Participants in the compressed time format condition ($n = 28$) watched four episodes of the same horror television show successively and participants in the non-compressed time format condition ($n = 9$) watched one episode of the same horror television show every week. In the compressed time format, 21% were males ($n = 6$) and 79% were females ($n = 22$). In the non-compressed time format, 33% were males ($n = 3$) and 66% were females ($n = 6$). The participants signed up for the study based on which time slots best fit their schedules, but they were randomly assigned to watch one of the two horror genre television shows selected for this study.

American Horror Story and *Bates Motel* were initially chosen as the horror genre television series participants would watch because of their high ratings from multiple TV show review sites (IMBD, n.d.; “Most Popular Horror TV Series,” n.d.; Venable, 2016; “35 Best Current TV Shows,” n.d.). Three coders watched episodes of each series and tallied the number of patterns such as murders, scary basement scenes, and people being frightened to ensure there were enough horror genre patterns being represented in episodes in the shows. *Bates Motel* did

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not meet this criterium and was not used in the study. Based on the TV review sites mentioned earlier, the television series *Scream* was another highly rated horror show. Another set of coders was asked to watch this show to see if it met this criterium of horror genre patterns. It did, and thus, *American Horror Story* and *Scream* were used in this study. Additionally, coders completed a measure of transportation after watching their assigned episodes to assess the shows' engagement levels. In the coders' responses it was found that the two series were engaging at similar levels. This finding was evident in the participants' transportation scores for the two shows, *American Horror Story* ($M = 4.48, SD = 1.10$) and *Scream* ($M = 4.43, SD = 0.78$); $t(35) = 0.17, p = .87$.

During data collection, about half of the participants were assigned to watch *American Horror Story* ($n = 18$) and about half were assigned to watch *Scream* ($n = 19$). Of those who were assigned to watch *American Horror Story*, 14 of them were in the compressed condition (three males and 11 females) and four of them were in the non-compressed condition (one male and three females). Of those who were assigned to watch *Scream*, 14 of them were in the compressed condition (three males and 11 females) and five of them were in the non-compressed condition (two males and three females). Exactly 50% of participants assigned to *American Horror Story* ($n = 9$) reported having seen the series before and 5% of participants assigned to watch *Scream* ($n = 1$) reported having seen the series before (Appendix C).

When the study began, participants were asked to come to the Communicology department lab or conference room for their viewing session(s). Participants were able to watch their assigned episodes in the lab or conference room with separate laptops and headphones provided. Some participants watched their episodes alone ($n = 11$) and some watched their episodes with other people in the room ($n = 26$) because of their overlapping timeslots. All

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participants were given a 24-hour period to complete a questionnaire 24 hours after they watched their fourth and final episode. The questionnaire included items on first-order and second-order effects, transportation, enjoyment, viewing behaviors, binge-watching behaviors, horror genre viewing checks, and demographic information. For reference, participants were given Dirks' (n.d.) all-encompassing definition of horror before any set of questions that concerned the horror genre specifically. Participants were also asked if they watched the series they were assigned to before watching the episodes in the study. They were also asked to avoid watching horror shows and films until they completed the questionnaire and were given written instructions as reminders (see Appendix M and N). The written instructions also had a unique three-digit code for each participant to enter in when they began the survey to aid the researcher in organizing the data.

Primary Measures

First-order effects. First-order effects refers to people's judgments of the frequency and probability of events occurring (Shrum & Lee, 2012). First-order effects shaped by watching horror genre series were analyzed by measuring participants' perceived frequencies and probabilities of bad or scary events happening. Horror genre patterns and movie tropes consistent with the two series were used to create eight single item measures of first-order effects (see Appendix D). The first item (downward stairs) asked, "What is the probability that something bad is going to happen in this place?" corresponding with a picture of a stairway leading down into a dark room. The second item (upward stairs) asked the same question but was accompanied by a picture of the inside of a house with stairs going up. The third item (blood) asked, "What is the probability that this is blood?" along with a picture of a dark stain on a surface. The fourth, fifth, and sixth items concerned the likelihood of being scared or murdered; "What's the

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probability of people yelling (or screaming) when they're frightened?" (yell/scream), "What's the probability of someone being killed?" (killed), and "What's the probability of being scared from around a corner/from behind?" (corner/behind). Responses for these items were measured using a drop-down menu with a range from 0 to 100 percent in increments of 10.

Participants generally believed that there was a 65% chance of something bad happening going downstairs into a dark room ($M = 0.65$, $SD = 0.02$, $n = 37$), that there was over 25% chance of something bad happening in the house with stairs going upward ($M = 0.27$, $SD = 0.02$, $n = 37$), and that there was over a 40% chance of the stain being blood ($M = 0.41$, $SD = 0.03$, $n = 37$). Participants also generally believed that there was over 70% chance of people yelling or screaming when frightened ($M = 0.72$, $SD = 0.02$, $n = 37$), over 35% chance of being killed ($M = 0.36$, $SD = 0.02$, $n = 37$), and nearly a 70% chance of being scared from around a corner or from behind ($M = 0.69$, $SD = 0.02$, $n = 36$).

The remaining two items of this measure pertained to the participants' perceived likelihood of when and where bad events can occur. The first statement was, "Bad things can happen in your own home" (own home) and the second was, "Bad things happen in basements" (basements). These two items were measured using 7-point scales with 1 being (*Never*), 4 being (*50/50*), and 7 being (*Always*). Participants reported that there was a slightly over 50/50 chance of bad things happening in their own home ($M = 4.41$, $SD = 1.40$, $n = 37$) and in basements ($M = 4.38$, $SD = 1.34$, $n = 37$).

Second-order effects. Second-order effects refer to beliefs and attitudes (Shrum & Lee, 2012). Analyzing the kind of influence horror shows might have on its viewers can be measured by what the viewers' beliefs and attitudes are about bad or scary events happening. A second-order measure was created using a combination of the research on horror genre patterns and

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horror movie tropes that were consistent with the two series that were used in the study (see Appendix E). The items in this measure included 11 statements, four of which were filler statements, about participants' real-life beliefs relating to scary events (e.g., "I feel at risk of being killed."). Participants rated the items on a 7-point Likert-type scale from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). A score for second-order effects was calculated using only the seven statements about real-life beliefs and not including the filler items. Higher scores indicated a stronger second-order effect and lower scores indicated a weaker second-order effect. The mean of these seven items suggested that participants felt somewhat neutral about the second-order effect statements ($M = 3.79$, $SD = 0.95$). An adequate reliability estimate was obtained for the second-order effects measure, $\alpha = .72$.

Viewing behaviors. Amount of television show viewing (see Appendix F) was measured using a series of questions about viewers' behaviors for TV show viewing in general and for the horror genre. The phrase "television shows" was used to refer to any show displayed on either TV or other platforms such as Netflix and Hulu. Participants self-reported that they typically spend over two and a half hours a day watching television shows in general ($M = 2.72$, $SD = 2.28$) and about half an hour a day watching horror genre shows ($M = 0.50$, $SD = 0.98$). Amount of general viewing and horror genre viewing was measured by using sliders that ranged from 0 to 24 hours. When watching television shows in general, 49% of participants said they use subtitles ($n = 18$), 21.6% said they did not ($n = 8$), and 24.3% said they sometimes use subtitles ($n = 11$). When watching horror genre television series, 37.8% of participants said they do use subtitles, 37.8% said they do not use subtitles, and 24.3% of participants said they sometimes use subtitles.

Binge-watching behaviors. Participants also provided information about their binge-watching behaviors (see Appendix G). They reported how many 30-minute episodes of a series

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($M = 4.92$, $SD = 2.77$) and a horror series ($M = 2.84$, $SD = 1.92$) they watch in one sitting, how many times a year they watch multiple 30-minute episodes of a series ($M = 73.68$, $SD = 117.12$) and a horror series ($M = 14.08$, $SD = 30.62$) in one sitting, how many hour-long episodes of a series ($M = 4.08$, $SD = 2.76$) and a horror series ($M = 2.68$, $SD = 2.03$) they watch in one sitting, and how many times a year they watch multiple hour-long episodes of a series ($M = 49.03$, $SD = 89.22$) and a horror series ($M = 10.46$, $SD = 15.93$) in one sitting. Most participants reported using Netflix to watch television shows in general ($n = 24$) and horror genre television shows ($n = 23$).

Supplementary Measures

Transportation. Involvement and engagement in the horror television show was measured using a modified version of Green and Brock's (2000) Transportation Scale containing nine items (see Appendix H). Green and Brock's original scale contained general scale items and modified questions from Gerrig's (1993) scale to relate to television viewing. The horror genre can sometimes incorporate elements of fantasy and because of this two transportation items dealing with application of events to real life (i.e., "The events in the narrative have changed my life." and "The events in the show are relevant to my everyday life.") were deemed less applicable and were removed. Participants rated nine statements pertaining to the extent to which they were transported into the television show's narratives (e.g., "I was mentally involved in the storyline while watching the show."), using 7-point Likert-type scales from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Higher scores indicated a higher level of transportation and lower scores will mean a lower level of transportation. An overall transportation score was calculated based on the mean of these nine items that indicated that participants felt somewhat

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transported ($M = 4.45$, $SD = 0.99$). The reliability for the nine-item transportation scale was adequate, $\alpha = .71$

Both horror genre television series were tested on their transportation to determine if they were similar to each other using an ANOVA that included series and sex. There was no significant difference between *American Horror Story* ($M = 4.48$, $SD = 1.10$) and *Scream* ($M = 4.43$, $SD = 0.78$) on transportation, $F(1, 33) = 0.07$, $p = 0.79$, $\eta^2 = .00$. There was also no significant difference between men ($M = 4.65$, $SD = 0.82$) and women ($M = 4.39$, $SD = 0.98$) on transportation, $F(1, 33) = 0.55$, $p = 0.47$, $\eta^2 = .02$. Lastly, there was no significant interaction effect for series and sex on transportation $F(1, 33) = 0.04$, $p = 0.85$, $\eta^2 = .00$.

Enjoyment. Enjoyment was measured using six items some of which were adopted from Tal-Or and Cohen (2010) that were originally developed by Krcmar and Albada (2000) (see Appendix I). This measured participants' enjoyment of the specific shows used in the study, *American Horror Story* and *Scream*, and the horror genre. Enjoyment was measured using questions such as, "This is a series that I can enjoy," "I would watch this genre regularly," and "I enjoyed watching the episodes of the series." The enjoyment items were measured using 7-point Likert-type scales from 1 (*Strongly Disagree*) to 7 (*Strongly Agree*). Higher scores indicated a higher level of enjoyment and lower scores indicated a lower level of enjoyment. An overall enjoyment score was calculated based on the mean of these six items and it indicated that participants found the shows somewhat enjoyable ($M = 5.19$, $SD = 1.56$). The reliability for the six-item enjoyment scale was adequate, $\alpha = .94$.

Similar to transportation, both series were tested on their enjoyment to determine if they were similar to each other using an ANOVA that included series and sex. There was no significant difference between *American Horror Story* ($M = 5.37$, $SD = 1.51$) and *Scream* ($M =$

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4.99, $SD = 1.67$) on enjoyment, $F(1, 33) = 0.48$, $p = 0.49$, $\eta^2 = .01$. There was also no significant difference between men ($M = 5.33$, $SD = 1.14$) and women ($M = 5.13$, $SD = 1.71$) on enjoyment, $F(1, 33) = 0.14$, $p = 0.71$, $\eta^2 = .00$. Lastly, there was no significant interaction effect for series and sex on enjoyment $F(1, 33) = 0.02$, $p = 0.89$, $\eta^2 = .00$.

Horror genre viewing check. Participants were asked to avoid watching horror genre films or TV shows prior to completing the questionnaire. The questionnaire included a horror genre viewing check that asked participants if they followed these instructions (see Appendix J and K). The viewing check asked all participants if they watched any horror genre films or television shows since completing their viewing session and before completing the first questionnaire, and for participants in the non-compressed condition, they were additionally asked if they watched any horror genre films or television shows between their viewing sessions. This was measured with the fixed-alternative answers of “Yes” and “No.” The purpose of these checks was to ensure that participants’ responses were affected solely by their viewing experience from the study and not from other sources. One participant in the non-compressed condition reported that she viewed a horror genre film and/or television show between her viewing sessions of *American Horror Story*. This participant was still included in the analyses because she reported that she did not watch any horror genre films and/or television shows since her last viewing session and before completing the questionnaire.

CHAPTER 3: RESULTS

A grand total of 42 participants were recruited for this study, however, not all participants were used in the data analysis. Five participants were removed from the sample for failing to return to their weekly viewing sessions. After reviewing all of the participants' eligibility, there were 37 participants who were included in the statistical analyses within both the non-compressed ($n = 9$) and compressed ($n = 28$) conditions. The lack of balance between the two conditions was due to the fact that fewer participants signed up for the non-compressed condition.

Hypothesis 1

H1 predicted that heavier viewers of horror television shows will demonstrate more first-order cultivation effects in comparison to lighter viewers. H1 was tested in two ways. First, a correlation analysis was used to test the relationship between participants' self-reported hours of viewing horror genre television series in a day and their scores on each of the eight first-order effect items. Results indicated that there was no significant relationship between daily hours spent watching horror genre television shows and their reports of the probability that various horror-related events occur or took place at various locations (first-order effects): downward stairs, $r(35) = -.02, p = .89$; upward stairs, $r(35) = .01, p = .96$; blood, $r(35) = -.25, p = .13$; yell/scream, $r(35) = .13, p = .44$; corner/behind, $r(34) = .15, p = .38$; and basements, $r(35) = -.31, p = .07$ (see Table 1). There was, however, a significant relationship between the daily hours spent watching horror genre television shows and beliefs of probability of being killed, $r(35) = .32, p = .05$, and the probability of something bad happening in one's own home, $r(35) = -.36, p = .03$. The more participants reported watching more hours of horror genre television daily, the

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more they thought they would be likely to be killed and the less likely they thought something bad would happen in their own home.

Second, H1 was tested using an ANOVA. Instead of measuring viewing behaviors by the number of hours, viewing reports were separated by those who reported spending zero hours ($n = 27$) and those who reported spending between one and four hours ($n = 10$) in a typical day watching a horror genre television series. Past research suggested that heavier viewing was operationalized by watching four or more hours a day and light viewing constitutes two or less hours a day (Bryant & Zillman, 2002; Gerbner & Gross, 1976a; Gerbner et al., 1980; Hughes 1980; Shrum & Bischak, 2001). The researcher of the current study used this information to help identify viewing patterns in the participants' reports. The researcher divided them into the two categories (i.e., zero hours and one to four hours) because there were not enough participants to differentiate between heavy and light viewing. The results indicated that the effect of self-reported average daily horror genre viewing on experiencing first-order effects was not significant for the perceptions of: downward stairs, $F(1, 35) = 0.60, p = .45, \eta^2 = .02$, upward stairs, $F(1, 35) = 0.39, p = .54, \eta^2 = .01$, yell/scream, $F(1, 35) = 0.45, p = .51, \eta^2 = .01$, killed, $F(1, 35) = 1.69, p = .20, \eta^2 = .05$, corner/behind, $F(1, 34) = 0.79, p = .38, \eta^2 = .02$, own home, $F(1, 35) = 1.15, p = .29, \eta^2 = .03$, and basements, $F(1, 35) = 0.24, p = .63, \eta^2 = .01$ (see Table 2). However, there was a significant difference for self-reported average daily horror genre viewing and judgments about the probability that the picture of a dark stain was blood, $F(1, 35) = 5.44, p = .03, \eta^2 = .14$. Contrary to expectations, those who reported viewing zero hours of horror shows daily ($M = 5.74, SD = 2.67$) believed that there was a higher probability of the photo depicting blood than those who reported watching one to four hours of horror shows daily ($M = 3.50, SD = 2.37$). This finding was opposite of what the researcher predicted.

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Previous literature supports the idea that the viewer's enjoyment and transportation into a show's content can influence cultivation effects. Thus, H1 was re-tested with a partial correlation analysis with viewers' enjoyment and transportation serving as controls. The results from the correlation generally replicated the results without enjoyment and transportation, except in one instance. When enjoyment and transportation were included in a partial correlation, the perception about the probability that the dark stain was blood no longer approached significance, $r(33) = -.16, p = .36$.

The results with enjoyment and transportation included in the ANOVA also generally replicated the results for the effect of self-reported average daily horror genre viewing on experiencing first-order effects, except in three instances, for items: blood, killed, and own home. First, the perceptions about the probability that the dark stain was blood approached significance instead of being significant, $F(1, 33) = 2.17, p = .15, \eta^2 = .06$. Those who reported viewing zero hours of horror shows daily ($M = 5.74, SD = 2.67$) believed that there was a higher probability that the picture depicted blood than those who reported watching one to four hours of horror shows daily ($M = 3.50, SD = 2.37$). Second, the probability that someone could get killed approached significance, $F(1, 33) = 2.95, p = .10, \eta^2 = .08$. Participants who reported viewing one to four hours of horror shows daily ($M = 5.30, SD = 2.31$) believed that there was a higher probability of being killed than those who reported watching zero hours of horror shows daily ($M = 4.37, SD = 1.78$). Third, the probability that something bad can happen in one's own home approached significance, $F(1, 33) = 3.70, p = .06, \eta^2 = .10$. Those who reported viewing zero hours of horror shows daily ($M = 4.56, SD = 1.16$) believed that there was a slightly higher probability that something bad can happen in one's own home than those who reported watching one to four hours of horror shows daily ($M = 4.00, SD = 1.94$).

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Overall, the results of the analyses associated with H1 provided very limited support for H1. The more participants reported watching more hours of horror genre shows daily, the more they thought someone was likely to be killed.

Hypothesis 2

H2 predicted that heavier viewers of horror television shows will demonstrate more second-order cultivation effects in comparison to lighter viewers. H2 was tested in two ways. First, a correlation analysis was used to test the relationship between participants' self-reported hours of viewing horror genre television series in a day and their scores on second-order effects. Results indicated that there was no significant relationship between daily hours spent watching horror genre television shows and their reports of second-order effects $r(35) = .02, p = .90$ (see Table 1).

H2 was also tested using an ANOVA. Again, because there were not enough participants to differentiate between heavy and light viewers, comparisons were made between those who reported spending zero hours ($n = 27$) and those who reported spending between one and four hours ($n = 10$) in a typical day watching a horror genre television series. The results indicated that there was no significant difference between those who watched zero hours ($M = 3.67, SD = 0.90$) and one to four hours ($M = 4.11, SD = 1.06$) of horror genre shows daily on second-order effects, $F(1, 35) = 1.64, p = .21, \eta^2 = .05$ (see Table 2). These results showed no support for H2.

Hypothesis 3

H3 predicted that people who watch horror television shows in a compressed format will experience stronger first-order effects compared to people who watch horror television shows in a non-compressed format. H3 was analyzed using an ANOVA to test the effect of time compression condition and sex on first-order effect items. Sex was incorporated into the analyses

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because it was anticipated that there may be some differences in the way men and women report their thoughts about scary events in real life. For instance, in Green and Brock's (2000) study, when participants read a story of a young girl's death, the women in the study tended to be more transported and more emotionally involved. Women also tend to be disproportionately depicted as victims which may elevate more fear in women in comparison to men (Callanan & Rosenberger, 2015). The findings indicated no significant main effects associated for time compression and sex on any of the first-order effects (see Tables 3 and 4).

However, there were a few interaction effects worth noting. There was a significant interaction effect for time compression condition and sex on judgments about the probability of being scared from around a corner or from behind, $F(1, 32) = 5.45, p = .03, \eta^2 = .15$. Fisher's Least Significant Difference (LSD) post hoc tests revealed a significant difference between men ($M = 5.33, SD = 2.81$) and women ($M = 7.43, SD = 2.01$) in the compressed condition. Women in the time compressed condition reported higher percentages regarding the probability of being scared from around the corner or from behind in comparison to men in the time compressed condition at $p = .04$. Similar results were produced when enjoyment and transportation were used as covariates in the analyses, $F(1, 30) = 5.35, p = .03, \eta^2 = .15$. There were also three comparisons that approached significance. First, there was a near significant difference with men in the non-compressed condition perceiving a higher likelihood of being scared from around the corner or from behind than men in the compressed condition, $p = .09$. Second, there was a near significant difference with women in the compressed condition perceiving a higher likelihood of being scared from around the corner or from behind than women in the non-compressed condition, $p = .12$. Third, there was a near significant difference with men perceiving a higher likelihood of being scared from around the corner or from behind than women at $p = .17$. There

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were no other noteworthy significant differences among the other cells comparing condition and sex.

The interaction effect for time compression condition and sex approached significance for judgments about the probability that the picture of a dark stain was blood, $F(1, 33) = 2.88, p = .10, \eta^2 = .08$ (see Table 3). Fisher's LSD post hoc tests used to analyze the interaction effect between males ($M = 4.33, SD = 1.86$) and females ($M = 5.27, SD = 2.78$) in the compressed condition, and males ($M = 7.33, SD = 2.89$) and females ($M = 4.33, SD = 3.27$) in the non-compressed condition on judgments about the probability that the picture of a dark stain was blood were generally not significant. The comparison between men in compressed and non-compressed conditions approached significance with men in the non-compressed condition reporting a higher likelihood that the dark stain was blood than men in the compressed condition, $p = .13$. This comparison between men and women in the non-compressed condition also approached significance with men reporting a higher likelihood that the dark stain was blood than women, $p = .13$. There were no other significant differences among the other cells comparing condition and sex. When enjoyment and transportation were used as covariates, the interaction effect between time compression condition and sex on judgments about the probability that the picture of a dark stain was blood was significant, $F(1, 31) = 4.77, p = .04, \eta^2 = .13$.

The interaction effect for time compression condition and sex also approached significance for judgments about the probability that bad things can happen in basements, $F(1, 33) = 2.59, p = .12, \eta^2 = .07$ (see Table 3). The main effect of sex also approached significance, $F(1, 33) = 2.86, p = .10, \eta^2 = .08$. Fisher's LSD post hoc tests used to analyze the interaction effect between males ($M = 4.50, SD = 0.54$) and females ($M = 4.46, SD = 0.28$) in the

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compressed condition, and males ($M = 5.33$, $SD = 0.76$) and females ($M = 3.50$, $SD = 0.54$) in the non-compressed condition on judgments about the probability that bad things happen in basements were generally not significant. The comparison between men and women in the non-compressed condition only approached significance with men reporting a higher likelihood for bad things to happen in basements than women at $p = .06$. The comparison between women in the compressed and non-compressed conditions also only approached significance with women in the compressed condition perceiving a higher likelihood for bad things to happen in basements than women in the non-compressed condition at $p = .13$. There were no other significant differences among the other cells comparing condition and sex. Thus, H3 was not supported.

Hypothesis 4

H4 predicted that people who watch horror television shows in a time compressed format will experience stronger second-order effects compared to people who watch horror television shows in a non-time compressed format. H4 was analyzed using an ANOVA to test the effect of the time compression condition and sex on second-order effects. The results showed no significant main effect for time compression on second-order effects, $F(1, 33) = 2.16$, $p = .15$, $\eta^2 = .06$ (see Tables 3 and 4). There was also no significant main effect for sex on second-order effects, $F(1, 33) = 1.43$, $p = .24$, $\eta^2 = .04$. Additionally, there was no significant interaction effect for time compression condition and sex on second-order effects, $F(1, 33) = 2.08$, $p = .16$, $\eta^2 = .06$. These results were replicated when enjoyment and transportation were added as covariates. Thus, H4 was not supported.

CHAPTER 4: DISCUSSION

The purpose of this project was to examine whether viewers who spend a lot of time watching television shows intensively would have stronger cultivation effects compared to those who spend a little time watching television shows. More specifically, this study sought to find out if watching television shows in a condensed amount of time could alter the strength of cultivation while using the horror genre as a means to test this. The researcher predicted that watching horror genre television shows in a time compressed format, as opposed to watching in a non-compressed format, would have a stronger influence on viewers' perceptions of the real world in a way that reflects the horror genre TV show world.

The majority of the findings from this study were incongruent with what was predicted because participants who were heavier viewers of horror television shows did not demonstrate more first- or second-order cultivation effects in comparison to lighter viewers overall. Although there were no significant findings between viewing amount and second-order effects, there were some significant findings pertaining to first-order effects. As expected, participants' amount of daily viewing amount of horror television shows and their perceptions about the probability of being killed were positively related. The more daily hours participants watched horror television shows, the more they thought they would likely be killed. However, contrary to what was predicted, amount of daily viewing of horror television shows was negatively related to perceptions of the likelihood of something bad happening in their own home. The more participants reported watching more hours of horror shows daily, the less likely they thought something bad would happen in their own home. Additionally, those who said they watch one to four hours of horror television shows on a daily basis reported a significantly lower perception that the probability of an image of a stain being blood compared to participants who reported

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watching zero hours. This finding was also in the opposite direction than what the researcher predicted. These findings were no longer significant when enjoyment and transportation were controlled for.

Cultivation theorists suggest that heavy viewers of TV shows will experience the shows' influential effects to a greater degree than light viewers in a way that skews viewers' probability and frequency judgments (i.e., first-order effects) and attitudes (i.e., second-order effects) about the real world (Gerbner & Gross, 1976a; Morgan, Shanahan, & Signorielli, 2015). The researcher of the current study hypothesized that, based on cultivation research, heavier viewers of horror television shows would experience more first- and second-order effects in comparison to lighter viewers. However, findings from the study provide very limited, if any, support for the idea that viewing amount is related to experiencing first-order effects, and may have been due to the sample size. There were not enough people to differentiate between heavy and light viewing types. Regardless of the small sample size, the results suggest that there may be some differences in typical viewing habits and perceptions of the real world. Participants who reported watching more horror genre TV shows in a day reported higher perceived probabilities of someone being killed than their counterparts who reported watching less hours of horror shows in a day. This finding might suggest that the amount of horror genre watched can influence one's beliefs about the potential of being killed in real life. People who watch a lot horror genre see a lot of different people get murdered in many different ways. The concept of murder is in the genre's nature and because of this it may influence the viewers to believe that there is a higher chance of being murdered or killed. But those who typically do not watch the horror genre are not exposed to the variety of killings portrayed in horror shows and may be indulging in other genres with very little

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to no murders, and therefore, may believe that there is a lower chance of being murdered or killed.

Participants who reported spending one to four hours watching horror genre in a day had a lower perceived probability of bad things happening in their own home and of the stain being blood compared to those who watch zero hours. First, participants who reported watching one to four hours of horror genre daily may have had a lower perceived probability of bad things happening in their own home because perhaps the horror shows they watch do not display homes similar to their own homes. For instance, homes portrayed in movies sometimes have chimneys and fireplaces, but in Hawai'i, homes do not typically have those amenities. If viewers' homes were similar to those portrayed in the shows they watch, they may experience resonance and perceive a higher probability of bad things happening in their own home. Another speculation is that viewers might have reported that they doubt bad things will happen in their own homes because they are trying to make themselves believe this as a mechanism to protect themselves from being afraid and they would like to continue to think of their home as a safe haven.

Secondly, participants who report watching one to four hours of horror genre daily may have a lower perceived probability of the stain being blood because they are more exposed to the movie industry's use of fake blood. Those who watch horror genre may not recognize real blood when they see it, or the picture used in the study did not resemble the blood they are used to seeing. Another explanation for this finding might be because those who do not watch horror shows daily are not often exposed to what blood stains look like in the movies and television shows, and when participants were asked about the picture of the stain, they could have been open to the possibility that it was blood. These interpretations could still potentially suggest that there is a cultivation effect for viewers of horror shows because if the stain in the picture

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accurately represented blood and if horror shows use fake blood, then those who watch horror shows, as opposed to people who do not, would believe that blood should resemble what they typically see in the horror shows they watch.

There was very little support for the third and fourth hypotheses. There were no significant findings in predicting that watching horror television shows in a compressed format could lead participants to have stronger second-order effects compared to those in a non-compressed format. This means that when viewers watched multiple episodes of a horror television show consecutively or one episode every week, there were no differences in their attitudes or beliefs about the real world. However, there were a couple of significant findings for first-order effects. There was a significant interaction effect between condition and sex for the participants who were assigned to watch episodes of a horror show consecutively in one sitting or in a compressed format. The interaction effect revealed that women in the compressed format reported a higher perceived probability of being scared from around a corner or from behind than men in the compressed format. Results also revealed that men reported a higher probability of being scared from around a corner or from behind than women when they watched their assigned episodes once a week, or in a non-compressed format.

The study's findings also revealed that the interaction effect of time compression condition and sex approached significance for the probability of the dark stain being blood. A post hoc analysis indicated that there were no significant differences between the conditions and sexes. But when enjoyment and transportation were included as covariates, the interaction effect became significant. Women reported a higher perceived probability of the photo depicting blood than the men in the compressed format. Conversely, men reported a higher probability of the photo depicting blood than the women in the non-compressed format.

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Findings showed that the interaction effect for time compression condition and sex also approached significance for judgments about the probability that bad things can happen in basements. A post hoc analysis indicated that there were no significant differences between the conditions and sexes.

The small sample size may be the most likely explanation for why participants in the compressed format did not significantly differ from those in the non-compressed format on experiencing stronger first- and second-order effects. If there were more people in the non-compressed condition to compare with the compressed condition, there may have been more significant differences between the other variables measuring first- and second-order effects.

The sex differences in the time compression conditions produced interesting results. One possible explanation for why the men in the non-compressed format reported a higher perceived probability than men in the compressed format and women in the non-compressed format might depend on whether the men in the non-compressed format played video games between their viewing sessions. Men typically play violent video games more frequently than women (Ogletree & Drake, 2007). Violent video games seem to have similar qualities to horror genre shows with the incorporation of things like murder, blood, and chase sequences. If men, as opposed to women, played these kinds of games between their viewing sessions, men could be experiencing resonance from viewing the episodes once a week and heightening their cultivation experience with violent video games. To reiterate, resonance refers to when the viewers' idea of the world formed by television is consistent with their own direct experience in reality (Cohen & Weimann, 2000; Gerbner et al., 1986). While video games are forms of virtual reality, the act of playing the game and acting as a character can be thought of as reality.

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A possible explanation for why the women in the compressed condition reported higher perceived probabilities might be because women are also experiencing a form of resonance. Horror shows typically depict women as victims (Callanan & Rosenberger, 2015). Women are already faced with the challenge and worry of being victimized in real life. For instance, the University of Hawai'i at Mānoa has sent alerts to its students warning them about sexual assault and theft on campus. It is possible that women might feel at risk of being victimized if they are alone on campus late at night. Also, the fact that horror shows often portray women as victims and the fear of being victimized may heighten the belief of being scared around the corner or from behind or that a stain is blood. Watching hours of horror shows in one sitting may enhance that effect of feeling victimized even more than watching episodes weekly because victimization is something women potentially worry about throughout the week regardless. It is also worth noting that when enjoyment and transportation were controlled for the findings support the idea that being engaged in the show can strengthen cultivation effects because the findings managed to maintain the same results in the probability of being scared from around the corner or behind, increase significance in the perceived probability that the stain was blood, and allow the perceived probability of being killed to approach significance.

Implications

The results in this study provide some support for cultivation theory. First-order cultivation effects occur when people form judgments of frequency or probability and it was argued that information from watching TV shows can be used for easy recall when thinking about these kinds of judgments (Shrum, 2007). Shrum (2007) found that heavier viewers gave higher estimates of probability and frequency judgments compared to lighter viewers when they were asked to provide these judgments on a variety of topics that are portrayed more on

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television than in real life. Additionally, second-order effects pertain to relationships between television viewing and a person's attitudes, values, and beliefs (Morgan et al., 2015; Shrum & Lee, 2012). These subjective judgments can be influenced by becoming transported into a TV show (Shrum et al., 2011) and by spending a long period of time viewing a show (Kahlor & Eastin, 2011). Results from this study's first and third hypothesis supported the idea that there are some differences between watching and not watching horror television shows and cultivating judgments about probability and frequency that are consistent with horror genre portrayals. This was not the case for the study's second and fourth hypothesis and the cultivation of attitudes, values, and beliefs.

Much of the results from the study did not provide support for cultivation theory. Only select first-order effects had significant differences between daily horror show viewers and non-viewers and whether they were in a compressed or non-compressed format. These results could imply that the cultivation theory is not capable of standing on its own. The cultivation theory may need support from other theories to strengthen the claims it makes. For instance, literature on message processing can bolster the cultivation theory with more evidence on how a viewer's brain cultivates information at exactly what point in time and can help answer how long the cultivation effects last. While narrative transportation, mainstreaming and resonance, and first- and second-order effects were added elements to cultivation theory, the theory could still be missing a stronger neurological aspect of how the human brain processes the information gathered from watching large amounts of television. Message processing research could potentially explain whether various genres trigger one's thoughts, transportation, and enjoyment differently. In the correlation results of the current study, there was a relationship between daily horror show viewing and enjoyment, but not between daily horror show viewing and

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transportation. This finding signifies that while participants enjoy the horror genre, this does not necessarily mean they are transported in the shows. The horror genre might be eliciting a fight or flight response in viewers in which they protect themselves by not becoming engaged or transported into the show. Message processing research can add to cultivation research and help researchers to identify any differences there might be between various genres and answer questions about when, how, and what information gets cultivated in viewers' brains.

The current study also contributes to research on genres and binge-watching. Past research has examined time compression effects in other domains (e.g., education, romantic relationships, exercise) but, to the researcher's knowledge, it has not been looked at from a cultivation standpoint. Binge-watching television shows has become a popular pastime and it is important to understand the impact it can have on people, which is what this project aimed to do. The horror genre has also become increasingly popular (Nash Information Services, n.d.), and recent research has not analyzed the effects it can have on its viewers. Results from this study support the idea that there may be some difference in watching television shows in a compressed format and cultivating stronger judgments about probability and frequency, and attitudes, values, and beliefs that are consistent with today's horror genre portrayals.

Practical implications of this study may be important for binge-watchers to know. Binge-watchers may need to be aware of what they are watching because, depending on the content, it could affect their attitudes, values, and beliefs about different concepts. For instance, if one consumes many hours of horror television shows and begins to believe that the chances of being killed are high, that person may develop anxiety and have difficulty socializing and engaging with others. This is only one scenario that recognizes the effects of watching television and how

it can potentially affect one's behaviors, but it is likely that there are many other ways in which binge-watching can affect the viewer's attitudes and ultimately, their behaviors.

Limitations and Directions for Future Research

The researcher identifies several limitations from this study and suggests directions for future research. One limitation of the study could be the survey's distribution period. All participants were given the survey 24 hours after viewing the last episode of their assigned show and they were given a 24-hour period to complete it. The delay of the survey was done in attempt to measure the effects of the non-compressed and compressed conditions as evenly as possible and to allow the information from the shows to sink in. If the survey was given right after participants' last episode, those in the compressed condition could have experienced fatigue and tried to rush through the questions. The timing of when to distribute the survey to participants was based on speculation. The 24-hour window after the 24-hour delay could have been too long or too short of a time frame to capture the cultivation effects. Future research should seek out the neurological reasoning of when cultivation occurs and for how long to help accurately measure participants' experience with first-order and second-order effects. For example, being transported in the show can enhance cultivation effects for a viewer (Shrum et al., 2011). Looking at the time frame in which the human brain becomes captivated by the show can help researchers to see whether viewers' transportation changes over time. When credits roll at the end of a show or a commercial comes up, viewers' may be less transported than when they were watching the show uninterrupted. If viewers' transportation was measured before a break or before the credits, this could have been where their transportation was at its peak. The 24-hour delay potentially altered viewers' transportation and might have ultimately affected their experience with first- and second-order effects.

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A second limitation might be the time commitment of the study. Participants watched four episodes of a horror genre TV show because previous research identified heavy viewing as watching four hours or more hours of television content in a day (Bryant & Zillman, 2002; Gerbner & Gross, 1976a; Gerbner et al., 1980; Hughes 1980; Shrum & Bischak, 2001). In order to test the effects of compressed and non-compressed viewing of television shows, participants in both conditions were asked to watch four episodes which is approximately four hours. The timing of the study seemed to have deterred students from signing up for the slots associated with the non-compressed condition and the reason may have been because people would not want to spend an hour in the department lab once a week for four weeks. As an alternative, future studies can attempt to assign participants to television shows or find those who are already interested in binge-watching a particular show, and provide them with viewing criteria (e.g., watch four episodes without stopping or watch one episode a week) and trust that the participants will follow the instructions from home. This may allow for more participants if they can watch the shows in the comfort of their own home.

A third limitation to this study could be the selection of horror genre television shows. Although coders helped to identify whether the two shows (i.e., *American Horror Story* and *Scream*) were similar in movie tropes, coders were only consistent with each other in counting the number of horror-related patterns for a limited number of tropes. For instance, for *American Horror Story*, all three coders had similar numbers of tallies for scenes with bad things happening in basements but were inconsistent in tallying scenes with rotting corpses. Since the first- and second-order effect measures were influenced by the limited number of tropes the coders found, participants' experiences of first-order and second-order effects may have also been affected. If the shows had more horror movie tropes, then maybe participants would have

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reported higher horror-show-consistent beliefs overall. Future research could also expand on the number of first- and second-order effects examined and one suggestion for this would be to include different horror genre television shows. If more shows are incorporated there is a greater chance of having larger first- and second-order effect measures to test with.

A fourth limitation could be how the dependent variables (i.e., first-order and second-order effects) were tested. Participants were given questions and statements about the likelihood of bad things happening and other scary-related topics. Participants answered these questions using the multiple-choice options they were given which were either percentages or agreement scales. Having multiple-choice options could have limited the participants from answering what was really prompted in their minds. For instance, rather than asking, “What is the probability that this is blood?” the question could have asked, “What do you think this stain is?” Rewording the questions in this way might allow participants to answer with what initially came to mind when they saw the stain and not dwell on the logic behind whether it was really blood. Future research should ask questions that will allow participants to answer with an immediate response. This can be done by having participants answer with word associations. For instance, after watching the horror shows, participants could be given either a picture, phrase, or word such as “red” and they will be asked to write what word comes to mind (e.g., blood). Researchers will have to code for whether their responses are horror-related. Also, future research can think about timing participants’ responses to these particular questions. Heavier and/or compressed viewers may respond more quickly to questions than lighter and/or non-compressed viewers (Busselle & Shrum, 2003). These ideas about question improvement may hopefully differentiate between compressed and non-compressed viewers and what is evoked in their minds after watching these horror shows.

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A fifth possible limitation that is that participants were not watching television shows in an environment that they are used to. People binge-watch when they are in a position to relax mentally and physically (de Feijter et al., 2016). Environment as a factor may have affected potential participant involvement and/or current participants' experience. The recruitment website had instructions about what the study would entail which included a mention that the viewing sessions would be held in the Communicology Department. Like the first limitation, this may have deterred future participants because they would not be able to spend the large amount of time in an environment of their choosing. Sitting in the dim-lit lab or the conference room might not have been the current participants' ideal environment, nor one that they are used to, and this could have affected their experience while watching the show (e.g., more scary, less scary). However, the researcher made attempts to make the participants as comfortable as possible by providing snacks and drinks for all participants during their viewing sessions. Future studies should also look into different ways to keep the participants comfortable or future studies can let participants view from home to alleviate the issue of an unfamiliar environment, but it will run the risk of not being able to control what participants watch and when.

The wording of the horror genre viewing instructions being too vague could potentially be a sixth limitation. The instructions asked viewers to avoid watching horror genre films or television shows, but the researcher did not take into account that video games also contain horror-related content. The question in the survey pertaining to the horror genre viewing check was worded vaguely as well. It is likely that participants could have interpreted the episodes used in the study as viewing a horror genre TV show even if the question was intending to refer to horror genre films and/or television shows other than the shows used in the study. Future research can address these issues by making the instructions encompass all horror-related content

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and, if including a check on horror genre viewing, to ensure that the questions are clear and unambiguous.

A seventh possible limitation of the study is not having done a pre- and post-test analysis. A pre- and post-test was not conducted because the researchers were not trying to test for change in beliefs per se, but to analyze how much viewing a show in a compressed format, compared to a non-compressed format, can shape beliefs that are consistent with that particular show. Performing a pre- and post-test would allow researchers to see just how much binge-watching and weekly viewing of television shows can affect viewers' beliefs before and after the study.

In addition to future research, it was noted as a potential limitation that the study duration was too long, but it could be beneficial for researchers to extend the viewing period. There were very little significant differences between the non-compressed and compressed viewers in this study. Researchers identified heavy viewing as watching four or more hours of television content in a day (Bryant & Zillman, 2002; Gerbner & Gross, 1976a; Gerbner et al., 1980; Hughes 1980; Shrum & Bischak, 2001). The researcher of the current study used the minimum requirement of heavy viewing (i.e., four hours) to avoid participant fatigue and for convenience purposes. If future researchers have the time they should extend the viewing period so they can better differentiate between the effects of the non-compressed and compressed conditions. For instance, viewing a show for six hours in one sitting compared to viewing one episode for six weeks could have larger differences in its viewers experiencing first- and second-order effects than the four hour viewing period.

It is also important to note that while people tend to binge-watch privately, it is also considered a social activity (de Feijter et al., 2016). During the study, participants were asked not to text or talk to anyone else to prevent any distractions from the show and from being

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transported in the show. However, similar to a book club, people seem to have discussions with other fans about the shows they are currently watching. Future research should examine the social and communicative aspect of binge-watching by looking at how often and when people engage in communication with others about their current favorite show. Discussions of a show with others might sustain the first- and second-order effects cultivated from the show.

Future research should think about including literature on video game addiction or excessive gaming. One could argue that binge-watching is a similar addictive activity. Literature on gaming addiction might be helpful in providing insight about how transportation or immersion can motivate one to continue watching television shows for long periods of time (Haagsma, Pieterse, Peters, & King, 2013; Kneer, Rieger, Ivory, & Ferguson, 2014). Moreover, the research delves into the neuroscience behind which regions become activated in peoples' brains when they become immersed in video games (Bavelier & Davidson, 2013; Green & Bavelier, 2012). If applied to binge-watching and cultivation theory, this work on video games may help to inform future researchers on the neurological phenomenon that occurs when viewers become transported and when information is cultivated from media content.

Overall, technology has made consuming media easier and more accessible, and because of this, people are consuming differently now than they did in the past. New devices and programs, such as Netflix and Hulu, are making it simpler to indulge in shows to binge-watch. Cultivation theory provided insight on the effects of heavy TV viewing that was fit for the era the theory was born in, but as the technology evolves, perhaps the theory should too. The data of this study suggests that we may need to expand on cultivation theory. Using message processing or other neurological research can help the theory to accommodate some of the concerns that came about in this study such as capturing cultivation effects at the peak of transportation,

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understanding when viewers' transportation begins and ends, and using different variables to measure the information that is being immediately evoked in viewers' minds.

Conclusion

This project aimed to understand if the strength of cultivation effects from shows changed when television viewing was done in different time compression formats. The findings from this project contributes to research on binge-watching and its effects with a focus in the horror genre. Although there were not a lot of significant findings in the research, the results still suggest that there may be a difference between heavier and lighter viewing behaviors. Future research should continue to analyze the relationship between viewing time compression formats and its effects on people's perceptions of the real world.

TABLE 1

Zero-Order Correlation Matrix for Primary and Supplementary Variables

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Daily general TV viewing	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
2. Daily horror TV viewing	.52**	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
3. Downward stairs	-.09	-.02	--	--	--	--	--	--	--	--	--	--	--	--	--	--
4. Upward stairs	-.23	.01	.26	--	--	--	--	--	--	--	--	--	--	--	--	--
5. Blood	-.17	-.25	.38*	.27	--	--	--	--	--	--	--	--	--	--	--	--
6. Yell/scream	.17	.13	.16	-.07	.16	--	--	--	--	--	--	--	--	--	--	--
7. Killed	.20	.32*	.14	.11	.07	.49**	--	--	--	--	--	--	--	--	--	--
8. Corner/behind	.02	.15	.27	.02	.05	.35*	.64**	--	--	--	--	--	--	--	--	--
9. Own home	-.40*	-.36*	-.12	.19	-.08	-.08	-.18	-.05	--	--	--	--	--	--	--	--
10. Basements	-.22	-.31	.60**	.21	.30	-.09	-.10	.14	-.01	--	--	--	--	--	--	--
11. Second-order effects	.09	.02	.14	.04	-.00	.10	.11	.16	.04	.36*	--	--	--	--	--	--
12. Enjoyment	.06	.31	-.07	.13	-.37*	-.02	-.09	.03	.23	-.09	.31	--	--	--	--	--

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13. Transportation	.12	.06	-.01	-.18	-.17	.13	-.22	-.13	.21	.21	.50**	.41*	--	--	--	--
14. Sex	.19	.25	-.03	.15	-.04	-.12	.15	.17	-.15	-.17	.29	-.06	-.12	--	--	--
15. Series	-.02	.35*	.04	.02	-.09	.05	.15	.11	-.15	-.01	.04	-.12	-.03	-.05	--	--
16. Time compression condition	.07	.13	.14	.27	-.04	-.12	.18	.08	.17	.12	-.12	-.13	-.13	.12	-.05	--

* $p < .05$, ** $p < .01$

TABLE 2

Means, Standard Deviations, and Main Effects for Average Daily Horror Show Viewing

Variable	Show Viewing						η^2
	0 Hours		1 - 4 Hours		Main Effect		
	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>n</i>	<i>M</i> (<i>SD</i>)	<i>F</i> (<i>df</i>)	<i>p</i>	
Downward stairs	27	7.37 (2.32)	10	8.00 (1.83)	0.60 (1, 35)	.45	.02
Upward stairs	27	3.52 (2.10)	10	4.00 (2.06)	0.39 (1, 35)	.54	.01
Blood	27	5.74 (2.67)	10	3.50 (2.37)	5.44 (1, 35)	.03*	.14
Yell/scream	27	8.07 (2.24)	10	8.60 (1.78)	0.45 (1, 35)	.51	.01
Killed	27	4.37 (1.78)	10	5.30 (2.31)	1.69 (1, 35)	.20	.05
Corner/behind	27	6.67 (2.32)	9	7.44 (2.13)	0.79 (1, 34)	.38	.02
Own home	27	4.56 (1.16)	10	4.00 (1.94)	1.15 (1, 35)	.29	.03
Basements	27	4.44 (1.56)	10	4.20 (1.81)	0.24 (1, 35)	.63	.01
Second-order effects	27	3.67 (0.90)	10	4.11 (1.06)	1.64 (1, 35)	.21	.05

* $p < .05$

TABLE 3

Means and Standard Deviations for Time Compression and Sex

Variable	Time Compression				Sex			
	Compressed		Non-Compressed		Males		Females	
	<i>n</i>	M (<i>SD</i>)	<i>n</i>	M (<i>SD</i>)	<i>n</i>	M (<i>SD</i>)	<i>n</i>	M (<i>SD</i>)
Downward stairs	28	7.71 (2.11)	9	7.00 (2.50)	9	7.67 (1.41)	28	7.50 (2.41)
Upward stairs	28	3.96 (2.22)	9	2.67 (1.12)	9	3.11 (2.21)	28	3.82 (2.04)
Blood	28	5.07 (2.61)	9	5.33 (3.32)	9	5.33 (2.55)	28	5.07 (2.85)
Yell/scream	28	8.07 (2.12)	9	8.67 (2.12)	9	8.67 (2.40)	28	8.07 (2.04)
Killed	28	4.82 (2.07)	9	4.00 (1.41)	9	4.11 (1.62)	28	4.79 (2.04)
Corner/behind	27	6.96 (2.33)	9	6.56 (2.19)	9	6.22 (2.73)	27	7.07 (2.11)
Own home	28	4.54 (1.55)	9	4.00 (0.71)	9	4.78 (1.09)	28	4.29 (1.49)
Basements	28	4.46 (1.40)	9	4.11 (1.17)	9	4.78 (0.83)	28	4.25 (1.46)
Second-order effects	28	3.72 (1.05)	9	3.98 (0.56)	9	3.30 (0.90)	28	3.94 (0.95)

TABLE 4

Main Effects and Interaction Effect of Time Compression Condition and Sex

Variable	Time Compression			Sex			Time Compression x Sex		
	<i>F (df)</i>	<i>p</i>	η^2	<i>F (df)</i>	<i>p</i>	η^2	<i>F (df)</i>	<i>p</i>	η^2
Downward stairs	0.07 (1, 33)	.80	.00	0.66 (1, 33)	.42	.02	1.78 (1, 33)	.19	.05
Upward stairs	2.43 (1, 33)	.13	.07	0.63 (1, 33)	.43	.02	0.13 (1, 33)	.72	.00
Blood	0.79 (1, 33)	.38	.02	0.79 (1, 33)	.38	.02	2.88 (1, 33)	.10	.08
Yell/scream	1.13 (1, 33)	.30	.03	1.13 (1, 33)	.30	.03	1.35 (1, 33)	.25	.04
Killed	0.13 (1, 33)	.72	.00	0.03 (1, 33)	.88	.001	1.93 (1, 33)	.18	.06
Corner/behind	0.34 (1, 32)	.56	.01	0.00 (1, 32)	.97	.00	5.45 (1, 32)	.03*	.15
Own home	1.65 (1, 33)	.21	.05	0.45 (1, 33)	.51	.01	0.45 (1, 33)	.51	.01
Basements	.01 (1, 33)	.91	.00	2.86 (1, 33)	.10	.08	2.59 (1, 33)	.12	.07
Second-order effects	2.16 (1, 33)	.15	.06	1.43 (1, 33)	.24	.04	2.08 (1, 33)	.16	.06

**p* < .05

APPENDIX A

Consent Form 1

University of Hawai‘i
Consent to Participate in a Research Project
Sheana Humphries, Principal Investigator
Project Title: Horror Show Effects

Aloha! My name is Sheana Humphries and you are invited to take part in a research study. I am a graduate student at the University of Hawai‘i at Mānoa (UHM) in the Department of Communicology. As part of the requirements for earning my graduate degree, I am doing a research project. The purpose of this study is to evaluate the effects of horror shows on perceptions. We are asking you to participate in this project because you are at least 18 years old and have most likely engaged in some TV viewing behavior.

Activities and Time Commitment: If you participate in this project, you will be asked to come to the Department of Communicology lab to watch four episodes of either *American Horror Story* or *Scream* consecutively in one sitting. Some of the content may contain graphic, sexual and violent scenes. A day after completing the viewing session, you will be asked to complete a questionnaire of which you will have a 24-hour period to do. The questionnaire will ask about your beliefs in scary events (e.g., “When do you believe bad things occur most?”), your viewing experience in the study (e.g., “I was mentally involved in the storyline while watching the show.”), and your overall viewing habits (e.g., “How many hours a day do you typically spend watching television shows?”). Your overall participation will take four hours. Other participants and I may be present in the lab during the viewing portion of the study. As incentive for your participation in this study, you will receive Sona research credits.

Benefits and Risks: There will be no direct benefit to you for participating in this study. I believe there is little risk associated with participating in this research project. You may become stressed or uncomfortable due to graphic, sexual and violent imagery. If you do become stressed or uncomfortable, you can take a break, or you can stop being in the study at any time with no loss of benefits.

Privacy and Confidentiality: All personal contact and identifying information will remain strictly confidential. I will keep all study data secure on a password protected computer. Only my University of Hawai‘i advisor and I will have access to the information. Other agencies that have legal permission have the right to review research records. The University of Hawai‘i Human Studies Program has the right to review research records for this study. When I report the results of my research project, I will not use your name or any other personal identifying information that can identify you. I will report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

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

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Questions: If you have any questions about this study, please call or email me at sheanah@hawaii.edu or (808) 956-8202. You can also contact the faculty member assisting with this study, Dr. Amy Ebesu Hubbard at aebesu@hawaii.edu or (808) 956-3321. If you have any questions about your rights as a research participant, you can contact the UH Human Subjects Program at uhirb@hawaii.edu or (808) 956-5007.

If you agree to participate in this project, please sign and date the following signature page.

You will be given a copy of this consent form.

Signature(s) for Consent:

I give permission to join the research project entitled, *Project Title: Horror Show Effects*

Name of Participant (Print): _____

Participant's Signature: _____

Signature of the Person Obtaining Consent: _____

Date: _____

Mahalo!

APPENDIX B

Consent Form 2

University of Hawai‘i
Consent to Participate in a Research Project
Sheana Humphries, Principal Investigator
Project Title: Horror Show Effects

Aloha! My name is Sheana Humphries and you are invited to take part in a research study. I am a graduate student at the University of Hawai‘i at Mānoa (UHM) in the Department of Communicology. As part of the requirements for earning my graduate degree, I am doing a research project. The purpose of this study is to evaluate the effects of horror shows on perceptions. We are asking you to participate in this project because you are at least 18 years old and have most likely engaged in some TV viewing behavior.

Activities and Time Commitment: If you participate in this project, you will be asked to come to the Department of Communicology lab to watch four episodes of either *American Horror Story* or *Scream* once a week for four weeks. Some of the content may contain graphic, sexual and violent scenes. A day after completing the fourth and final viewing session, you will be asked to complete a questionnaire of which you will have a 24-hour period to do. The questionnaire will ask about your beliefs in scary events (e.g., “When do you believe bad things occur most?”), your viewing experience in the study (e.g., “I was mentally involved in the storyline while watching the show.”), and your overall viewing habits (e.g., “How many hours a day do you typically spend watching television shows?”). Your overall participation will take four hours. Other participants and I may be present in the lab during the viewing portion of the study. As incentive for your participation in this study, you will receive Sona research credits.

Benefits and Risks: There will be no direct benefit to you for participating in this study. I believe there is little risk associated with participating in this research project. You may become stressed or uncomfortable due to graphic, sexual and violent imagery. If you do become stressed or uncomfortable, you can take a break, or you can stop being in the study at any time with no loss of benefits.

Privacy and Confidentiality: All personal contact and identifying information will remain strictly confidential. I will keep all study data secure on a password protected computer. Only my University of Hawai‘i advisor and I will have access to the information. Other agencies that have legal permission have the right to review research records. The University of Hawai‘i Human Studies Program has the right to review research records for this study. When I report the results of my research project, I will not use your name or any other personal identifying information that can identify you. I will report my findings in a way that protects your privacy and confidentiality to the extent allowed by law.

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

BINGE-WATCHING AND CULTIVATION EFFECTS OF HORROR

Questions: If you have any questions about this study, please call or email me at sheanah@hawaii.edu or (808) 956-8202. You can also contact the faculty member assisting with this study, Dr. Amy Ebesu Hubbard at aebesu@hawaii.edu or (808) 956-3321. If you have any questions about your rights as a research participant, you can contact the UH Human Subjects Program at uhirb@hawaii.edu or (808) 956-5007.

If you agree to participate in this project, please sign and date the following signature page.

You will be given a copy of this consent form.

Signature(s) for Consent:

I give permission to join the research project entitled, *Project Title: Horror Show Effects*

Name of Participant (Print): _____

Participant's Signature: _____

Signature of the Person Obtaining Consent: _____

Date: _____

Mahalo!

APPENDIX C

Series

Please answer the following question with the options provided.

1. For this study, which series did you watch?
 - a. American Horror Story
 - b. Scream

Please indicate whether you have watched the series (*American Horror Story* / *Scream*) prior to the study.

2. Have you watched this series (*American Horror Story* / *Scream*) before?
 - a. Yes
 - b. No
 - c. Unsure

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APPENDIX D

First-order Effects

The following questions refer to REAL LIFE. For questions 1, 2, and 3, please answer each question with its corresponding photo using the drop-down menu.

1. What is the probability that something bad is going to happen in this place?



2. What is the probability that something bad is going to happen in this place?



3. What is the probability that this is blood?



BINGE-WATCHING AND CULTIVATION EFFECTS OF HORROR

The following questions refer to REAL LIFE. Please use the drop-down menu to provide your responses.

4. What's the probability of people yelling (or screaming) when they're frightened?
5. What's the probability of someone being killed?
6. What's the probability of being scared from around a corner/from behind?

The following statements refer to REAL LIFE. Indicate when you believe the following events occur. (*1 = Never, 4 = 50/50, 7 = Always*)

7. Bad things can happen in in your own home.
Never 50/50 Always
1 2 3 4 5 6 7
8. Bad things happen in basements.
Never 50/50 Always
1 2 3 4 5 6 7

APPENDIX E

Second-order Effects

The following statements refer to REAL LIFE. Rate the degree to which you agree with each of the following statements. (1 = *Strongly Disagree*, 4 = *Neither Agree nor Disagree*, 7 = *Strongly Agree*)

1. The color red usually reminds me of blood.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
2. Dead bodies and body parts signifies that something bad is going to happen.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
3. I often get scared in my own home.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
4. I feel at risk of being killed.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
5. If I was being chased, I think I could outrun my pursuer. (F)
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
6. Showering at night means there is a higher chance of getting attacked than showering in the morning. (F)
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
7. I feel as if something will scare me from around corners/from behind.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
8. I am constantly worried about my safety because I could be killed in various ways (e.g., stabbed, drowned, shot).
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
9. Ghosts are real. (F)
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
10. A lot of people get hurt or die in the woods. (F)
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
11. If I get attacked and I yell/scream, no one will come to help me.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

(F) Statements are filler items.

APPENDIX F

Viewing Behaviors

For reference: “Television shows” will be used to refer to any show displayed on either TV or other platforms such as Netflix, Hulu, etc.

Using the sliders, please record your response for the following question regarding your overall viewing habits.

1. How many hours a DAY do you typically spend watching television shows?
2. Do you typically use subtitles when watching television shows?
 - a. Yes
 - b. No
 - c. Sometimes

For reference: Horror genre films are those that focus on “the dark side of life, the forbidden, and strange and alarming events...” that can elicit fear from “our nightmares, our vulnerability, our alienation, our revulsions, our terror of the unknown, our fear of death and dismemberment, loss of identity, or fear of sexuality.”

Using the sliders, please record your response for the following question regarding television viewing habits for HORROR GENRE series.

3. How many hours a DAY do you typically spend watching a HORROR GENRE television series?
4. Do you typically use subtitles when watching HORROR GENRE television series?
 - a. Yes
 - b. No
 - c. Sometimes

APPENDIX G

Binge-watching Behaviors

Using the drop-down menu, please answer the questions below regarding your overall television viewing habits.

1. How many 30-minute episodes of a series do you usually watch in one sitting?
2. How many times a year do you watch multiple 30-minute episodes of a series in one sitting? (Example: 12 times a year = once a month; 365 times a year = every day)
3. How many hour-long episodes of a series do you usually watch in one sitting?
4. How many times a year do you watch multiple hour-long episodes of a series in one sitting? (Example: 12 times a year = once a month; 365 times a year = every day)
5. What platform do you usually watch television shows on?
Options: Cable TV, Netflix, Hulu, Amazon Prime Video, PlayStation Vue, and Other

Using the drop-down menu, please answer the questions below regarding your television viewing habits for HORROR GENRE series.

For reference: Horror genre films are those that focus on “the dark side of life, the forbidden, and strange and alarming events...” that can elicit fear from “our nightmares, our vulnerability, our alienation, our revulsions, our terror of the unknown, our fear of death and dismemberment, loss of identity, or fear of sexuality.”

6. How many 30-minute episodes of a HORROR GENRE series do you usually watch in one sitting?
7. How many times a year do you watch multiple 30-minute episodes of a HORROR GENRE series in one sitting? (Example: 12 times a year = once a month; 365 times a year = every day)
8. How many hour-long episodes of a HORROR GENRE series do you usually watch in one sitting?
9. How many times a year do you watch multiple hour-long episodes of a HORROR GENRE series in one sitting? (Example: 12 times a year = once a month; 365 times a year = every day)
10. What platform do you usually watch HORROR GENRE shows on?
Options: Cable TV, Netflix, Hulu, Amazon Prime Video, PlayStation Vue, and Other

APPENDIX H

Transportation

Next, the following questions are about the specific episodes and series that you watched in the study. Please rate the degree to which you agree with each of the following statements. (1 = *Strongly Disagree*, 4 = *Neither Agree nor Disagree*, 7 = *Strongly Agree*)

1. While I was watching the show, I could easily picture the events in it taking place.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
2. I could picture myself in the scene of the events in the show.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
3. I was mentally involved in the storyline while watching the show.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
4. I wanted to learn how the show ended.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
5. The show affected me emotionally.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
6. I found myself thinking of ways the show could have turned out differently.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
7. While I was watching the show, activity going on in the room around me was on my mind.*
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
8. After finishing the episodes, I found it easy to put it out of my mind.*
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
9. I found my mind wandering while watching the show.*
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

* Item is reverse scored.

APPENDIX I

Enjoyment

Next, the following questions are about the specific episodes and show that you watched in the study. Please rate the degree to which you agree with each of the following statements. (*1 = Strongly Disagree, 4 = Neither Agree or Disagree, 7 = Strongly Agree*)

1. I enjoyed watching the episodes of the series.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
2. I would watch this show regularly.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
3. This is a series that I can enjoy.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
4. I enjoy watching horror genre films.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
5. I would watch this genre regularly.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree
6. This is a genre that I can enjoy.
Strongly Disagree 1 2 3 4 5 6 7 Strongly Agree

APPENDIX J

Horror Genre Viewing Check
(for non-compressed condition viewers only)

1. Did you watch any horror genre films or television shows before viewing the fourth and final episode of the study?
 - a. Yes
 - b. No

2. Did you watch any horror genre films or television shows since viewing the fourth and final episode and before completing this questionnaire?
 - a. Yes
 - b. No

3. Did you watch any horror genre films or television shows since viewing the fourth and final episode and before completing this questionnaire?
 - a. Yes
 - b. No

APPENDIX K

Horror Genre Viewing Check
(for compressed condition viewers only)

1. Did you watch any horror genre films or television shows since viewing the fourth and final episode and before completing this questionnaire?
 - a. Yes
 - b. No

2. Did you watch any horror genre films or television shows since viewing the fourth and final episode and before completing this questionnaire?
 - a. Yes
 - b. No

APPENDIX L

Demographic Information

1. Using the drop-down menu, please indicate your age (in years).
2. What is your sex?
 - a. Male
 - b. Female

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